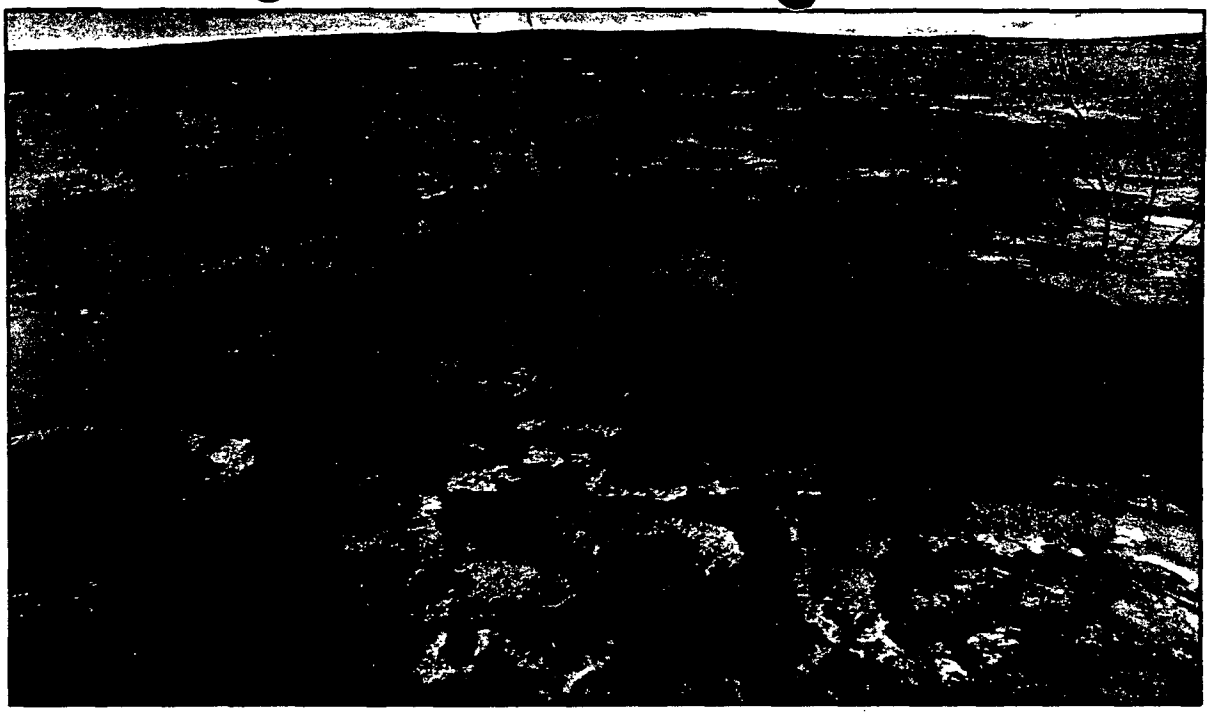
NM - 2

GENERAL CORRESPONDENCE

YEAR(S): 1992-1986



RICHARD PIPES / JOURNAL

Laguna Quatro, above, once a haven for migratory birds, is considered to be 99 percent dead as a result of industrial contamination.

B&E, a trucking and disposal firm, is being blamed for the decline of Laguna Quatro. Last January B&E stopped all discharges at the playa, and maintains it has done nothing illegal.

"I don't care if anybody's fined," says Carlsbad biology teacher Steve West, below. "I just want the lake cleaned up." His group helped start the furor over Laguna Quatro's decline.

A small salt lake near Carlsbad is dying, but its protectors aren't letting it go without a fight.

SHOWDOWN at LAGUNA QUATRO

By Chuck McCutcheon
JOURNAL STAFF WRITER

CARLSBAD — With a trace of nostalgia, Steve West remembers a high school visit to the strange-looking chain of salt lakes in the desert 20 miles east of his home in December 1963.

"That," recalls West, now a Carlsbad High School biology teacher, "was the first time I really noticed the birds."

It turned out that the shallow lakes, known as playas, were an occasional home to the snowy plover, a small shorebird. Other birds also used the playas for nesting or rest stops — herons, egrets and the peregrine falcon, a now-endangered species.

As the years passed, West saw fewer and fewer birds. Then he started finding them dead.

And today, he's in the middle of a complicated controversy over water and wildlife at one of the lakes that involves New Mexico's two U.S. senators, half a dozen government agencies and nearly 40 oil companies in five states.

The opening shot

An avid bird watcher, West has made semi-monthly visits to the playas to catalog the migratory birds there. But he helped touch off the furor last year when his environmental group, Carlsbad Concerned Citizens for Responsible Land Management, gave notice it would sue the federal government over its failure to stop contamination at one of the playas, known as Laguna Quatro.

A few months later, the Environmental Protection Agency announced it was fining the companies whose water it said was causing the contamination — only to turn around in October and drop the fines.

West, along with several other environmentalists, is angry over the agency's handling of the matter. And he's worried no one is addressing how birds can be brought back to Laguna Quatro, which is now considered to be 99 percent dead.

"I don't care if anybody's fined," he says. "I just want the lake cleaned up."

Officials at the Carlsbad company that EPA has blamed for the contamination, B&E Inc., declined to be interviewed. But its owner, Phil Withrow, said at a September public hearing he has been unfairly singled out after obeying the law.

"We are a small business and are not capable of taking on the EPA," he said, "even when we believe they are dead wrong."

An avian oasis

Because of its varied geography, southeastern New Mexico has numerous bird species. And because the remote Eddy County playas attract

MORE: See SALT LAKE'S on PAGE D6

Salt Lake's Decline Stirs Controversy, Life-Support Effort

CONTINUED FROM PAGE D1

few predators, they're a haven for birds; the lakes are considered home to one of world's largest desert heronries.

Like the other playas near Carlsbad, Laguna Quatro has an almost otherworldly look. Gnarled salt cedar branches jut from its surface, while clots of snowy salt can sometimes make it seem as if it's been hit by an extremely localized blizzard.

Oil producers involved in the dispute had contracted with B&E, a trucking and disposal firm, to send their wastewater from drilling into Laguna Quatro, located partly on federal land. B&E received a state permit in 1982 to discharge the water, also called "produced water."

Nearby potash companies have used the lakes for decades. But EPA charged it was the oil companies' water, containing chemicals such as benzene and arsenic, that killed invertebrates like brine shrimp and brine flies — food sources for many bird species.

EPA also said the concentrated salt in produced water was crystallizing on birds' feathers, making flight difficult. After taking in too much salt from preening their feathers and drinking water, it said, the birds would die of sodium poisoning.

In January, after contact with federal officials, B&E stopped all discharges at Laguna Quatro. Next, EPA officials announced this summer they would issue more than $4 million in civil penalties against 38 companies contracting with B&E, including nine from New Mexico, for violating a general Clean Water Act permit the agency issued in 1990.

Thickening the plot

But then EPA reversed itself. The agency's regional counsel in Dallas, George Alexander, says the permit was unclear as to whether it covered the individual producers or just B&E.

He says his agency is still looking at fines against B&E, and expects to reach a decision this month.

"As it turned out, we were wrong," Alexander says. "The important thing is, the discharges to the playas have stopped."

The dismissals delighted the oil producers as well as Sens. Jeff Bingaman, D-N.M., and Pete Domenici, R-N.M., who each had spoken with agency officials with concerns about the fines.

But it left West and others wondering if EPA fell prey to political pressure.

"If this hadn't been an election year," West says, "Domenici and Bingaman would have been more concerned about their civic responsibility than in kowtowing to the oil and gas industry."

West acknowledges he isn't sure the fines were the right thing to do — he says it was B&E, not the producers, that determined what to do with the water. Still, he says the decision "destroys (EPA's) credibility and destroys the impetus toward taking care of this in a positive way."

Others involved in the controversy haven't reacted as strongly. But they say they remain puzzled by the dismissals.

"I was very surprised," says state Environment Secretary Judith Espinosa, whose agency has begun looking at all state playas to develop water quality standards. "Usually — at least we do — you're pretty sure about your facts and what you're doing before you issue this kind of order."

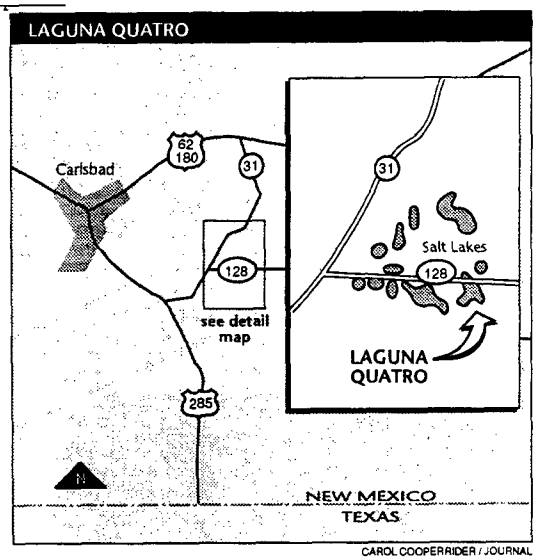
Denying political pressure

Both Domenici and Bingaman, for their part, deny they engaged in any arm-twisting to have the fines dropped.

"If people read it as pressure, that's for them to determine," Domenici says. "I expressed my views (to EPA) on behalf of my constituents."

Domenici held the September meeting in Hobbs at which he and others sharply criticized EPA on the matter. Some noted that until this year, the playas were outside EPA's jurisdiction because they were not classified as "waters of the United States," which covered them under the Clean Water Act.

"To make (producers) comply with rules that are actually not in place is wrong," says Darwin Van De Graff, vice president of New Mexico's Oil and Gas Association.



CAROL COOPERRIDER / JOURNAL

Bingaman, meanwhile, says he sympathized with the producers' assertion that they were not at fault: "If you've got someone picking up the trash at your house and taking it to an illegal landfill somewhere," he says, "is it proper for EPA to come around and impose fines on everybody whose trash is picked up?"

EPA's Alexander also dismisses the idea that politics played a part in his decision.

He acknowledges he's heard that President Bush, a former Texas oilman, told EPA Administrator William Reilly "to make this go away." But he adds, "Bill Reilly didn't tell me anything and the president didn't tell me anything... There was no pressure on me to change anything."

Making B&E's case

At the September meeting, B&E's Withrow told Domenici his company was performing a valuable service. Besides his getting state permits, he noted the Bureau of Land Management had given authorizations to the producers before EPA got involved.

"I truly do not believe that I did anything wrong, and I'm sorry that fact is not being recognized," Withrow said, according to his written testimony. "Our government seems more concerned about brine flies and microscopic brine shrimp than small businesses and their employees."

BLM's district manager in Roswell, Leslie Cone, says she can understand Withrow's frustration. The company "has gotten a big black eye" in the publicity over the matter, but she says it voluntarily stopped the discharges earlier this year and has cooperated with her agency.

"They were trying to do the right things," she says. "But when multiple (government) jurisdictions get involved, it gets difficult and complicated."

What West wants now is for things to become uncomplicated enough for Laguna Quatro to be cleaned up soon.

But cleaning up the site by such methods as pumping out and chemically treating the water would be a lengthy, expensive process, according to officials.

The road to recovery

For the moment, the U.S. Fish and Wildlife Service plans to continue studies at Laguna Quatro to research EPA's claims about wastewater being responsible for the bird deaths.

"We don't have all the facts yet," says Tom Smylie, the service's assistant regional director in Albuquerque.

Although West wonders if the lake could be declared eligible for Superfund toxic-waste cleanup funds, Alexander says that's unlikely — he sees no "substantial and imminent hazard" for it to qualify. Instead, the EPA lawyer remains confident time will take care of the site.

ENVIRONMENT

Vol. 3 No. 20 October 2, 1992

DOT: Operators wise to register

Operators are asking: to register or not to register?

Since the news appeared in the Sept. 18 issue of *E&PE* that the U.S. Transportation Dept. now requires operators shipping 3,500 gallons or more of hazardous material to register with the agency, a number of producers have called *E&PE* with questions. DOT says the basic guidelines for determining whether crude oil, condensate, liquid petroleum gas, or any petroleum product is designated as a hazardous material involves its flammability and combustibility. *(For a sample of the DOT form, see insert)*

Petroleum with a flammable point greater than 100° F and combustibility equal to 100° F but less than 200° F is a hazardous material, and a company offering it for transportation must be registered with DOT, as must the transporting company.

Joseph Nalevanko of DOT's Office of Hazardous Materials Planning and Analysis told *E&PE* that if a company has only one well among many producing hydrocarbons that meet the criteria, the operator must register with the agency. Short of testing every well for the combustible properties of the product, Nalevanko suggested, operators should consult with their transport companies.

If the transporter knows of the regulation and is placarded and registered with DOT, Nalevanko said, the operator would be "wise" to register as well. However, at least one Louisiana oilfield transport company contacted by *E&PE* last week was unaware of the new registration requirement.

For more information or to register, contact DOT's Hazardous Materials Planning and Analysis office at 202-366-4109.

RRC lauds its plugging record

The Texas Railroad Commission has declared fiscal year 1992 to be a banner for plugging abandoned wells across the state.

The 1,324 wells plugged in FY 1992 is almost double the old record of 714 set in 1986. Overall, the commission spent $5,687,211 for well plugging and nearly $48,000 cleaning up oilfield pollution in FY 1992, which ended Aug. 31. Since the commission's well plugging program began in 1984, more than 5,300 abandoned wells have been plugged at a cost of more than $21.8 million.

Sierra sets sights on coastal operations

Environmentalists have launched a legal assault against oil and gas operators along the Texas and Louisiana Gulf Coast with the dual purpose of eliminating discharge of produced water into coastal waters and putting the squeeze on EPA.

The Sierra Club is attempting to force as many producers as possible to either shut in their discharges or reinject them downhole, and to exert enough pressure on EPA Region 6 to finally issue federal National Pollutant Discharge Elimination System permits for the Gulf Coast.

Through its Delta chapter in Louisiana, the club has already reached out of court settlements with two operators in that state. And the Sierra Club Legal Defense Fund, which handles the club's legal work, has sent 60-day notices of intent to file lawsuits against two producers in Texas on behalf of the Lone Star chapter.

Texaco E&P settled last month with the Delta chapter and agreed to halt all discharges of produced water from its Delta Duck Club fields and Garden Island Bay facilities near the mouth of the Mississippi River. As part of the settlement, Texaco agreed to set up a $30,000 fund to be distributed to Louisiana environmental groups for research and education projects directed toward restoring the water quality and

(Continued on page 8)

EPA puts $4 million in fines on hold

A hornet's nest of protest stirred up by EPA's assessment of more than $4 million in fines against 38 oil and gas operators in New Mexico has prompted the agency to put the action on hold.

In August, Buck Wynne, administrator for EPA's Region 6 in Dallas, announced the agency was fining the producers for violating the federal Clean Water Act by discharging produced water to Laguna Quatro, a salt playa, or lake, in Eddy County, N.M. *(E&PE 8/21)*.

The move unleashed a storm of criticism. The New Mexico Oil and Gas Assn. accused the agency of "blindsiding" the industry; an official of the Permian Basin Petroleum Assn. said the issue was one operators should "fight like a junkyard dog"; and the president of the Texas Independent Producers and Royalty Owners Assn. fired off a letter to EPA's Region 6 administrator accusing the agency of formulating a "cradle-to-grave" liability scheme.

And then Pete Domenici and Jeff Bingaman, New Mexico's two Republican senators, and Larry Combest, a West Texas GOP congressman, waded into the fray in late August, meeting with industry and state and federal regulators in New Mexico. They sided with oil and gas producers in comments to the press.

As a result, it came as no surprise to industry observers when EPA decided last month to place on hold any new actions. A spokesperson at the EPA office in Dallas told *E&PE* that the reason for the hold was that the agency has received unspecified technical information from the

Technology licensing offered

Alternative Technologies for Waste Inc. is offering for license an exclusive *in situ* soil remediation technology for mixed and radioactive waste.

The Santa Barbara, Calif., company says the patented process has been tested and approved by EPA and DOE for in-place volatile organic stripping, stabilization and solidification of mixed and radioactive contaminated soils.

ATW claims additional features include in-place chemical degradation and bioremediation of organic compounds, installation of cut-off walls, and ground water filtration and bioremediation barriers.

For more information, contact Michael Manchak, ATW Inc., P.O. Box 21708, Santa Barbara, Calif. 83121; 805-963-4029.

E&P ENVIRONMENT

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POSTMASTER: Send address changes to E&P Environment, 1616 N. Fort Myer Drive, Suite 1000, Arlington, Va. 22209.

fined companies.

"We will not take further action in this matter, pending our evaluation of that information which we expect to complete in early October," he said.

Parties argue over definition

The focal point of the controversy, Laguna Quatro, is a shallow basin in the desert of Southeast New Mexico. EPA sees the playa as a fresh water stopover for migratory waterfowl; industry views it as a naturally occurring brine pit.

The companies fined contend that produced water has been dumped in Laguna Quatro for decades with the permission of the Bureau of Land Management. They claim the produced water has a far lower brine and mineral content than the salty water naturally found there.

EPA sees it differently, claiming the playa is protected under the Clean Water Act as one of the "waters of the U.S."

Susan Zachos, an Austin, Texas, attorney representing several of the fined producers, views the incident as an example of EPA overstepping its statutory authority.

Zachos feels the case can be decided in favor of the producers without even having to address whether the playa lake is justifiably classified as a water of the U.S. She points out that the fined operators did not discharge the water in the first place. B&E Inc., a trucking and disposal company, was contracted by the operators to dispose of the water. The company had permits to dispose of the water into the playa from the New Mexico Oil Conservation Division, along with a letter of agreement from BLM to producers authorizing the transportation and disposal of the water into Laguna Quatro.

EPA authority at issue

Zachos expressed concern over EPA's action. She said it tries to expand the reach of the Clean Water Act beyond the person who is actually making the discharge — the cradle-to-grave concept. She called the agency's stance frightening because of its implications.

"What it means is: Even if you send your produced water to a Class 2 injection well, you may now be liable, under this new theory of the EPA, if that injection facility has a spill," Zachos said.

Following EPA's reasoning, she said if the injection facility's tank leaks and some water enters a river or other obvious waters of the U.S., the producer could be charged with a Clean Water Act violation.

"The act never intended that sort of liability, and operators have never been put on notice that they're subject to that kind of liability," Zachos said.

"I think that's one reason why the producers have got to stick together and fight this, because it opens a floodgate of potential liabilities for activities over which the operators have absolutely no control."

Operators answer judge's pollution report

Companies accused of polluting an Oklahoma town's water supply took issue with a law judge's suggestion that they pay for a study to determine the extent of the pollution.

Mobil Oil Corp. and Union Texas Petroleum Corp. say they're not responsible for the pollution.

In August, Administrative Law Judge Randolph Specht issued a report blaming Mobil and Union Texas for polluting an aquifer that had served as the main water source for Cyril, Okla. *(E&PE 9/4).* Specht

New Mexico Oil & Gas Association
P.O. Box 1864, Santa Fe, NM 87504

(505) 982-2568
FAX (505) 986-1094

NMOGA NEWSLETTER

692

September 18, 1992

DOMENICI: EPA HOLDING ACTION ON FINES ASSESSED NM PRODUCERS

Senator Pete V. Domenici, (R-N.M.) announced today that the EPA has placed on hold any new action against New Mexico producers recently cited for $4 million in fines for disposing produced water in Laguna Quatro near Hobbs. In a letter sent to Environmental Protection Agency Administrator William K. Reilly today, the Senator has formally advised the Administrator of his concern about the EPA's actions in levying the fines.

"I am extremely encouraged to learn that the EPA has placed a hold on taking further action on these fines," Domenici said. "It is my hope that its review of legal and equitable questions raised after my recent meeting in Hobbs will help convince them that their actions were capricious, and perhaps even unwarranted." (The Senator met September 1 in Hobbs with area producers, state and federal environmental experts and others to get their perspective on the stringent fines levied against the industry.)

BINGAMAN WANTS EPA EXPLANATION

Senator Jeff Bingaman (D-N.M.) is asking the EPA to explain its actions in fining 38 oil and gas producers for allegedly discharging tainted water into Laguna Quatro near Hobbs.

Cited producers were operating under what they believed to be valid state and federal permits for disposal of the water into the playa.

"It seems unreasonable that, when one federal agency has issued a permit, another agency can then levy fines

(continued on next page)

NEWS INSIDE

Attachments: Annual Mtg. Program, Pit Data Survey Form,, Fiesta de Presidente Announcement,

RETEC
REMEDIATION
TECHNOLOGIES INC

1301 West 25th Street
Suite 406
Austin, Texas 78705
Telephone: (512) 477-8661
Facsimile: (512) 480-0113

September 11, 1992

Leslie Cone, District Manager
Bureau of Land Management
P.O. Box 1397
1717 West 2nd Street
Roswell, New Mexico 88202

Re: Trespass Case N-77922

Dear Ms. Cone:

This letter serves as notification that Remediation Technologies, Inc. (RETEC) will initiate site investigation activities at the B & E, Inc. Tuzlu Kopek disposal facility on the morning of September 21, 1992. The facility is located at E/W NESE Section 6 T 225 R 30E Eddy County, New Mexico. Activities will be conducted in accordance with activities outlined in the Work Plan to Conduct Phase I Environmental Investigation at the B & E Tuzlu Kopek Disposal Facility (RETEC, September, 1992).

RETEC will have two representatives on-site to conduct the necessary sampling. RETEC personnel will include myself and a staff geologist, both out of RETEC's Austin office. RETEC estimates that three to four working days will be required to complete all necessary activities. However, weather or site conditions will dictate the actual time requirements to complete all activities.

Please do not hesitate to call me (512)477-8661 with any questions regarding the scheduled activities or the Work Plan. Additionally, Mr. Philip B. Withrow of B & E, Inc. can be contacted regarding the contents of this letter.

Sincerely,

Fred Closmann
Project Manager

cc: M. Williams (OCD)
R. Anderson (OCD)
P. Withrow (B & E)
J. Henry (Johnson & Gibbs)
M. Campbell (RETEC)

JOHNSON & GIBBS

A Professional Corporation
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Houston, Texas 77002
713/752-3300

Other Locations:
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Dallas
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Berlin

Fax: 713/752-3788

Writer's Direct Dial Number

713/752-3394

August 26, 1992

Leslie Cone, District Manager
U.S. Bureau of Land Management
P.O. Box 1397
1717 West 2nd Street
Roswell, New Mexico 88202

Attention: Al Collar

Re: Phase I Environmental Investigation at Tuzlu Kopek Facility

Dear Ms. Cone:

This will confirm my conversation of this morning with Al Collar regarding the above-referenced matter. It is my understanding that Mr. Collar spoke with the New Mexico Oil Conservation Division ("OCD") in Santa Fe, and OCD is agreeable to the above proposal as drafted. In addition, OCD will send a letter to that effect to my attention.

Further, Mr. Collar advised that if the plan is accepted by OCD "AS-IS" then B&E, Inc. ("B&E") is authorized to proceed with the investigation including entry onto the land owned by the Bureau of Land Management ("BLM"). If, however, OCD requires changes, then B&E should not proceed until such time as BLM has reviewed and approved the changes required by OCD.

If the foregoing does not properly characterize BLM's position, please let me know as soon as possible.

Very truly yours,

JOHNSON & GIBBS
A Professional Corporation

Jack W. Henry

cc: Roger Anderson, OCD
Jim Amos, BLM
Philip Withrow, B&E

F:\JWHENRY\18512\0001\CONE.H26

PETE V. DOMENICI
NEW MEXICO

COMMITTEES:
BUDGET
APPROPRIATIONS
ENERGY AND NATURAL RESOURCES
BANKING
INDIAN AFFAIRS

Roger
Bill
You Comment

United States Senate
WASHINGTON, DC 20510-3101

OIL CONSERVATION DIVISION
RECEIVED
'92 AUG 25 PM 10 42

August 20, 1992

Mr. Bill LeMay, Director
Oil Conservation Division
Energy, Minerals and Natural Resources Department
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Bill:

As you are probably aware, the U.S. Environmental Protection Agency is seeking over $4 million in administrative penalties from 38 oil and gas producers in five states for discharging produced water into salt playas in Eddy County, New Mexico. Serious questions regarding the fairness and legality of this action have been raised and have caused me to become concerned.

The importance of the oil and gas industry to New Mexico can not be overstated; it is critical to local and State-wide economies. Therefore, the effects of regulations on the industry must be understood and weighed carefully. In addition, the implications of this action for related industries must also be taken into account. For these reasons, I feel I need to be better informed on this matter of such great importance and concern.

An important part of becoming fully informed on this issue is to hear from all parties and obtain more information and facts. To that end, I am holding a meeting to hear from affected and interested parties. I would like to extend an invitation to you to present information and viewpoints relative to the actions taken by the EPA. For your information, I am attaching a copy of the agenda. As you can see, we have a limited amount of time and a tight schedule. Therefore, I ask you to limit your oral remarks to 5 minutes; however, you may submit supplemental written material.

The meeting will be held on Tuesday, September 1, 1992, from 9:00 - 11:30 am in Hobbs, New Mexico at the City Council Chambers, 300 West Turner Street.

I hope to see you there. Should you have any questions, don't hesitate to call John McGee in my office at (202) 224-6621.

Sincerely,

Pete

Pete V. Domenici
United States Senator

Enclosure

NEW MEXICO PLAYA LAKES / EPA ENFORCEMENT ACTION
FIELD MEETING
SEPTEMBER 1, 1992
HOBBS, NEW MEXICO

AGENDA

9:00 Welcome/Opening Remarks

Senator Pete Domenici

- Comments from the US Environmental Protection Agency
- Comments from the State of New Mexico
  - Energy and Minerals Department, Oil Conservation Division
  - Environment Department
- Comments from the Bureau of Land Management
- Comments from the US Fish and Wildlife Service
- Comments from New Mexico Oil and Gas Association
- Comments from Independent Petroleum Association of New Mexico
- Comments from B & E, Inc.
- Comments from Laguna Gatuna, Inc.
- Others

11:15 Wrap-up

Senator Pete Domenici

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

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

August 21, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-290

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

RE: PHASE I ENVIRONMENTAL INVESTIGATION
B&E TUZLU KOPEK DISPOSAL FACILITY
EDDY COUNTY, NEW MEXICO

Dear Mr. Withrow:

The New Mexico Oil Conservation Division (OCD) has completed a review of B&E's July 1992 "WORK PLAN TO CONDUCT PHASE I ENVIRONMENTAL INVESTIGATION AT THE B&E TUZLU KOPEK DISPOSAL FACILITY". The work plan details B&E's proposal for an environmental assessment of three unlined pits located on United States Bureau of Land Management (BLM) property adjacent to the B&E Tuzlu Kopek Disposal Facility .

The above referenced work plan is hereby approved with the following conditions:

1. Laboratory analyses of background soil samples will include analysis for Total Petroleum Hydrocarbons (TPH).

2. The final Phase I investigation report will be submitted to OCD upon conclusion of the Phase I activities.

3. The Closure Plan will be submitted to the OCD for approval, prior to implementation of any closure activities.

Please be advised that OCD approval does not relieve you of liability should your operation result in actual pollution of

surface waters, ground waters or the environment. OCD approval also does not relieve you of responsibility for compliance with other federal, state and local laws and/or regulations.

If you have any questions please, contact me at (505)827-5885.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Mike Williams, OCD Artesia District Supervisor
Jack Henry, Johnson & Gibbs
Leslie Cone, BLM Roswell District Manager

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

1792 (065)

AUG 21 1992

Information Notice to Operators:

BLM Position Regarding Disposal of Produced Water From Federal Wells at NMOCD-Licensed, Man-Made Surface Disposal Facilities.

Dear Operator:

Introduction:

The issue of disposal of formation waters produced from oil and gas wells has received a great deal of attention in recent weeks, resulting in several different actions from regulatory agencies and many rumors and misconceptions circulating throughout the oil patch. In this Information Notice, we would like to summarize the situation, clarify the status of new NTL-2B (Notice To Lessees-2B: Disposal of Produced Water) applications and existing approvals, and outline what is being done to expedite a resumption of normal disposal permit application processing.

Background:

Formation waters produced by oil and gas wells are typically disposed of either on-lease (or another lease) or at commercial facilities. These commercial facilities are generally of two types: surface evaporation or subsurface injection. The injection method is regulated and approved by both BLM and the State of New Mexico, and is generally considered to be the environmentally preferred method of disposal. This method of disposal was addressed in the Carlsbad Resource Management Plan.

The State of New Mexico has also licensed several commercial surface evaporation facilities in southeast New Mexico. These facilities have met environmental criteria specified by the NMOCD and other State agencies. These facilities are located on non-Federal lands. The BLM has routinely approved applications to dispose of produced water from Federal oil and gas wells (through NTL-2B) into these State-licensed facilities for many years.

We have recently determined that we must perform an environmental study of these surface disposal facilities to assess the potential impacts of disposal of produced water from federal wells, even though the facilities are not on federal land and are permitted by the State of New Mexico. The reason for this is to fulfill our responsibilities under the National Environmental Policy Act. At this time, we have determined that it is appropriate to do an Environmental Assessment (EA), a relatively low-level study, of three man-made surface disposal facilities.

Status of New NTL-2B Applications and Existing Approvals:

All existing NTL-2B approvals remain in effect. Oil and gas operators may continue to dispose of produced water covered by existing permits in all facilities for which they have approval. Operators are reminded that any changes in their methods or locations of disposal must be approved; if a permit is rescinded and no alternative methods or locations were previously approved, a new application must be filed. An Instruction Memorandum has just been issued to our approving Resource Area offices clarifying the procedures and criteria to follow in processing new NTL-2B applications. New applications for disposal by injection will be routinely processed. New applications for disposal into on-lease pits and some commercial surface disposal facilities may be approvable after completion of site-specific Environmental Assessments; applications to three surface disposal facilities that discharge into man-made structures (see below) will be held in suspense until a general EA has been completed on all three.

What is Being Done:

The Roswell District Office is preparing an Environmental Assessment of the possible impacts of disposal of produced water from federal wells into the Controlled Recovery, Loco Hills, and Parabo facilities. These facilities were selected because they are commercial facilities on private lands using man-made structures for disposal; the study was not prompted by any suspicion of inadequacy of these facilities, and is not related to any recent EPA actions.

Data is being accumulated from published literature, NMOCD files, NTL-2B applications, and facility operators. Scoping letters and requests for alternatives and/or data have been sent to all oil and gas operators who had NTL-2B approvals rescinded, denied, or suspended and to the operators of the disposal facilities under study. A goal has been set to have a rough draft completed by early September, 1992. If a FONSI is issued, we will resume processing NTL-2B applications for disposal at these three facilities. Requests for information should be directed to Jim Pettengill, either by mail or at (505) 622-9042.

Sincerely,

Leslie M. Cone

Leslie M. Cone
District Manager

PETE V. DOMENICI
NEW MEXICO

COMMITTEES:
BUDGET
APPROPRIATIONS
ENERGY AND NATURAL RESOURCES
BANKING
INDIAN AFFAIRS

United States Senate

WASHINGTON, DC 20510-3101

August 20, 1992

Mr. Bill LeMay, Director
Oil Conservation Division
Energy, Minerals and Natural Resources Department
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Bill:

As you are probably aware, the U.S. Environmental Protection Agency is seeking over $4 million in administrative penalties from 38 oil and gas producers in five states for discharging produced water into salt playas in Eddy County, New Mexico. Serious questions regarding the fairness and legality of this action have been raised and have caused me to become concerned.

The importance of the oil and gas industry to New Mexico can not be overstated; it is critical to local and State-wide economies. Therefore, the effects of regulations on the industry must be understood and weighed carefully. In addition, the implications of this action for related industries must also be taken into account. For these reasons, I feel I need to be better informed on this matter of such great importance and concern.

An important part of becoming fully informed on this issue is to hear from all parties and obtain more information and facts. To that end, I am holding a meeting to hear from affected and interested parties. I would like to extend an invitation to you to present information and viewpoints relative to the actions taken by the EPA. For your information, I am attaching a copy of the agenda. As you can see, we have a limited amount of time and a tight schedule. Therefore, I ask you to limit your oral remarks to 5 minutes; however, you may submit supplemental written material.

The meeting will be held on Tuesday, September 1, 1992, from 9:00 - 11:30 am in Hobbs, New Mexico at the City Council Chambers, 300 West Turner Street.

I hope to see you there. Should you have any questions, don't hesitate to call John McGee in my office at (202) 224-6621.

Sincerely,

Pete

Pete V. Domenici
United States Senator

Enclosure

NEW MEXICO PLAYA LAKES / EPA ENFORCEMENT ACTION
FIELD MEETING
SEPTEMBER 1, 1992
HOBBS, NEW MEXICO

AGENDA

9:00 Welcome/Opening Remarks

Senator Pete Domenici

- Comments from the US Environmental Protection Agency
- Comments from the State of New Mexico
  - Energy and Minerals Department, Oil Conservation Division
  - Environment Department
- Comments from the Bureau of Land Management
- Comments from the US Fish and Wildlife Service
- Comments from New Mexico Oil and Gas Association
- Comments from Independent Petroleum Association of New Mexico
- Comments from B & E, Inc.
- Comments from Laguna Gatuna, Inc.
- Others

11:15 Wrap-up

Senator Pete Domenici

JOHN PAUL PITTS

Laguna Quatro foes brace for showdown

Pitts

The "Incident at Laguna Quatro," a western adventure which pits unaware oil companies against hostile bureaucrats in a rage of environmental overkill, could become a bungle of epic dimensions. And, the bureaucrats portrayed by the Environmental Protection Agency (EPA) in Dallas could end up as classic bunglers if the facts as presented by the oilmen prevail.

This is an incident whose ripples are spreading far and wide and will probably not go quietly away. In addition to a possible lawsuit, all the political guns the oilmen can muster will be aimed at EPA.

An independent consulting firm in Washington D.C. is already looking into the matter for the Department of Energy, and as the facts roll in they do not appear to favor EPA. A Washington insider told me confidentially that the perception was that EPA was not well-informed on this issue of the lakes and may have bungled it.

It is a notion that gets much support from those operators affected by an EPA action that levelled $4 million in administrative penalties against 38 producers in Southeast New Mexico for allegedly discharging produced water into salt lakes.

First, the EPA alleges that the companies were in violation of the Clean Water Act because they did not have a general permit and are therefore responsible for discharging produced water into "waters of the United States."

But there is substantial evidence to support the contention that Laguna Quatro does not affect interstate commerce and therefore does not give EPA jurisdiction over these dry salt lakes. If EPA goes to the court house on this one it will be awfully difficult to explain to a judge how these pitiful, briney New Mexico pot holes should be declared "Waters of the United States."

It might also be hard to convince a rational, fair-minded judge that oilfield brine is killing birds, when in most cases the produced water dumped into the lakes are of higher quality than the brine water that was in the lakes before producers started using them 50 years ago.

If anything, oilfield produced water may have improved the water quality of the lakes, says Frank Yates, an indepenent producer from Artesia, New Mexico who is heading up a producers task force to confront EPA on their pollution charges. He notes that EPA charges about oilfield brine killing migratory birds are "pure conjecture."

There is also the question of legality. All of the producers charged with discharged waters into the "waters of the United States" did so through a trucking company that was duly licensed and permitted by the State of New Mexico and the Federal Government (Bureau of Land Management). Did EPA know the water was being discharged under legal permit?

Also, the high-handed, roughshod manner in which EPA handed out its "administrative penalties" with much fanfare and without warning or notification to producers, who were publicly condemned and heavily fined may not sit well in a court room. The New Mexico Oil & Gas Association has called

Please see FITTS/2E

PITTS: Showdown looms for playa incident

(From 1E)

it a "media event."

Play-for-press is a motive not to be discounted lightly. Because of formula stories and media mindset, any "environmental expose'" is guaranteed big exposure. And those doing the exposing are almost guaranteed to come up heroes. It is a "white hat" and "black hat" formula that works every time, and is used frequently by government agencies to garner favorable publicity.

It matters little what the facts are or how strong the case, only how inflammatory the rhetoric accompanying the charges.

Accustomed only to having their rhetoric printed and not accustomed to being challenged, an EPA spokesman I interviewed last week about Laguna Quatro, was noticibly disturbed that a reporter would try to hold his feet to the fire and ask him to explain and document EPA statements. "You sound like someone from an oil and gas newspaper!" he accused. I confessed that bias worked both ways.

Did the EPA act before they had their "ducks lined up?" Did they bungle this one? I expect that will be the theme of this incident, as it heats up in the weeks to come. It may also be the conclusion.

John Paul Pitts is business/oil editor of the Reporter-Telegram.

FRANK YATES J.R.

105 S. Fourth St.
Artesia, New Mexico 88210
(505) 748-1471

Mark Murphy
Strata Production Co.
P.O. Box 1030
Roswell, NM 88201

August 26, 1992

Dear Mark:

On August 4, 1992 the EPA levied over $4 million in fines against 38 oil and gas companies operating in the Permian Basin. These fines were levied for allegedly violating a clean water permit issued under the Federal Water Pollution Control Act which became effective March 27, 1991. The alleged violation is based on the EPA's unsubstantiated claim that produced water deliveries could degrade Laguna Quatro thus affecting interstate commerce and cause bird deaths. This claim allowed the EPA to inappropriately classify Laguna Quatro as "Waters of the U.S." as defined under the Clean Water Act.

In their press release, the EPA states that produced water is "... super salty ground water containing toxic and radioactive pollutants." The EPA claims that "salt in produced water crystallizes on the birds' feathers ... they ingest too much salt ... their brains swell and they die of sodium poisoning."

The EPA release fails to point out that B & E Inc., owner and operator of the disposal facility on Laguna Quatro, acted responsibly by employing an independent consultant to perform a hydrology study of the area, obtain the necessary permits prior to construction of his disposal facility.

The hydrology study shows that by the very nature of the regional geology, the water contained in Laguna Quatro is naturally highly mineralized, salt saturated brine. Not in geologic history could the water trapped by this collapse structure be considered clean. Regulating Laguna Quatro as if it were clean water under the original intent of the Clean Water Act represents beauracratic hypocrisy in the highest form.

Water analyses done for the study show conclusively that the produced water which B & E Inc. proposed to treat and deliver to Laguna Quatro was of better quality than the water existing in Laguna Quatro prior to the construction of B & E's facility. For example, the potassium and sodium levels of the produced water, allegedly blamed for

killing birds, were 32.7% lower than the original levels in Laguna Quatro. Total dissolved solids, chlorides, sulfates, and other physical properties of the produced water show lower concentrations than the original levels of Laguna Quatro and contained no measurable toxins. No doubt birds have received natural fatal doses of salts from these so called "playas" since long before man set foot in eastern New Mexico. Based on the evidence, to publicly imply, as the EPA has done, that produced water from oil and gas production is solely and directly responsible for bird deaths on Laguna Quatro for the purpose of a "Waters of the U.S." classification is a slanderous lie worthy of maximum political and judicial condemnation.

The EPA also claimed the produced water was "radioactive", implying imminent danger. This is just another misleading statement designed to sway public opinion (which the EPA has become very good at). The dirt in your back yard is radioactive. People receive an average of 360 mrems of radiation per year of which 80% is natural. To be within the EPA's guidelines, the EPA requires doses from single sources to be less than 10 mrems per year (about the same dose received from a chest x-ray). In the absolute worst case scenario, a person residing on the shore of Laguna Quatro for an entire 70 years life span would receive only five mrems of exposure per year.

On April 25, 1991 we received a memorandum from Bill LeMay, Director of the NMOCD that stated that the EPA alleged that "Laguna Gatuna (a natural playa salt lake in western Lea County) is now considered to be 'Waters of the U.S.' for purposes of regulation under the Clean Water Act ...". Laguna Quatro was not specifically identified by the EPA to be "Waters of the U.S.". The memo continued to state that "All operators discharging to such playas should review these developments ... and be prepared to modify discharge methods if necessary." This statement, plus other evidence, including the fact that none of our permits have been rescinded, made it clear that the NMOCD, the BLM and even the EPA did not expect us to immediately cease deliveries of produced water to B & E's facility and had not decided that the EPA should have jurisdiction to regulate the so called "playas". With the EPA's full knowledge, oil and gas operators, continued to deliver produced water to B & E Inc. for treatment and disposal. We were prepared, as recommended by the NMOCD, to modify our methods of disposal if notified to do so by the EPA or other agencies.

As late as January 3, 1992, the EPA had not yet decided that Laguna Quatro was "Water of the U.S.", which would have given the EPA, jurisdiction under the Clean Water Act. In an El Paso Times article from that date, Pat Rankin, council for EPA Region 6, indicated that "the agency still must determine whether it has jurisdiction to regulate isolated salt lakes such as those found in arid southeastern New Mexico and West Texas. 'We are currently considering the situation and all our alternatives' ..."

It was not until late January 1992 that the oil and gas operators received a copy of a document from the EPA to
B & E Inc. specifically claiming that Laguna Quatro was a "Water of the U.S.". This document was not a cease and desist order, but an order for information requiring B & E

to provide the EPA with a list of operators currently delivering produced water to B & E for treatment and disposal. B & E notified its clients and all deliveries to Laguna Quatro voluntarily ceased even though we were still in compliance with existing BLM and NMOCD permits.

Six months after produced water deliveries had stopped, operators received an administrative order from the EPA requiring the EPA "to take appropriate enforcement action to assure compliance, pursuant to the Clean Water Act...". Yates Petroleum responded with a letter dated July 10, 1992 stating we were not in violation and respectfully requested documentation prior to January 1992 specifically identifying Laguna Quatro as "Waters of the U.S.". The EPA sent no such documentation but responded with their "Notice of Proposed Assessment ..." received August 3, 1992 for $125,000.

The pursuit of this frivolous action by the EPA will result in absolutely no positive impact on the environment at a tremendous cost to the economy of southeastern New Mexico.

This action adversely affects the economics of about 350 wells by reducing the economic lives of these wells. These wells currently produce over 210,000 BOPM and slightly over 2 BCF of gas per month. Water disposal costs on these wells range from a few % to over 50% of the overall lease operating expense. The oil and gas industries inability to use B & E's treatment facility will result in an increase in produced water disposal expense from 30% to 400% depending on the quantity of water and the location of the wells. Preliminary estimates indicate that 64 wells will likely be plugged and abandoned, as a consequence of this action resulting in a loss of about 6800 BOPM and 30 MMCF per month.

Myco and Yates Petroleum have shut in 1320 BOPM resulting from Myco's loss of use of a $700,000 water disposal pipeline. This pipeline would have eventually enabled us to economically develop an estimated 2.5 million BO & 7 BCF.

Considering the overwhelming scientific evidence contradicting the EPA's classification of Laguna Quatro as a "Water of the U.S.", why would they seek to impose such an onerous burden on responsible companies in the Permian Basin? The answer is simple. POWER! The EPA cannot justify its $4.6 billion dollar budget and 18,000 employees without misleading the public into believing they are forcing the so called "big bad oil companies" into solving a problem that doesn't actually exist. In reality they are using inadequate or nonexistent scientific evidence and methods to con the public into supporting their totalitarian political agenda. This point was confirmed by a phone conversation on July 23 between EPA counsel, Pat Rankin and myself, in regard to industrial waste treatment methods. He indicated it was the EPA's responsibility (not industries) to determine the best available treatments economically achievable.

This action by the EPA threatens to undermine a cooperative effort by responsible businesses and local government agencies to improve a 15 mile stretch of the Pecos River

Valley between highway 82 and Brantley Lake. The EPA action is diverting manpower and economic resources away from this project which will eventually provide habitat for thousands of animals including thousands of migratory birds. This project will also provide recreational opportunities to the people of southeastern New Mexico and save an estimated 20,000 acre feet a year of New Mexico's precious water resources.

The solution to this impasse is simple. The EPA must admit that it is absurd for them to regulate any of southeastern New Mexico's so called "playas" under the Clean Water Act. The EPA must accept the fact that responsible businesses and citizens in the Permian Basin and southeastern New Mexico, as well as other regions around the country, know best how to balance their resources between environmental and economic concerns. The people of southeastern New Mexico and the Permian Basin must not stand for this injustice. We must reject efforts by outsiders including the EPA beauracrats to stir up dissent among our citizens in order for them to achieve their own socialistic political agendas. We do not need the EPA in southeastern New Mexico, we do not want the EPA in southeastern New Mexico, and we will not stop fighting the EPA until their destructive efforts are stopped!

Sincerely,

Frank Yates Jr., PE

A country that runs on oil can't afford to run short

Permian Basin Petroleum Association

P. O. Box 132 • (915) 684-6345 • Midland, Texas 79702

August 7, 1992

The Honorable J. Danforth Quayle
Vice President of the United States
1600 Pennsylvania Ave., N.W.
Washington, D.C. 20500

Dear Vice President Quayle:

The attached EPA charges are considered totally unjust. The majority of operators charged by the EPA for illegal disposal of produced waters are known to be prudent operators and who have gone the extra mile to be good environmental stewards in their day-to-day oil and gas operations. According to New Mexico State authorities those charged were fully permitted by the state and operating under a letter of agreement from The Bureau of Land Management for the disposal of produced waters in the Laguna Ouatro playa lakes.

The EPA has publicized that 38 oil and gas operators have polluted certain salt playa lakes with toxins including radioactive materials. Their far fetched charge appears to purposely disgrace and further deface oil and gas producers who believed that their disposal operations were well within the law. The charges also appear discriminatory as the greater majority of brine waters disposed in the Laquna Quatro originate from the potash industry. According to B & E, Inc. authorities, once they became aware of the EPA's concern over disposal into the Laguna Quatro in January 1992, all such disposal operations ceased.

We ask you to intervene in this issue and do whatever is necessary to stop the EPA's needless attacked on the petroleum industry. While we lack all the facts on this issue we are satisfied that the involved operators were not provided advanced warning or the courtesy of notification that their disposal operations were not in accordance with federal law. All cited operators must respond in full to the EPA within twenty days of receipt of notification or wave their rights of denial.

Sincerely,

Harry A. Spannaus
Executive Vice President

HAS/as

United States
Environmental Protection
Agency

Region 6
External Affairs (6X)
1445 Ross Avenue
Dallas, TX 75202-2733

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

EPA Environmental News

Roger Meacham
(214) 655-2200

FOR IMMEDIATE RELEASE: August 4, 1992

The U.S. Environmental Protection Agency (EPA) is seeking over $4 million in administrative penalties from 38 oil and gas producers who, the federal agency claims, caused the discharge of "produced water" to Laguna Quatro, a salt playa in Eddy County, New Mexico, EPA Regional Administrator Buck Wynne announced today.

Produced water, sometimes known as "oil-field brine," is super-salty groundwater containing toxic and radioactive pollutants. As a waste product of oil production, oil-field brine is usually disposed of in deep underground injection wells, where fish & wildlife resources cannot be exposed. The oil and gas operators contracted with B & E, Inc., a trucking and disposal company, to discharge it to Laguna Quatro instead. EPA alleges that violated a general Clean Water Act permit, prohibiting such discharges, which the Agency issued in the spring of 1990.

Laguna Quatro is one of a series of salt playas in an area known as the "Nash Draw," near Hobbs, New Mexico. The Nash Draw playas are hydrologically connected by groundwater movement and some of them also are connected by surface water flow.

Healthy playas sustain invertebrate life such as brine shrimp and brine flies which provide food for many species of federally protected shorebirds. These shorebirds, as well as wading birds such as herons and egrets, also use the playas as nesting and resting areas during their annual migrations. Produced salt water discharges, however, kill the invertebrates the birds and other wildlife feed on and, in some cases, they have actually killed waterfowl landing on playas to rest.

(more)

"It seems that the concentrated salt in produced water crystallizes on the birds' feathers and they get too heavy to fly," Wynne explained. "After they ingest too much salt by preening their feathers and drinking the water, their brains swell and they die of sodium poisoning. There is reason to believe that pollution of playas also contributes to a decline in the nation's migratory bird populations."

EPA began investigating the discharges to Laguna Quatro about a year ago in response to information provided by the U.S. Fish and Wildlife Service, the New Mexico Environment Department, the Bureau of Land Management, and the Audubon Society of New Mexico. "The New Mexico Environment Department deserves special praise for its work in this matter," Mr. Wynne said. He said that EPA's action is part of an ongoing regional salt playa enforcement initiative. In May, for example, EPA ordered cessation of produced water discharges to Laguna Gatuna, a salt playa in Lea County, and the agency is now investigating other disposal companies.

"We will continue working with State and federal agencies to stop produced water discharges to New Mexico's salt playas," Mr. Wynne said.

###

CUSTOMERS OF B & E, INC.
FOR WHICH PENALTIES ARE PROPOSED

Amax Oil & Gas Box 70 Big Lake, Texas 76932	$125,000
Amoco Production Box 68 Hobbs, New Mexico 88240	$ 60,000
Bass Enterprises Box 2760 Midland, Texas 79701	$125,000
Bettis-Boyle-Stovall Box 1240 Graham, Texas 76046	$125,000
BHP Petroleum Company 1031 Andrews Highway Midland, Texas 79701	$125,000
Bird Creek Resources Box 21470 Tulsa, Oklahoma 74121	$125,000
Bridge Oil Company Box 77 Andrews, Texas 79714	$ 60,000
BTA Oil Producers 104 South Pecos Midland, Texas 79701	$125,000
Collins and Ware Box 10487 Midland, Texas 79702	$100,000
Coquina Oil Box 27725 Houston, Texas 77227	$ 70,000

Enron Box 2267 Midland, Texas 79701	$125,000
Fortson Oil Company 301 Commerce Fort Worth, Texas	$125,000
Graham Royalty Box 783 Hobbs, New Mexico 88240	$125,000
Hadson Petroleum Box 26770 Oklahoma City, Oklahoma 73126	$125,000
Hallwood Petroleum 4582 S. Ulster St. Pkwy. Suite 1700 Denver, Colorado 80237	$125,000
Harkin Exploration Box 10626 Midland, Texas 79702	$110,000
Lanexco, Inc. Box 1206 Jal, New Mexico 88252	$ 80,000
Mallon Oil Company 1099 18th Street Denver, Colorado 80202	$ 70,000
Marathon Oil Company Box 552 Midland, Texas 79702	$ 30,000
Merit Energy 12221 Merit Drive Dallas, Texas 75251	$125,000
Mewbourne Oil Box 5270 Hobbs, New Mexico 88241	$125,000

Nearburg Producing Company 1 Petroleum Center Midland, Texas 79705	$ 50,000
Omar Operating Box 10487 Midland, Texas 79702	$ 80,000
Oxy U.S.A., Inc. Box 50250 Midland, Texas 79710	$125,000
Pacific Enterprises Box 2500 Casper, Wyoming 82602	$ 30,000
Phillips Petroleum Box 158 Loco Hills, New Mexico 88255	$125,000
Pogo Petroleum Box 10340 Midland, Texas 79701	$125,000
R. B. Operating Company 2412 North Grandview Odessa, Texas	$125,000
R. C. Bennett Box 264 Midland, Texas 79720	$125,000
Robert Enfield Hibbert Box 10487 Midland, Texas 79702	$125,000
Santa Fe Energy Resources 550 West Texas Midland, Texas 79701	$125,000
Sendero Petroleum 306 West Wall Midland, Texas 79702	$ 30,000

Slyvite Corp. 6966 South Utica Tulsa, Oklahoma 74136	$125,000
Southwest Royalties Drawer 11390 Midland, Texas 79702	$125,000
Texaco Exploration & Production Box 730 Hobbs, New Mexico 88240	$125,000
Ultramar Oil & Gas Box 5050 Hobbs, New Mexico 88241	$ 60,000
Yates Energy Corp. Box 2323 Roswell, New Mexico 88202	$125,000
Yates Petroleum 207 South 4th Street Artesia, New Mexico 88210	$125,000

EPA

United States
Environmental Protection
Agency — Region 6
External Affairs (6X)
1445 Ross Avenue
Dallas, TX 75202

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9 P. O. BOX 2088 RESOURCES
1 SANTA FE, NM 87504

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

IN REPLY REFER TO:

1792 (065)

AUG 21 1992

Information Notice to Operators:

BLM Position Regarding Disposal of Produced Water From Federal Wells at NMOCD-Licensed, Man-Made Surface Disposal Facilities.

Dear Operator:

Introduction:

The issue of disposal of formation waters produced from oil and gas wells has received a great deal of attention in recent weeks, resulting in several different actions from regulatory agencies and many rumors and misconceptions circulating throughout the oil patch. In this Information Notice, we would like to summarize the situation, clarify the status of new NTL-2B (Notice To Lessees-2B: Disposal of Produced Water) applications and existing approvals, and outline what is being done to expedite a resumption of normal disposal permit application processing.

Background:

Formation waters produced by oil and gas wells are typically disposed of either on-lease (or another lease) or at commercial facilities. These commercial facilities are generally of two types: surface evaporation or subsurface injection. The injection method is regulated and approved by both BLM and the State of New Mexico, and is generally considered to be the environmentally preferred method of disposal. This method of disposal was addressed in the Carlsbad Resource Management Plan.

The State of New Mexico has also licensed several commercial surface evaporation facilities in southeast New Mexico. These facilities have met environmental criteria specified by the NMOCD and other State agencies. These facilities are located on non-Federal lands. The BLM has routinely approved applications to dispose of produced water from Federal oil and gas wells (through NTL-2B) into these State-licensed facilities for many years.

We have recently determined that we must perform an environmental study of these surface disposal facilities to assess the potential impacts of disposal of produced water from federal wells, even though the facilities are not on federal land and are permitted by the State of New Mexico. The reason for this is to fulfill our responsibilities under the National Environmental Policy Act. At this time, we have determined that it is appropriate to do an Environmental Assessment (EA), a relatively low-level study, of three man-made surface disposal facilities.

Status of New NTL-2B Applications and Existing Approvals:

All existing NTL-2B approvals remain in effect. Oil and gas operators may continue to dispose of produced water covered by existing permits in all facilities for which they have approval. Operators are reminded that any changes in their methods or locations of disposal must be approved; if a permit is rescinded and no alternative methods or locations were previously approved, a new application must be filed. An Instruction Memorandum has just been issued to our approving Resource Area offices clarifying the procedures and criteria to follow in processing new NTL-2B applications. New applications for disposal by injection will be routinely processed. New applications for disposal into on-lease pits and some commercial surface disposal facilities may be approvable after completion of site-specific Environmental Assessments; applications to three surface disposal facilities that discharge into man-made structures (see below) will be held in suspense until a general EA has been completed on all three.

What is Being Done:

The Roswell District Office is preparing an Environmental Assessment of the possible impacts of disposal of produced water from federal wells into the Controlled Recovery, Loco Hills, and Parabo facilities. These facilities were selected because they are commercial facilities on private lands using man-made structures for disposal; the study was not prompted by any suspicion of inadequacy of these facilities, and is not related to any recent EPA actions.

Data is being accumulated from published literature, NMOCD files, NTL-2B applications, and facility operators. Scoping letters and requests for alternatives and/or data have been sent to all oil and gas operators who had NTL-2B approvals rescinded, denied, or suspended and to the operators of the disposal facilities under study. A goal has been set to have a rough draft completed by early September, 1992. If a FONSI is issued, we will resume processing NTL-2B applications for disposal at these three facilities. Requests for information should be directed to Jim Pettengill, either by mail or at (505) 622-9042.

Sincerely,

Leslie M. Cone

Leslie M. Cone
District Manager

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 14, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Mr. William M Kerr, Jr.
Kerr, Fitz-Gerald & Kerr
P.O. Box 511
Midland, Texas 79702

Re: OCD Memorandum
April 25, 1991

Dear Mr. Tate:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, R.C. Bennett/ R.C. Bennett Company is not on the OCD mailing list.

Based on this information, R.C. Bennett/ R.C. Bennett Company would not have received any general mailings originating from the OCD including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

LAW OFFICES
KERR, FITZ-GERALD & KERR, L.L.P.
A REGISTERED LIMITED LIABILITY PARTNERSHIP
CENTURY PLAZA BUILDING, SUITE 600
310 W. WALL STREET
MIDLAND, TEXAS 79701

POST OFFICE BOX 511
MIDLAND, TEXAS 79702
TELEPHONE (915) 683-5291
FAX (915) 683-5257

WILLIAM L. KERR (1903-1978)
GERALD FITZ-GERALD (1906-1980)
WM. MONROE KERR
THEODORE M. KERR
WILLIAM M. KERR, JR.
A. M. NUNLEY III
BRIAN T. McLAUGHLIN
JAMES DEVIN ALSUP

ALBERT J. MITCHELL, JR.
LICENSED IN NEW MEXICO ONLY
OF COUNSEL

August 12, 1992

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Attention: Mr. Roger C. Anderson
Environmental Bureau Chief

Re: R. C. Bennett/R. C. Bennett Company
OCD Memorandum
April 25, 1991

Gentlemen:

The U. S. Environmental Protection Agency ("EPA") has recently assessed R. C. Bennett a substantial administrative penalty under the Clean Water Act for alleged discharges by its contractor, B&E, Inc., of produced waste water into the playa lake in Eddy County, New Mexico known as Laguna Quatro. We are representing Mr. Bennett in his defense of this assessment. In researching EPA's allegations against Mr. Bennett, it appears that EPA is contending that a memorandum dated April 25, 1991, issued by the Oil Conservation Division of the State of New Mexico ("OCD") to "Operators," somehow placed operators in this area on notice of EPA's classification of Laguna Quatro as a "water of the United States." Neither Mr. Bennett nor his operating company, R. C. Bennett Company, has any record of ever receiving such a memorandum from OCD. Please advise us in writing at your earliest convenience whether or not R. C. Bennett and/or R. C. Bennett Company was on the mailing list for this memorandum. As Mr. Bennett is needing to respond to the EPA's allegations within the next ten days, your prompt reply will be greatly appreciated.

Thank you for your cooperation and assistance.

Very truly yours,

William M. Kerr, Jr.

WMKJr/ll

cc: Mr. R. C. Bennett
P. O. Box 264
Midland, Texas 79702

P.01

TRANSACTION REPORT

AUG-14-92 FRI 15:08

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TO: Mr William Keer Jr	FR: Roger Anderson
PAGES w/cover: 2	DATE: 8/14/92

If there are any problems with this transmission, please call (505) 827-5806.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 14, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Mr. Jon P. Tate
Southwest Royalties
P.O. Box 11390
Midland, Texas 79702-8390

Re: OCD Memorandum
April 25, 1991

Dear Mr. Tate:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Southwest Royalties Inc. is not on the OCD mailing list.

Based on this information, Southwest Royalties would not have received any general mailings originating from the OCD including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

SOUTHWEST ROYALTIES, INC.
Southwest Royalties Building
407 N. Big Spring, Midland, TX. 79701-4326
P.O. Box 11390, Midland, TX. 79702-8390
(915) 686-9927, 1-800-433-7945
FAX (915) 686-0364

SOUTHWEST ROYALTIES

688-0191

August 11, 1992

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Attention: Mr. Roger C. Anderson
Environmental Bureau Chief

Re: Southwest Royalties, Inc.
OCD Memorandum
April 25, 1991

Dear Mr. Anderson:

Southwest Royalties, Inc., by virtue of its contracting with B & E Trucking to dispose of produced waste water, has been assessed a maximum penalty by the Environmental Protection Agency ("EPA") for possible violations of the Clean Water Act. In researching the allegations made by the EPA it has come to our attention that a memorandum dated April 25, 1991, issued by the Oil Conservation Division ("OCD"), purported to place all operators on notice of what was at that time recent rulings by the EPA. However, we have no record of our ever receiving such a memorandum from the OCD. Would you be so kind as to advise us whether or not Southwest Royalties, Inc., was on your mailing list. In as much as the action initiated by the EPA could have possible disastrous effects, your timely response to this inquiry would be greatly appreciated.

If there is anything further that you should require in regard to this matter, please do not hesitate to call upon us.

Thank you very much.

Yours very truly,

Jon P. Tate
Land Manager

JPT/lph

P.01

TRANSACTION REPORT

AUG-14-92 FRI 15:19

DATE	START	RECEIVER	TX TIME	PAGES	NOTE
AUG-14	15:18	19156880191	1'01"	2	OK

FAX TRANSMITTAL SHEET

OIL CONSERVATION DIVISION - FAX NO. (505) 827-5741

TO: Mr Jon Tate	FR: Roger Anderson
PAGES w/cover: 2	DATE: 8/14/92

If there are any problems with this transmission, please call (505) 827-5806.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 13, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Ms. Sandra G. Yee
Coquina Oil Corporation
1717 James Place
Suite 200
Houston, Texas 77056-3404

Re: OCD Memorandum
April 25, 1991

Dear Ms. Yee:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Coquina Oil Corporation is not on the OCD mailing list.

Based on this information, Coquina Oil Corporation would not receive any general mailings originating from the OCD including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 13, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Mr. Bob Shelton
Nearburg Producing Co.
1 Petroleum Center, Bldg 8, Suite 100
3300 North "A" Street
Midland, Texas 79705

Re: OCD Memorandum
April 25, 1991

Dear Mr. Shelton:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Nearburg Producing Co. was not on the OCD mailing list until July 1, 1991.

Based on this information, Nearburg Producing Co. would not have received any general mailings originating from the OCD prior to July 1, 1991 including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 13, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Mr. Bob Shelton
Nearburg Producing Co.
1 Petroleum Center, Bldg 8, Suite 100
3300 North "A" Street
Midland, Texas 79705

Re: OCD Memorandum
April 25, 1991

Dear Mr. Shelton:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Nearburg Producing Co. was not on the OCD mailing list until July 1, 1991.

Based on this information, Nearburg Producing Co. would not have received any general mailings originating from the OCD prior to July 1, 1991 including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

Nearburg Exploration Company

Exploration and Production
3300 North "A" Street
Suite 8100
Midland, Texas 79705
915/686-8235
Fax 915/686-7806

WE HAVE 2 PAGE(S) TO SEND, INCLUDING THIS PAGE. IF YOU NEED CONFIRMATION OR A RESEND OF ANY PAGE, PLEASE CALL (915) 686-8235 WITHIN 15 MINUTES. IF NO CALL IS RECEIVED, WE WILL ASSUME YOU HAVE RECEIVED THE PAGE(S) SATISFACTORILY.

DELIVER TO: Bob Shelton - Yearbury

COMPANY:

FROM: Colleen

DATE: 8/13 TIME: 11:30

RE:

MESSAGE:

RA

Nearburg Producing Company

Exploration and Production
1 Petroleum Center, Bldg. 8, Suite 100
3300 North "A" Street
Midland, Texas 79705
915/686-8235
Fax 915/686-7806

July 1, 1991

Mr. Lawrence Ramero
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Re: OCD Docket

Dear Mr. Ramero:

Pursuant to our telephone conversation of even date herewith, please put Nearburg Producing Company on your mailing list for the OCD Docket which is published bi-monthly. Please furnish same to the attention of the undersigned, Nearburg Producing Company, One Petroleum Center, Building 8, 3300 North "A" Street, Suite 100, Midland, Texas 79705-5421.

Thank you for your cooperation.

Yours very truly,

Bob Shelton
Land Manager

BS/my

cc: Jerry Elger

Nearburg Producing Company

Exploration and Production
1 Petroleum Center, Bldg. 8, Suite 100
3300 North "A" Street
Midland, Texas 79705
915/686-8235
Fax 915/686-7806

August 12, 1992

State of New Mexico
Energy and Natural Resources Department
Oil Conservation Division
Attn: Mr. Roger C. Anderson
Environmental Bureau Chief
P.O. Box 2088
Santa Fe, New Mexico 87504

Re: OCD Memorandum dated April 25, 1991
Notice to All Operators

Dear Mr. Anderson:

Nearburg Producing Company contracted with B&E Trucking to dispose of produced water and has been assessed a penalty by the Environmental Protection Agency for alleged violations of the Clean Water Act. In regard to those allegations made by the EPA it has come to our attention that a memorandum dated April 25, 1991, issued by the Oil Conservation Division purported to place all operators on notice of what was at that time a recent ruling by the EPA. We have no record of ever receiving such memorandum from the OCD. Would you please advise us whether or not Nearburg Producing Company or Nearburg Exploration Company was on your mailing list for said memorandum? Given the EPA action is pending your timely response to this inquiry would be appreciated.

Should you have any questions or need further information, please do not hesitate to call.

Very truly yours,

Bob Shelton
Land Manager

BS/jh

COQUINA OIL CORPORATION
(A Subsidiary of American National Petroleum Company)
1717 St. James Place, Suite 200
Houston, Texas 77056-3404

Sandra Yee
Regulatory Coordinator

Office: (713) 961-1770
FAX: (713) 961-7216

August 10, 1992

State of New Mexico
Energy, Minerals and Natural Resources Depa tment
Oil Conservation Division
PO Box 2088
Santa Fe, NM 87504

Attention: Mr. Roger Anderson

Re: OCD Memorandum Dated April 25, 1991
to "ALL OPERATORS" on the Subject of
"Recent Federal Environmental Action Regarding
Exploration and Production Wastes"

Dear Mr. Anderson:

Coquina has received a copy of the referenced Memo from another Operator three days ago (on August 7). Coquina has no record of ever having received this Memo from the NMOCD in spite of the "All Operators" designation. We would greatly appreciate a response as to whether Coquina was on the distribution list for the Memo.

A FAX'ed response would be very much appreciated. Our FAX number is (713) 961-7216.

Sincerely,

COQUINA OIL CORPORATION

Sandra G. Yee

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 13, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Ms. Sandra G. Yee
Coquina Oil Corporation
1717 James Place
Suite 200
Houston, Texas 77056-3404

Re: OCD Memorandum
April 25, 1991

Dear Ms. Yee:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Coquina Oil Corporation is not on the OCD mailing list.

Based on this information, Coquina Oil Corporation would not receive any general mailings originating from the OCD including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

FAX TRANSMITTAL SHEET

OIL CONSERVATION DIVISION - FAX NO. (505) 827-5741

TO: Ms Sandra Yee	FR: Roger Anderson
PAGES w/cover: 2	DATE: 8/13/92

If there are any problems with this transmission, please call (505) 827-5806.

EPA: Potash brine is regulated

Carlsbad Current-Argus—A-3

Monday, August 10, 1992

By JOSH MARGOLIN
Current-Argus staff writer

The EPA was changing its tune today concerning responsibility for regulating potash mine waste and possible repercussions from fines being levied last week against oil and gas firms for alleged brine dumping abuses.

"The potash discharges are being dealt with separately," said EPA spokesman Roger Meacham. "We are investigating these companies to determine if there have been violations of federal law."

Last week, the agency announced that it was fining 38 oil and gas companies up to $125,000 a piece for dumping oil field brine — which contains levels of arsenic, benzene, xylene and lead — in salt lakes just outside of Carlsbad.

EPA, which charged 38 firms including Amoco, Marathon, Texaco and Artesia's Yates Petroleum with the unlawful practice, said the companies hired Carlsbad's B & E Inc. disposal contractor to haul their oil field brine to playas like Laguna Quatro.

Normally, EPA said, oil companies inject their brine waste back into deep underground water tables.

Because of the dumping, Quatro is reported to be 99 percent dead.

Following that announcement, Yates Petroleum vice president Frank Yates published a statement under the letterhead of Independent Petroleum Association of New Mexico, an oil industry group, that said potash will suffer from the EPA's move against the petroleum industry.

"The inability to dispose of produced water into dry playa lakes may be the largest problem face by southeastern New Mexico oil producers and potash miners this decade," said the statement.

"Without the ability to economically dispose of this water the oil

Please see EPA on A-4

EPA retracts regulation

Continued from page 1

and gas producers and potash miners face significant economic difficulties," the statement continued.

After hearing of the statement, EPA spokesman David Bary said from his Dallas office, "Potash is not even regulated."

That, however, was a mis-statement, according to one of his colleagues, Roger Meacham, also a spokesman, who acknowledged that potash brine dumping is regulated by the agency through a different rule, which reads almost identically as the oil citation.

Meacham also confirmed that EPA is currently conducting an investigation to determine if there are abuses present in potash brine dumping.

"We are looking at that issue separately," Meacham said. "We think this is a serious issue that needs to be addressed."

The investigation, Meacham said, has been ongoing for 11 months, about the same length as the petroleum investigation.

Potash sources earlier today said they had no idea of any ongoing EPA investigation and admitted they did not even understand it because the brine that surfaces from potash mining is more benign than that which is recovered during oil drilling.

One source who declined to be quoted by name said potash brine dumping is basically putting back into the playas what is already there. He said there is no [illegible] of any substances like lead or arsenic.

EPA also did an about-face today discussing the part of the investigation regarding B & E's [illegible] the story.

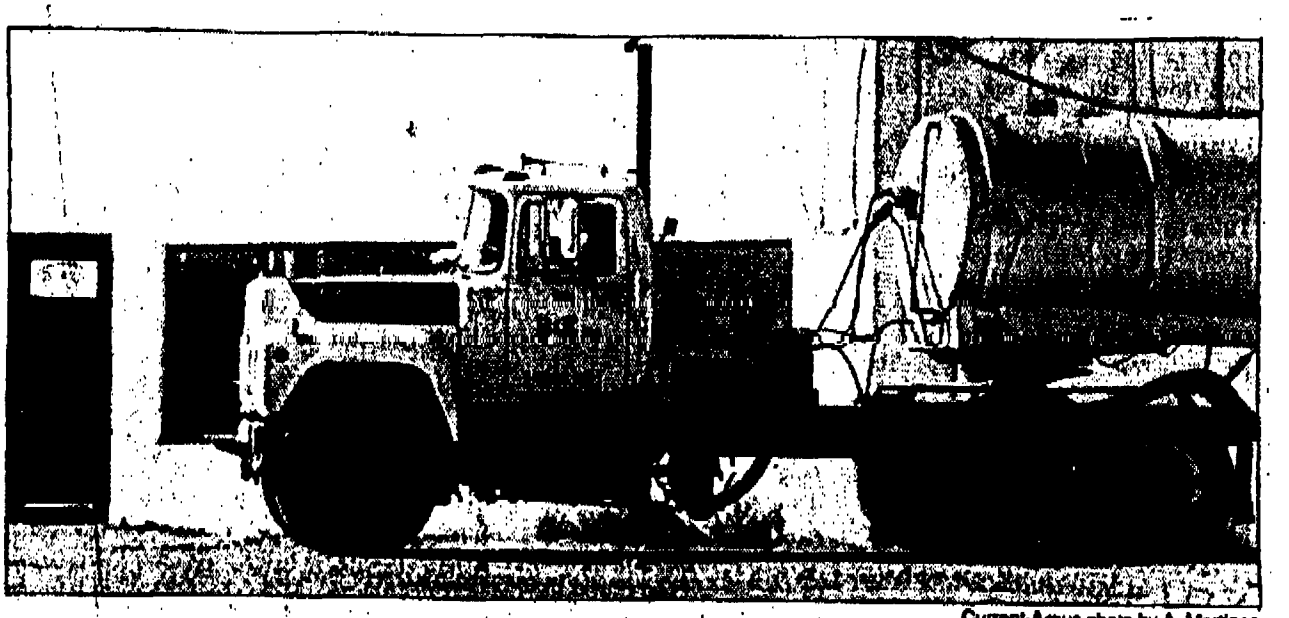
Originally, Bary said the carting firm was previously fined for doing the actual brine dumping but this morning Meacham said no action has yet been taken and the agency is still investigating.

Should EPA find evidence of wrongdoing on the part of B & E they have three penalty choices:

The agency, Meacham said, could fine them up to $125,000 total — as is the case with the oil companies; it can seek civil penalties of up to $25,000 per day of non-compliance; or it may even seek criminal charges against the dumpers.

Meacham would not speculate as to when either investigation will be completed. And he said the penalty, if any is required, will be determined following the conclusion of the investigation.

B & E has repeatedly refused to comment on anything relating to the EPA's move last week. This morning they once again declined to say anything other than "thank you for calling."



Current-Argus photo by A. Martinez

B & E Inc., a Carlsbad waste disposal company, is alleged to have transported oil field brine to Laguan Quatro in violation of EPA regulations.

Potash not linked to brine problem, oil official admits

By JOSH MARGOLIN
Current-Argus staff writer

Just a day after members of the oil and gas industry tried to associate Carlsbad's potash mines with their current environmental problems, one of the key petroleum alarmists is clarifying his position.

"I can't speak to that (potash) because I know little about the regulations regarding the potash industry," said Frank Yates, vice president of Artesia's Yates Petroleum. "All I can say is those playas have been used by the industry for 50 years and that is the only connection that I was trying to make."

In an announcement made Tuesday, the U.S. Environmental Protection Agency said it was seeking $4 million in administrative fines from 38 oil and gas companies as a result of their practice of dumping brine, extracted at their fields, into southeastern New Mexico salt lakes.

Yates' company is one of the nine New Mexico-based firms fined. It was also one of the 25 companies given the $125,000 maximum penalty.

Following EPA's announcement, Yates published a statement under the letterhead of Independent Petroleum Association of New Mexico, an oil industry group, that said the potash industry headquartered in this part of the state will suffer dire consequences as a result of the action taken against the petroleum industry.

"The inability to dispose of produced water into dry playa lakes may be the largest problem faced by southeast New Mexico oil producers and potash miners this decade," said the statement.

"Without the ability to economically dispose of this water the oil and gas producers and potash mines face significant economic difficulties," the statement continued.

EPA and potash industry sources Wednesday were dumbfounded at that statement for several reasons.

One potash figure, who spoke on the condition of anonymity, said the could not understand the connection between oil and potash except to say that, "These companies get in trouble and they start scrambling for allies. The potash industry has been disposing of their waste waters like that for years."

David Bary, an EPA spokesman in Dallas, said, "Potash is not even regulated."

The entire problem is a result of the oil firms contracting with Carlsbad's B & E Inc., a waste disposal company, to dispose of the oil field brine that is a by-product of oil drilling.

B & E was previously fined for this, and Bary said in these cases his agency not only fines the dumper but fines the companies that contract with the agent.

Because of this dumping, EPA said Laguna Quatro, a playa about 20 miles southeast of Carlsbad, has suffered grave consequences.

According to some who have been studying the playas, Quatro is almost 99 percent dead as a result of the brine that has been dumped.

EPA said the whole problem is that oil field brine usually contains other contaminants such as xylene, benzene, lead and arsenic, thereby killing the organisms that live in the playa.

Eddy

Continued from **1A**

said Tuesday that at least two southeastern New Mexico salt lakes will be dead biologically for a long time because of the dumping. West says he often sees dead birds around the lakes.

But he said the decision might help save thousands of other playas.

"This was not done because we were against oil companies or against any particular company or individual," West said. "We also were concerned about public health and safety. We're talking about people who drink water from wells out there, people who eat beef from cattle out there. It involved more than whether brine shrimp were having a happy day at the lake."

David Bary, an EPA spokesman in Dallas, said discharges were made from early spring 1991 until late June of this year, when the EPA issued cease and desist orders.

"As far as we know all the companies complied," Bary said.

He said he didn't know exactly how much produced water was discharged. "There was considerable pollution," he said.

Laguna Quatro is one in a series of salt playas in an area known as the Nash Draw in southeast New Mexico. The draw's playas are hydrologically connected by ground-water movement and some also are connected by surface water flow.

The Environmental Protection Agency's Dallas office said Tuesday that 23 of the producers are based in Texas, nine in New Mexico, three in Oklahoma, two in Colorado and one in Wyoming.

The companies allegedly contracted with B&E Inc., a Carlsbad trucking and disposal company, to discharge "produced water" into Laguna Quatro, said Buck Wynne, EPA regional administrator in Dallas.

Produced water, sometimes called oil-field brine, is highly salty ground water containing toxic and radioacti[illegible] pollutants.

List of suspected playa polluters

These are the oil and gas producers named by the U.S. Environmental Protection Agency for possible penalties in connection with alleged discharges of polluted water into a New Mexico salt playa.

Included are the company names, headquarters and amount of the proposed penalties.

■ **New Mexico:** Amoco Production, Hobbs, $80,000; Graham Royalty, Hobbs, $125,000; Lanexco Inc., Jal, $80,000; Mewbourne Oil, Hobbs, $125,000; Phillips Petroleum, Loco Hills, $125,000; Texaco Exploration & Production, Hobbs, $125,000; Ultramar Oil & Gas, Hobbs, $60,000; Yates Energy Corp., Roswell, $125,000; Yates Petroleum, Artesia, $125,000.

■ **Texas:** Amax Oil & Gas, Big Lake, $125,000; Bass Enterprises, Midland, $125,000; Bettis-Boyle-Stovall, Graham, $125,000; BHP Petroleum Co., Midland, $125,000; Bridge Oil Co., Andrews, $60,000; BTA Oil Producers, Midland, $125,000; Collins and Ware, Midland, $100,000; Coquina Oil, Houston, $70,000; Enron, Midland, $125,000; Fortson Oil Co., Fort Worth, $125,000; Harkin Exploration, Midland, $110,000; Marathon Oil Co., Midland, $30,000; Merit Energy, Dallas, $125,000; Nearburg Producing Co., Midland, $50,000; Omar Operating Midland, $80,000; Oxy U.S.A. Inc., Midland, $125,000; Pogo Petroleum, Midland, $125,000; R.B Operating Co., Odessa, $125,000; R.C. Bennett, Midland, $125,000; Robert Enfield Hibbert, Midland, $125,000; Santa Fe Energy Resources, Midland, $125,000; Sendero Petroleum, Midland, $30,000; Southwest Royalties, Midland, $125,000.

■ **Oklahoma:** Bird Creek Resources, Tulsa, $125,000; Hadson Petroleum, Oklahoma City, $125,000; Slyvite Corp., Tulsa, $125,000.

■ **Colorado:** Hallwood Petroleum, Denver, $125,000; Mallon Oil Co., Denver, $70,000.

■ **Wyoming:** Pacific Enterprises, Casper, $30,000.

Source: Associated Press

The brine, a waste product of oil production, usually is disposed of in deep underground injection wells where fish and wildlife resources cannot be exposed.

The EPA alleges the discharges into Laguna Quatro violated a general Clean Water Act permit the agency issued in 1990.

Frank Yates, vice president of Yates Petroleum of Artesia, one of the companies singled out by EPA, [illegible]aid he [illegible] the agency's respo[illegible]ionable.

"We h[illegible] we ev[illegible] waters of the [illegible] he said.

[illegible]ent Petroleum Associatio[illegible] New Mexico late Tuesday said producers contacted by the association denied discharging water into U.S. waters, saying they delivered water to an operator that was duly licensed and permitted by the state of New Mexico and the federal government.

Bary said B&E Inc., which would [illegible]ot comment Tuesday, also would be held liable for any pollution but that it was too early to say what the possible penalty would be.

"We will continue working with state and federal agencies to stop produced water discharges to New Mexico's salt playas," Wynne said.

El Paso Times reporter Marilyn Haddrill contributed to this story.

El Paso Times

Wednesday, Aug. 5, 1992

EPA would fine alleged Eddy salt-bed polluters $4 million

Oil, gas producers claim hardship case

Associated Press

ALBUQUERQUE — The U.S. Environmental Protection Agency wants more than $4 million in penalties from 38 oil and gas producers accused of dumping polluted water into an Eddy County salt bed that supports wildlife.

■ **List:** Roundup of suspected playa polluters / **2A**
■ **Vital:** Salt lakes provide food sources for birds / **2A**

The decision will "shut down production of hundreds of oil wells and put the similarly affected potash mines under severe economic strain," the Independent Petroleum Association of New Mexico said in a statement released late Tuesday.

"This severe burden on industry in southeast New Mexico will have a substantial financial effect on numerous small businesses and thousands of workers and their families in the area, yet, with little if any positive impact on the quality of the environment."

The association also noted that oil drilling in the United States is at an all-time low.

"The inability to dispose of produced water into dry playa lakes (salt beds) may be the largest problem faced by southeast New Mexico oil producers and potash miners this decade," the statement said. "Without the ability to economically dispose of this water, the oil and gas producers and potash mines face significant economic difficulties."

But Steve West, a member of a group that pushed for federal action to protect salt lakes, was pleased: "This decision probably has the biggest impact environmentally than anything that's happened in the country so far this year."

West, of Carlsbad Citizens for Responsible Land Management,

Please see **Eddy / 2A**

EL PASO TIMES - January 3, 1992

Carlsbad firm accused of tainting falcon site

By Marilyn Haddrill
El Paso Times

CARLSBAD — An environmental group plans to sue a Carlsbad company over its discharges of polluted oil-well water near a salt lake where endangered falcons feed, a lawyer for the group said Friday.

David Horley, senior attorney for the Land and Water Fund of the Rockies based in Boulder, Colo., said legal notices announcing intentions to sue — on behalf of a Carlsbad environmental group — were sent in late December to B&E Inc. of Carlsbad and the U.S. Environmental Protection Agency in Dallas.

Both the private Carlsbad firm and federal agency were named as potential parties in the case.

Horley said in a telephone interview the oil-field service company might have placed several types of birds in jeopardy — including endangered peregrine

Please see Falcon / 2A

Falcon

Continued from 1A

and aplomado falcons — by dumping oil-contaminated waste water near a lake southeast of Carlsbad.

Valerie Lemon-Pierce, assistant general manager for B&E Inc., said the company complies with all environmental laws. She said B&E hauls waste water used at drilling rigs.

"We have done everything we were informed to do (by government agencies)," she said Friday.

Horley said his organization, which provides free legal assistance on environmental issues in the Rocky Mountains, is representing the Carlsbad Concerned Citizens for Responsible Land Management.

"What it does involve is our contention that the water that's been dumped into the lake has not been treated and various agencies have not been doing their job as far as protecting wildlife," said Steve West, a Carlsbad biologist and member of the Carlsbad group.

One bird taken off the lake — a black-necked stilt — had oil hydrocarbons in its body, U.S. Fish and Wildlife Service field supervisor Jennifer Fowler-Propst of Albuquerque said Friday.

She said hydrocarbons can kill wildlife or cause reproductive problems, but she said the full effect of the compounds is unknown.

She said it's not clear whether falcons living in the area eat enough contaminated waterfowl from the lake to be harmed.

Horley said the dumping site is on private property but the waste water seeps into a lake on Bureau of Land Management land.

The case will allege violations of federal clean water and endangered species laws, which require plaintiffs to give notice 60 days before filing a lawsuit.

Fowler-Propst said Fish and Wildlife has asked the EPA to step in and oversee the waste water discharge.

But Pat Rankin, assistant regional counsel for the EPA in Dallas, said the EPA has not yet decided whether it will get involved.

"There are a lot of issues involved in this," Rankin said.

He said the agency still must determine whether it has jurisdiction to regulate isolated salt lakes such as those found in arid southeastern New Mexico and West Texas.

"We are currently considering the situation and all our alternatives. That's all I can tell you," he said.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 6, 1992

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Ms. Kim Ligon
Bettis, Boyle and Stovall
P.O. Box 1240
Graham, Texas 76046

Re: OCD Memorandum
April 25, 1991

Dear Ms. Ligon:

The Oil Conservation Division (OCD) has received your request for verification on the distribution of the above referenced memorandum. According to our records, Bettis, Boyle and Stovall are not on the OCD mailing list.

Based on this information, Bettis, Boyle and Stovall would not receive any general mailings originating from the OCD including the above referenced memorandum.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely:

Roger C. Anderson
Environmental Bureau Chief

RCA/ra

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To Ray Miller	From R. Andrews
Co. Marbob	Co. NMOGA
Dept.	Phone # 982-2568
Fax # 1-746-9539	Fax # 986-1094

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E,

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

Proposed Agenda for Meeting of August 6, 1992 in Midland, Texas

The meeting will commence at 1:30 p.m. in Room 2 at the Midland Center, Midland, Texas (downtown Midland across from the Courthouse). Following is a proposed list of topics:

1. Disposal of Produced Waters at Laguna Cuatro.
   a. New Mexico Oil Conservation Division Permits held by B & E, Inc.
   b. Bureau of Land Management NTL-2B's listing Tuzlu Kopek (Laguna Cuatro) as an authorized disposal facility.
   c. Bureau of Land Management letter dated August 15, 1989 authorizi. continued discharge.
   d. Date/Reason B & E ceased salt water disposal operations at Laguna Cuatro
2. NPDES Permit for Discharge of Produced Waters
   a. Applicability - Timing - Water of the United States
   b. General Prohibition for on-shore category wells
3. U.S. Environmental Protection Agency 308 request
   a. Information requested/provided
   b. Discussions with Environmental Protection Agency
4. Cease and Desist order issued to operators of on-shore category wells
5. Administrative Penalty Assessment
   a. Response required
   b. Timing/content
   c. Defenses

NEW MEXICO OIL AND GAS ASSOC.
P.O. BOX 1864, 500 DON GASPAR
SANTA FE, NM 87504
505-982-2568 • FAX 986-1094

BLMFACTS

BUREAU OF LAND MANAGEMENT
NEW MEXICO STATE OFFICE, P.O. Box 27115, Santa Fe, NM 87502-7115

PREPARED FOR: Congressional Staff Briefing, August 5, 1992 INTERNAL WORKING DOCUMENT

SUBJECT: Investigation into produced water disposal in the Laguna Quatro playa in southeast New Mexico and subsequent fines levied by the EPA.

ISSUE SUMMARY: The Environmental Protection Agency is the lead agency in this matter and has confirmed Laguna Quatro, a playa in southeast New Mexico, fits the definition of waters of the United States under the Clean Water Act. Companies wishing to dispose of produced water into playas, therefore, need to comply with National Pollutant Discharge Elimination System (NPDES) General Permit NMG320000.

BLM POSITION: BLM policy allows the transportation of produced water from oil and gas sites providing the operator disposes of the material at an approved site. When BLM learned of the NPDES requirement, it rescinded permission to haul produced water to B&E's facility at Laguna Quatro on March 11, 1992. BLM's preferred method of disposal of produced water is well injection.

BACKGROUND: B&E is a disposal company with a produced water disposal facility adjacent to Laguna Quatro. This facility was approved by the New Mexico Oil Conservation Division, thus fulfilling BLM's requirement as an approved disposal facility. Twenty-three oil and gas producers contracted with B&E to dispose of their produced water at the facility at Laguna Quatro. On January 14, 1992, EPA issued a cease and desist order against B&E for their facility at Laguna Quatro because B&E did not have a NPDES permit for the site. On March 11, 1992, BLM rescinded its permission to companies using the B&E facility to dispose of produced water from wells on federal leases. On July 30,1992, EPA issued an assessment of administrative penalty to companies that used B&E's facility.

POSITION OF MAJOR CONSTITUENCIES: Oil and gas operators are concerned about the change in requirements and the EPA's definition of playas as waters of the United States.

CONTACT: Leslie M. Cone, District Manager, Al Collar, Roswell Hazardous Materials Coordinator; Office 505-622-9042

BETTIS, BOYLE AND STOVALL
OIL PRODUCERS
P. O. Box 1240
Graham, Texas 76046
817 · 549-0780

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Attn: Mr. Roger Anderson RE: OCD MEMORANDUM DATED APRIL 25, 1991
TO ALL OPERATORS

Dear Roger:

Thank you so much for the fax of the above referenced memorandum, however; I am a bit confused as this memo is addressed TO ALL OPERATORS. Bettis, Boyle & Stovall has no knowledge of ever receiving this notice and we would greatly appreciate a response as to weather we were on the matrix for distribution of this memo.

A faxed response would be very much appreciated. Our fax is 817-549-7405.

Sincerely,

BETTIS, BOYLE & STOVALL

Kim Ligon
Production Analyst

KL

JOHNSON & GIBBS
A Professional Corporation
ATTORNEYS AND COUNSELORS

First City Tower
1001 Fannin Street
Suite 1200
Houston, Texas 77002
713/752-3300

Fax: 713/752-3788

Writer's Direct Dial Number

Other Locations:
Austin, Texas
Dallas, Texas
Washington, D.C.

713/752-3394

August 3, 1992

Leslie Cone, District Manager
U.S. Bureau of Land Management
P.O. Box 1397
1717 West 2nd Street
Roswell, New Mexico 88202

Dear Ms. Cone:

In accordance with your letter dated July 29, 1992, B&E, Inc. ("B&E") hereby agrees to modify its Phase I Environmental Investigation to include the three items you have requested.

By copy of this letter to Roger Anderson, Environmental Engineer, New Mexico Oil Conservation Division ("OCD") we are hereby requesting approval to proceed with the Phase I Environmental Investigation as set forth in the attached proposal from ReTec Technologies, Inc. dated July 1992 and as further modified by the above letter from the Bureau of Land Management ("BLM"). A copy of the BLM letter is attached for your ready reference.

Upon receipt of approval from OCD, B&E will finalize the contract with ReTec and proceed as expeditiously as possible.

By way of clarification, this letter is <u>not</u> an agreement to review, discuss or plan an investigation of Laguna Cuatra. As I indicated during our last meeting, B&E is willing to

discuss the trespass issue. However, until such time as we able to do so, B&E is unwilling to discuss an investigation of the waters in Laguna Cuatr

Should you have any questions, please contact m ove number.

Very truly y

JOHNSON &
A Professional Corporation

Jack Henry

cc: Roger Anderson, Environmental Engineer
New Mexico Oil Conservation Division
Philip Withrow, B&E, Inc.
Fred Closmann, ReTec

JWH/er

f:\jwhenry\18512\0001\cone.h03

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

FAX COVER PAGE

DATE: August 3, 1992

TO: Roger Anderson

COMPANY: OCD

ADDRESS: _____

_____

FAX 1-827-5741

NO. OF PAGES: 14 (INCLUDING THIS COVER PAGE)

FROM: B & E, INC.
P.O. BOX 756
CARLSBAD, NM 88221

FAX NUMBER: 505-885-5988
800 NUMBER: 800-658-2739

COMMENTS:

Document we discussed - page-2 of administrative Complaint No. 3 - Fine cancelled. Thanks, Val

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 8 8 1992

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 893 526 412)

Ms. Kim Ligon
Bettis-Boyle-Stovall
P.O. Box 1240
Graham, Texas 76046

Re: Notice of Proposed Assessment of a Class II Civil Penalty
Docket No. VI-92-1633
NPDES General Permit No. NMG320000
Facility No. NMU000013

Dear Ms. Ligon:

Enclosed is a document entitled "Administrative Complaint, Findings of Violation, Notice of Proposed Assessment of a Civil Penalty, and Notice of Opportunity to Request a Hearing Thereon" (hereinafter the "Complaint"). We have filed this Complaint against Bettis-Boyle-Stovall under the authority of Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). In the Complaint, the U.S. Environmental Protection Agency (EPA) alleges that Bettis-Boyle-Stovall has violated various provisions of the Clean Water Act, its implementing regulations, and the terms of the NPDES permit issued under the authority of the Act. The violations the EPA is alleging are specifically set out in Section II of the Complaint.

By law, you have a right to request a hearing regarding the violations alleged in the Complaint and the proposed administrative civil penalty. Please pay particular attention to the Complaint Section IV entitled "Notice of Opportunity to Request a Hearing." Note that should you fail to request a hearing within twenty (20) days of your receipt of the Complaint, you will waive your right to such a hearing and, the proposed civil penalty may be assessed against you without further proceedings. You have the right to be represented by an attorney or to represent yourself at any stage of these proceedings.

Whether or not you request a hearing, we invite you to confer informally with the EPA concerning the alleged violations and the amount of the proposed penalty. You may represent yourself or be represented by an attorney at any conference, whether in person or by telephone. The EPA encourages all parties against whom it files a Complaint proposing assessment of a penalty to pursue the possibility of settlement as a result of an informal conference. If such a mutually satisfactory settlement can be reached, it will be formalized by the issuance of a Consent Agreement signed by you and by the Regional Administrator of EPA Region 6. The issuance of such a Consent Agreement shall constitute a waiver by you of your right to a hearing on, and to a Judicial appeal of, the agreed civil penalty. Enclosed for your convenience is a draft copy of the "Consent Agreement and Order Assessing Administrative Penalties".

A request for an informal conference does not extend the twenty (20) days by which you must request or waive a hearing on the proposed penalty assessment; the two procedures can be pursued simultaneously. If you have any questions, or wish to discuss the possibility of a settlement of this matter, please contact Ms. Dianne Ratkey (6W-ET), U.S. EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202-2733, or telephone (214) 655-6470.

We urge your prompt attention to this matter.

Sincerely yours,

Myron O. Knudson, P. E.
Director
Water Management Division (6W)

Enclosures

cc: Mr. Jim Piatt, Bureau Chief
Surface Water Quality Bureau
New Mexico Environment Department

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF	§	DOCKET NO. VI-92-1633
	§	
BETTIS-BOYLE-STOVALL	§	
P.O. Box 1240	§	
Graham, Texas 76046	§	
	§	Proposal to Assess Class II
NPDES GENERAL PERMIT NO. NMG320000	§	Administrative Penalty
FACILITY NO. NMU000013	§	Under CWA § 309(g)

ADMINISTRATIVE COMPLAINT,
FINDINGS OF VIOLATION,
NOTICE OF PROPOSED ASSESSMENT OF
A CIVIL PENALTY, AND NOTICE OF OPPORTUNITY
TO REQUEST A HEARING THEREON

I. Statutory Authority

The following Findings are made and Notices given under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). The Administrator has delegated these authorities to the Regional Administrator of EPA Region 6 who redelegated these authorities to the Director of the Water Management Division of EPA Region 6, who hereby issues this Complaint and Notice.

II. Findings of Violation

1. Bettis-Boyle-Stovall (hereinafter the "Respondent"), a person within the meaning of Section 502(5) of the Act, 33 U.S.C. § 1362(5), owns or operates a facility located at P.O. Box 1240, Graham, Texas 76046, which discharges pollutants to the Laguna Quatro, a navigable water of the United States within the meaning of Section 502 of the Act, 33 U.S.C. § 1362. Respondent is, therefore, subject to the provisions of the Act, 33 U.S.C. § *et seq.*

2. The Respondent has violated Section 301(a) of the Act, 33 U.S.C. § 1311(a), by violating condition Part I.A. of NPDES General Permit No. NMG320000, which condition implements Section 301(a) of the Act, 33 U.S.C. § 1311 and which permit has been issued to the Respondent pursuant to Section 402 of the Act, 33 U.S.C. § 1342, by causing the discharge of produced waters to Laguna Quatro on at least 123 occasions during the period March 27, 1991, to January 29, 1992.

(3) EPA has consulted with the State of New Mexico regarding this proposed action by mailing a copy of this document to the appropriate State official and offering an opportunity for the State to consult with the EPA on this proposed penalty assessment.

III. Notice of Proposed Order Assessing A Civil Penalty

Based on the foregoing Findings of Violation and pursuant to the authority of Section 309(g) of the Act, 33 U.S.C. § 1319(g), EPA Region 6 hereby proposes to issue a Final Order Assessing Administrative Penalties to the Respondent assessing a penalty of $125,000, which constitutes less than $10,000 per violation cited above. The proposed penalty amount was determined by the EPA after taking into account the nature, circumstances, extent and gravity of the violation or violations, the Respondent's prior compliance history, degree of culpability for the cited violations, any economic benefit and savings accruing to

Respondent by virtue of the violations, and the Respondent's ability to pay the proposed penalty. All factors are identified at Section 309(g)(3) of the Act, 33 U.S.C. § 1319(g)(3). The Final Order Assessing Administrative Penalties may be issued twenty (20) days after Respondent's receipt of this Notice unless the Respondent, within that time, requests a hearing on this Notice pursuant to the following section.

IV. Notice of Opportunity to Request a Hearing

1. Respondent may, pursuant to Section 309(g), of the Act, 33 U.S.C. § 1319(g), request within twenty (20) days of receipt of this Notice, a hearing on the civil penalty assessment proposed herein. At the hearing the Respondent may contest any material fact contained in the Findings of Violation at Section II above and the appropriateness of the proposed penalty described in Section III above. The procedures for the hearing, if one is requested, are set out in the 40 CFR Part 22, "Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation or Suspension of Permits", and amendments to the 40 CFR Part 22.38, copies of which are attached hereto for your convenience.

2. Respondent must send any request for a hearing to:

Regional Hearing Clerk (6C-G)
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

3. Be aware that should you request a hearing on this proposed penalty assessment, members of the public, to whom EPA is obligated to give notice of this proposed action, will have a right under Section 309(g)(4)(B) of the Act, 33 U.S.C. § 1319(g)(4)(B), to be heard and to present evidence on the appropriateness of the penalty assessment. Should you not request a hearing, EPA will issue a Final Order Assessing Administrative Penalties and only members of the public who commented on this proposal will have an additional thirty (30) days to petition EPA to set aside the Final Order Assessing Administrative Penalties and to hold a hearing thereon. Such a petition will only be granted and the hearing held if the petitioner's evidence is material and was not considered by EPA in the issuance of the Final Order Assessing Administrative Penalties.

4. Neither assessment nor payment of the administrative civil penalty pursuant to this section of the Act shall affect your continuing obligation to comply with the Act, with every term and condition of your NPDES permit, and with any separate Compliance Order issued under Section 309(a) of the Act, 33 U.S.C. § 1319(a), ordering cessation of the violations alleged herein.

Date: 7/28/92

Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF BETTIS-BOYLE-STOVALL P.O. Box 1240 Graham, Texas 76046 NPDES GENERAL PERMIT NO. NMG320000 FACILITY NO. NMU000013	§ § § § § § § §	DOCKET NO. VI-92-1633 ASSESSMENT OF CLASS II ADMINISTRATIVE PENALTY ON CONSENT UNDER CWA § 309(g)

CONSENT AGREEMENT AND ORDER
ASSESSING ADMINISTRATIVE PENALTIES

I. Statutory Authority

The following Findings are made and Consent Agreement issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). The Administrator has delegated these authorities to the Regional Administrator of EPA Region 6, who hereby issues this Final Order.

II. Findings of Violation

Upon consent of the parties by their attorneys and authorized officials, the parties stipulate and the Administrator finds:

1. Bettis-Boyle-Stovall (hereinafter the "Respondent"), a person within the meaning of the Act, owns or operates a facility located at P.O. Box 1240, Graham, Texas 76046, which discharges pollutants to Laguna Quatro, a navigable water of the United States within the meaning of Section 502 of the Act, 33 U.S.C. § 1362. Respondent is, therefore, subject to the provisions of the Act, 33 U.S.C. § 1251 et seq. including Section 309(g) of the Act, 33 U.S.C. § 1319(g).

2. On , EPA Region 6 issued to Respondent, and on or about , notified the public of an Administrative Complaint, Docket No. VI-92-1633, which included formal findings of violation, notice of a proposed assessment of a civil penalty against Respondent, and notice of Respondent's opportunity to request a hearing on the proposed administrative penalty assessment.

3. On , the State of New Mexico was given an opportunity to consult with EPA regarding the assessment of an administrative penalty against the Respondent.

4. The Respondent has violated Part I.A. of NPDES General Permit No. NMG320000 which condition implements Section 301(a) of the Act, 33 U.S.C. § 1311, and which permit has been issued to Respondent pursuant to Section 402 of the Act, 33 U.S.C. § 1342, by causing the discharge of produced waters to Laguna Quatro on at least 123 occasions during the period of March 27, 1991, to January 29, 1992.

III. Penalty Order and Consent

Based on the foregoing stipulations and findings, and having taken into account the nature, circumstances, extent, and gravity of the violation(s), Respondent's prior history of compliance, degree of culpability, economic benefit or savings resulting from the violation(s), and ability to pay, and under the authority of Section 309(g) of the Act, 33 U.S.C. § 1319(g), EPA Region 6 hereby ORDERS, AND RESPONDENT HEREBY CONSENTS, that:

1. The provisions of this Consent Agreement shall be binding upon the Respondent, its officers, directors, agents, servants, authorized representatives, employees, and successors or assigns.

2. The Respondent shall mail two (2) copies of the Consent Agreement, each with original signatures, to the attention of Ms. Carlene Ellison (6W-EA) at the following address:

U.S. EPA Region 6
Water Enforcement Branch
1445 Ross Avenue
Dallas, Texas 75202-2733

3. The Respondent shall pay for its past violations of the Act cited above.

4. The payment shall be made by mailing the money order, cashier's check, or certified check payable to Treasurer of the United States, within thirty (30) days of the effective date of this document, to the following address:

Regional Hearing Clerk (6C)
U.S. EPA, Region 6
P.O. Box 360582M
Pittsburgh, PA 15251

Docket No. VI-92-1633 should be clearly typed on the check to ensure credit.

Other penalties for failure to make a timely payment may also apply.

IV. General Provisions

1. Issuance of this Order does not constitute a waiver by EPA of its right to enforce the substantive legal requirements underlying this administrative penalty assessment, either administratively or judicially pursuant to Sections 309(a), (b), and (c) of the Act, 33 U.S.C. § 1319(a), (b), and (c). Nor pursuant to Section 309(g)(7) of the Act, does issuance or compliance with this Order exempt Respondent from responsibility to comply with all requirements of the Act and of any legal order or permit issued pursuant thereto.

2. Failure by Respondent to pay in full the penalty assessed by this Consent Agreement by its due date may subject Respondent to a civil action to collect the assessed penalty plus interest, attorneys' fees, costs, and an additional quarterly nonpayment penalty pursuant to Section 309(g)(9) of the Act, 33 U.S.C. § 1319(g)(9). In any such collection action, the validity, amount, and appropriateness of the penalty and of this Consent Agreement shall not be subject to review.

3. Respondent knowingly and explicitly waives its rights pursuant to Sections 309(g)(2) and (8), 33 U.S.C. § 1319(g)(2) and (8), to a hearing on this penalty assessment and to judicial review of this administrative penalty assessment.

Respondent shall send simultaneous notices of such payments, including copies of the money order, cashier's check or certified check to the following:

(1) Ms. Ruth Gibson (6W-EA)
Water Management Division
Enforcement Branch
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

(2) Ralph Corley (6C-A/W)
Regional Counsel
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Your adherence to these procedures will ensure proper credit when payments are received.

If EPA does not receive payment within thirty (30) days of the due date, interest will accrue on the amount due from the due date at the current annual rate prescribed and published by the Secretary of the Treasury in the Federal Register and the Treasury Fiscal Requirements Manual Bulletin per annum through the date of payment.

The due date is the date or dates specified in the Consent Agreement for payment.

If the payment is overdue, EPA will also impose a late-payment handling charge of $15, with an additional delinquent notice charge of $15 for each subsequent 30-day period. Finally, EPA will apply a six (6) percent per annum penalty on any principal amount not paid within ninety (90) days of the due date.

V. Effective Date

This Consent Agreement and Order shall become effective thirty (30) days after the date of issuance noted below. If such a petition is filed, EPA Region 6 will so notify Respondent and will inform Respondent of the effect of the petition on the effective date of this Consent Agreement and Order.

Ms. Kim Ligon
Bettis-Boyle Stovall
P.O. Box 1240
Graham, Texas 76046

Myron O. Knudson, P.E.
Director
Water Management Division (6W)
EPA Region 6

Issued this _____ day of _____, 1992.

B. J. Wynne
Regional Administrator
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

OIL CONSERVATION DIVISION
RECEIVED
92 AUG 3 AM 10 27

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:

1760 (064)

JUL 29 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 664 430 401

B&E, Inc.
Attn: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

This letter is the approval letter for your Phase I Environmental Investigation at the B&E Tuzlu Kopek facility. As we discussed at our meeting held July 17, 1992, the following conditions apply to the work plan for investigation and remediation of the trespass pits:

1. TCLP metals or Appendix IX constituents of concern (COC) identified in the composite sample shall be added to the individual pit sample analysis listed on page 2-6 of the work plan.

2. A groundwater pathway analysis shall be conducted for COCs identified.

3. The EPA ecological risk assessment guidance shall be reviewed for use in remediation and removal action planning. The guidance shall also be reviewed for use in documentation of risk assessment.

The TCLP metals and Appendix IX constituents listed for composite sample analysis is acceptable for this project. The subset listed on page 2-6 of the work plan is also acceptable for this project, given the condition listed above.

Authorization to enter the site shall be written after acknowledgement and acceptance of the conditions described in this letter is received. BLM shall be notified no less than five (5) working days prior to any site activities.

This approval is for investigation of the trespass pits only. Planning and review of the Laguna Quatro investigation is scheduled to begin after the pit trespass situation is resolved.

If you have any questions please contact Al Collar at the Roswell District Office at 505-622-9042.

Sincerely,

(Orig Sgd) Leslie M. Cone

Leslie M. Cone
District Manager

cc:
Johnson and Gibbs
First City Tower
1001 Fannin St.
Suite 1200
Attn: Jack Henry
Houston, Texas 77002

NM931
NM067
NM064

U.S. Dept. of Interior
Office of Environmental Affairs
Attn: Glenn Sekavic
P.O. Box 649
Albuquerque, New Mexico 87103

U.S. Environmental Protection Agency, Region VI
Attn: Pat Rankin (6C-A)
First Interstate Bank Building., Suite 1200
1445 Ross Ave.
Dallas, Texas 75202

New Mexico Environment Department
Hazardous Waste and Radioactive Bureau
Attn: Bruce Swanton
1190 St. Francis Dr.
Santa Fe, New Mexico 87502

New Mexico Oil Conservation Division
Attn: Roger Anderson
P.O. Box 2088
Santa Fe, New Mexico 87504

US Fish and Wildlife Service
Attn: Jennifer Fowler-Proust
Suite D
3530 Pan American Hwy, NE
Albuquerque, New Mexico 87107

Regional Solicitor
Attn: Margaret Miller
P.O. Box 1042
Santa Fe, N.M. 87504-1042

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 28 1992

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 893 526 412)

Ms. Kim Ligon
Bettis-Boyle-Stovall
P.O. Box 1240
Graham, Texas 76046

Re: Notice of Proposed Assessment of a Class II Civil Penalty
Docket No. VI-92-1633
NPDES General Permit No. NMG320000
Facility No. NMU000013

Dear Ms. Ligon:

Enclosed is a document entitled "Administrative Complaint, Findings of Violation, Notice of Proposed Assessment of a Civil Penalty, and Notice of Opportunity to Request a Hearing Thereon" (hereinafter the "Complaint"). We have filed this Complaint against Bettis-Boyle-Stovall under the authority of Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). In the Complaint, the U.S. Environmental Protection Agency (EPA) alleges that Bettis-Boyle-Stovall has violated various provisions of the Clean Water Act, its implementing regulations, and the terms of the NPDES permit issued under the authority of the Act. The violations the EPA is alleging are specifically set out in Section II of the Complaint.

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Whether or not you request a hearing, we invite you to confer informally with the EPA concerning the alleged violations and the amount of the proposed penalty. You may represent yourself or be represented by an attorney at any conference, whether in person or by telephone. The EPA encourages all parties against whom it files a Complaint proposing assessment of a penalty to pursue the possibility of settlement as a result of an informal conference. If such a mutually satisfactory settlement can be reached, it will be formalized by the issuance of a Consent Agreement signed by you and by the Regional Administrator of EPA Region 6. The issuance of such a Consent Agreement shall constitute a waiver by you of your right to a hearing on, and to a judicial appeal of, the agreed civil penalty. Enclosed for your convenience is a draft copy of the "Consent Agreement and Order Assessing Administrative Penalties".

A request for an informal conference does not extend the twenty (20) days by which you must request or waive a hearing on the proposed penalty assessment; the two procedures can be pursued simultaneously. If you have any questions, or wish to discuss the possibility of a settlement of this matter, please contact Ms. Dianne Ratkey (6W-ET), U.S. EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202-2733, or telephone (214) 655-6470.

We urge your prompt attention to this matter.

Sincerely yours,

Myron O. Knudson

Myron O. Knudson, P. E.
Director
Water Management Division (6W)

Enclosures

cc: Mr. Jim Piatt, Bureau Chief
Surface Water Quality Bureau
New Mexico Environment Department

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF	§	DOCKET NO. VI-92-1633
	§	
BETTIS-BOYLE-STOVALL	§	
P.O. Box 1240	§	
Graham, Texas 76046	§	
	§	Proposal to Assess Class II
NPDES GENERAL PERMIT NO. NMG320000	§	Administrative Penalty
FACILITY NO. NMU000013	§	Under CWA § 309(g)

ADMINISTRATIVE COMPLAINT,
FINDINGS OF VIOLATION,
NOTICE OF PROPOSED ASSESSMENT OF
A CIVIL PENALTY, AND NOTICE OF OPPORTUNITY
TO REQUEST A HEARING THEREON

I. Statutory Authority

The following Findings are made and Notices given under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). The Administrator has delegated these authorities to the Regional Administrator of EPA Region 6 who redelegated these authorities to the Director of the Water Management Division of EPA Region 6, who hereby issues this Complaint and Notice.

II. Findings of Violation

1. Bettis-Boyle-Stovall (hereinafter the "Respondent"), a person within the meaning of Section 502(5) of the Act, 33 U.S.C. § 1362(5), owns or operates a facility located at P.O. Box 1240, Graham, Texas 76046, which discharges pollutants to the Laguna Quatro, a navigable water of the United States within the meaning of Section 502 of the Act, 33 U.S.C. § 1362. Respondent is, therefore, subject to the provisions of the Act, 33 U.S.C. § 1251 *et seq*.

2. The Respondent has violated Section 301(a) of the Act, 33 U.S.C. § 1311(a), by violating condition Part I.A. of NPDES General Permit No. NMG320000, which condition implements Section 301(a) of the Act, 33 U.S.C. § 1311 and which permit has been issued to the Respondent pursuant to Section 402 of the Act, 33 U.S.C. § 1342, by causing the discharge of produced waters to Laguna Quatro on at least 123 occasions during the period March 27, 1991, to January 29, 1992.

(3) EPA has consulted with the State of New Mexico regarding this proposed action by mailing a copy of this document to the appropriate State official and offering an opportunity for the State to consult with the EPA on this proposed penalty assessment.

III. Notice of Proposed Order Assessing A Civil Penalty

Based on the foregoing Findings of Violation and pursuant to the authority of Section 309(g) of the Act, 33 U.S.C. § 1319(g), EPA Region 6 hereby proposes to issue a Final Order Assessing Administrative Penalties to the Respondent assessing a penalty of $125,000, which constitutes less than $10,000 per violation cited above. The proposed penalty amount was determined by the EPA after taking into account the nature, circumstances, extent and gravity of the violation or violations, the Respondent's prior compliance history, degree of culpability for the cited violations, any economic benefit and savings accruing to

Respondent by virtue of the violations, and the Respondent's ability to pay the proposed penalty. All factors are identified at Section 309(g)(3) of the Act, 33 U.S.C. § 1319(g)(3). The Final Order Assessing Administrative Penalties may be issued twenty (20) days after Respondent's receipt of this Notice unless the Respondent, within that time, requests a hearing on this Notice pursuant to the following section.

IV. Notice of Opportunity to Request a Hearing

1. Respondent may, pursuant to Section 309(g), of the Act, 33 U.S.C. § 1319(g), request within twenty (20) days of receipt of this Notice, a hearing on the civil penalty assessment proposed herein. At the hearing the Respondent may contest any material fact contained in the Findings of Violation at Section II above and the appropriateness of the proposed penalty described in Section III above. The procedures for the hearing, if one is requested, are set out in the 40 CFR Part 22, "Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation or Suspension of Permits", and amendments to the 40 CFR Part 22.38, copies of which are attached hereto for your convenience.

2. Respondent must send any request for a hearing to:

Regional Hearing Clerk (6C-G)
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

3. Be aware that should you request a hearing on this proposed penalty assessment, members of the public, to whom EPA is obligated to give notice of this proposed action, will have a right under Section 309(g)(4)(B) of the Act, 33 U.S.C. § 1319(g)(4)(B), to be heard and to present evidence on the appropriateness of the penalty assessment. Should you not request a hearing, EPA will issue a Final Order Assessing Administrative Penalties and only members of the public who commented on this proposal will have an additional thirty (30) days to petition EPA to set aside the Final Order Assessing Administrative Penalties and to hold a hearing thereon. Such a petition will only be granted and the hearing held if the petitioner's evidence is material and was not considered by EPA in the issuance of the Final Order Assessing Administrative Penalties.

4. Neither assessment nor payment of the administrative civil penalty pursuant to this section of the Act shall affect your continuing obligation to comply with the Act, with every term and condition of your NPDES permit, and with any separate Compliance Order issued under Section 309(a) of the Act, 33 U.S.C. § 1319(a), ordering cessation of the violations alleged herein.

Date: 7/28/92

Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF BETTIS-BOYLE-STOVALL P.O. Box 1240 Graham, Texas 76046 NPDES GENERAL PERMIT NO. NMG320000 FACILITY NO. NMU000013	§ § § § § § § §	DOCKET NO. VI-92-1633 ASSESSMENT OF CLASS II ADMINISTRATIVE PENALTY ON CONSENT UNDER CWA § 309(g)

CONSENT AGREEMENT AND ORDER
ASSESSING ADMINISTRATIVE PENALTIES

I. Statutory Authority

The following Findings are made and Consent Agreement issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 309(g) of the Clean Water Act (hereinafter the "Act"), 33 U.S.C. § 1319(g). The Administrator has delegated these authorities to the Regional Administrator of EPA Region 6, who hereby issues this Final Order.

II. Findings of Violation

Upon consent of the parties by their attorneys and authorized officials, the parties stipulate and the Administrator finds:

1. Bettis-Boyle-Stovall (hereinafter the "Respondent"), a person within the meaning of the Act, owns or operates a facility located at P.O. Box 1240, Graham, Texas 76046, which discharges pollutants to Laguna Quatro, a navigable water of the United States within the meaning of Section 502 of the Act, 33 U.S.C. § 1362. Respondent is, therefore, subject to the provisions of the Act, 33 U.S.C. § 1251 et seq. including Section 309(g) of the Act, 33 U.S.C. § 1319(g).

2. On , EPA Region 6 issued to Respondent, and on or about , notified the public of an Administrative Complaint, Docket No. VI-92-1633, which included formal findings of violation, notice of a proposed assessment of a civil penalty against Respondent, and notice of Respondent's opportunity to request a hearing on the proposed administrative penalty assessment.

3. On , the State of New Mexico was given an opportunity to consult with EPA regarding the assessment of an administrative penalty against the Respondent.

4. The Respondent has violated Part I.A. of NPDES General Permit No. NMG320000 which condition implements Section 301(a) of the Act, 33 U.S.C. § 1311, and which permit has been issued to Respondent pursuant to Section 402 of the Act, 33 U.S.C. § 1342, by causing the discharge of produced waters to Laguna Quatro on at least 123 occasions during the period of March 27, 1991, to January 29, 1992.

III. Penalty Order and Consent

Based on the foregoing stipulations and findings, and having taken into account the nature, circumstances, extent, and gravity of the violation(s), Respondent's prior history of compliance, degree of culpability, economic benefit or savings resulting from the violation(s), and ability to pay, and under the authority of Section 309(g) of the Act, 33 U.S.C. § 1319(g), EPA Region 6 hereby ORDERS, AND RESPONDENT HEREBY CONSENTS, that:

1. The provisions of this Consent Agreement shall be binding upon the Respondent, its officers, directors, agents, servants, authorized representatives, employees, and successors or assigns.

2. The Respondent shall mail two (2) copies of the Consent Agreement, each with original signatures, to the attention of Ms. Carlene Ellison (6W-EA) at the following address:

U.S. EPA Region 6
Water Enforcement Branch
1445 Ross Avenue
Dallas, Texas 75202-2733

3. The Respondent shall pay for its past violations of the Act cited above.

4. The payment shall be made by mailing the money order, cashier's check, or certified check payable to Treasurer of the United States, within thirty (30) days of the effective date of this document, to the following address:

Regional Hearing Clerk (6C)
U.S. EPA, Region 6
P.O. Box 360582M
Pittsburgh, PA 15251

Docket No. VI-92-1633 should be clearly typed on the check to ensure credit.

Other penalties for failure to make a timely payment may also apply.

IV. General Provisions

1. Issuance of this Order does not constitute a waiver by EPA of its right to enforce the substantive legal requirements underlying this administrative penalty assessment, either administratively or judicially pursuant to Sections 309(a), (b), and (c) of the Act, 33 U.S.C. § 1319(a), (b), and (c). Nor pursuant to Section 309(g)(7) of the Act, does issuance or compliance with this Order exempt Respondent from responsibility to comply with all requirements of the Act and of any legal order or permit issued pursuant thereto.

2. Failure by Respondent to pay in full the penalty assessed by this Consent Agreement by its due date may subject Respondent to a civil action to collect the assessed penalty plus interest, attorneys' fees, costs, and an additional quarterly nonpayment penalty pursuant to Section 309(g)(9) of the Act, 33 U.S.C. § 1319(g)(9). In any such collection action, the validity, amount, and appropriateness of the penalty and of this Consent Agreement shall not be subject to review.

3. Respondent knowingly and explicitly waives its rights pursuant to Sections 309(g)(2) and (8), 33 U.S.C. § 1319(g)(2) and (8), to a hearing on this penalty assessment and to judicial review of this administrative penalty assessment.

V. Effective Date

This Consent Agreement and Order shall become effective thirty (30) days after the date of issuance noted below. If such a petition is filed, EPA Region 6 will so notify Respondent and will inform Respondent of the effect of the petition on the effective date of this Consent Agreement and Order.

Ms. Kim Ligon
Bettis-Boyle Stovall
P.O. Box 1240
Graham, Texas 76046

Myron O. Knudson, P.E.
Director
Water Management Division (6W)
EPA Region 6

Issued this _____ day of _____, 1992.

B. J. Wynne
Regional Administrator
U.S. EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

DELTA DRILLING COMPANY
SOUTH CULEBRA BLUFF #2
SEC 14-T23S-R28E
1722'FSL & 2032'FEL
EDDY CO.,N.M.
KB: 3007'

AMOCO PRODUCTION COMPANY
TELEDYNE 4 GAS COMM. #1
SEC 4-T23S-R29E
660'FSL & 330'FEL
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NASH UNIT #1
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PHILLIPS PETROLEUM CORP.
SANDY UNIT #1
SEC 24-T23S-R30E
1980'FNL & 660'FWL
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SEC 14-T23S-R31E
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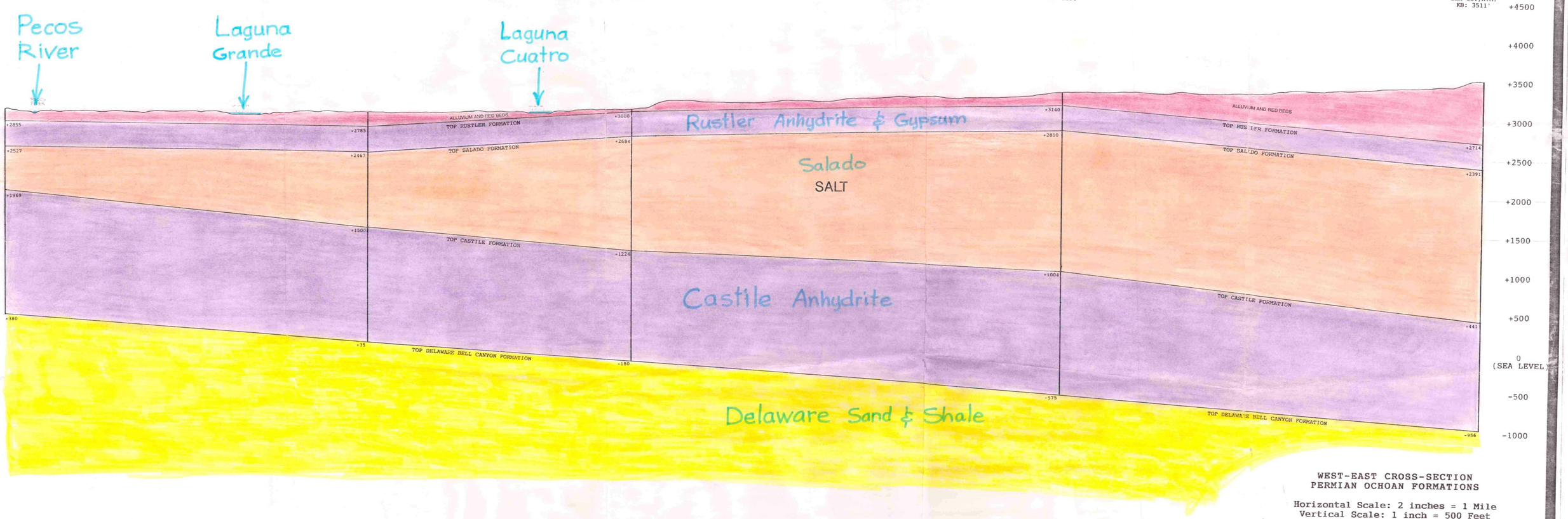

WEST-EAST CROSS-SECTION
PERMIAN OCHOAN FORMATIONS

Horizontal Scale: 2 inches = 1 Mile
Vertical Scale: 1 inch = 500 Feet

SCOTT EXPLORATION, INC.
G.L. Scott, Jr. S. Mitchell
8/92

discharges of pollutants to Laguna Gatuna in the absence of an authorizing National Discharge Elimination System (NPDES) Permit.

Your March 11 inquiry indicates your Agency is contemplating issuance of a State permit for a surface brine disposal facility proposed by Petro-Thermo Corporation. It did not, however, indicate the location or nature of the wells producing the brine or whether the contemplated permit would authorize its discharge to Laguna Gatuna. If any of the wells producing that brine fall within the Onshore Subcategory of the Oil and Gas Extraction Point Source, its discharge to Laguna Gatuna is presumably prohibited by NPDES General Permit NMG320000. See 56 Fed. Reg. 7698 (February 25, 1991). Moreover, Section 510 of the Clean Water Act, 33 U.S.C. §1370, preempts New Mexico's authority to authorize discharges of Onshore Subcategory produced water to any water of the United States, including Laguna Gatuna.

Please note that we do not here determine that Petro-Thermo's proposed discharge would necessarily be prohibited by NPDES Permit NMG320000. Possibly, it would be subject to another subcategory of the Oil and Gas Extraction Point Source Category and might thus be authorized to discharge through issuance of an individual NPDES permit with effluent limitations reflecting appropriate levels of control for that subcategory, New Mexico's water quality standards, and other applicable State and federal law. Making a decision on that issue would, however, require substantially more information on the proposed facility and discharge.

We are providing a copy of this letter to the attorneys which requested the 1987 jurisdictional advice and to Laguna Gatuna, Inc., which we understand may now be discharging wastewater to Laguna Gatuna without an NPDES permit. If there are further questions in this matter, please call Assistant Regional Counsel Pat Rankin at (214) 655-2106.

Sincerely yours,

Myron O. Knudson

Myron Knudson, P.E.
Director
Water Management Division

cc: Mr. Tom O'Brien
USFWLS

Mr. T. Kreager
BLM

Petro-Thermo Corporation

Laguna Gatuna, Inc.

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted

Paul Watler, Esq.
Jenkins & Gilchrist

Director
New Mexico Department of Fish and Game

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 1991

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

Mr. Paul M. Bohannon, Esq.
Porter & Clements
NCNB Center
7000 Louisiana, Suite 3500
Houston, Texas 77002-2730

Dear Mr. Bohannon:

This is to inform you that we have concluded our review of the September 18, 1990 Request by Waste Crude Oil Reclaimers concerning the applicability of Subtitle C of the Resource Conservation and Recovery Act (RCRA) to crude oil reclaimer wastes. This letter continues with a summary of our tentative conclusions from the review of the request and our course of action for responding to the request.

In light of your request, and based upon our communications with various state regulatory authorities and industry representatives, it appears both necessary and appropriate at this time to clarify the Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes (see 53 FR 25446; July 6, 1988) with respect to crude oil reclaimer wastes. The Agency plans to respond to your request in the form of an interpretive notice that will be published in the Federal Register. The notice would explain and clarify the intended meaning of the language concerning wastes from crude oil and tank bottom reclaimers that appeared in the Agency's Regulatory Determination. Specifically, the forthcoming notice would identify those reclaimer wastes that are and are not exempt from Subtitle C of RCRA.

While the Agency plans to detail its explanation of exempt and non-exempt wastes in the forthcoming notice, following is a brief summary of our preliminary position on reclaimers' wastes. Generally, those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations are also exempt from the requirements of Subtitle C. For example, wastes generated from the process of recovering crude oil from tank bottoms obtained from product storage facilities at primary field operations are exempt from Subtitle C because the product storage tank bottoms are exempt. This is based largely on the long held principle that, generally, wastes derived from exempt wastes remain exempt.

However, there are also solid and liquid wastes from reclaimer operations that are not exempt from Subtitle C to which the Agency intended to refer in its 1988 notice. Generally, those reclaimer wastes derived from non-exempt oilfield wastes or that otherwise contain materials which are not uniquely associated with or intrinsic to primary exploration and production field operations would not be exempt. An example of these non-exempt wastes would be waste solvent generated from the solvent cleaning of tank trucks that are used to transport oil field tank bottoms. Such wastes would not be exempt from Subtitle C because the use of solvent is neither unique nor intrinsic to the production of crude oil.

The Agency plans to issue the notice as a clarification to a past Agency action -- the Regulatory Determination process -- which was subjected to public review and comment procedures. As such, the Agency would not solicit comments or additional information on the forthcoming notice. However, the Agency's public docket on the Regulatory Determination will be supplemented with materials you supplied, as well as other materials obtained by the Agency during the course of evaluating your September 18, 1990 request.

The Agency realizes the significant role that waste crude oil reclaimers can play in contributing to its waste minimization policy and goals. Our upcoming interpretive notice will allow us to avoid the inequities that would be imposed if we were to classify wastes that are exempt at primary field operations as non-exempt when generated off-site by commercial reclaimers. We trust that this letter, and the forthcoming Federal Register notice will be responsive to the concerns you and others have raised. Meanwhile, if you have any questions, please contact Mr. Bob Tonetti at (703) 308-8426.

Sincerely,

Walter W. Kovalick, Jr. for

Don R. Clay
Assistant Administrator

FACT SHEET
B&E TUZULU KOPEK OCD PERMITTED 711 FACILITY ON LAGUNA CUATRO

Site Hydrogeology

- B&E site located on Laguna Cuatro, a playa lake 18 miles east of Carlsbad.

- Laguna Cuatro lies in a closed depressional feature formed as a result of structural collapse from regional differential solution of underlying evaporite deposits.

- Laguna Cuatro lies within the Rustler Formation which is underlain by the Salado Formation a massive salt section (see attached cross-section).

- In the area the Rustler consists of the following members:

  - Tamarisk Member a massive anhydrite section. The laguna lies directly within this member.

  - Culebra Dolomite Member approximately 30 feet thick containing saline ground water.

  - Lower Member consisting of 60 -120 feet of siltstone and fine grained sandstone that locally contains gypsum, anhydrite and halite. Contains saline water.

  - Basal Rubble Zone averaging 60 feet thick and consisting of unconsolidated, brecciated clastics and limestone from upper members which collapsed following the solution of underlying evaporite deposits. Contains highly mineralized saturated brine water.

OCD Regulatory Permitting Actions

- Originally permitted by OCC Order 7031 on July 21, 1982. Facility was permitted as an exception to OCC Order R-3221 and was allowed disposal of 7,500 barrels/day produced water.

  - Permit based on hearing evidence showing no hydrologically connected fresh water to be affected.

- Facility expansion granted by OCC Order R-7031A on March 11, 1986. Order allowed disposal of up to 15,000 bbls/day produced water and creation of unlined pits for disposal of drill cuttings.

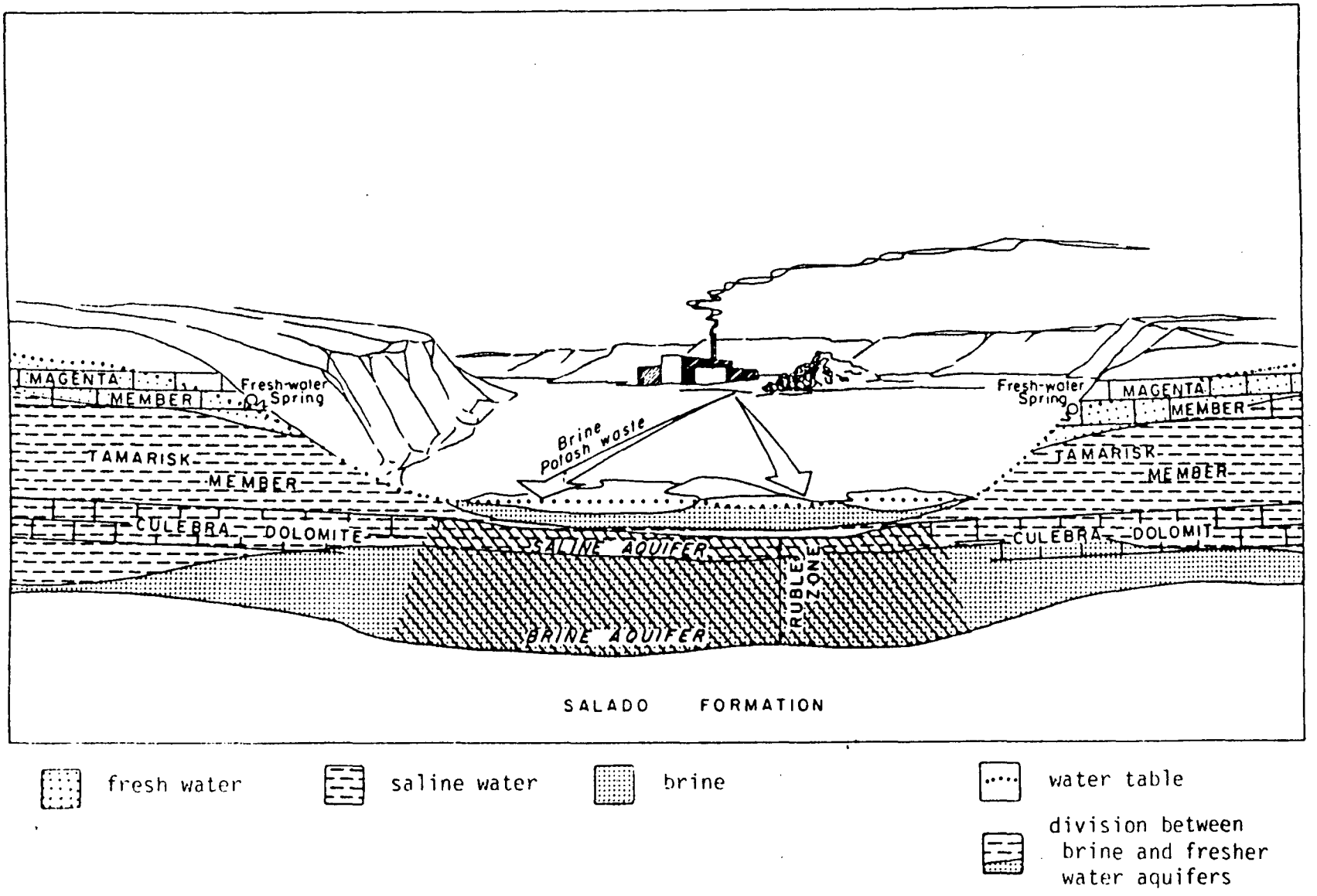

Figure 2.--Diagrammatic east-west cross section through Nash Draw, showing stratigraphic units and ground-water relationships.

DELTA DRILLING COMPANY
SOUTH CULEBRA BLUFF #2
SEC 14-T23S-R28E
1722'FSL & 2032'FEL
EDDY CO.,N.M.
KB: 3007'

AMOCO PRODUCTION COMPANY
TELEDYNE 4 GAS COMM. #1
SEC 4-T23S-R29E
660'FSL & 330'FEL
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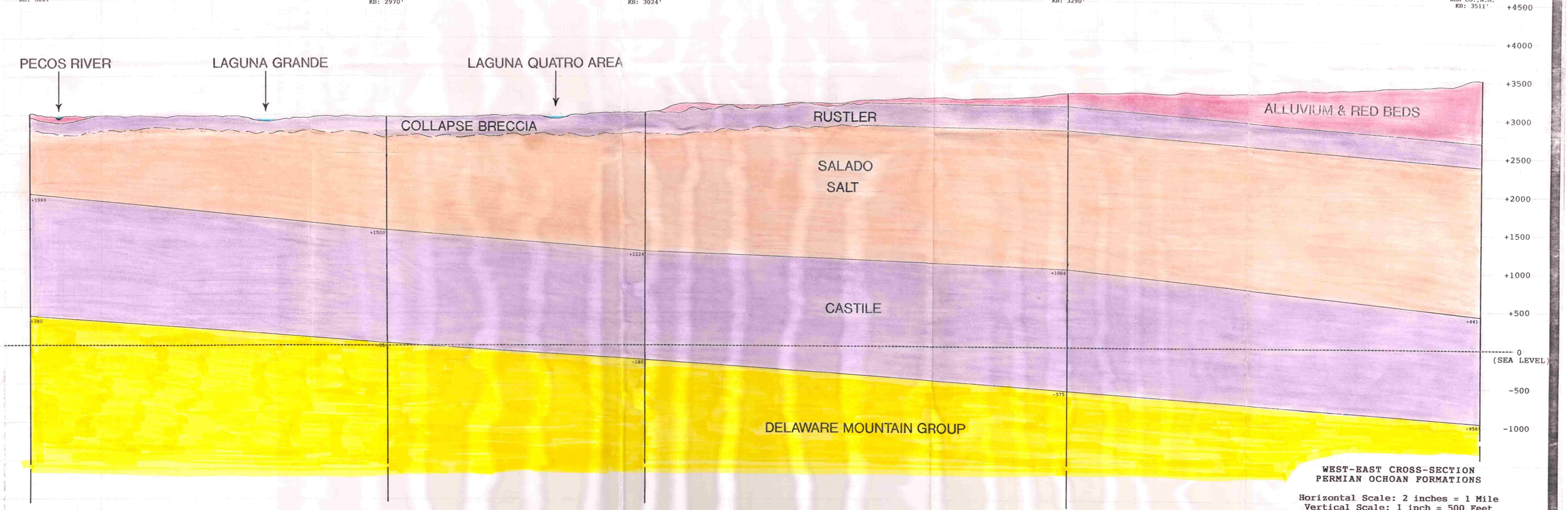

WEST-EAST CROSS-SECTION
PERMIAN OCHOAN FORMATIONS

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SCOTT EXPLORATION, INC.
G.L. Scott, Jr. S. Mitchell

8/92

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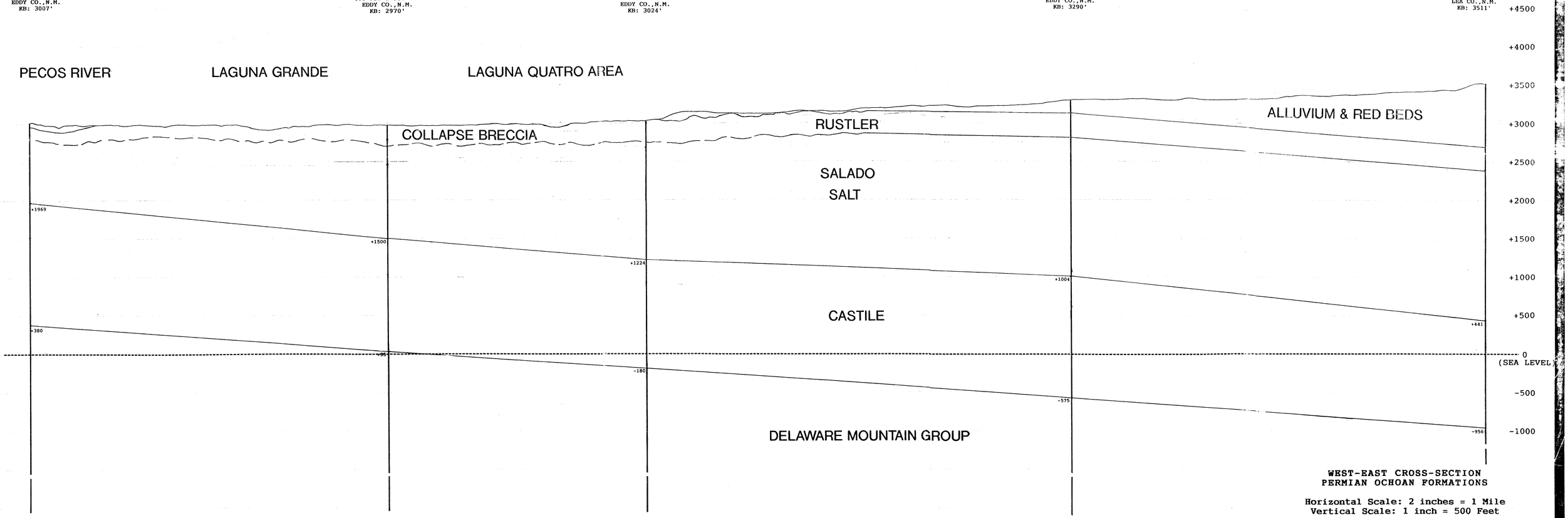

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G.L. Scott, Jr. S. Mitchell
8/92

LOCO HILLS DISPOSAL

	1990	1991	1992	Days
JAN	77,258	157,510	118,761 -3,831	31
FEB	89,298	111,340	61,164	29
MAR	101,576	97,040	66,709	31
APR	87,957	120,410	*166,591	30
MAY	75,786	124,891	83,092 -2,680	31
JUN	80,887	103,450	83,636	30
JUL	72,192	130,111	69,396 -2,238	31
AUG	93,725	131,942		
SEP	94,838	117,350		
OCT	84,560	142,630		
NOV	99,333	122,076		
DEC	133,749	138,388		
TOTAL	1,091,159	1,497,138	649,349	
DAILY AVG.	2,989	4,101	3,048	

3,000 BWPD

* Increase in April due to a large waterflow in a Mewbourne Oil Co. well in immediate area.

1992	B & E, INC.	LOCO HILLS DISP.	CROSBY LAKE
JAN	155,746	118,761	12,400
FEB	Last disp. 1/27/92	61,164	12,390
MAR		66,709	
APR		166,591	
MAY		83,092	
JUN		83,636	
JUL		69,396	
AUG			

The Crosby Salt Lake disposal facility has been disposing of 12,000 - 14,000 barrells per month of water consistently since January 1990 and so far has not experienced a drop in water that comes into the plant. If Crosby Lake is shut down there is not another disposal system in that area and most of the producing wells in that area are stripper wells that could not support a long haul for water disposal.

400-500 BWPD

B & E, INC.

	1990	1991	1992
JAN	122,685	189,703	155,746
FEB	124,883	142,906	Last Disposal was 1/27/92
MAR	140,863	189,117	
APR	125,185	212,548	
MAY	135,291	293,046	
JUN	131,937	261,746	
JUL	134,049	209,488	
AUG	149,087	195,036	
SEP	150,726	152,043	
OCT	137,881	167,136	
NOV	151,342	167,041	
DEC	154,483	183,227	
TOTAL	1,661,460	2,363,037	
DAILY AVG.	4,551	6,474	

4 x 5,710 BWPD

5,500

12 6,500 BWPD

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

MEMORANDUM

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

TO: ALL OPERATORS

FROM: WILLIAM J. LEMAY, Director, Oil Conservation Division

SUBJECT: RECENT FEDERAL ENVIRONMENTAL ACTION REGARDING EXPLORATION AND PRODUCTION WASTES

DATE: APRIL 25, 1991

This memo summarizes and provides information on three recent federal actions involving oil and gas exploration and production wastes.

1. On February 25, 1991, EPA Region 6, Dallas, issued final Clean Water Act NPDES General Permits for oil and gas facilities in the Onshore Subcategory of the Oil and Gas Extraction Point Source Category for the States of Louisiana, New Mexico, Oklahoma and Texas. These permits prohibit all discharges of pollutants to waters of the U.S. from these facilities consistent with the requirements codified at 40 CFR Part 435, Subpart C. The permits became effective on March 27, 1991. Under the New Mexico permit (NMG 320000), discharges to "waters of the United States" (e.g. watercourses, rivers, streams, lakes, and playas, etc.) are prohibited, and operators are directed to operate in accordance with OCD Rules and Regulations. The permit does not require the operator to make application or contact EPA unless a discharge actually occurs. In the event of bypass or upset discharge, 24-hour reporting to EPA is required. (Note: Discharges specifically authorized by EPA-issued NPDES permits under the Agriculture and Wildlife Water Use, or Stripper Subcategories are not affected by this rule).

2. In a legal opinion issued by letter from EPA Region 6 on March 26, 1991, Laguna Gatuna (a natural playa salt lake in western Lea County) is now considered to be a "water of the United States" for purposes of regulation under the Federal Clean Water Act, and discharges of oil and gas wastes to the playa are prohibited without a federal NPDES permit. The opinion was requested by the NM Environment Department as a result of information provided by the US Fish and Wildlife Service. In the opinion, EPA states that under EPA's current definition of "waters of the U.S.", "even potential use by migratory birds is sufficient to show a specific surface water is subject to federal jurisdiction under the Clean Water Act." As a result of this action and the effect of the new NPDES General Permit discussed above, facilities discharging oilfield wastes to

playas may not be in compliance with the federal Clean Water Act even though they have OCD-approved state permits. All operators discharging to such playas should review these developments with legal counsel familiar with federal environmental law and be prepared to modify discharge methods if necessary. This action does not change the status of OCD-approved permits; these permits remain in effect. Any modification to operations would be as a result of the requirements of federal law.

3. On April 2, 1991, EPA Washington, by letter, issued a preliminary determination that wastes generated by crude oil and tank bottom reclamation facilities are exempt from Subtitle C (Hazardous Waste) provisions of RCRA. This opinion was requested by several operators in southeast New Mexico and west Texas as a result of EPA's action, effective last fall, listing certain production-related wastes containing naturally occurring benzene as hazardous wastes. The April 2nd determination will be made final when published in the Federal Register, likely within the next 60 days. In the meantime, OCD believes the EPA letter serves as notification to treating plants and other reclamation facilities that they can again receive and treat these wastes under current OCD-approved permits. However, facilities can receive only production wastes for treatment (i.e. no used motor oils, or refined product tank bottoms) and no RCRA-regulated solvents may be used to treat production wastes (e.g. no chlorinated solvents or solvent mixtures containing xylenes, toluene and other mixtures as listed in 40 CFR Part 261.31).

Copies of all EPA documents mentioned in this memorandum are available at OCD district offices or through the Environmental Bureau in Santa Fe.

WJM/DGB/sl

- OCD permits produced water disposal / R-3221
- We permit these facilities as an exception to our 3221 order which prohibits surface discharges which can contaminate fresh water supplies

PRODUCED WATER DISPOSAL IN PLAYA LAKES

- Site geology -- collapse structure resulting from solution ~~dissol~~ dissolving of underlying evaporites — salts -- naturally occurring salt lake

OCD commercial disposal facility permit approval dependent on:

(Margin note: Memo - all operators must ... operators of Disposal facilities not all are operators)

- Only produced water discharges allowed. Discharge of oil not allowed.
- Presentation of hydrogeologic evidence that hydrologically connected fresh waters will not be affected by the discharge.
- $25,000 surety or cash bonding.
- Public notice to all landowners within 1/2 mile of facility and publication in newspaper. Hearing may be held based upon protests.
- Complete description of operation including location, engineering and construction ~~diagrams~~ plans.
- Maintenance plan.
- Contingency plan for leaks and spills.
- Closure plan.
- Maintenance of disposal records.
- Netting for protection of migratory birds.

- * OCD disposal permit does not constitute authority to discharge to "waterway of U.S".

I - I understand that there has been ~~EPA has had~~ conflicting decisions on whether playas are "waterways of the U.S".

- In response to correspondence from Pollution Control, Inc., OCD 711 facility on Laguna Gatuna, on August 13, 1987 EPA makes determination that Laguna Gatuna is not "waterway of U.S.".

- Based upon a request for determination by NMED Surface Water Bureau, on March 26, 1991 EPA issues letter to NMED declaring Laguna Gatuna "waterway of U.S."

* Our primary concern is the economic disposal of produced waters in an acceptable fashion — not illegal dumping

- EPA should allow sufficient time to allow discharges to playas to cease to prevent potential for an increase in illegal dumping.

— Sioux BCWPD not sure where it is going

Recommendation: That if surface disposal operations are to be eliminated that this happen over ... time frame to develop alternatives - disposal

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

'91 APR 1 AM 9 41

March 26, 1991

RECEIVED
APR 02 1991
SURFACE WATER
QUALITY BUREAU

Mr. Jim Piatt
Acting Bureau Chief
Surface Water Bureau
Environmental Improvement Division
New Mexico Health and Environment Department
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, New Mexico 87503

Re: Jurisdictional Status of Laguna Gatuna under the Clean Water Act

Dear Mr. Piatt:

This responds to your March 11, 1991, inquiry on the jurisdictional status of Laguna Gatuna, a playa lake located in Lea County, New Mexico. As pointed out in your letter, EPA responded to an earlier request for jurisdictional advice on Laguna Gatuna on August 13, 1987, concluding that the information provided with that request did not indicate it a "water of the United States." Significantly, the information on which that conclusion was based included a statement that Laguna Gatuna "supports no wildlife...of any kind."

In essence, we regard your inquiry as a request for reconsideration of that advice on the basis of information recently provided by the Bureau of Land Management (BLM) and the U.S. Fish & Wildlife Service (USFWS). In contrast to the basis for EPA's August 13, 1987 advice, that information indicates Laguna Gatuna is in fact used as a feeding and loafing area by migratory birds during their spring and fall migrations and as a nesting area during the breeding season. Although neither BLM or USFWS specifically identifies the species using the playa, their letters suggest they may include listed threatened and endangered species, including the Aplomado Falcon and Snowy Plover, and clearly show Laguna Gatuna is susceptible to use by those migratory species.

EPA Region 6 has regarded use by migratory birds as a use in interstate commerce since at least 1979. See, e.g., "Lake Whalen -- 'Navigable Waters' Determination," 1 Gen. Couns. Ops. 165 (January 26, 1979). Under the Agency's current definition of "waters of the United States" at 40 CFR §122.2, even potential use by migratory birds is sufficient to show a specific surface water is subject to federal jurisdiction under the Clean Water Act. Accordingly, the information submitted by BLM and USFWS compels a conclusion that Laguna Gatuna is indeed a water of the United States. Section 301(a) of the Clean Water Act, 33 U.S.C. §1311(a), thus prohibits

WORK PLAN TO CONDUCT PHASE I ENVIRONMENTAL INVESTIGATION AT THE B & E TUZLU KOPEK DISPOSAL FACILITY

Prepared for:

B & E, INC.
Carlsbad, New Mexico

Prepared by:

REMEDIATION TECHNOLOGIES, INC.
Austin, Texas

RETEC Project No.: 3-0964

July 1992

RETEC
REMEDIATION
TECHNOLOGIES INC

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Prepared by _____

Reviewed by _____

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July 1992

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LIST OF FIGURES

1.0 INTRODUCTION

This document is a Work Plan to conduct Phase I and Phase II activities for the environmental investigation (Phase I) and closure (Phase II) at the B & E, Inc. (B & E) Tuzlu Kopek disposal facility at E/W NESE Section 6 T 225 R 30E Eddy County, New Mexico. This Work Plan has been prepared in response to the January 23, 1992 letter from Tony Ferguson (Associate District Manager) of the United States Department of the Interior Bureau of Land Management (BLM) to Mr. Phil Withrow of B & E, Inc. (Appendix A) as well as subsequent discussions and meetings with members of BLM. A Work Plan for Phase II activities (site closure) will be prepared after the completion and evaluation of the Phase I report.

1.1 BACKGROUND

The site is a salt water disposal facility located at E/W NESE Section 6 T 225 R 30E Eddy County in New Mexico (Figure 1-1). The site was operated by B & E from 1982 until 1989, when the BLM discovered that part of the site is public land owned by BLM. BLM immediately requested all pit operations on public lands be discontinued until further investigation.

The BLM letter (January) required a final resolution of "unauthorized" disposal activities. Specifically, the final resolution called for the removal and remediation of the two pits on BLM land.

This Work Plan addresses the environmental investigation and closure of the three oil residue pits, herein referred to as "disposal pits". These earthen pits were used for the disposal of residues generated from the cleanout of frac tanks at the B & E site (Figure 1-2). Pit #1 measures approximately 40' by 60' in area. Pit #2 measures approximately 50' by 100' in area, and Pit #3 measures approximately 50' by 110' in area. The depth of all pits is approximately 8 to 10 feet. The Work Plan addresses impacts to Pit #3, as well as #1 and #2, because of the disposal and management of small amounts of waste in this pit.

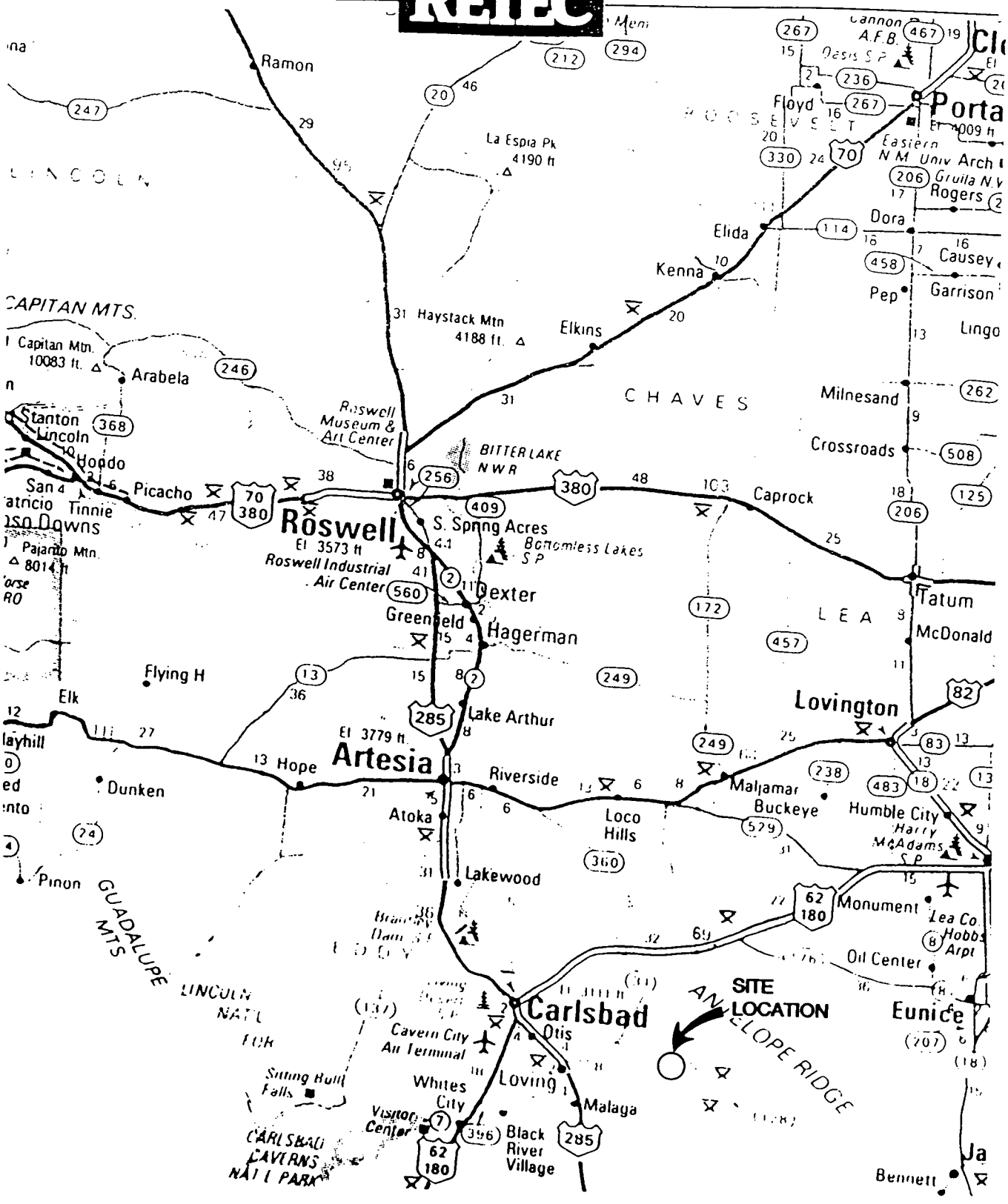


FIGURE 1-1
B & E TUZLU KOPEK SITE LOCATION MAP

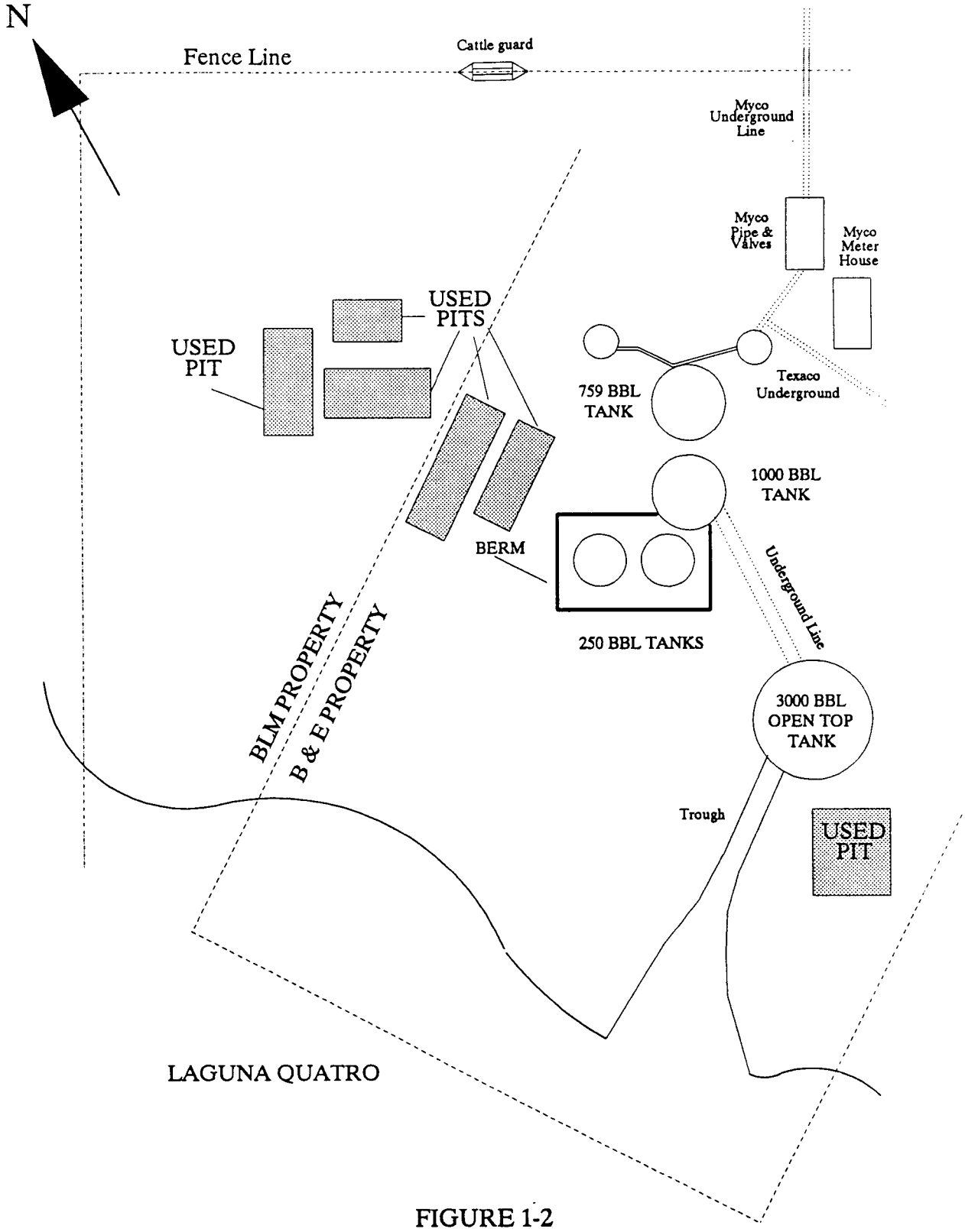


FIGURE 1-2
DETAIL OF B & E TUZLU KOPEK SITE
(Source: B & E Inc., Work Order #H89-06.126, Keystone - Houston)

1.2 WORK PLAN OBJECTIVES

This Work Plan will address the areas of concern identified in Section 1.1. The Work Plan will address the requirements of BLM regarding the pits as outlined in the letter dated January 23, 1992 to Mr. Phil Withrow, and the guidelines of the New Mexico Oil Conservation Division (OCD), as is practicable. The objectives of this Work Plan are:

1. Conduct a site investigation at the disposal pits to identify the waste characteristics and volume and to determine the vertical and horizontal extent of waste constituent migration, and

2. Conduct a feasibility study to determine the most appropriate remedial alternative for site restoration.

These two objectives will be presented in detail in this Work Plan. The Phase II objectives will be discussed as is practicable at this time, as evaluation of remedial alternatives will depend upon the results of the site investigation. The two objectives will be addressed in greater detail as the project progresses as part of Phase II (Closure Phase). These objectives are:

1. Formulate a remedial action plan of the chosen method(s), and

2. Perform site cleanup and restoration to the appropriate standards.

1.3 WORK PLAN ORGANIZATION

This Work Plan is organized into three sections. Section 1.0 is the Introduction. Section 2.0 (Approach) describes B & E's approach for conducting Phase I of the project. Section 3.0 presents the project schedule for implementing Phase I activities. Appendix B contains Standard Operating Procedures for the collection of site soil samples. Appendix C contains the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-Carcinogens.

2.0 APPROACH

As indicated in Section 1.0, B & E proposes to conduct the entire project in two phases; Phase I will consist of the site investigation and feasibility study, and Phase II will consist of the remedial action plan and the implementation of necessary site cleanup and restoration. B & E's approach consists of a cost-effective investigation and remediation strategy which will address appropriate state and/or federal guidelines. The approach will consist of the following components:

Phase I:

1. Waste Characterization - Identification of constituents of concern (COC);

2. Site Investigation - Determination of extent of affected soils from pits on BLM land;

3. Risk Assessment - Development of clean-up standards for COCs;

4. Evaluation of Remedial Alternatives; and

5. Report Preparation - Summary of site investigation results, risk assessment, and feasibility study.

Phase II:

1. Closure Plan - Preparation of site remediation and restoration plan; and

2. Closure Activities - Implementation of site remediation and restoration.

The OCD surface impoundment closure guidelines and the BLM letter dated January 23, 1992 recommend that site investigation activities be conducted after excavation and disposal of all liquids, solids, and stained soil in the pits are completed. Using this procedure, mobilization, decontamination, and demobilization of heavy equipment used for clean-up could be required several times before closure is complete, as the vertical and horizontal extent of contamination would not be identified until completion of the final sampling activity. Furthermore, alternative remedial technologies to excavation and off-site disposal may be deemed feasible based on waste characterization, contaminant migration

assessment, and risk assessment. Therefore, B & E proposes that site investigation, risk assessment, and feasibility study activities be conducted first to achieve more efficient remedial operations. B & E's approach for this project is illustrated in the flow diagram presented in Figure 2-1. The components of the proposed approach are detailed in the following sections.

2.1 WASTE CHARACTERIZATION

Prior to implementing any investigation or remediation activity, waste characterization activities are proposed. Waste characterization will be conducted on samples from the three pits. Waste characterization will identify the parameters specific to the B & E activities. The waste characterization activities will assist in determining impacts only from B & E activities.

2.1.1 Pit Waste Characterization - Overall Composite

One overall composite waste sample will be collected from all three pits. This sample will be collected according to the Standard Operating Procedure for soil sampling included in Appendix B. Material will be collected from the four different quadrants of each of the three pits and composited in a bucket. This sample will be equally representative of material placed in the three different pits.

The overall composite sample will submitted to the laboratory for the following analyses:

- Appendix IX Constituents, excluding analyses for dioxins, herbicides and pesticides, and

- Toxicity Characteristics Leachate Procedure - all metals constituents.

B & E believes that this set of parameters will adequately quantify the level of constituents that can reasonably be expected in these exploration and production disposal pit materials.

2.1.2 Pit Waste Characterization - Individual Composites

Pit samples will be collected from the three pits with a shovel at a frequency of four samples per pit at a depth of one foot below the surface of the waste. The samples from each pit will be composited to form one composite sample per pit. Sampling activities will be conducted according to Standard Operating Procedures for soil sampling included in Appendix B. Sampling depth is based on the sludge depth in the excavated trench observed during the bid walk site visit (February 18, 1992). The discrete samples, which will be composited, will be collected from the four quadrants of each pit, as illustrated in Figure 2-2.

B & E proposes to analyze the pit waste samples for those constituents detected in the overall pit composite sample. Those constituents that could be expected to appear at detectable levels are the following:

- Subset of Appendix IX constituents:
  metals: arsenic, barium, cadmium, chromium, lead, mercury, and silver
  volatiles organics: benzene, ethylbenzene, toluene, xylenes
  semi-volatile organics: naphthalene, phenols, and benzo(a)pyrene

These constituents are the commonly detected constituents in oil and gas exploration and production wastes, and are included in the New Mexico Water Quality Control Commission (NMWQCC) water quality standards. In addition, B & E will analyze the waste (pit) samples for ignitability, reactivity, and corrosivity. While the pit wastes are currently exempt from RCRA hazardous waste designation, the hazardous characteristics analyses are specified as all non-hazardous industrial waste disposal facilities require such characterization. Total petroleum hydrocarbons (TPH) analysis is also proposed as a gross indicator of contamination. All waste analyses will be conducted according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical methods: EPA Document SW-846). Laboratory quality assurance and quality control (QA/QC) procedures and reporting as specified in the BLM letter will be adhered to at all times.

2.1.3 Background Soils Characterization

Two soil samples will be collected from areas unimpacted by B & E activities, as required in the January, 1992 BLM letter. The background sample analyses will be used to compare to waste characterization data, as well as to evaluate risk-based closure criteria.

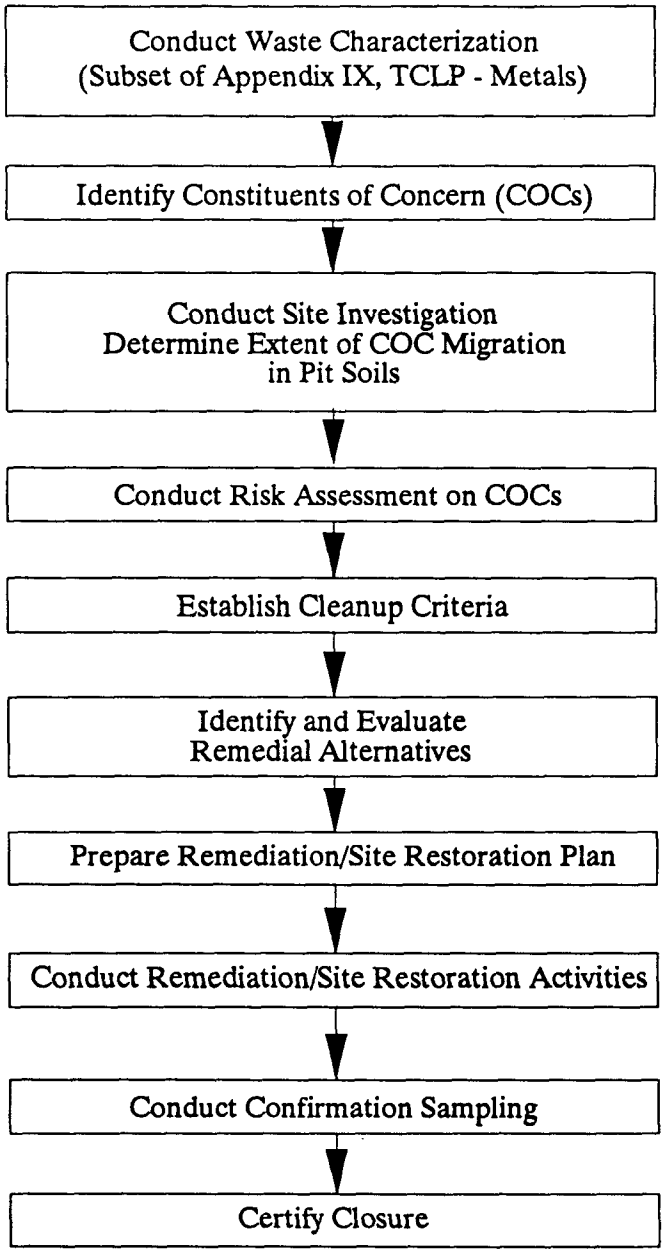


FIGURE 2-1
PROPOSED B & E APPROACH
B & E Inc, Kuzlu Topek Disposal Facility Investigation and Closure

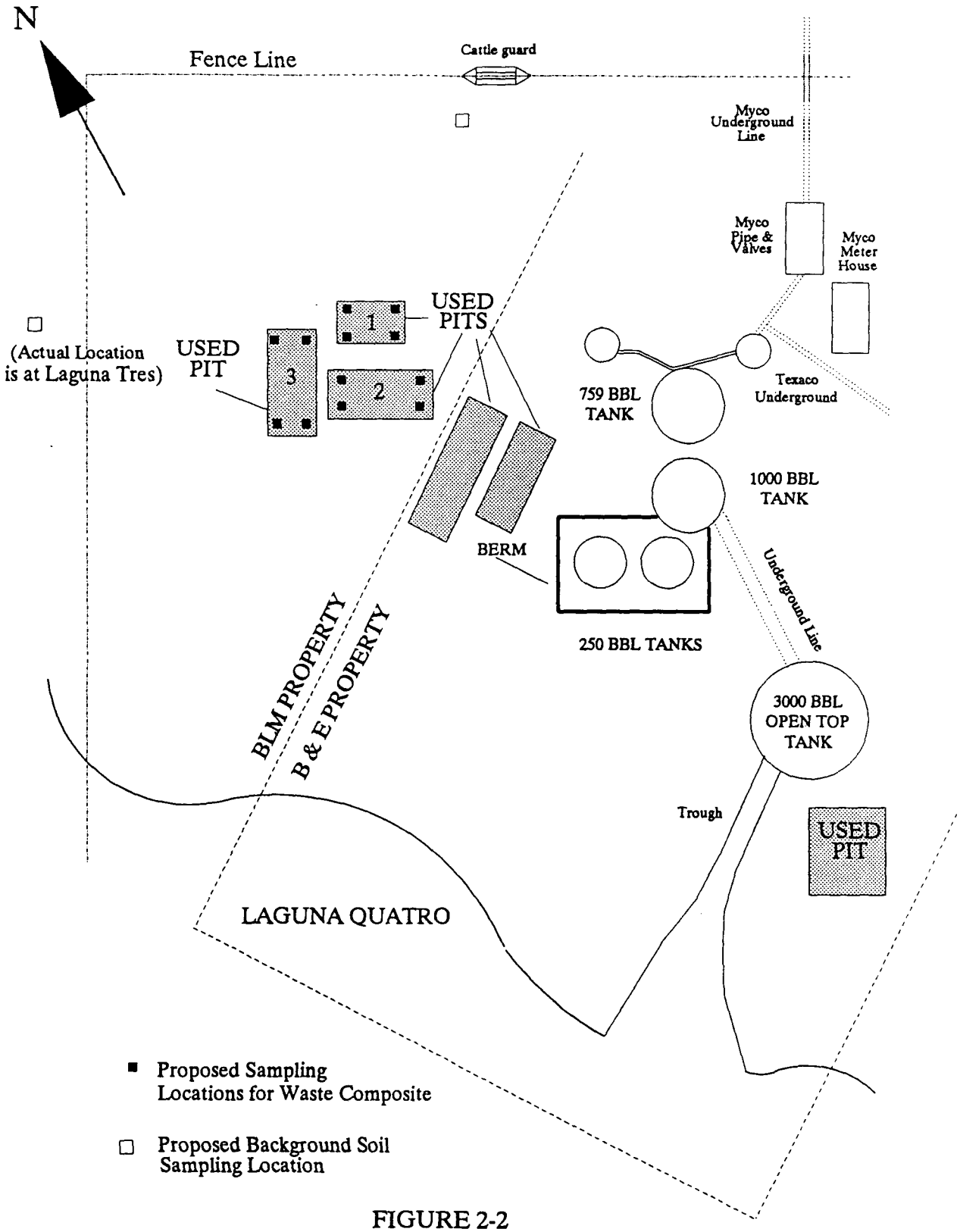


FIGURE 2-2
PROPOSED WASTE CHARACTERIZATION SAMPLING LOCATIONS

The background samples will be collected at a depth of one foot below ground surface at the locations indicated in Figure 2-2. One of the two background samples will be collected from the soil at the water's edge of the Laguna Tres playa lake. This sample represents an area unimpacted by B & E's waste disposal facility and, in terms of surface water flow, upgradient of the facility. The remaining background sample will be collected from a location which is not within the seasonal influences of the playa lake system, nor impacted by the B & E disposal facility.

Background samples will be analyzed for the set of parameters that were detected in the overall pit composite sample. As stated in Section 2.1.2, those parameters may be:

- Subset of Appendix IX constituents:
  metals: arsenic, barium, cadmium, chromium, lead, mercury, and silver
  volatile organics: benzene, ethylbenzene, toluene, xylenes
  semi-volatile organics: naphthalene, phenols, and benzo(a)pyrene

Waste characterization data from the pit soil samples will be evaluated and compared with the background soil sample data.

2.2 SITE INVESTIGATION

Site investigation activities will consist of two components:

1. Determination of the vertical and horizontal extent of impact from the three pits; and

2. Estimation of volume of wastes and visibly contaminated materials for remediation and/or off-site disposal.

Each of these activities is described in the following sections.

As recommended by the OCD, groundwater investigations will not be pursued because of the poor quality of the groundwater in this region. The total dissolved solids (TDS) concentration in the groundwater exceeds 10,000 ppm, precluding the aquifer from being utilized as a fresh water source.

2.2.1 Identify Vertical and Horizontal Extent of Contamination

The volume of wastes and visibly contaminated soils at the three pits will be estimated to determine the volume required for potential excavation and remediation and/or off-site disposal. Based on the extent of staining observed in the trench excavation in one of the pits during a recent site visit (February 18, 1992), it appears that the waste thickness is approximately three to four feet. The underlying soils appear to have little visible contamination. Therefore, the horizontal and vertical extent of impact from the three pits will be determined by excavating trenches with a backhoe and defining the extent by visual observations and using a photoionization detector (PID) calibrated to benzene response to determine the presence of volatile organics.

One trench will be initially excavated in each of the three pit locations indicated in Figure 2-3. The trenches will be excavated to the depths at which no visible contamination is observed. The vertical extent of contamination at each pit will be determined by the depth to field-determined (PID) uncontaminated soils in the trenches. A soil sample will be collected from each trench at the first visibly uncontaminated depth and placed into a 0.5 liter soil jar and immediately covered with aluminum foil. Using the procedures outlined in Guidelines for Surface Impoundment Closure (New Mexico OCD, 1991), a headspace volatile organics measurement will be made using a PID. If a PID response of greater than 100 ppm is detected, the trench will be excavated to a greater depth in accordance with OCD guidelines. The depth at which this point is reached will be recorded. Samples will be collected at one-foot depth increments and subjected to field headspace analysis until a PID response equal to background is achieved (per BLM guidelines). This depth will also be recorded. The final sample from each trench will be submitted to the laboratory via overnight delivery service for confirmation analysis for the list of constituents detected in the individual pits waste characterization. As indicated in the previous section, proper laboratory QA/QC protocol will be adhered to during analysis.

The horizontal extent of affected soils at the pits will be determined by excavating trenches outside and away from each pit until no visible contamination is observed. Approximate locations of the horizontal investigation trenches are indicated in Figure 2-3. Confirmation samples will be collected as described for the vertical investigation. One confirmation sample from each trench will be submitted to the laboratory for analyses.

Based on the calculation of one sample from each trench, a total of three vertical extent samples and four horizontal extent samples are anticipated for laboratory analysis.

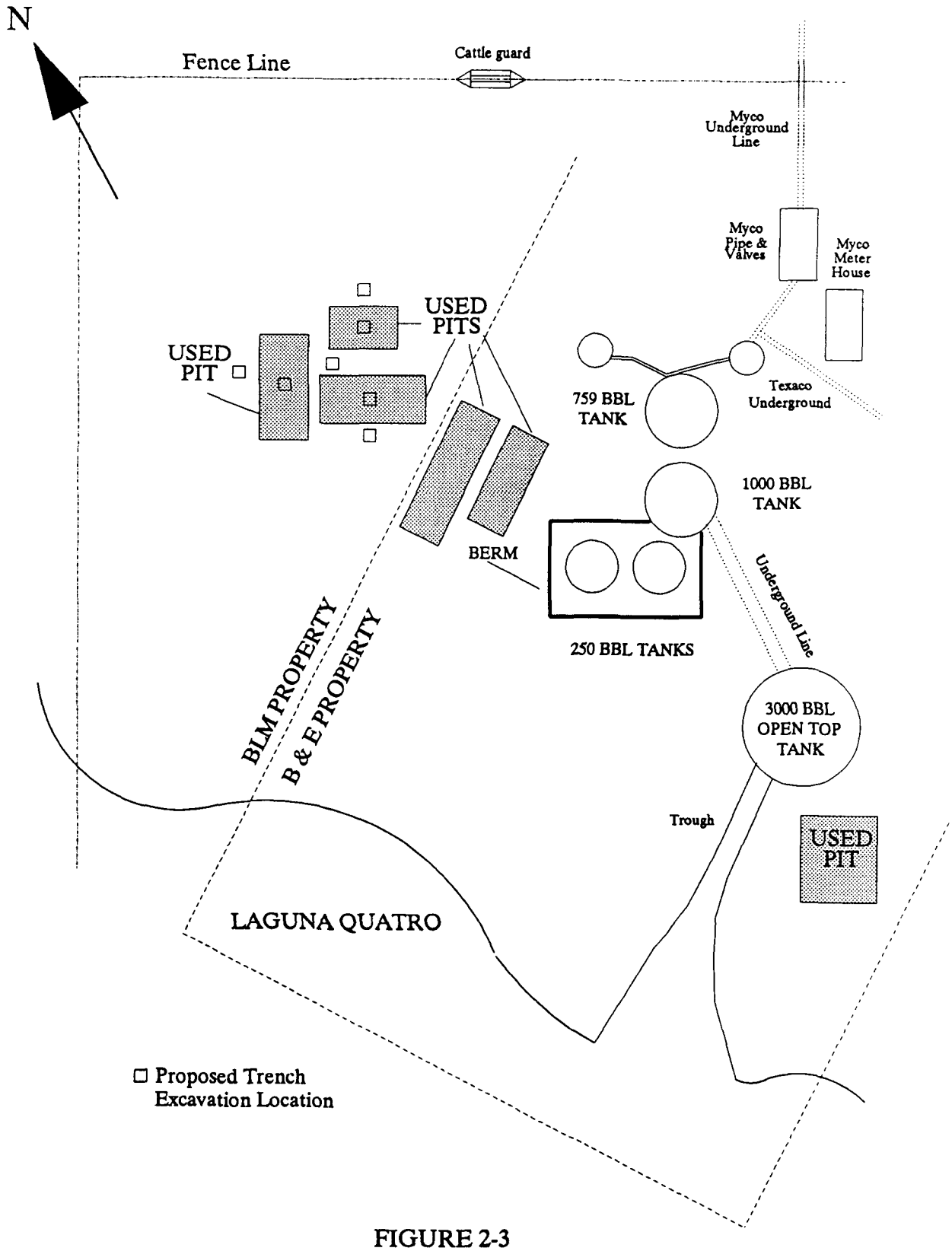


FIGURE 2-3
PROPOSED SAMPLING LOCATIONS FOR
VERTICAL AND HORIZONTAL EXTENT INVESTIGATIONS

Therefore, a total of seven confirmation soil samples will be submitted to the laboratory for the vertical and horizontal investigation. Sampling equipment will be decontaminated between each use using detergent and deionized water.

2.2.2 Quantify Volume of Waste and Affected Materials

The total volume of waste and contaminated soils requiring remediation and/or off-site disposal will be determined from the confirmation analysis.

2.3 RISK ASSESSMENT

Following the site investigation, B & E proposes to conduct risk assessment of the detected waste COCs to determine whether remediation activities may be minimized or eliminated. According to the January, 1992 BLM letter and to Mr. Al Collar of the BLM at the bid walk, several alternatives are available to B & E to remediate the site. Alternatives involving risk assessment are defined as follows:

1. If pit wastes can be determined through risk assessment to not pose a threat to human health or the environment, the wastes may be left in place and covered with two feet of compacted caliche, six inches of soil, and vegetation.

2. If pit wastes can not be left in place and require remediation and/or removal, risk assessment may be used to demonstrate that remaining constituents in the underlying soil will not pose a threat to human health or the environment.

Risk assessment analysis will be based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Appendix C). As part of the risk assessment process, potential migration pathways and receptors will be identified. The identification of these components will provide further justification in proposing alternate cleanup standards. The results of the risk assessment will be summarized with the site investigation data for submittal to the BLM.

2.4 EVALUATION OF REMEDIAL ALTERNATIVES

Several remedial alternatives will be considered for the Tuzlu Kopek site. Potential pit remedial alternatives, based on the data currently available, include but are not limited to:

- No source removal, establish caliche cover design;
- Removal and disposal at an appropriate disposal facility;
- Removal, thermal treatment, and return to excavation as backfill; and
- Removal, biological treatment, and return to excavation as backfill.

Of the biological treatment technologies, thin spreading (i.e., prepared bed biological treatment) or composting would be considered applicable technologies. A summary of each of these technologies is provided below.

No Source Removal, Establish Caliche Cover Design

This remedial alternative requires that constituent concentrations in the pit wastes meet risk-based closure criteria such that no source removal is required. A two-foot compacted caliche cover with six inches of soil and vegetative cover will be established over the pit wastes to minimize infiltration of surface water.

Removal and Disposal at an Appropriate Facility

This remedial alternative assumes that the no source removal alternative can not be implemented due to waste constituent concentrations exceeding risk-allowed levels. Although the wastes are currently exempt from RCRA hazardous waste designation, disposal at a non-hazardous landfill can not be permitted if the waste exhibits hazardous characteristics. Based on available data, however, the waste may be accepted at a non-hazardous landfill. The excavated pits will be backfilled with clean borrow material to grade.

Removal, Thermal Treatment, and Return to Excavation as Backfill

The waste characterization data will help in the evaluation of thermal treatment of the waste and affected soils. On-site thermal treatment would be achieved using a technology such as an asphalt burner. The treated material would then be returned to the pit excavation as backfill. If necessary, the treated material (waste) will be covered with

compacted caliche, soil, and vegetation. Stabilization of the treated material for metals may be necessary for this technology.

Removal, Biological Treatment, and Return to Excavation as Backfill

This technology requires the waste material to be a practical candidate for biological treatment. Although oily wastes can successfully be bioremediated, several factors may hinder the treatability of the E&P wastes. Such factors include high salt content and presence of heavy organics. The success of biological treatment will depend upon a viable microbial population acclimated to the disposition of the waste.

These remedial alternatives will be subjected to an evaluation using the criteria of effectiveness, implementability, and cost. These screening criteria are briefly described in the following sections.

2.4.1 Effectiveness Evaluation

The effectiveness evaluation will consider the capability of each remedial alternative to protect human health and the environment as defined by the risk assessment. Each alternative will be evaluated as to the protection it would provide, and the reductions in toxicity, mobility or volume it would achieve. Both short and long term components of effectiveness will be evaluated; short term referring to the construction and implementation period, and long term referring to the period after the remedial action is complete.

2.4.2 Implementability Evaluation

The implementability evaluation will be used to measure both the technical and administrative feasibility of executing the remedial action alternative. In addition, the availability of the technologies involved in a remedial alternative and any unique site-specific characteristics which will inhibit the application of the technologies involved will also be considered.

2.4.3 Cost Evaluation

Cost evaluation will include estimates of capital costs, operation and maintenance (O&M) costs, and present worth analyses. These conceptual cost estimates are order-of-

magnitude estimates, and will be prepared based on preliminary conceptual engineering for major construction components and unit costs of capital investment and general O&M costs.

Following the evaluation of the selected remediation alternatives, a selection of the most appropriate technology for the site will be made.

2.5 PREPARATION OF PHASE I REPORT

At the conclusion of the Phase I activities, a report will be prepared summarizing the results of the waste characterization, site investigation, risk assessment, and remediation alternatives evaluation. The report will be submitted to the BLM. Phase II of the project will not be initiated until approval of the report is received from the BLM.

2.6 PREPARATION OF PHASE II CLOSURE PLAN

The Closure Plan will consist of activities for site remediation/restoration, and will be based on the approved Phase I report. Although the selected alternative can not be determined at this time, the Closure Plan will include the following components for any of the alternatives:

1. Site Background and Description
2. Closure Objectives
3. Construction Design
4. Operations and Maintenance Specification
5. Sampling and Analysis Procedures
6. Closure Schedule
7. Health and Safety Plan
8. Quality Assurance/Quality Control
9. Closure Confirmation/Certification Requirements

The Closure Plan will be prepared and submitted to the BLM for approval.

2.7 CLOSURE ACTIVITIES

As mentioned in the previous section, the selected remediation alternative can not be determined at this time. The selected closure method will most likely be one of the four alternatives proposed in Section 2.4. It is important to note that any alternative which requires long-term stockpiling or thin-spreading of the wastes and contaminated soils will require the construction of a low permeability liner or pad, as groundwater probably occurs at a depth of less than 100 feet below ground surface.

The closure activities will be conducted according to the approved Closure Plan. Any modifications to the plan, as deemed necessary by site conditions, will be approved through the BLM prior to implementation.

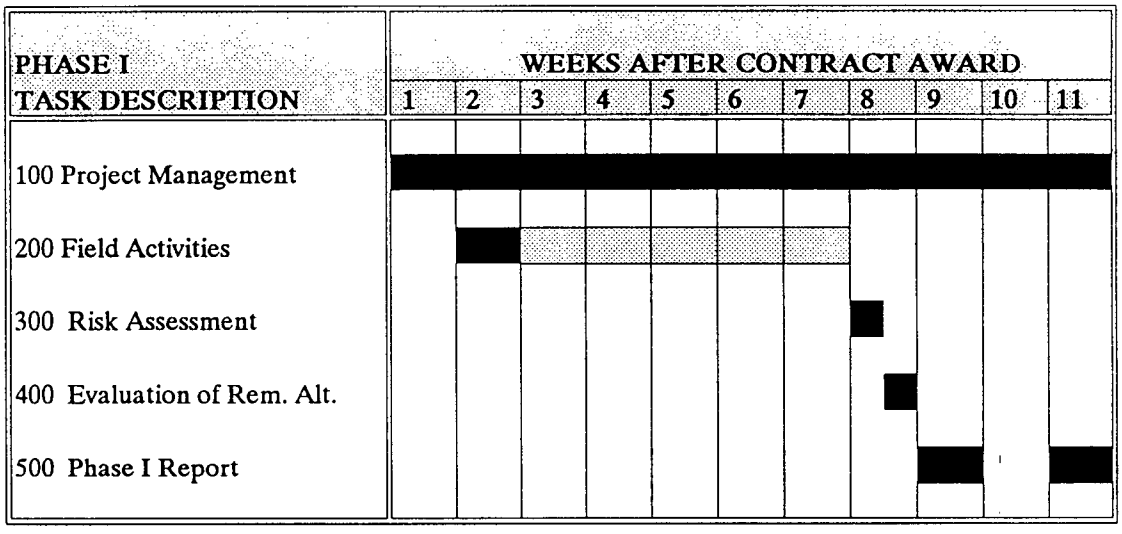
The length of time for completion of closure activities will also depend upon the selected alternative. The closure period may be as short as two weeks, if only cover establishment is required, or as long as one year or more if biological treatment is selected.

3.0 PROJECT SCHEDULE

A proposed project schedule for the implementation of Tuzlu Kopek site environmental investigation activities (Phase I) is included in Figure 3-1. B & E is prepared to begin the necessary sampling and field investigation activities upon receipt of notification of approval of this Work Plan from the BLM.

The most time consuming step is the collection of analytical results, which generally takes up to five weeks. Data evaluation, risk assessment, and evaluation of remedial alternatives will commence immediately after receipt of the analytical results. These results will be incorporated into a Phase I report.

FIGURE 3-1
PHASE I PROJECT SCHEDULE
B & E TUZLU KOPEK SITE



Note: Shaded row indicates time required for laboratory turn-around.

APPENDIX A

APPENDIX A

BUREAU OF LAND MANAGEMENT LETTER

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

IN REPLY
REFER TO
1703 (064)

JAN 23 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 713

B & E Inc.
Attention: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

This letter is in reference to trespass case N-77922. The case was initiated on August 14, 1989, and covers:

1) construction and use of oil residue pits on public land without authorization and;

2) disposal of produced waters affecting public lands without authorization.

These actions committed by B & E, Inc. are violations of the Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2763; 43 U.S.C. 1733 and regulations found in 43 CFR 2801.3).

I want to thank you for your patience and cooperation in our effort to resolve this case. Our efforts to explore disposal and remediation options have not been successful. The Bureau of Land Management (BLM) must proceed with settlement of the trespass case. Final resolution requires the following actions:

1. removal and remediation of trespass pits;

2. investigation and remediation of affected public lands in Laguna Quatro.

TRESPASS PIT RESOLUTION

The trespass pit resolution requires three action plans and associated actions. These plans and actions are:

1. Trespass Pit Removal Action Plan for the removal of materials - the removal action plan is due March 1, 1992.

2. Trespass Pit Soil Sampling Plan for sampling of soils after removal actions are completed - the soil sampling plan is due within thirty days of completion of the removal action.

3. Trespass Pit Remedial Action Plan for remediation of the pits - the remedial action plan is due within thirty days of acceptance of the soil sampling results.

A Health and Safety Plan covering actions is required for removal and disposal

of all materials in the trespass pits, sampling, and remedial actions.

Specific guidance for each action plan under Trespass Pit Resolution is described below. The BLM must approve each action plan before work begins for that plan.

1. TRESPASS PIT REMOVAL ACTION PLAN

By March 1, 1992, submit a removal action plan for the trespass pits. The following items are required in the removal action plan:

A. Removal plan for all liquids, solids, and stained soil in the trespass pits.

B. Disposal plan stating method and location for disposal of materials. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

2. TRESPASS PIT SOIL SAMPLING PLAN

Within 30 days of completion of the above removal action, submit a soil sampling plan for the trespass pits area. Sampling is required to ensure all contaminants have been removed from the trespass pits. The sampling plan shall also provide the data required for risk assessment analysis. The following items are required in the soil sampling plan:

A. The location, number, type, and depth of each sample. The minimum sample data required includes one background soil sample and four soil samples per pit.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

D. Vertical and horizontal contamination data is required. These data provide volume of additional material for removal and verifies that no release to groundwater has occurred.

3. REMEDIAL ACTION PLAN

Within 30 days of acceptance of the soil sampling results for the trespass

within 30 days of acceptance of the soil sampling results for the trespass pits, submit a remedial action plan. The following items are required in the remedial action plan:

A. Risk assessment analysis based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). This item is required only if contaminants are found after the initial removal action is completed.

B. Pit remedial action plan based on the risk assessment analysis. Minimum requirements for remediation include filling pits with compacted soil or caliche, six inches of cover material, and restoration of vegetation.

LAGUNA QUATRO TRESPASS RESOLUTION

The temporary continuance for discharge of water is hereby rescinded. A copy of the BLM letter dated August 15, 1989, (Enclosure 4) allowing temporary continuance is enclosed. Discharge from your facility affecting public lands at Laguna Quatro shall cease immediately.

Resolution of this trespass requires two actions. These actions are:

1. Laguna Quatro Sampling Plan for water and sediment sampling. The sampling plan is due March 1, 1992.

2. Laguna Quatro Removal and Remediation Action Plan for removal/remediation of trespass. The removal/remediation action plan is due within thirty days of acceptance of the sampling results.

A Health and Safety Plan for all actions is required. This plan shall cover all actions required for investigation, sampling, disposal, and remedial actions.

Specific guidance for the Laguna Quatro Trespass Resolution actions are described below. The BLM must approve each action plan before work begins for that plan.

1. LAGUNA QUATRO SAMPLING PLAN

By March 1, 1992, submit a sampling plan for the BLM managed sections of Laguna Quatro that have been affected by discharge from your facility. Both water and sediment samples are required.

A. The number of samples, location, and depth shall delineate the area of contamination and characterize the type of waste affecting public land. The sampling plan also provides the data required for risk assessment analysis.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

2. LAGUNA QUATRO REMOVAL AND REMEDIAL ACTION PLAN

Within thirty days of acceptance of the Laguna Quatro sampling results, submit a removal and remedial action plan.

A. The removal/remedial action required for the affected public lands at Laguna Quatro shall be based on a risk assessment analysis. The risk assessment analysis is based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). Specific requirements shall be written after the BLM approves the Laguna Quatro sample results.

B. A disposal plan stating method and location for disposal of materials is required. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

Enforcement authority for these required actions is described in 43 U.S.C. 1733. The removal action plan for the trespass pits is due no later than March 1, 1992. The due date for the Laguna Quatro water and sediment sampling plan is also March 1, 1992. Subsequent action plan due dates shall be established individually (see Enclosure 3).

I appreciate your patience and cooperation in this matter. If you have any questions, please contact the District Office at (505) 622-9042.

Sincerely,

Tony L. Ferguson

Tony Ferguson
Associate District Manager

4 Enclosures:
1 - Laboratory Plan (3 pp.)
2 - Risk Assessment Calculation (2 pp.)
3 - Schedule of Action Plan Due Dates (1 p.)
4 - Letter dated 8/15/89 (2 pp.)

Components of an Adequate Laboratory Quality Assurance/Quality Control Plan

New Mexico Hazardous and Radioactive Materials Bureau
Technical Support Group
(505) 827 4900

1. All constituents identified above the MDL must be reported.

   The Method Detection Limit is defined as the estimated concentration at which the signal generated by a known constituent is three standard deviations above the signal generated by a blank, and represents the 99% confidence level that the constituent does exist in the sample.

2. The "tune" of the GC/MS for volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by purging 50 ng of a 4-bromofluorobenzene (BFB) standard. The resultant mass spectra must meet the criteria given in Table 1 before sample analysis proceeds.

3. The "tune" of the GC/MS for semi-volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by injecting 50 ng of a Decafluorotriphenylphosphine (DFTPP) standard. The resultant mass spectra must meet the criteria given in Table 2 before analysis proceeds.

4. For every 20 samples perform and report:

   A. Duplicate spike for organics.

   B. Duplicate sample analysis for inorganics.

   C. Reagent blank, results provided for organic work.

   D. Surrogate and spike recoveries. See item 10.

   E. One check sample at or near the Practical Quantitation Limit for a subset of the parameters.

5. Analytical results must not be "blank corrected."

6. Any deviation from EPA-approved methodology must have a Written Standard Operating Procedure and NMED approval.

7. Detection limits must be generally in line with those listed in Appendix IX to §264.

8. The laboratory must document:

   A. That all samples were extracted, distilled, digested, or prepared (if appropriate) and analyzed within specified holding times.

   B. That if a sample for volatile analysis is received with headspace, this is reported.

   C. The date of sample receipt, extraction and analysis for each sample.

   D. Any problems or anomalies with the analysis should be documented.

   E. That all solids were analyzed dry and that the reported results are corrected to reflect a dry weight basis.

9. The name and signature of the lab manager must appear on each report.

10. The reported surrogate and spike recoveries must fall within: 1. the historical (statistically based) acceptance limits, generated at the laboratory or 2. the limits tabulated by the appropriate method from the current edition of SW-846, whichever limit is narrower. The actual historical recoveries must be submitted to HRMB with the analysis.

TABLE 1

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
50	15.0 - 40.0 percent of the base peak
75	30.0 - 60.0 percent of the base peak
95	base peak, 100 percent relative abundance
96	5.0 - 9.0 percent of the base peak
173	less than 2.0 percent of mass 174
174	greater than 50.0 percent of the base peak
175	5.0 - 9.0 percent of mass 174
176	greater than 95.0 percent but less than 101.0 percent of mass 174
177	5.0 - 9.0 percent of mass 176

TABLE 2

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
51	30.0 - 60.0 percent of mass 198
68	less than 2.0 percent of mass 69
70	less than 2.0 percent of mass 69
127	40.0 - 60.0 percent of mass 198
197	less than 1.0 percent of mass 198
198	base peak, 100 percent relative abundance
199	5.0 - 9.0 percent of mass 198
275	10.0 - 30.0 percent of mass 198
365	greater than 1.00 percent of mass 198
441	present but less than mass 443
442	greater than 40.0 percent of mass 198
443	17.0 - 23.0 percent of mass 442

APPENDIX B

APPENDIX B

STANDARD OPERATING PROCEDURE (SAMPLING)

SOP: SOIL SAMPLING AND SUBSURFACE EXPLORATION

1.0 PURPOSE AND APPLICABILITY

This SOP describes the methods used in obtaining soil samples for physical testing, stratigraphic correlations, and chemical analysis. Soil samples are obtained in conjunction with test pit excavations and soil borings. These procedures provide direct information as to the physical makeup of the surface and subsurface environment. This SOP will discuss sampling of the surface material with hand tools and sampling of the subsurface material within test pits.

2.0 RESPONSIBILITIES

The project geologist/engineer will be responsible for the proper use and maintenance of all types of equipment used for obtaining surface and test pit samples. The geologist/engineer will determine the location, total depth and overall size of each surface sample collection point and test pit, and the location and depth of all subsurface borings.

It will be the responsibility of the project geologist/ engineer to observe all activities pertaining to soil sampling and subsurface investigations to ensure that all the standard procedures are followed properly, and to record all pertinent data, including unified soil system classification, on a field log or field book. The collection, handling, and storage of all samples will be the responsibility of the geologist/engineer.

3.0 SUPPORTING MATERIALS

The geologist/engineer will provide:

- sample bottles/containers and labels;
- boring and test pit logs;
- field notebook;
- chain-of-custody forms;

- depth measurement device;
- stakes and fluorescent flagging tape;
- decontamination solutions;
- camera for photographing sections (as allowed); and
- sample cutting/extracting equipment: knives, trowels, shovels, hand auger.

4.0 METHODS

Specific sampling equipment and methodology will be dictated by the characteristics of the soil to be sampled, the type of soil samples required and by the analytical procedures to be employed. Soil samples obtained at the surface may be collected using a shovel, trowel, or hand auger. A hand auger can be used to extract shallow soil samples up to 10 feet below the surface. Sampling to obtain uniform coverage within a specified area will often require the use of an area grid. These considerations will be followed based upon specific project requirements.

4.1 GENERAL APPLICATIONS

General locations for test pits and sampling locations may be documented by survey or by using topographic maps and/or plans. A preliminary log of the test pit will be prepared in the field by the geologist or engineer. A sketch of the test pit may be necessary to depict the strata encountered.

Sampling locations will be mapped by the geologist or engineer. All information will be recorded in a log book.

4.2 SURFACE SAMPLING

Prior to surface sampling, remove all surface materials that are not to be included such as rocks, twigs, leaves. For sample collection within the upper two to three feet use a shovel or trowel. A hand auger may be used to depths of up to 10 feet. When using the hand auger, auger the hole to the required depth, then slowly remove the auger and collect

the soil sample from the auger flight at the point corresponding to the required depth. A tube sampler can be attached to the auger rods after augering to the desired depth, inserted into the open borehole, and then advanced into the deposits at the base of the boring. If sampling is in sandy or non-cohesive soil, a shovel may be necessary to collect samples.

4.3 TEST PIT EXCAVATION AND SAMPLING

The test pits will be excavated in compliance with applicable safety regulations. Walls should be cut as near vertical as possible to facilitate stratigraphic logging. The size and depth of test pit will be recorded in A Test Pit Log.

Photographs of specific geologic features may be required for documentation purposes. A scale or an item providing a size perspective should be placed in each photograph. The frame number and picture location will also be documented in the field log book. The test pit will be inspected to ensure that all required data and samples have been collected. All test pits will be backfilled to original grade and compacted.

4.4 SAMPLE COLLECTION TECHNIQUES

When collecting soil samples, potential for cross-contamination will be minimized through proper and careful collection techniques. The following techniques are specific to the sampling methods discussed previously in this SOP.

Surface

The sampling device used to collect the soil sample should be properly decontaminated, as discussed in SOP 120, prior to collecting each sample. After the sample is collected, place it on a clean sheet of tin foil. Use a decontaminated utensil such as a stainless steel knife to remove carry-down material from the sample. Carry-down material includes the soil along the side of a core sample that was carried down by the auger from a location above the actual sample point. Carry-down can be removed from a core sample by shaving the sides of the core with the knife. If the sample is collected using a shovel or

trowel, clear the area to be sampled as discussed previously in this SOP. Collect the sample and place it in the sample container.

Collect a representative sample from the core by first cutting the core into two vertical halves. After the core has been logged in the field notebook, collect uniform amounts of soil from the entire length of the core until an adequate sample size has been obtained. Decontaminate the sampling equipment after each sampling event.

Test Pit

Samples collected from a test pit wall or floor are typically obtained with a stainless steel knife or trowel or similar device. When the sample point has been located, approximately three to six inches of potential carry-down soil are removed. The sample is collected and placed in the sample container and the sampling equipment is decontaminated.

4.5 SAMPLE HANDLING

Specific procedures pertaining to the handling and shipment of samples will be followed according to standard operating procedures. Sample containers (jars or bags) will be labelled with the following information (which is also recorded on the sample log sheets and field log book):

- client/project name;
- test pit or sampling point number;
- sample number/identification;
- sample collector's name or initials;
- horizontal/vertical location; and
- date of collection.

Larger, bulk samples will be placed in cloth bags with plastic liners. Sample bags will be marked with the information listed above.

5.0 DOCUMENTATION

The following documentation will be placed in the project files:

- test pit log,
- sample log sheets,
- field log book,
- chain-of-custody forms, and
- shipping receipts.

APPENDIX C

APPENDIX C

RISK ASSESSMENT CALCULATIONS
(NEW MEXICO ENVIRONMENT DEPARTMENT)

Risk Assessment Calculations for Carcinogens and Noncarcinogens

Following are the two types of calculations for acceptable residual soil contaminants based on risk assessment calculations. These calculations assume a daily exposure duration of 8 hours/day, 40 hrs/week. The resulting figure for acceptable contamination (C), should be modified to reflect a larger value for C if the daily or weekly exposure is less, and a smaller value for C if the soil ingested is greater than the assumption due to local conditions. The first two equations below are suitable for situations involving only one contaminant, the second two are for multiple contaminant scenarios.

For single, noncarcinogenic contaminants

Where C, the acceptable residual soil concentration, C will be equal to the RfD* divided by the amount of soil ingested daily per kilogram of body weight (the standard RCRA model for noncarcinogenic contaminant exposure is a 10 kg child ingesting 200 mg soil/day) = 20 mg/kg weight per day:

$$C = \frac{RfD\left(\frac{\text{mg constituent}}{\text{kg*day}}\right)}{20\ \frac{\text{mg soil}}{\text{kg*day}}}$$

*RfD is the reference dose. RCRA clean closures require use of the assumption that intake is by direct soil ingestion, so you will want to use the oral intake RfD for noncarcinogens. The Integrated Risk Information System (IRIS) will supply this data [(513 569-7254].

For single, carcinogenic contaminants

Where C is the acceptable residual contamination, R is the acceptable risk and is generally set at 1×10^{-4}, SF is the carcinogenic slope factor. IRIS data includes this value in the carcinogen, oral intake data section. DI is the average daily soil ingestion. This calculation assumes a 70 kg adult consuming 100 mg of soil daily, so the DI is 100 mg/70 kg = 1.42 mg soil/kg weight per day.

$$C = \frac{R}{SF\ (\text{day/mg*kg}) \times 1.42\ \text{mg/(kg*day)}}$$

If the total constituent concentration of any chemical in the residual soil is above the limit calculated, the contaminated media must be removed to a permitted hazardous waste treatment, disposal or storage facility. Site specific factors may allow an adustment of the assumptions used in the above calculations.

For situations involving multiple contaminants, the risk from each is summed and the total risk from residual contaminants must be acceptable.

For multiple, carcinogenic contaminants

R = Risk and is set at 1 X 10^{-6} incidences of cancer (one incidence in a population of one million). CDI = chronic daily intake of the carcinogen not of contaminated soil. CDI is equal to the daily soil intake times the concentration of the individual contaminant. SF is the slope factor (same as in the previous example).

$$R = 1 \times 10^{-(CDI \times SF)}$$

Total R will equal the calculated R from carcinogen 1 + R from carcinogen 2, etc. Cleanup levels will be considered adequate with respect to the carcinogens when R_{tot} is less than 1 x 10^{-6}.

For multiple, noncarcinogenic contaminants

CDI is as immediately above, RfD is as in the first example, above. Calculate the total Chronic Hazard Index as follows:

$$\text{Total hazard index} = CDI_1 \times RfD_1 + CDI_2 \times RfD_2 + \text{etc.}$$

The total hazard index must be less than 1, i.e., 0.99 or less.

All analytical data must be submitted to the New Mexico Environment Department (NMED) and must be accompanied by complete QA/QC data documenting that the laboratory has followed appropriate EPA SW-846, chapter one QA/QC procedures, and SW-846 analytical methods.

Ref: Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual, Part A

ENCLOSURE 3

Schedule of Action Plan Due Dates

I. Trespass Pit Resolution

A. Removal Action Plan - due March 1, 1992

B. Soil Sampling Plan - due within thirty days of completion of removal action.

C. Remedial Action Plan - due within thirty days of acceptance of soil sampling results.

II. Laguna Quatro Resolution

A. Water and Sediment Sampling Plan - due March 1, 1992

B. Removal/Remedial Action Plan - due within thirty days of acceptance of sampling results.

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

IN REPLY
REFER TO:

1703 (064)

JUN 11 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 928

B&E Inc.
Attention: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

As we discussed April 7, 1992, the Bureau of Land Management (BLM) met with the U.S. Fish and Wildlife Service (USFWS) and the Office of Environmental Affairs (OEA) to review your Phase I Investigation proposal. You are required to include the following items in your plan.

1. There are no exceptions to the analytical requirements described in the BLM letter dated January 23, 1992. Samples shall be tested for all Toxic Characteristic Leaching Procedure (TCLP) metals and Appendix IX constituents.

2. Extended hydrocarbon testing is required for all samples. An example of testing requirements is enclosed.

3. The Risk Assessment shall be based on the New Mexico Environment Department's (NMED) RCRA Clean Closure risk assessment guidance. Ecological considerations are required. We have requested a copy of the EPA guidance for environmental/ecological risk assessment. A copy will be sent to you as soon as we receive it.

4. You are reminded that authority for investigation and clean-up of this site is based on the Federal Land Policy Management Act (FLPMA). We will defer commenting on radionuclide investigation at this site until additional information is gathered.

The BLM will not approve your proposal until these items are included in your plan. If you have any questions, please contact the Roswell District Office at (505) 622-9042.

Sincerely,

(Orig Sdg) Tony L. Ferguson

for Leslie M. Cone
District Manager

1 Enclosure

cc:
U.S. Dept. of Interior
Office of Environmental Affairs
Attn: Glenn Sekavic
P.O. Box 649
Albuquerque, New Mexico 87103

New Mexico Environment Department
Hazardous Waste and Radioactive
Bureau
Attn: Bruce Swanton
1190 St. Francis Dr.
Santa Fe, New Mexico 87502

US Fish and Wildlife Service
Attn: Jennifer Fowler-Proust
Suite D
3530 Pan American Hwy, NE
Albuquerque, New Mexico 87107

(w/attachments)
CERTIFIED MAIL - RETURN RECEIPT
REQUESTED

Johnson and Gibbs
First City Tower
1001 Fannin St.
Suite 1200
Houston, Texas 77002

NM (930)
NM (067)
NM (064)

COLLAR:bmc:6-9-92:REVIEW.LTR

U.S. Environmental Protection
Agency, Region VI
Attn: Pat Rankin (6C-A)
First Interstate Bank Building.,
Suite 1200
1445 Ross Ave.
Dallas, Texas 75202

New Mexico Oil Conservation Division
Attn: Roger Anderson
P.O. Box 2088
Santa Fe, New Mexico 87504

Regional Solicitor
Attn: Beverly Ohline
P.O. Box 1042
Santa Fe, N.M. 87504-1042

Attn: Jack Henry
Re: B&E Trespass Case N-77922

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 2:00 P.m. | Date 4-10-92

Originating Party	Other Parties
Jack Henry - 713-752-3394	Kathy Brown - OCD

Subject: B&E's Meeting with BLM
B&E's Investigation Proposal

Discussion: B&E submitted investigation plan to BLM. BLM said that it'll have to be reviewed by them, US Fish & Wildlife & NMED - who has responsibility for public land (?) They will then get back to B&E in 60 to 90 days at which time they'll begin negotiations with B&E on a site investigation. BLM will not allow B&E to close the 1 pit that was never used - can't touch a thing cause this might be hazardous waste or even a superfund site. Also, B&E put forth the idea about moving the soils onto their property & landfarming it. BLM District (Roswell) Manager said that might not be acceptable to US Fish & Wildlife since it might harm endangered species & migratory birds. B&E needs a letter from OCD stating why Selenium does not need to be tested.

Conclusions or Agreements:

Distribution:

Signed: Kathy Brown

JOHNSON & GIBBS
A Professional Corporation
ATTORNEYS AND COUNSELORS

First City Tower
1001 Fannin Street
Suite 1200
Houston, Texas 77002
713/752-3300

Fax: 713/752-3788

Writer's Direct Dial Number

Other Locations:
Austin, Texas
Dallas, Texas
Washington, D.C.

713/752-3394

April 2, 1992

By Federal Express

Kathy Brown
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

Dear Kathy:

In accordance with our recent conversation, I am sending you the pertinent sections of the proposal for a site investigation at B & E, Inc.'s Tuzlu Kopek facility. I would appreciate any comments you may have prior to our meeting with the BLM.

Thank you for your assistance. Please call me at the above number with any questions or comments you may have.

Very truly yours,

JOHNSON & GIBBS
A Professional Corporation

Jack W. Henry

Attachment

cc: Phil Withrow w/o attachment

JWH\er

PROPOSAL TO CONDUCT PHASE I ENVIRONMENTAL INVESTIGATION AND PHASE II CLOSURE OF THE B & E TUZLU KOPEK DISPOSAL FACILITY

Prepared for:

JOHNSON & GIBBS
Houston, TX

Prepared by:

REMEDIATION TECHNOLOGIES, INC.
Austin, TX

Prepared by _____

Reviewed by _____

RETEC Proposal No.: PEN-1253

MARCH 1992

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1.0 INTRODUCTION

RETEC is pleased to submit this Phase I and Phase II proposal to Johnson & Gibbs for the environmental investigation (Phase I) and closure (Phase II) at the B & E, Inc. Tuzlu Kopek disposal facility at E/W NESE Section 6 T 225 R 30E Eddy County, New Mexico. This proposal has been prepared in response to the February 12, 1992 Request for Proposals (RFP) issued by Johnson & Gibbs and is based on the information provided in the RFP package and on the bid walk conducted on February 18, 1992.

1.1 BACKGROUND

The site is a salt water disposal facility located at E/W NESE Section 6 T 225 R 30E Eddy County in New Mexico (Figure 1-1). The site was operated by B & E from 1982 until 1989, when the United States Department of the Interior Bureau of Land Management (BLM) discovered that part of the site is public land owned by BLM. BLM immediately requested all operations to be discontinued until further investigation.

During the bid walk on February 18, 1992, two areas of concern were identified by Mr. Jack Henry of Johnson & Gibbs. These areas are:

1. BLM earthen pits, and
2. BLM playa lake surface water and sediments.

The earthen pits were used for the disposal of residues generated from the cleanout of frac tanks at the B & E site (Figure 1-2). One pit measures approximately 40' by 60' in area, and the second pit measures approximately 50' by 100' in area. Total depth of the pits are estimated to be 8 to 10 feet. The third pit on the BLM land was not used for waste disposal, but may require restoration to original grade. This pit will not be addressed in this proposal.

Laguna Quatro was used for the disposal of produced waters from primary production. In December 1991, overflow from an oil collection impoundment at the Tuzlu Kopek disposal facility spilled into a draw which discharged into Laguna Quatro. Hay bales were placed in the lake around the discharge area to contain the spill. The BLM submitted a letter to B & E in January, 1992, requiring a final resolution of the unauthorized disposal

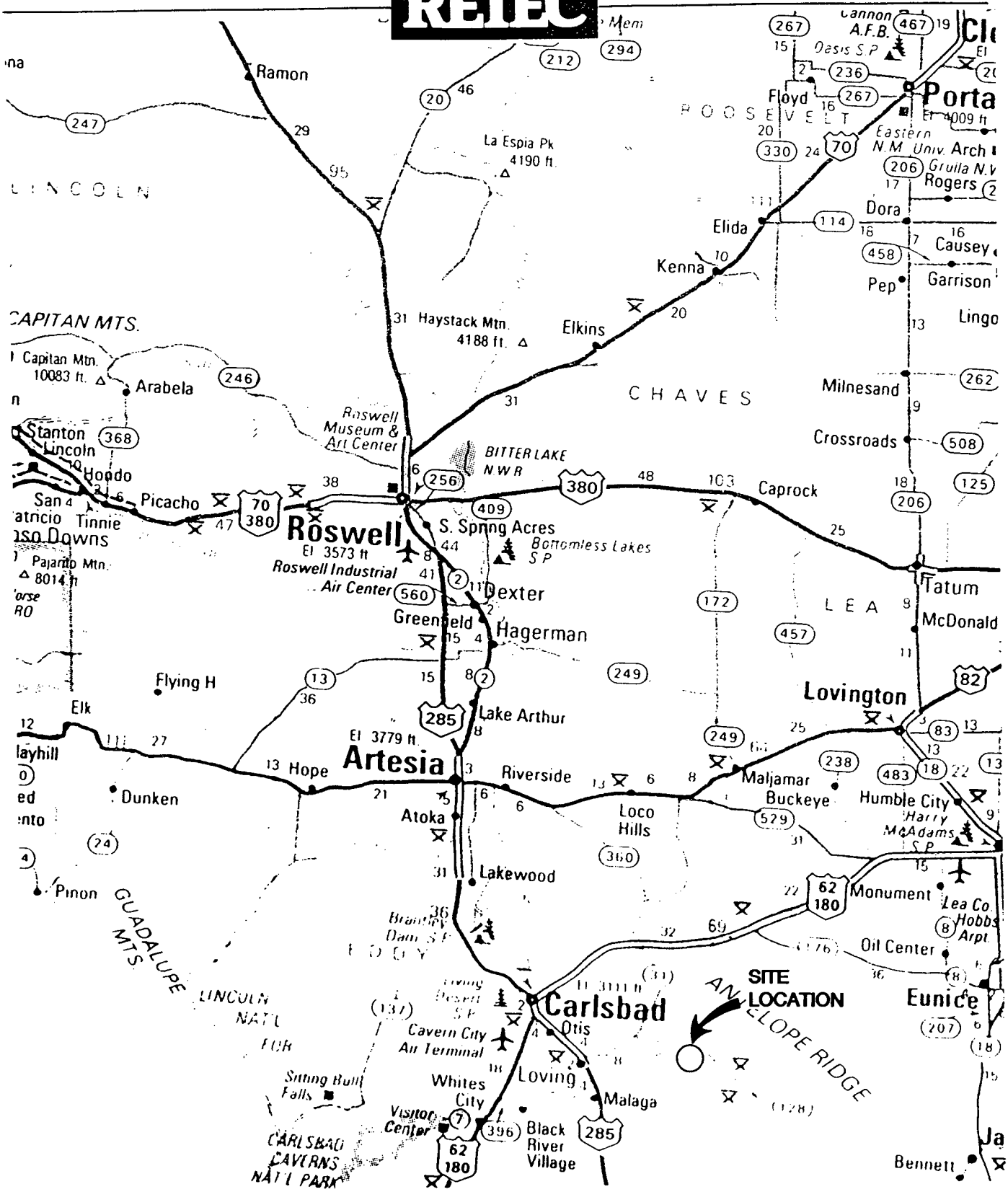

FIGURE 1-1
B & E TUZLU KOPEK SITE LOCATION MAP

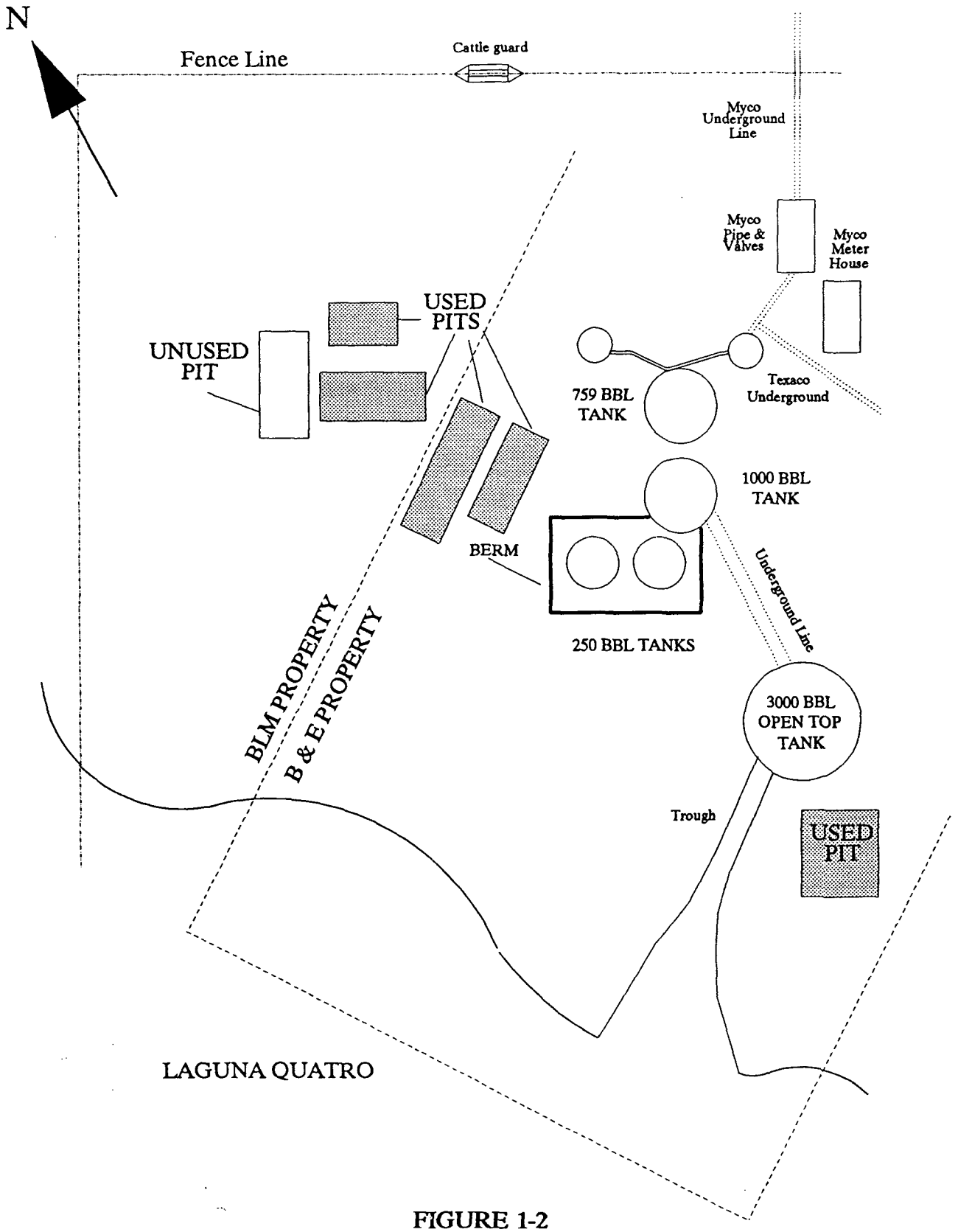

FIGURE 1-2

DETAIL OF B & E TUZLU KOPEK SITE

(Source: B&E Inc., Work Order # H89-06.126, Keystone - Houston)

activities. Specifically, the final resolution called for the removal and remediation of the two pits on BLM land, and the investigation and remediation, if necessary and appropriate, of affected public lands in Laguna Quatro.

1.2 PROJECT OBJECTIVES

This proposal will address the areas of concern identified in Section 1.1. The proposal will address the requirements of BLM as addressed in the letter dated January 23, 1992 to Mr. Phil Withrow and the guidelines of the New Mexico Oil Conservation Division (OCD) as is practicable. The objectives of this project are:

1. Develop a comprehensive plan for site investigation of BLM affected land from previous operations at the B&E site,

2. Implement the site investigation to identify the waste characteristics and volume and to determine the vertical and horizontal extent of waste constituent migration,

3. Conduct a feasibility study to determine the most appropriate remedial alternative for site restoration,

4. Formulate a remedial action plan of the chosen method(s), and

5. Perform site cleanup and restoration to the appropriate standards.

The first three objectives will be presented in detail in this proposal. The remaining two objectives will be discussed as is practicable at this time, as evaluation of remedial alternatives will depend upon the results of the site investigation. The two objectives will be addressed in greater detail as the project progresses as part of Phase II (Closure Phase).

1.3 QUALIFICATIONS

RETEC is an environmental engineering and remediation company specializing in the management and remediation of industrial sites contaminated with organic materials. RETEC has completed or is currently working on designs and remediation systems for over one hundred projects. These projects involve sites contaminated with petroleum contaminants, wood treating chemicals, coal tars and other organic chemicals, and involve

design, construction and operation of soil venting, bioremediation, groundwater extraction and treatment, and hydrocarbon recovery systems.

RETEC's clients are primarily industrial companies who process, handle or dispose of organic materials, including petroleum and petrochemicals, coal tars, wood preserving chemicals and agricultural chemicals. RETEC's clients also include trade groups formed by these industrial companies, law firms who represent them, and occasionally, regulatory agencies who wish to study a particular environmental problem or remediation process.

RETEC is the nationally recognized leader in the bioremediation of hazardous wastes. Of the first two Superfund sites (CERCLA) sites for which bioremediation has been approved and implemented, RETEC was responsible for the bench and pilot-scale studies, design and implementation of treatment at both sites. RETEC is currently working for over one dozen oil companies and wood treatment companies on projects ranging from the on-site biological treatment of greater than 100,000 cubic yards of contaminated soils to land *treatment demonstrations and reconnaissance investigations.*

1.4 PROPOSAL ORGANIZATION

This proposal is organized into six sections. Section 1.0 is the introduction. Section 2.0 describes RETEC's approach for conducting Phase I and Phase II of the project. Section 3.0 describes the Phase I and Phase II Scope of Work by task and Section 4.0 identifies the project team and the qualifications of the team to undertake this work. Section 5.0 presents the project schedule, the estimated manpower requirements and project costs for the project. Section 6.0 includes exceptions to the contract provided in the RFP package, and Section 7.0 presents RETEC's qualifications and related project experience. Resumes of key personnel are included in Appendix A and RETEC's Standard Commercial *Terms are provided in Appendix B. Appendix C contains the New Mexico Environment* Department's Risk Assessment Calculations for Carcinogens and Non-Carcinogens and Appendix D is a copy of RETEC's most recent insurance certificate, and Appendix E presents descriptions of related projects completed by RETEC.

2.0 APPROACH

As indicated in Section 1.0, RETEC proposes to conduct the project in two phases; Phase I will consist of the site investigation and feasibility study, and Phase II will consist of the remedial action plan and the implementation of site cleanup and restoration. RETEC's approach consists of a cost-effective investigation and remediation strategies which will address appropriate state and/or federal guidelines. The approach will consist of the following components:

Phase I:

1. Waste Characterization - Identification of constituents of concern (COC);

2. Site Investigation - Determination of extent of affected soils from pits on BLM land, and determination of impact to Laguna Quatro;

3. Risk Assessment - Development of clean-up standards for COCs;

4. Evaluation of Remedial Alternatives; and

5. Report Preparation - Summary of site investigation results, risk assessment, and feasibility study.

Phase II:

1. Closure Plan - Preparation of site remediation and restoration plan; and

2. Closure Activities - Implementation of site remediation and restoration.

The OCD surface impoundment closure guidelines and the BLM January, 1992 letter recommend that site investigation activities be conducted after excavation and disposal of all liquids, solids, and stained soil in the pits are completed. Using this procedure, mobilization, decontamination, and demobilization of heavy equipment used for cleanup could be required several times before closure is complete, as the vertical and horizontal extent of contamination would not be identified until completion of the final sampling activity. Furthermore, alternative remedial technologies to excavation and off-site disposal may be deemed feasible based on waste characterization, contaminant migration assessment,

and risk assessment. Therefore, RETEC proposes that site investigation, risk assessment, and feasibility study activities be conducted first to achieve more efficient cleanup operations. RETEC's approach for this project is illustrated in the flow diagram presented in Figure 2-1. The components of the proposed approach are detailed in the following sections.

2.1 WASTE CHARACTERIZATION

Prior to implementing any investigation or remediation activity, waste characterization activities are proposed. Waste characterization will be conducted on samples from the two pits, as well as from the produced water discharge area to Laguna Quatro. Waste characterization will identify the parameters specific to the B & E activities. This approach is particularly important to the Laguna Quatro investigation, as other potential sources of contamination of the playa lake exist (e.g., the potash refinery). The waste characterization activities will assist in determining impacts only from B & E activities.

2.1.1 Pit Waste Characterization

The pit samples will be collected from the two pits with a shovel at a frequency of four samples per pit at a depth of one foot below the surface of the waste. The samples from each pit will be composited to form one composite sample per pit. The sampling depth is based on the sludge depth in the excavated trench observed during the bid walk on February 18. The discrete samples which will be composited will be collected from the four quadrants of each pit, as shown in Figure 2-2.

Additionally, one soil sample will be collected from an area unimpacted by industrial activity, as required in the January, 1992 BLM letter. The background sample analyses will be used to compare to waste characterization data, as well as to evaluate risk-based closure criteria. The background sample will be collected also at a depth of one foot below ground surface at the location indicated in Figure 2-2.

RETEC proposes to analyze the background soil and pit waste samples for the following constituents:

- Subset of Appendix IX constituents:
  metals: arsenic, barium, cadmium, chromium, lead, mercury, and silver

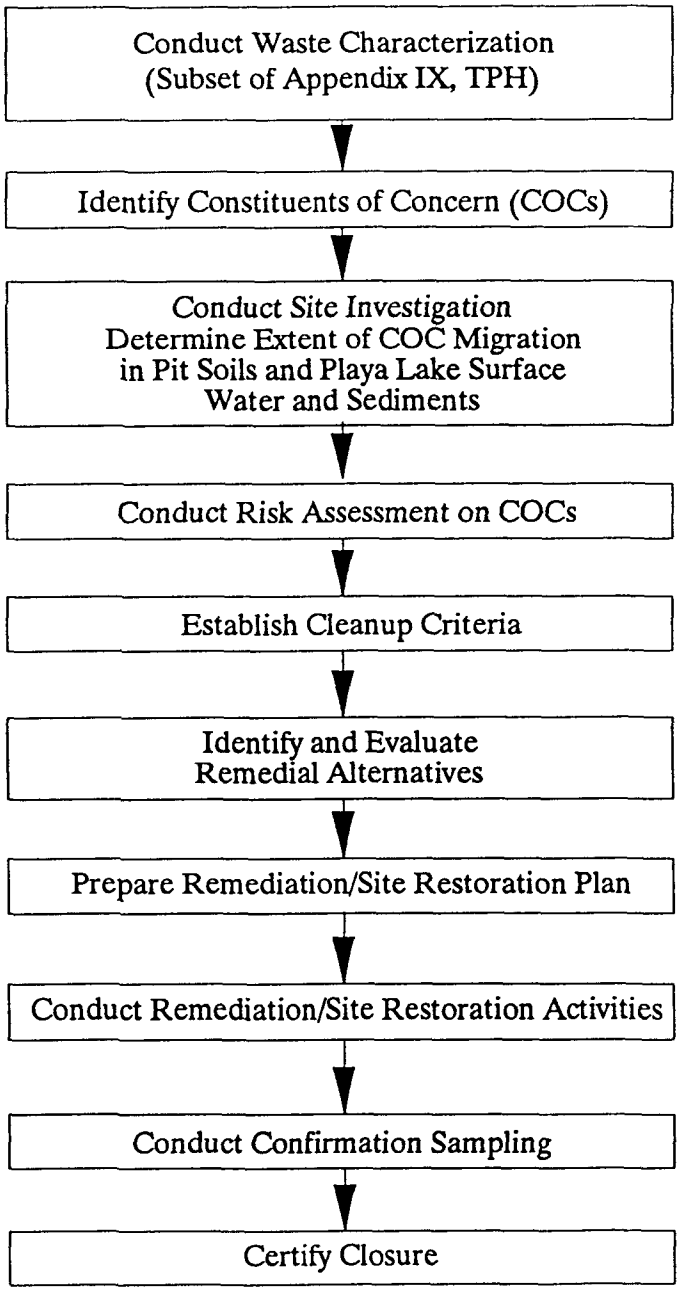

FIGURE 2-1
PROPOSED RETEC APPROACH
B & E Inc, Kuzlu Topek Disposal Facility Investigation and Closure

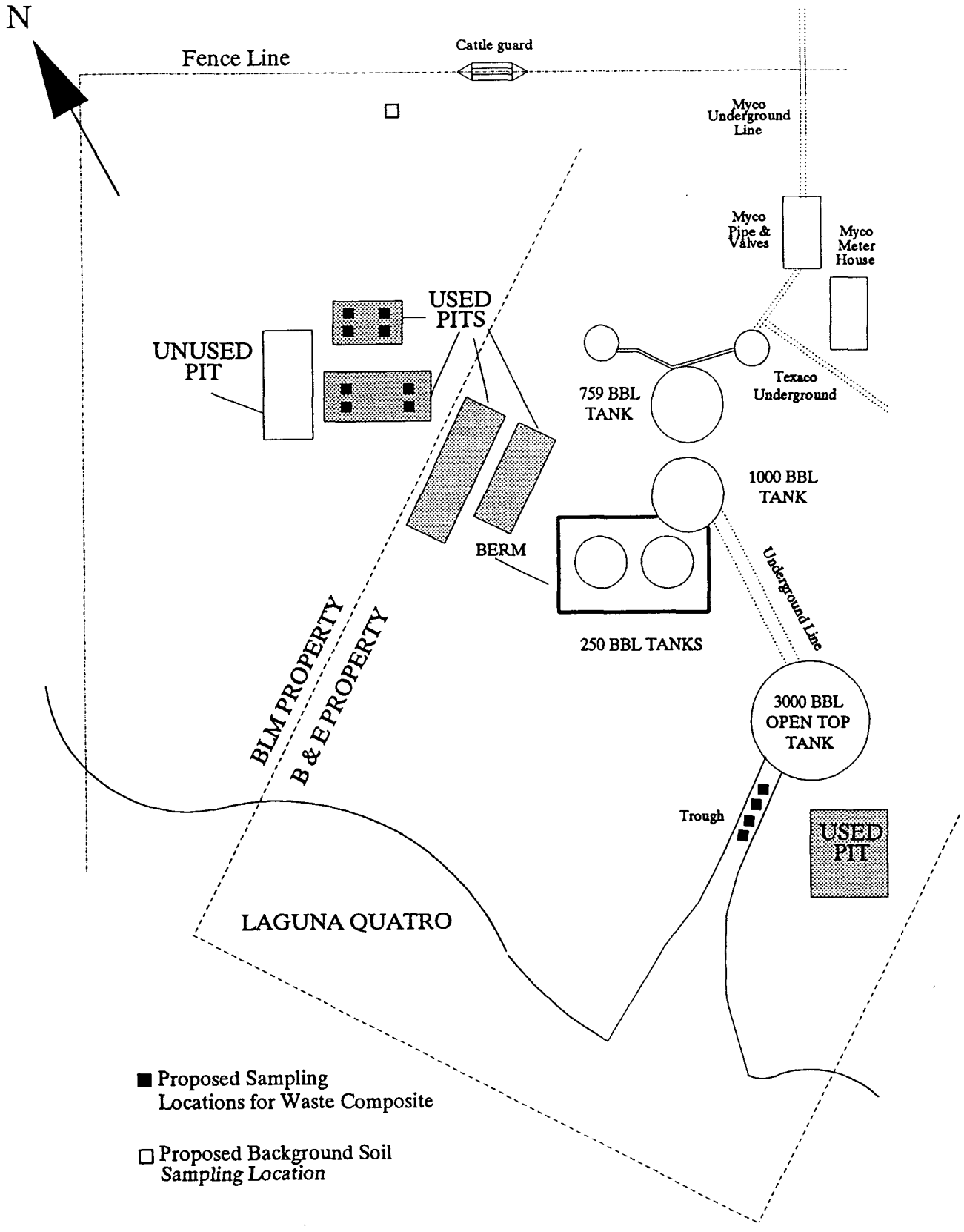

FIGURE 2-2
PROPOSED WASTE CHARACTERIZATION SAMPLING LOCATIONS

volatiles organics: benzene, ethylbenzene, toluene, xylenes
semi-volatile organics: naphthalene, phenols, and benzo(a)pyrene

The proposed constituents are the commonly detected constituents in oil and gas exploration and production wastes, as determined from the data presented in Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy (USEPA, OSW, 1987) and are also included in the New Mexico Water Quality Control Commission (NMWQCC) water quality standards. Based on RETEC's experience with E&P wastes and our research conducted for the Petroleum Environmental Research Forum, we believe that the above-mentioned list will adequately characterize the wastes. In addition, RETEC proposes that the waste (pit) samples be analyzed for ignitability, reactivity, and corrosivity. While the pit wastes are currently exempt from RCRA hazardous waste designation, the hazardous characteristics analyses are proposed as all non-hazardous industrial waste disposal facilities require such characterization. Total petroleum hydrocarbons (TPH) analysis is also proposed as an inexpensive gross indicator of contamination. All waste analyses will be conducted according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical methods: EPA Document SW-846). Laboratory quality assurance and quality control (QA/QC) procedures and reporting as specified in the BLM letter will be adhered to at all times.

2.1.2 Laguna Quatro Contaminant Characterization

Prior to conducting sampling of sediments and surface water in the BLM portion of Laguna Quatro, RETEC proposes to conduct contaminant characterization of the produced water discharge area in the discharge trough. While some data concerning B & E's produced water exist, the data do not identify other potential constituents in produced water, such as semivolatile constituents. Therefore, waste (contaminant) characterization is proposed on a composite soil sample from the discharge trough. The composite sample will be comprised of four samples collected from the most visibly contaminated areas in the discharge trough. Approximate sampling locations are provided in Figure 2-2. The four samples will be collected with a shovel at a depth of six inches to one foot below ground surface. The samples will be composited in a bucket, mixed, and placed into a sample jar for analysis for the following constituents:

- Subset of Appendix IX constituents:
  metals: arsenic, barium, cadmium, chromium, lead, mercury, and silver
  volatiles organics: benzene, ethylbenzene, toluene, xylenes
  semi-volatile organics: naphthalene, benzo(a)pyrene, and pentachlorophenol

The waste characterization data will be evaluated and compared with the background data.

2.2 SITE INVESTIGATION

Site investigation activities will consist of three components:

1. Determination of the vertical and horizontal extent of impact from the two pits;

2. Estimation of volume of wastes and visibly contaminated materials for remediation and/or off-site disposal; and

3. Determination of the impact of produced water discharge to Laguna Quatro.

Each of these activities is described in the following sections.

As recommended by the OCD, groundwater investigations will not be pursued because of the poor quality of the groundwater in this region. The total dissolved solids (TDS) concentration in the groundwater exceeds 10,000 ppm, precluding the aquifer from being utilized as a fresh water source.

2.2.1 Identify Vertical and Horizontal Extent of Contamination

The volume of wastes and visibly contaminated soils at the two pits will be estimated to determine the volume required for excavation and remediation and/or off-site disposal. Based on the extent of staining observed in the trench excavation in one of the pits during the bid walk, it appears that the waste thickness is approximately three to four feet. The underlying soils appear to have little visible contamination. Therefore, the horizontal and vertical extent of impact from the two pits will be determined by excavating trenches with a backhoe and defining the extent by visual observations and using a photoionization detector (PID) calibrated to benzene response to determine the presence of volatile organics.

One trench will be initially excavated in each of the two pits locations indicated in Figure 2-3. The trenches will be excavated to the depths at which no visible contamination is observed. The vertical extent of contamination at each pit will be determined by the

depth to field-determined (PID) uncontaminated soils in the trenches. A soil sample will be collected from each trench at the first visibly uncontaminated depth and placed into 0.5 liter soil jar and immediately covered with aluminum foil. Using the procedures outlined in Guidelines for Surface Impoundment Closure (New Mexico OCD, 1991), a headspace volatile organics measurement will be made using a PID. If a PID response of greater than 100 ppm is detected, the trench will be excavated to a greater depth in accordance with OCD guidelines. The depth at which this point is reached will be recorded. Samples will be collected at one-foot depth increments and subjected to field headspace analysis until a PID response equal to background is achieved (per BLM guidelines). This depth will also be recorded. The final sample from each trench will be submitted to the laboratory via overnight delivery service for confirmation analysis for the list of constituents defined in waste characterization. As indicated in the previous section, proper laboratory QA/QC protocol will be adhered to during analysis.

The horizontal extent of affected soils at the pits will be determined by excavating trenches outside and away from each pit until no visible contamination is observed. Approximate locations of the horizontal investigation trenches are indicated in Figure 2-3. Confirmation samples will be collected as described for the vertical investigation. One confirmation sample from each trench will be submitted to the laboratory for analyses.

Based on the calculation of one sample from each trench, a total of two vertical extent samples and three horizontal extent samples are anticipated for laboratory analysis. Therefore, a total of five confirmation soil samples will be submitted to the laboratory for the vertical and horizontal investigation. Sampling equipment will be decontaminated between each use using detergent and deionized water.

2.2.2 Quantify Volume of Waste and Affected Materials

The total volume of waste and contaminated soils requiring remediation and/or off-site disposal will be determined from the confirmation analysis.

2.2.3 Determine Impact of Produced Waters Discharge on Laguna Quatro

The impact of produced waters discharge on Laguna Quatro on BLM land will be determined through sediment and surface water sampling. Two samples each of the sediments and surface water are proposed to determine whether B & E discharges have affected Laguna Quatro. One sample of sediment and surface water will be collected at a

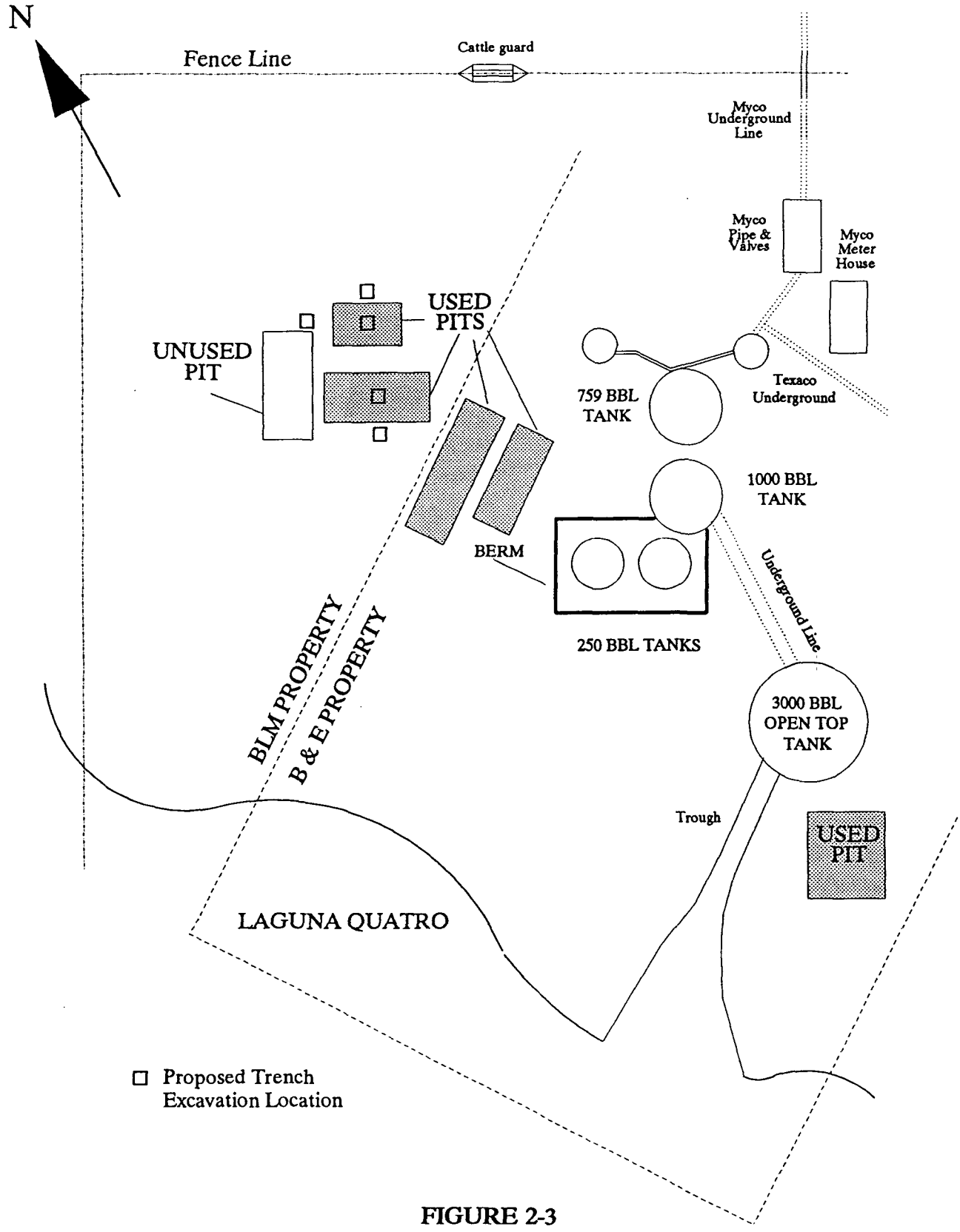

FIGURE 2-3
PROPOSED SAMPLING LOCATIONS FOR
VERTICAL AND HORIZONTAL EXTENT INVESTIGATIONS

location on BLM property closest to the B & E property boundary. The second sediment and surface water samples will be collected from the southeast corner of the Laguna Quatro, which is anticipated to be unaffected by the discharges due to the size of the playa lake. The approximate locations of the samples are indicated in Figure 2-4.

The samples will be collected from a boat, if necessary, or by wearing waders. Agitation of sediments will be minimized during sample collection. Therefore, the surface water samples will be collected before the respective sediment samples. Sediment samples will be collected by lowering a PVC pipe or a colliwasa-type device into the sediments, and retrieving the sample collected in the sampling device. All sampling equipment will be decontaminated using detergent and deionized water between each use.

The sediment and surface water samples will be submitted to the laboratory via overnight delivery service and analyzed for the waste characterization parameters. Based on two sample locations, a total of two sediment samples and two surface water samples will be analyzed.

Impact to groundwater from the produced waters discharge is anticipated to be negligible due to the proportionally small volume of discharge compared to the volume of Laguna Quatro. At this time, groundwater investigations at Laguna Quatro are not anticipated.

2.3 RISK ASSESSMENT

Following the site investigation, RETEC proposes to conduct risk assessment of the detected waste COCs to determine whether remediation activities may be minimized or eliminated. According to the January, 1992 BLM letter and to Mr. Al Collar of the BLM at the bid walk, several alternatives are available to B & E to remediate the site. Alternatives involving risk assessment are defined as follows:

1. If pit wastes can be determined through risk assessment to not pose a threat to human health or the environment (e.g., no leaching of COCs), the wastes may be left in place and covered with two feet of compacted caliche, six inches of soil, and vegetation.

2. If pit wastes can not be left in place and require remediation and/or removal, risk assessment may be used to demonstrate that remaining

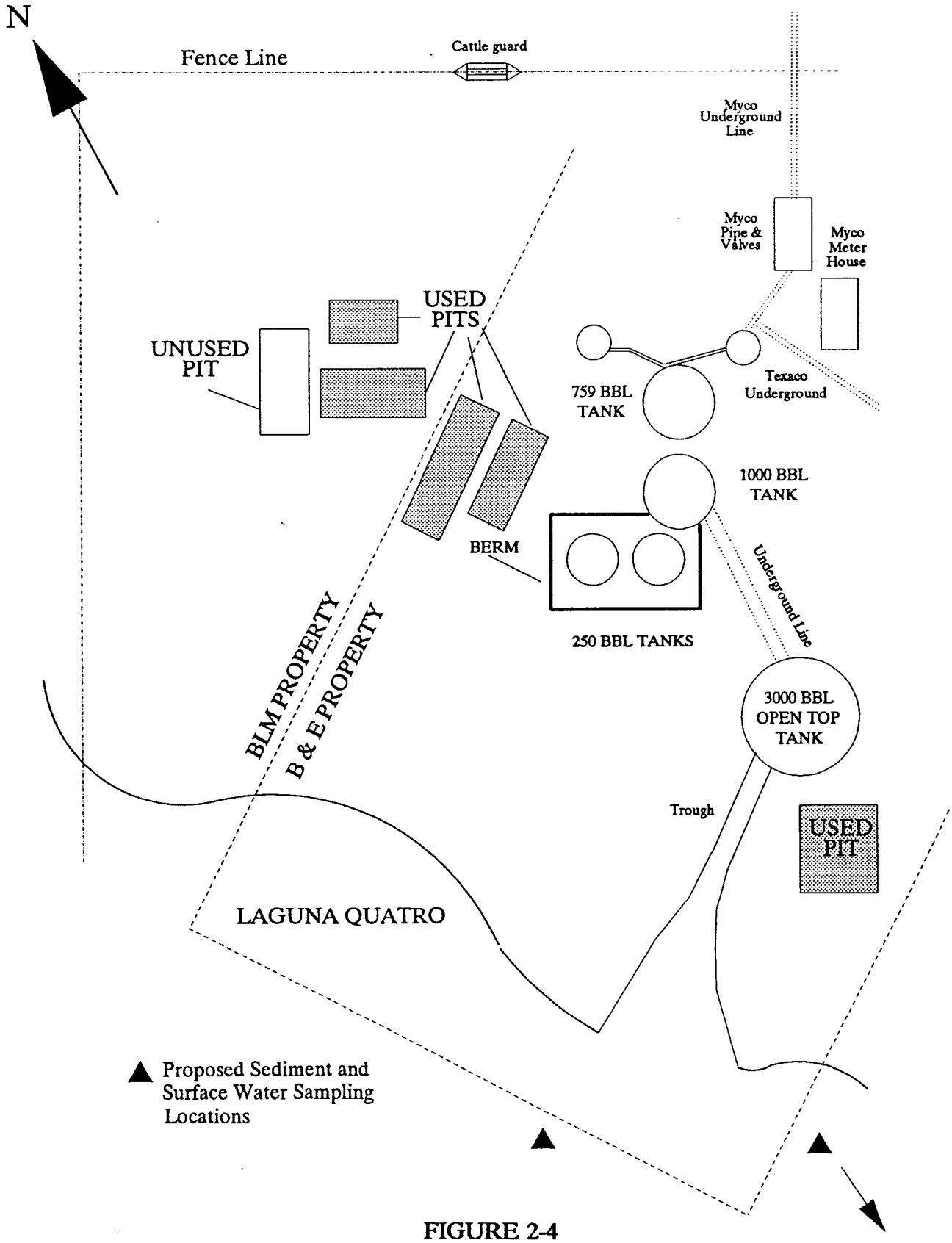

FIGURE 2-4
PROPOSED SEDIMENT AND SURFACE WATER SAMPLING LOCATIONS
LAGUNA QUATRO

constituents in the underlying soil will not pose a threat to human health or the environment.

3. If Laguna Quatro shows any impact from the produced waters discharge, risk assessment may define the extent of remediation, if necessary, for the surface water and sediments.

Risk assessment analysis will be based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Appendix C). As part of the risk assessment process, potential migration pathways and receptors will be identified. The identification of these components will provide further justification in proposing alternate cleanup standards. The results of the risk assessment will be summarized with the site investigation data for submittal to B & E.

2.4 EVALUATION OF REMEDIAL ALTERNATIVES

Several remedial alternatives will be considered for the B & E site. At this time, remediation of only the oil pits are assumed. Additionally, remedial alternatives are not considered for surface water or sediments in Laguna Quatro, as contaminants are not anticipated to be above background levels due to the dilution effect provided by the playa lake's large size. However, if contamination from B & E's former operations to Laguna Quatro is determined during the site investigation, remedial alternatives for this area will also be addressed.

Potential pit remedial alternatives, based on the data currently available, include but are not limited to:

- No source removal, establish caliche cover design;
- Removal and disposal at an appropriate disposal facility;
- Removal, thermal treatment, and return to excavation as backfill; and
- Removal, biological treatment, and return to excavation as backfill.

Of the biological treatment technologies, thin spreading (i.e., prepared bed biological treatment) or composting would be considered applicable technologies. A summary of each of these technologies is provided below.

No Source Removal, Establish Caliche Cover Design

This remedial alternative requires that constituent concentrations in the pit wastes meet risk-based closure criteria such that no source removal is required. A two-foot compacted caliche cover with six inches of soil and vegetative cover will be established over the pit wastes to minimize infiltration of surface water.

Removal and Disposal at an Appropriate Facility

This remedial alternative assumes that the no source removal alternative can not be implemented due to waste constituent concentrations exceeding risk-allowed levels. Although the wastes are currently exempt from RCRA hazardous waste designation, disposal at a non-hazardous landfill can not be permitted if the waste exhibits hazardous characteristics. Based on available data, however, the waste may be accepted at a non-hazardous landfill. The excavated pits will be backfilled with clean borrow material to grade.

Removal, Thermal Treatment, and Return to Excavation as Backfill

The waste characterization data will help in the evaluation of thermal treatment of the waste and affected soils. On-site thermal treatment would be achieved using a technology such as an asphalt burner. The treated material would then be returned to the pit excavation as backfill. If necessary, the treated material (waste) will be covered with compacted caliche, soil, and vegetation. Stabilization of the treated material for metals may be necessary for this technology.

Removal, Biological Treatment, and Return to Excavation as Backfill

This technology requires the waste material to be a practical candidate for biological treatment. Although oily wastes can successfully be bioremediated, several factors may hinder the treatability of the E&P wastes. Such factors include high salt content and presence of heavy organics. The success of biological treatment will depend upon a viable microbial population acclimated to the disposition of the waste.

These remedial alternatives will be subjected to an evaluation using the criteria of effectiveness, implementability, and cost. These screening criteria are briefly described in the following sections.

2.4.1 Effectiveness Evaluation

The effectiveness evaluation will consider the capability of each remedial alternative to protect human health and the environment as defined by the risk assessment. Each alternative will be evaluated as to the protection it would provide, and the reductions in toxicity, mobility or volume it would achieve. Both short and long term components of effectiveness will be evaluated; short term referring to the construction and implementation period, and long term referring to the period after the remedial action is complete.

2.4.2 Implementability Evaluation

The implementability evaluation will be used to measure both the technical and administrative feasibility of executing the remedial action alternative. In addition, the availability of the technologies involved in a remedial alternative and any unique site-specific characteristics which will inhibit the application of the technologies involved will also be considered.

2.4.3 Cost Evaluation

Cost evaluation will include estimates of capital costs, operation and maintenance (O&M) costs, and present worth analyses. These conceptual cost estimates are order-of-magnitude estimates, and will be prepared based on:

- Preliminary conceptual engineering for major construction components;
- Unit costs of capital investment and general O&M costs available from RETEC's in-house files.

Following the evaluation of the selected remediation alternatives, a recommendation for the most appropriate technology for the site will be made.

2.5 PREPARATION OF PHASE I REPORT

At the conclusion of the Phase I activities, a draft report will be prepared summarizing the results of the waste characterization, site investigation, risk assessment, and remediation alternatives evaluation. The report will be submitted to Johnson & Gibbs for

review and approval, and a final report will be prepared for submittal to the BLM. Phase II of the project will not be initiated until approval of the report.

2.6 PREPARATION OF PHASE II CLOSURE PLAN

The Closure Plan will consist of activities for site remediation/restoration, and will be based on the approved Phase I report. Although the selected alternative can not be determined at this time, the Closure Plan will include the following components for any of the alternatives:

1. Site Background and Description
2. Closure Objectives
3. Construction Design
4. Operations and Maintenance Specification
5. Sampling and Analysis Procedures
6. Closure Schedule
7. Health and Safety Plan
8. Quality Assurance/Quality Control
9. Closure Confirmation/Certification Requirements

A draft Closure Plan will be prepared and submitted to Johnson & Gibbs for review and approval. Following Johnson & Gibbs approval, a final Closure Plan will be prepared for submittal to B & E and to the BLM.

A Closure Plan will also be drafted for Laguna Quatro if it is determined to be impacted by B & E's former operations. At this time, however, we anticipate that only the pits will require remediation activities.

2.7 CLOSURE ACTIVITIES

As mentioned in the previous section, the selected remediation alternative can not be determined at this time. The selected closure method will most likely be one of the four alternatives proposed in Section 2.4. It is important to note that any alternative which requires long-term stockpiling or thin-spreading of the wastes and contaminated soils will

require the construction of a low permeability liner or pad, as groundwater probably occurs at a depth of less than 100 feet below ground surface.

The closure activities will be conducted according to the approved Closure Plan. Any modifications to the plan, as deemed necessary by site conditions, will be approved prior to implementation.

The length of time for completion of closure activities will also depend upon the selected alternative. The closure period may be as short as two weeks, if only cover establishment is required, or as long as one year or more if biological treatment is selected.

3.0 SCOPE OF WORK

The Phase I scope of work consists of five principal tasks. The tasks are:

- Project Management,
- Field Activities,
- Risk Assessment,
- Evaluation of Remedial Alternatives, and
- Preparation of Phase I Report.

The Phase II scope of work consists of three principal tasks. The tasks are:

- Project Management,
- Preparation of Closure Plan, and
- Closure Activities.

Each of these tasks are described in the following subsections.

3.1 PHASE I, TASK 100 PROJECT MANAGEMENT

This task involves the technical and administrative management of the project, as well as preparation of a site-specific health and safety plan for the Phase I field activities. Included in this task are:

- coordination and scheduling of the project team and communication with Johnson & Gibbs personnel,
- project cost tracking,
- purchasing and administrative tasks, and
- preparation of a site-specific health and safety plan.

As part of this task, Johnson & Gibbs will receive a detailed monthly invoice itemizing costs to date by task. Reimbursable charges for this task include mailings, long-distance telephone charges, document copies, and facsimile charges.

3.2 PHASE I, TASK 200 FIELD ACTIVITIES

The Phase I, Task 200 activities will consist of waste characterization and site investigation.

Waste characterization activities include:

- Travel associated with one trip to site for collection of waste characterization samples.
- Collection of three waste composite samples (one composite from each of the two pits, one composite sample from the produced waters discharge trough) and one background soil sample.
- Laboratory analysis of the four samples for total metals, except selenium, total benzene, ethylbenzene, toluene, xylenes, naphthalene, benzo(a)pyrene, phenols, and total petroleum hydrocarbons (TPH).
- Laboratory analysis of the three waste samples for ignitability, reactivity, and corrosivity.
- Evaluation of waste characterization data.

Reimbursable charges associated with waste characterization includes travel costs, sampling equipment purchase, PID rental, sample shipment, sample analyses, facsimile charges, long distance telephone charges, and document copies.

Site investigation activities include:

- Trench investigation activities.
- Collection of four confirmation soil samples from the four trench excavations.
- Collection of two sediment samples and two surface water samples from Laguna Quatro.
- Laboratory analysis of the six soil/sediment samples and two surface water samples for the waste characterization parameters.
- Evaluation and tabulation of the sample analytical data.

- Estimation of the volume of waste and affected materials based on the site investigation results.

Reimbursable charges associated with this task includes travel costs, sampling equipment purchase, PID and backhoe rental, sample shipment, sample analyses, facsimile charges, long distance telephone charges, and document copies.

3.3 PHASE I, TASK 300 RISK ASSESSMENT

Task 300 involves evaluating the waste characterization and site investigation data with respect to risk assessment for the waste characterization parameters. Charges under Task 300 assume that risk assessment will be conducted only for the waste pits. Charges for any risk assessment associated with Laguna Quatro will be approved by Johnson & Gibbs prior to initiating work in those areas. Reimbursable charges associated with this task include document copies and facsimile charges.

3.4 PHASE I, TASK 400 EVALUATION OF REMEDIAL ALTERNATIVES

This task involves evaluation of the appropriate remedial alternatives for the Tuzlu Kopek site waste pits. At a minimum, the alternatives described in Section 2.4 will be evaluated with respect to effectiveness, implementability, and cost. Reimbursable charges associated with this task include document copies, and facsimile charges.

Any charges for evaluation of remedial alternatives for Laguna Quatro and/or groundwater will be approved by Johnson & Gibbs prior to initiating work in those areas.

3.5 PHASE I, TASK 500 PHASE I REPORT PREPARATION

Task 500 activities include preparation of a draft and final report summarizing the Phase I activities and results. The report will include a discussion of the Phase I activities, with data summarized in the form of tables and figures. Complete laboratory reports, including laboratory QA/QC reports and chromatograms, will be provided as appendices to the report. The draft report will first be submitted to Johnson & Gibbs for review. Based

on the review, a final report will be prepared and submitted to Johnson & Gibbs for review and submittal to the BLM.

Reimbursable costs associated with this task include document copies and facsimile charges. Additionally, shipping charges (for report submittal) are included under this task.

3.6 PHASE II, TASK 100 PROJECT MANAGEMENT

Phase II, Task 100 activities are similar to Phase I, Task 100 activities. This task involves the technical and administrative management of the remediation portion of the project, as well as preparation of a site-specific health and safety plan for the closure activities. Included in this task are:

- coordination and scheduling of the project team and communication with Johnson & Gibbs personnel,
- project cost tracking, and
- purchasing and administrative tasks.

Johnson & Gibbs will receive a detailed monthly invoice itemizing costs to date by task for the Phase II activities. Reimbursable charges for this task include mailings, long-distance telephone charges, document copies, and facsimile charges.

3.7 PHASE II, TASK 200 PREPARATION OF CLOSURE PLAN

The Phase II, Task 200 activities consist of preparation of a draft and final Closure Plan for the site, including a Construction Plan, Operations and Maintenance Plan, Closure Schedule, Health and Safety Plan, and Quality Assurance/Quality Control Plan. Reimbursable charges for Task 200 include document copies and facsimile charges. Additionally, shipping charges for delivery of the draft and final Closure Plans to Johnson & Gibbs are also included as reimbursable costs.

Although the appropriate closure alternative is currently not defined, RETEC anticipates that the Closure Plan preparation for any of the proposed alternatives will require the same components. Additionally, the direct labor required to prepare the plan will most likely be the same for all alternatives.

3.8 PHASE II, TASK 300 CLOSURE ACTIVITIES

The site remediation alternative will be determined after the completion and approval of the Phase I report. Therefore, the specific closure tasks can not be defined at this time. As discussed in Section 2.7, the closure schedule will vary greatly depending upon the selected alternative. Therefore, RETEC proposes to provide Johnson & Gibbs with a defined scope of work following approval of the Phase I report.

FOR THE BIRDS

Playa watchers hope they return

By TONY DAVIS
Staff reporter AT 1/27/92

CARLSBAD — For biology teacher Steve West, it all started in summer 1988, when he saw a half-dozen dead birds lying on the shore of a salt lake 30 minutes from home.

Now, West and other local environmentalists say they have won a big victory for birds and against waste-water dumping into the lake.

Last Friday, the U.S. Bureau of Land Management ordered B & E Inc. of Carlsbad to stop discharging thousands of barrels of waste water daily into the lake.

The company took salty waste water from drilling operations, skimmed off most of the oil and sent the remaining liquid into the lake.

It was a case that federal officials say involved several endangered or possibly endangered bird species that have been seen in the area.

Please see **PLAYA/A2**

AT PLAYAS

■ **BIRDS:**

Peregrine falcons, considered endangered, seen less than a mile from Laguna Quatro.

Snowy plovers, which are declining and are federal candidates for endangered or threatened status, used to nest at Laguna Quatro.

Aplomado falcons, previously believed to no longer live in the United States, have been reported by one observer in the Playa Lakes area.

TO: PLEAS, NICK

PLAYA From A1

The issue had dragged on three years, brought in a half-dozen state and federal agencies, and drawn a threat of an environmental lawsuit.

"It's time to bring this to an end," said Dick Manus, manager of the bureau's Carlsbad office, in explaining Friday's decision.

The case could set a precedent for how people treat 25,000 similar lakes, called playas, lying in five states, state and federal officials have said.

A chain of these lakes lies just east of Carlsbad and just southwest of the nuclear repository, the Waste Isolation Pilot Plant. Like WIPP's surrounding salt rocks, these lakes are salty. And for years, many people thought they were wastelands.

They teem with dead salt cedars sticking a few feet out of the water. There's little surrounding vegetation, except for a handful of low-slung grasses and other shrubs and weeds along the shoreline.

They look a bit like moonscapes, with countless dirt clumps sticking out of the ground.

But these lakes have taken on importance among scientists and environmentalists recently because they give life to a tiny salt-water shrimp variety that is food for thousands of shorebirds.

B & E declined comment Friday. Earlier last week, however, B & E president Phil Withrow in a telephone interview described his company as a group of honest citizens trying to make a living.

B & E had operated since since 1982 at the site. An American flag sticks out over its network of tanks and heavy trucks that sit on private property. But much of the 230-acre lake lies on federal land.

Bureau official Manus acknowledged Friday that he didn't know scientifically how much, if any, B & E's discharges were affecting Laguna Quatro.

Officials have conducted no studies proving B & E had caused damage, but they were concerned about potential damage.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:

1703 (064)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 857

MAR 16 1992

Johnson and Gibbs
First City Tower
Attention: Jack Henry
1001 Fannin St.
Suite 1200
Houston, Texas 77002

Re: B&E Trespass Case N-77922

Dear Mr. Henry:

This letter is intended to clarify the site investigation process and closure standards required for this case. Authority for the required actions are based on regulations codified in 43 U.S.C.F.R. 2801.3. The Secretary of the Interior is also responsible for protecting the quality of scientific, scenic, historical, ecological, environmental, air and atmosphere, and water resources and archeological values of public lands pursuant to the Federal Land Policy and Management Act, 43 U.S.C.F.R. 1701 et seq.

At this time there is no designation of this site as subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA). However, the Secretary of the Interior is charged with overseeing use of public lands in a manner which protects the natural resources and prevents unnecessary and undue environmental damage [43 U.S.C.F.R. 2800.0-2 (a) and (b)]. Therefore, the Secretary has adopted the National Contingency Plan (NCP) as the format for this investigation.

B&E is required to conduct the type of evaluation and removal actions described in the National Contingency Plan (NCP) at 40 U.S.C.F.R. 300.415. The removal action plan shall include an investigation of potential groundwater contamination from the trespass pits. No action shall be approved that negatively affects groundwater of the playa system. All planned removal actions shall be in compliance with the National Environmental Protection Act (NEPA).

3/25/92 B+E/OCD Meeting on Laguna Quatro 10:20 am

attendees - Bill Olson - OCD Santa Fe
Kathy Brown - "
Roger Anderson - "
Jack Henry - Attny for B+E
Val - B+E
Phil Withrow - "

J.H. Want to resolve BLM trespass issue
Don't want to do CERCLA list constituents
Want to know what type closure OCD would require

RCA OCD concerned with - BTEX
- Benzene
- TPH
- Metals

If non exempt material would be subject to TCLP
Require remediation to OCD closure guidelines

J.H. Thinking of doing testing up front for
semivolatiles, volatiles, metals
What about NORMS

RCA No NORM regulations at this time so non Issue

J.H. could OCD we use existing pit and remove from
BLM side to B+E pit side

RCA Could be approved since site was originally permitted for such disposal

J.H. OCP concerned with G.W. cont.

RCA No since ~~water~~ G.W. not at beneficial use which was basis for facility approval at hearing

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:

1703 (064)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 857

MAR 16 1992

Johnson and Gibbs
First City Tower
Attention: Jack Henry
1001 Fannin St.
Suite 1200
Houston, Texas 77002

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The closure standards BLM is adopting for resolution of this trespass case ensures environmental protection. They are similar to RCRA clean closure standards. The New Mexico Environment Department (NMED) has issued guidelines for RCRA simple clean closure. The BLM letter dated January 23, 1992, contained the essential portions of those guidelines. A complete copy of the simple clean closure guidance is enclosed.

As per your request a meeting can be scheduled for the week of March 23, 1992. The removal action plan for this site is due at that meeting. If you have any additional questions, please contact the District Office at (505) 622-9042.

Sincerely,

(Orig Sdg) Tony L. Ferguson

FOR Leslie M. Cone
District Manager

cc:
New Mexico Oil Conservation Division
Attention: Roger Anderson
P. O. Box 2088
Santa Fe, New Mexico

marbob
energy corporation

January 31, 1992

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

Attention: Bill LeMay

Dear Mr. LeMay:

I am sending the enclosed material for your information. If you have any questions, please contact me.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm
Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

cc - Bill Olson - OCD
Rick Roy - USF&WS

January 23, 1992

REPLY TO: 6W-PS

Mr. Jim Piatt
Chief, Surface Water Quality Bureau
New Mexico Environment Department
1190 Saint Francis Drive
Santa Fe, New Mexico 87502

Dear Mr. Piatt:

Enclosed are new NPDES permit applications that have recently been received by our office. These applications are being transmitted to you for drafting and/or information and for certification in accordance with Section 401 of the Clean Water Act.

If we may be of further assistance, please do not hesitate to contact Ms. Susan Johnson at the above address or telephone (214) 655-7190.

Sincerely,

Jayne Fontenot
Chief
Permits Issuance Section (6W-PS)

Enclosures

NEW MEXICO

NPDES APPLICATIONS

NPDES NUMBER	NAME FACILITY
NM0030015	B & E, INC.-TUZLU KOPEK TREATMENT FACILITY

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F NMD083015 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

4953 PRI

PLEASE PLACE LABEL IN THIS SPACE

11970 015 1208

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP TUZLU KOPEK DISPOSAL FACILITY

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 WITHROW PHIL	

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	
3 P.O. BOX 756	

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 CARLSBAD	NM	88220

RECEIVED
DEC 26 1991
OCD-ARTESIA

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER
5 5.2 MILES EAST JCT. SH 128 & 31

B. COUNTY NAME
EDDY

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 CARLSBAD	NM		

CONTINUE ON REVERSE

Please type or print in the unshaded areas only

EPA ID Number *(copy from Item 1 of Form 1)*

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

Form 2D NPDES

EPA New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
TK-1	32°	20'	00"	103°	54'	47"	LAGUNA QUATRO

RECEIVED
DEC 26 1991
6W-PS

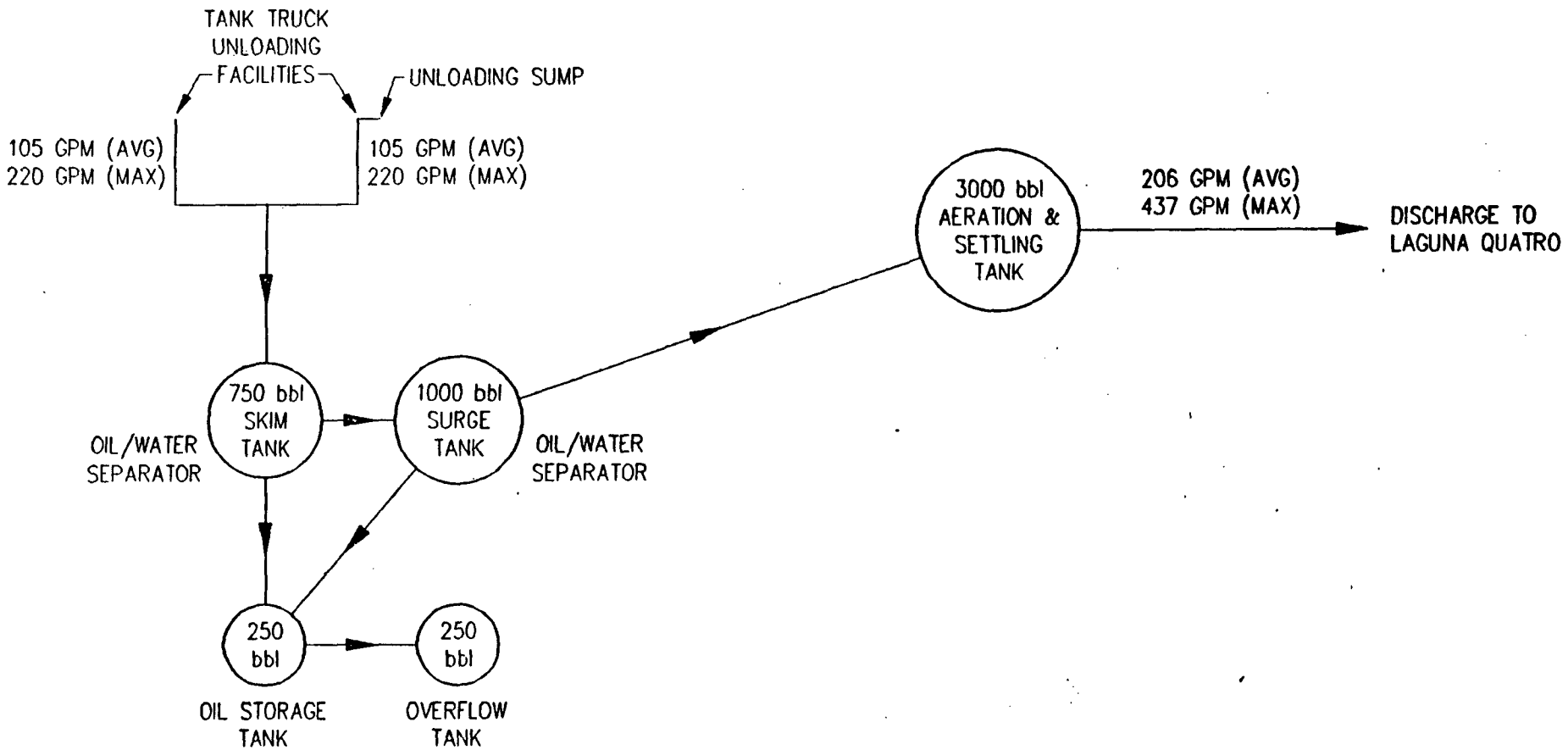
II. Discharge Date *(When do you expect to begin discharging?)*

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
1	Fresh Water	7000 bbl/day (avg)	1-T, 1-H, 4-A
	Salt Water	15000 bbl/day (max)	The treatment system also
	Sanitary Wastewater		has an aeration system to
	Stormwater Runoff		remove volatile compounds
	Production Water		from the water prior to dis-
			charge, two large oil/water
			separators which remove any
			oil which is in the water, and
			a settling basin to facilitate
			solids removal.

III.B. PROGRESS FLOW DIAGRAM



CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number
		TK-1

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
BOD	30.0 mg/l	30.0 mg/l	3
COD	150 mg/l	50.0 mg/l	3
TOC	110 mg/l	110 mg/l	3
TSS	45 mg/l	30 mg/l	3
Flow	437 GPM	206 GPM	3
Ammonia	2.5 mg/l	2.5 mg/l	3
Temperature (winter)	80° F	70° F	3
Temperature (summer)	95° F	85° F	3
pH	6-9	7.8	3
Fluoride	4.0 mg/l	1.6 mg/l	3
Nitrate-Nitrite	20 mg/l	10 mg/l	3
Oil & Grease	50 mg/l	15 mg/l	3
Total alpha	15 mg/l	15 mg/l	3
Total beta	50 mg/l	50 mg/l	3
Radium, total	30 mg/l	30 mg/l	3
Radium 226, total	30 mg/l	30 mg/l	3
Sulfate	1500 mg/l	1300 mg/l	3
Aluminum, total	5.0 mg/l	<1.0 mg/l	3
Barium, total	10 mg/l	5.0 mg/l	3
Boron, total	30 mg/l	1.0 mg/l	3
Cobalt, total	5.0 mg/l	1.0 mg/l	3
iron, total	5 mg/l	0.3 mg/l	3

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number TK-1

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
molybdenum, total	1.0 mg/l	1.0 mg/l	3
chromium, total	0.1 mg/l	0.1 mg/l	3
lead, total	0.1 mg/l	0.1 mg/l	3
nickel, total	1.0 mg/l	1.0 mg/l	3
sliver, total	0.5 mg/l	0.1 mg/l	3
zinc, total	0.5 mg/l	5.0 mg/l	3
arsenic, total	0.2 mg/l	0.2 mg/l	3
cadmium, total	0.05 mg/l	0.03 mg/l	3
copper, total	1.0 mg/l	0.01 mg/l	3
mercury, total	.005 mg/l	.005 mg/l	3
selenium, total	1.0 mg/l	0.05 mg/l	3
cyanide, total	0.5 mg/l	0.2 mg/l	3
benzene	2.2 mg/l	0.5 mg/l	3
ethylbenzene	1.0 mg/l	0.75 mg/l	3
toluene	0.875 mg/l	0.5 mg/l	3
xylene	0.5 mg/l	6.0 mg/l	3

EPA ID Number *(copy from item one of Form 1)*

VII. Other Information *(Optional)*

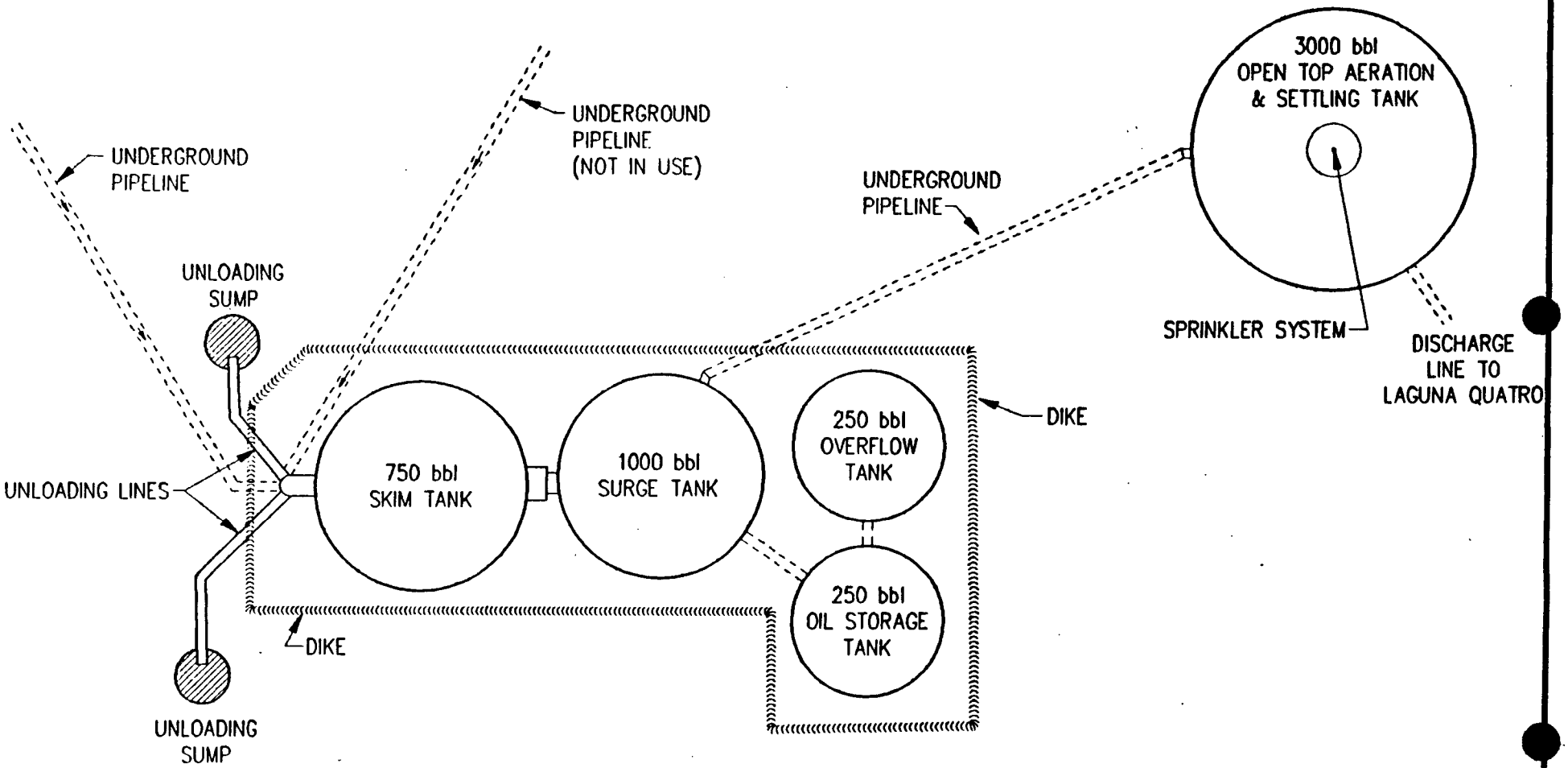
Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

The current maximum discharge rate permitted by the New Mexico Oil Conservation Division is 15,000 bbl/day. This maximum flow rate is higher than the design of the existing single train treatment system at Tuzlu Kopek will accommodate utilizing the recommended residence time through the treatment system. When utilization of the facility warrants, a second train will be added to treat the increased volume and to provide system redundancy.

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Phone No
Phillip Withrow	505-393-0762
C. Signature	D. Date Signed
	12-13-91



B&E Inc.
Tuzlu Kopek Treatment Facility
Sec. 6 T23S R30E

C-E Natco
Combustion Engineering, Inc.
Post Office Box 1710
Tulsa, Oklahoma 74101

Tel. 918/663-9100
Telex 49-2427
Cable. Natco

QUOTATION

B & E Inc. 957662
Post Office Box 2297
Hobbs, New Mexico 88240

Attention Mr. Phil Withrow

Quotation No.:	73142318(82)
Date:	July 21, 1982
Branch:	Tulsa, Oklahoma
Your Reference:	Verbal
Job Site:	Carlsbad, NM 7314

Thank you for your inquiry. We appreciate this opportunity to quote on your requirements in accordance with the following specifications, price and delivery. This equipment is offered in accordance with our attached Standard Terms and Conditions of Contract which are the last two pages of this quotation.

Item I - STORAGE TANK

One C-E Natco SHOP WELDED STORAGE TANK, designed for:

Design Conditions	8 ounce pressure 1/2 ounce vacuum @ 200°F.
Operating Conditions	Atmospheric @ 100°F.
Nominal Volume	750 BBL
Contents	Hydrocarbons and water
Specific Gravity	Design = 1
Code	API-12D

--and consisting of:

A) One C-E Natco 15'-6" diameter x 24'-0" high x atmospheric working pressure, API-12D, Shop Welded Storage Tank of a 1/4" A cone bottom, 3/16" shell and 1/4" 1:12 sloping cone deck.

1) Tank Internals:

a) Flume
b) Spreader
c) Siphon sludge drawoffs (5)

2) Tank Externals:

a) One 8" long pan pressure vacuum thief hatch
b) One 24"x36" cleanout
c) 20" center construction dome

3) Tank Connections: All grooved ends unless noted:

a) Three 6"
b) Eight 3"
c) Two 1/2" XHNR couplings

4) Accessories:

a) None

Item II - STORAGE TANKS

One C-E Natco FIELD WELDED STORAGE TANK, designed for:

Design Conditions	6 ounce pressure 1/2 ounce vacuum @ 200°F.
Operating Conditions	Atmospheric @ 100°F.
Nominal Volume	1500 BBL
Contents	Hydrocarbons and water
Specific Gravity	Design = 1
Code	API-12D

--and consisting of:

A) One C-E Natco 21'-6" diameter x 16'-0" high x atmospheric working pressure, API-12D, Field Welded Storage Tank of a 1/4" A cone bottom, 3/16" shell and 3/16" 1:12 sloping cone deck.

1) Tank Internals:

a) Flume
b) Spreader
c) Siphon sludge drawoffs (5)

2) Tank Externals:

a) One 8" long pan pressure vacuum thief hatch
b) One 24"x36" cleanout
c) One 20" center construction dome
d) Rafters

3) Tank Connections: All grooved ends unless noted:

a) Three 6"
b) Seven 3"
c) Two 1/2" XHNR couplings

4) Accessories:

a) None

Item III - STORAGE TANKS

Two C-E Natco SHOP WELDED STORAGE TANKS, each designed for:

Design Conditions	16 ounce pressure 1/2 ounce vacuum @ 200°F.
Operating Conditions	Atmospheric @ 100°F.
Nominal Volume	400 BBL
Contents	Hydrocarbons and water
Specific Gravity	Design = 1
Code	API-12F

--and consisting of:

A) One C-E Natco 12'-0" diameter x 20'-0" high x atmospheric working pressure, API-12F, Shop Welded Storage Tank of a 1/4" A cone bottom, 3/16" shell and 3/16" 1:12 sloping cone deck.

1) Tank Internals:

a) Flume
b) Spreader
c) Siphon sludge drawoff (5)

2) Tank Externals:

a) One 8" long pan pressure vacuum thief hatch
b) One 24"x36" cleanout
c) One 20" center dome

3) Tank Connections: All grooved ends unless noted:

a) Three 6"
b) Eight 3"
c) Two 1/2" XHNR couplings

4) Accessories:

a) None

Item IV - STORAGE TANKS

Two C-E Natco SHOP WELDED STORAGE TANKS, each designed for:

Design Conditions	8 ounce pressure 1/2 ounce vacuum @ 200°F.
Operating Conditions	Atmospheric @ 100°F.
Nominal Volume	500 BBLs
Contents	Hydrocarbons and water
Specific Gravity	Design = 1
Code	API-12F

--and consisting of:

A) One C-E Natco 15'-6" diameter x 16'-0" high x atmospheric working pressure, API-12F, Shop Welded Storage Tank of a 1/4" A cone bottom, 3/16" shell and 1/4" 1:12 sloping cone deck.

1) Tank Internals:

a) Flume
b) Spreader
c) Siphon sludge drawoffs (5)

2) Tank Externals:

a) One 8" long pan pressure vacuum thief hatch
b) One 24"x36" cleanout
c) One 20" center dome

3) Tank Connections: All grooved ends unless noted:

a) Three 6"
b) Seven 3"
c) Two 1/2" XHNR couplings

4) Accessories:

a) None

Item V - STORAGE TANKS

Two C-E Natco SHOP WELDED STORAGE TANKS, each designed for:

Design Conditions	16 ounce pressure 1/2 ounce vacuum @ 200°F.
Operating Conditions	Atmospheric @ 100°F.
Nominal Volume	250 BBLs
Contents	Oil or water
Specific Gravity	Design = 1
Code	API-12F

--and consisting of:

A) One C-E Natco 15'-6" diameter x 8'-0" high x atmospheric working pressure, API-12F, Shop Welded Storage Tank of a 1/4" flat bottom, 3/16" shell and 1/4" 1:12 sloping cone deck.

1) Tank Internals:

a) None

2) Tank Externals:

a) 24"x36" cleanout
b) 8" long pan pressure/vacuum thief hatch
c) Walkway lugs

3) Tank Connections:

a) Seven 3" XHNR couplings

4) Accessories:

a) None

5) Tank Coatings: None

NET PRICE, F.O.B. Normal Land Conveyance, Manufacturer's Plant Electra, TX . . . Item I S18,334.00
Item III total for two $25,068.00
Item IV total for two $26,996.00
Item V total for two . . . . . S 9,084.00

NET PRICE, Delivered and Erected on Purchaser's Prepared Grade by Nonunion Crews in a Safe Nonhazardous Area with Adequate Working Area . . . . . Item II $28,780.00

Terms:

Net 30 days from date of invoice.

Validity:

This quotation is good for 30 days from quotation date.

Firm Price:

Prices above are firm based on order received during the validity period.

Delivery to Carrier:

Delivery shall be made six to eight weeks after receipt of order plus Customer drawing plus Customer drawing approval time.

Estimated Freight:

Item I	$ 756.00	for 1 unit
Item III	$1,025.00	for 2 units
Item IV	$1,060.00	for 2 units
Item V	$ 712.00	for 2 units

Please indicate with your order which of the following terms of shipment you prefer:

1. Freight collect
2. Prepay and add freight (an administrative fee of 5% of the freight charge, not to exceed $200, will be added)
3. Other

Unless otherwise specified C-E Natco will ship your order "Best Way" with freight charges "Collect."

Estimated Weight:	Item I	16,417 pounds
	Item II	18,445 pounds
	Item III	21,594 pounds total for 2
	Item IV	24,406 pounds total for 2
	Item V	14,484 pounds total for 2

C-E NATCO
A DIVISION OF COMBUSTION ENGINEERING, INC.

TERMS AND CONDITIONS OF CONTRACT

1 Title and risk of loss pass to Purchaser at the f.o.b. point on rail, truck, express and or parcel post shipments. On all transport and or barge shipment title and risk of loss pass to Purchaser at Seller's dock.

2 Prices quoted for products are based on receiving orders for the quantity specified.

3 Prices expire 30 days from date of quotation, if not cancelled prior to that time by Seller's written notice of acceptance. Stock material is included in quotation are subject to prior sale.

4 If Purchaser requests or causes a change in Seller's quoted schedule or method of performance, fabrication and or shipment which results in delay or additional expense to Seller, all costs incurred shall be for the account of Purchaser, including storage charges. In the event of a suspension of fabrication and or delivery, and the delivery date shall be equitably adjusted.

5 The terms, method of shipment of Seller's goods shall be at Purchaser's election, per the quotation. Freight charges will be supported by actual shipping documents. An administrative fee of 3% of the freight charge, not to exceed $200, will be added to prepaid freight shipments.

6 Shipment and delivery dates are estimates only.

7 In the event Seller's performance is delayed by strikes, accidents, duties, fires, acts, acts or omissions of any of the elements, losses of or damage to merchandise in transit, embargoes, postponements or suspension in sailing of vessels, freight cars or truck shortages, Acts of God or public enemies or secret agents, war, riots, civil commotion, terrorist activity, insurrection, malicious damage, requisition or destruction of or damage to goods or merchandise by order of public authority, acts of civil or military authorities, quarantine restrictions, delay or failure in any type of transportation, shortage of transportation or fuel or power or labor or materials, or to any circumstance or incident beyond the control of Seller or its suppliers, Seller agrees to resume performance as soon as practicable after the termination of the delay causing contingency, which shall be Seller's sole liability for delay and the time for performance shall be extended by the length of the period of delay, including resumption of normal production time. Should Seller be so delayed, Seller shall notify Purchaser within seven (7) working days of the commencement of the delay.

8 All sales and or purchase prices assume continuous use and or free ingress and egress to and from Purchaser's site by Seller's crew, all-weather roads without additional costs to Seller, including permit or work fees.

9 Seller warrants new products of its manufacture to be free from defective workmanship and material for a period of 12 months from date of equipment startup or 18 months from date of Seller's transmittal of notice of readiness for shipment to Purchaser, whichever period expires first, provided Purchaser subjects the equipment only to the operating conditions specified by Purchaser when the order is placed and in accordance with Seller's written operating instructions, if any. Seller does not warrant components manufactured by others but shall exert good faith effort to assign such component manufacturers' guarantees to Purchaser.

In the event of a breach of this warranty, Seller shall at its option repair the defective part or furnish a replacement part, either to be f.o.b. Seller's fabrication plant.

Equipment Performance Guarantees, if any, are limited to those specifically described in the quotation.

Seller makes no warranty with respect to service work or to parts requiring replacement due to wear and tear or to used equipment or to painting, coating, lining. Except for the warranty expressly stated above, there are no other warranties and none shall be implied by law, including those of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE.

10 To the extent of Seller's sole or contributory or comparative negligence, Seller indemnifies and will hold Purchaser harmless from any liability to third parties for bodily injury or property damage which arise out of and during Seller's performance under the contract. Seller's liability for damages to Purchaser's tangible property shall be limited to repair or replacement of the damaged part or parts of the goods furnished under the contract. In no event shall Seller be liable to Purchaser for delays, curtailment of plant operations, process failure, pollution, loss of profits, costs for removing any parts or equipment to be repaired or replaced, transportation and installation charges in connection with the repair, replacement or servicing of any parts or equipment. Nor shall Seller be liable for any special, indirect or consequential damages of any nature arising due to any cause whatsoever, whether arising in contract, tort, warranty, strict liability, or any other legal theory. Any drawings or general information furnished by Seller, Purchaser's installation or erection of goods sold are furnished for Purchaser's convenience only, are not warranted by Seller, and Seller shall not be liable whatsoever arising therefrom.

Purchaser agrees to hold Seller harmless from claims and liabilities regarding patent or regardless of source.

Seller shall provide the following forms of insurance:

(1) Workmen's Compensation insurance including Employer's Liability insurance in accordance with the laws of the state in which Seller may be required to pay compensation.

(2) Public Liability Insurance with an individual limit of not less than $100,000 and a total for any one accident of not less than $300,000.

11 Unless otherwise specifically stipulated elsewhere in the Contract Documents, the Seller shall pay all royalties and license fees and assume all costs and expenses incident to the use of any invention, composition, process, device, article, appliance or design which is the subject of patent rights, copyrights or other legal rights of ownership held by others, as are applicable to the goods manufactured by Seller and furnished hereunder. The Seller shall indemnify and hold harmless the Purchaser and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses, including attorney's fees, arising out of any infringement of such rights during or after completion of the work and shall defend such claims in connection with any alleged infringement of such rights. The Seller must be notified promptly in writing and given authority, information and assistance (at the Seller's expense) for the defense of same, and the Seller shall pay all damages and costs awarded therein against the Purchaser not exceeding the price paid or due to the Seller for the equipment held to infringe. The Seller shall have no liability for claims of infringement by its equipment in the form in which supplied, if used for purposes other than those designed by the Seller, or if claims of infringement arise out of the use of Seller's equipment in conjunction with other equipment not supplied by Seller. Unless the use of an infringing item or parts enjoined, the Seller shall at its own expense and at the option of the Seller, either procure for the Purchaser the right to continue using said item or part, or replace same with non-infringing items, or modify it so that it becomes non-infringing, or remove said items and refund the purchase price thereof. These provisions shall not apply to any item or any part thereof, manufactured to Purchaser's design, and with respect to such items or any part thereof, the Seller assumes no liability whatsoever for patent infringement, and Purchaser agrees to indemnify Seller thereon, nor for patent infringement by equipment not manufactured by Seller, although furnished hereunder. The foregoing constitutes the Seller's entire warranty and liability for patent infringement.

12 Seller reserves the right to cancel shipment at any time prior to delivery of products without further obligation or liability on Seller's part if Purchaser's credit or financial condition is unsatisfactory to Seller.

13 Terms are net 30 days from date of invoice.

Seller shall issue an invoice at time of notification of readiness for shipment, even though Purchaser requests that shipment be delayed.

14 Interest will be charged on past due accounts at the maximum lawful rate.

NATCO

Electra

FABRICATION OR_R

MNFG. CODE	(1) 2 3
BRANCH	~~Hobbs~~
BRANCH CODE	7314
NO.	1E767
REV	1
QUOTE NO.	73142318 (82) R
QUOTE DATE	7-21-82
CUSTOMER P.O. NO.	
ORDERED BY	Bill Withrow
ORDER TAKEN BY	Bill Bell
DATE ORDER REC'D.	7-23-82
SHIP TO	B & E Inc. Carlsbad, N. M. Call and route thru Hobbs Branch
SOLD TO	B & E Inc. P. O. Box 2297 Hobbs, N. M. 88240 10,000 BBD Inlet Flow Rate
ORDER MANAGER	Roof
DWG. APPR.	Y (N)
OFFSHORE	Y (N)
NATCO CUSTOMER CODE	957662
Notes	Rev. To Chg Heading, I.D. Description & Sales Code, Fab's 01, 03 & 04, Chg Fab's 01 & 05, Mfg Loc [illegible] of liquid [illegible] Chg Fob Point
ORDER COORDINATOR	Skinner
LEASE	Laguana Tres Site
COUNTY	
FIELD & STATE	
SHIP FROM	Electra
FILE	A-~~[illegible]~~ 816
INVOICE NO	142173
DATE REQ'D	9-13-82
DATE SHIPPED	8-26-82
FREIGHT TERMS	PREPAID XX COLLECT
FOB POINT	Electra Loaded
SHIP VIA	B/W

QTY. ORD.	QTY. SHP.	QTY. B/O	PRODUCT ID	DESCRIPTION: WELDED TANKS	SALES CODE	FAB NO.	FAB. PRICE	MFG LOC	LOC REQ	DWG REQ	SCH. SHIPPING
1			1001524343 ~~201118244340~~	15'6" x 24'0" 750 BBL 1/4 x 3/16 x 1/4 Type "A" Cone Bottom API-12D ~~Shop~~ Field Welded Storage Tank per Dwg. A-76114 Skim Tank S/N 1E76701-01	1063 ~~1061~~	01	23111 ~~18334~~	E	E	8-9-82	9-13-82
1			2040002116433	21'6" x 16'0" 1000 BBL 1/4 x 3/16 x 3/16 Type "A" Cone Bottom API-12D Field Welded Tank per Dwg. A-76112 Surge Tank S/N 1E76702-01	1063	02	28780	E	E	8-9-82	9-13-82
1			1001503921 ~~201015004340~~	15'6" x 8'0" 1/4 x 3/16 x 1/4 API-12F Flat Bottom Oil Holding Tank per Dwg. A-76115 Oil Storage Tank S/N 1E76703-01 (Field Welded)	1063 ~~1061~~	03	4542	E	E	8-9-82	9-13-82
1			[illegible] ~~201015004340~~	15'6" x 8' 1/4 x 3/16 x 1/4 API-12F Flat Bottom Water/Solids Holding Tank per Dwg. A-76193 Rev 1 S/N 1E76704-01 (Field Welded)	1063 ~~1061~~	04	4700	E	E	8-9-82	9-13-82

BRANCH REF. NO	SPECIAL REVIEW	PROGRESS PAYMENT	PENALTY CLAUSE	CUSTOMER INSPECTION	PAGE	OF R DATE	NO FABS	NO.	REV.
7314-1606					PAGE 1 OF 2 PAGE	8-9-82	4	1E767	1

NTC [illegible]

JUL 29 Inc.

8-11-82

AUG 16 1982

CE NATCO

FABRICATION ORDER CONT'D.

DISTR. CODE	SOLD TO	BRANCH	BRANCH CODE	NO.	REV.
(1) 2 3		Hobbs	7314	1E767	1

QTY. ORD.	QTY. SHP.	QTY. B/O	PRODUCT ID	DESCRIPTION	SALES CODE	FAB. NO.	FAB. PRICE	MFG LOC	LOC REQ	DWG. REQ.	SCH. SHIPPING
1			204005408430	54'-11-3/4" x 8'-1/4" bottom 3/16" side open (3'-3 3/4 ELT)	1063	05	[illegible]	E	E	8-9-82	9-13-82
				top field welded tank S/N 1E767DF-01							
				AERATING TANK							
				COAT: CE NATCO STD							
				DESIGN INLET FLOW = 10,000 BPD							
				~~WATER~~ WATER							

BRANCH REF. NO.	SPECIAL REVIEW	PROGRESS PAYMENT	PENALTY CLAUSE	CUSTOMER INSPECTION	PAGE 2 OF 2 PAGE	ORDER DATE	NO. FAB.	NO.	REV.
						8-9-82		1E767	1

8-10-82

NTC [illegible]

NATCO

C E Natco
Combustion Engineering, Inc
Post Office Box 1710
Tulsa, Oklahoma 74101

Please Direct Inquiries Regarding this Invoice to

INVOIC

ORDER NO	ORDERED BY	DATE ORDERED	BRANCH	INVOICE NO
NOR	Phil Withrow	07/23/82	HOBBS, NM	142173
QUOTE NO	QUOTE DATE	QUOTE MADE BY	LEASE	INVOICE DATE
7314-2318 R.2	Sept. 16, 82	Fred Skinner	Salt Water Disposal	10-25-82
SHIP TO			FIELD AND STATE: Carlsbad, New Mexico	DATE SHIPPED: 08/03, 08/05/82, & 8/25
			COUNTY	FOB POINT: Electra, Tx.
			SHIPPED VIA	FREIGHT TERMS: [ ]PREPAID [ ]COLLEC
			SHIPPED FROM: Electra, Tx.	

SOLD TO
B & E Incorporated
P.O. Box 2297
Hobbs, New Mexico 88240

NATCO-CUST. CODE

FEDERAL I.D. NO. 13-1587569

TERMS. NET 30 DAYS FROM DATE OF INVOICE PAST DUE ACCOUNTS SUBJECT TO MAXIMUM LAWFUL RATE

QUANT.	STOCK NO.	DESCRIPTION	AMOUNT
1	TE76700 1063	New CE Natco Field Welded Skim Tank (15'6" x 24') 750 Barrel with 1/4" Type A Cone Bottom and 3/16" Shell and 1/4" 1:12 Sloping Cone Deck as per our quotation 7314-2318 Rev. 1.	
		SERIAL NUMBER: 1E76701-01	
		NET PRICE, F.O.B. LOCATION @ $26,685.00/NET	26,685.00
1		New CE Natco 1,000 Barrel Field Welded Skim Tank (21'6" x 16') with 1/4" Type A Cone Bottom, and 3/16" Shell and 3/16" 1:12 Sloping Cone Deck as per our quotation 7314-2318 Rev. 2.	
		SERIAL NUMBER: 1E76702-01	
		NET PRICE, F.O.B. LOCATION @ $32,165.00/NET	32,165.00
2		New CE Natco 250 Barrel Shop Welded Storage Tanks. One an Oil Tank (15'6" x 8') and One an Solid Sludge Tank (15'6" x 8') with 1/4" Flat Bottoms, 3/16" Shell and 1/4" 1"12 Sloping Cone Deck as per our quotation 7314-2318 Rev. 2.	
		SERIAL NUMBERS: 1E76703-01 & 1E76704-01	
		NET PRICE, F.O.B. POINT OF MANUFACTOR	
		FOR OIL TANK @ $ 4,542.00/NET	4,542.00
		FOR SOLID SLUDGE TANK @ $ 5,347.00/NET	5,347.00
1		New CE Natco 3,333 Barrel Field Welded Storage Tank (54' 11-3/4" x 8') with 1/4" Bottom, 3/16" sides and open top as our quotation 7314-2318 Rev. 2.	

SO NO	PAGE	PAGES	RECEIVED BY
1E767	1 of 2	DC	

(FOR PAYMENT OF INVOICES ONLY)
PLEASE REMIT TO NEAREST LOCK BOX:

C-E NATCO
P.O. BOX 910071
DALLAS, TEXAS 75391

C-E NATCO
SECURITY PACIFIC NATIONAL BANK
DEPARTMENT 1074
SCF PASADENA, CALIFORNIA 91050

NTC 210

C E Natco

NATCO

INVOICE
CONTINUATION SHEET

CUSTOMER	CUSTOMER ORDER NO.	INVOICE NO.
B & E Incorporated	NOR	142173

QUANT.	STOCK NO.	DESCRIPTION	AMOUNT
		SERIAL NUMBER: 1E76705-01	
		NET PRICE, F.O.B. LOCATION @ $29,985.00/NET	29,985.00
			98,724.00
	3020	4% New Mexico State & Local Sales Tax $98,724.00	3,948.96
			$102,672.96

OCT 2 5 1982

1E767

PAGE 2 OF 12 PAGES DC

RECEIVED BY

(FOR PAYMENT OF INVOICES ONLY)
PLEASE REMIT TO NEAREST LOCK BOX:

C E NATCO
P. O. BOX 6778
CHURCH ST STATION
NEW YORK, NY 10249

C E NATCO
P. O. BOX 87679
CHICAGO, IL 60675

C E NATCO
P. O. BOX 200078
HOUSTON, TX 77216

C E NATCO
SECURITY PACIFIC NATIONAL BANK
DEPT. 1078
SCF PASADENA, CALIF. 91050

NTC 210A 8

cc → B.11 Olson OCC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1445 ROSS AVENUE
DALLAS, TEXAS 75202

Edly Comm'l

JAN 14 1992

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P773 284 435)

Ms. Valerie Lemon-Pierce
Assistant General Manager
B & E, Inc.
P.O. Box 756
Carlsbad, New Mexico 88220

Re: Order for Information Docket No. VI-92-1122
Facility No. NMU000006

Dear Ms. Lemon-Pierce:

Pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1251 et seq., the Environmental Protection Agency (EPA) has the authority to obtain information pertinent to carrying out its responsibilities under the CWA. Accordingly, the enclosed Order for Information is hereby served on you and B & E, Inc.

Compliance with the provisions of this Order is expected within the maximum time periods established by each part of the Order. Your cooperation and prompt attention will be appreciated. In response hereto, please reference Docket No. VI-92-1122 and your Facility number and send correspondence to the attention of Ms. Dianne Ratkey (6W-ET). Failure to submit the information required by the Order could result in the issuance of an EPA administrative penalty order or referral to the United States Department of Justice for judicial action with monetary fines.

It is the policy of EPA to achieve full compliance with the NPDES permit program as rapidly as possible. This office is prepared to help you in any way it can. If you have any questions, please contact Ms. Dianne Ratkey, EPA, Dallas, Texas at (214) 655-6470.

Sincerely yours,

/s/ Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

Enclosure

cc: Mr. Jim Piatt, Acting Chief
Surface Water Bureau
New Mexico Environment Department

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF B & E, INC. PROCEEDINGS UNDER SECTION 308(a)(2) and (4)(A), CLEAN WATER ACT, [33 U.S.C. § 1318(a)(2) and (4)(A)] In Re: FACILITY NO. NMU000006	§	DOCKET NO. VI-92-1122 ORDER FOR INFORMATION

The following FINDINGS are made and Order issued pursuant to the authority vested in the Administrator of the Environmental Protection Agency (EPA) by the above referenced statute (hereinafter the Act) and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6.

OGRID 44271

I.

B & E, Inc., (hereinafter referred to as the "Respondent") is doing business in the State of New Mexico, the mailing address for which is P.O. Box 756, Carlsbad, New Mexico 88220.

II.

Section 308(a) of the Act, 33 U.S.C. § 1318(a) provides that:

> Whenever required to carry out the objective of this Act, including but not limited to ... determining whether any person is in violation of any ... limitation, prohibition ... or standard of performance ... the Administrator shall require the owner or operator of any point source to ... provide such other information as he may reasonably require ....

III.

FINDINGS OF FACT

On March 27, 1991, the NPDES General Permit (NMG320000) for the Oil and Gas Extraction Point Source Category, Onshore Subcategory was final and became effective. This permit prohibits the discharge of pollutants from any oil and gas wells and facilities subject to the Onshore Subcategory of the Oil and Gas Extraction Point Source Category into waters of the United States. It does not apply to existing wells which, at the time of permit issuance, fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F, but onshore wells in which production later fell to ten (10) or less barrels of oil per day are subject to the permit.

This permit prohibits the discharge of any pollutants from wells or facilities subject to its terms. Said pollutants include, but are not limited to:

Drilling Fluids
Drill Cuttings
Produced Water
Produced Sands
Deck and Rig Floor Drainage
Blowout Preventer Fluid
Well Treatment Fluids

On July 8-9, 1991, EPA personnel, accompanied by personnel from the United States Fish and Wildlife Service, Bureau of Land Management and the New Mexico Environment Department, conducted a site visit at the Respondent's facility. Discharges of pollutants from the facility into Laguna Quatro, from which said pollutants flow through culverts to Laguna Tres, were noted and documented. Based on information received by EPA, such discharges are continuing. Produced water discharged by the Respondent may be derived from facilities in both the Onshore and Stripper Subcategories of the Oil and Gas Extraction

Point Source Categories. Laguna Tres and Laguna Quatro are playa lakes located in Eddy County, New Mexico. Historically, the playas have provided significant nesting, roosting, feeding and loafing areas for migratory shorebirds and migratory wading birds and hunting areas for migratory raptors. They have also served as receiving waters for discharges from industrial concerns, including the Respondent and Unichem, Inc. Due to such uses, the degradation or destruction of Laguna Tres and/or Laguna Quatro could affect interstate commerce and they are thus "waters of the United States" as defined in 40 CFR Part 122.2.

ORDER

Based on the foregoing FINDINGS OF FACT and pursuant to the authority vested in the Administrator under Section 308(a)(4)(A) of the Act, 33 U.S.C. § 1318 (a)(4)(A), and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6, it is ordered:

A. That the Respondent, within thirty (30) days of the effective date of Order, shall submit the following information pertaining to any discharge since March 1991:

1) The date on which each discharge occurred, or if specific dates are not available, the frequency of the discharge;

2) The source of or the specific operation with which the discharge is associated;

3) The specific pollutants present in each discharge;

4) The quantity of each discharge;

B. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator(s) and location of each well which has provided any fluids discharged by the Respondent since March 1991.

C. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator and location of each well identified in (B) above which fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F; that is, each oil well producing 10 or less barrels of oil per day and which is operating at the maximum feasible production rate and in accordance with recognized conservation practices. The information required by this section (c) shall be submitted for those wells which fell within the Stripper Subcategory prior to March 27, 1991.

D. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit copies of any state and/or federal permit issued to the Respondent.

This information should be addressed to the Water Management Division, Enforcement Branch (6W-E), Attn: Ms. Dianne Ratkey (6W-ET), EPA, 1445 Ross Avenue, Dallas, Texas 75202-2733. It will be considered in any further evaluation of the nature and extent of the Respondent's noncompliance with the Clean Water Act. Section 309 of the Act, as amended by the Water Quality Act of 1987, provides civil and criminal penalties for failure to submit information required under Section 308 and criminal penalties for knowingly making a false statement under Section 308.

The effective date of this Order shall be the date it is received by the Respondent.

DATED: This JAN 14 1992 day of _____, 1992.

Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

COMPARISON OF SAMPLE ANALYSES AND REGULATORY MAXIMUM LEVELS
(All levels given in parts per billion [ppb])

CONTAMINANT	EPA SDWA MAXIMUM LEVEL	NM WQCC GW MAXIMUM LEVEL	LAGUNA QUATRO (8901131220) & [89033014401	B&E FINAL EFFLUENT (8901131205) & [89033013551
INORGANICS				
ALUMINUM	50-200	5000	<1000	<1000
ARSENIC	50	100	<500	<500-2400
BARIUM	2,000	1000	<1000	600-6500
BERYLLIUM	1	NA	<1000	<1000
BORON		750	10,000	8200-34000
CADMIUM	5	10	<1000	<50
CHROMIUM	100	50	<1000	<50
COBALT		50	<500	<500
COPPER	1,300	1000	<1000	<1000
IRON		1000	<1000	5,000-210,000
LEAD	50	50	<1000	<500
MANGANESE	50	200	870	2,500-5,200
MERCURY	2	2	<0.5	<0.5-6
MOLYBDENUM		1000	<1000	<1000
NICKEL	100	200	<1000	<1000
SILVER	100	50	<1000	<1000
ZINC	500	10000	<1000 & [<1000]	<1000
TOTAL DISSOLVED SOLIDS	500 PPM	1000 PPM	285,400	170,616-200,000
ORGANICS				
AROMATIC PURGEABLES				
BENZENE	5	10	<5	520 & [380]
TOLUENE	1,000	750	<5	750 & [580]
ETHYLBENZENE	700	750	<5	<100 & [<50]
TOTAL XYLENE	10,000	620	<5	500 & [390]
HALOGENATED PURGEABLES			<100 & [<5]	<100
RADIONUCLIDES				
G-ALPHA	15 pCi/L	NA	200-300 pCi/L	[600-800 pCi/L]
G-BETA	4 MR/YR	NA	1700-2000 pCi/L	[1600-1800 pCi/L]
RA-226 & 228	40 pCi/L	30 pCi/L	111 pCi/L	[920 pCi/L]
U-238 &234			112 pCi/L	[20 pCi/L]
URANIUM	20 PROPOSED	5000		

C.H. GUERNSEY & COMPANY
Engineers • Architects • Consultants

December 23, 1991

Jenaie Franke
Permits Issuance Section (6W-PS)
U.S. Environmental Protection Agency
Interstate Bank Tower
1445 Ross Avenue
Dallas, Texas 75202-2733

RE: NPDES Permit Application

Gentlemen:

Enclosed is one (1) copy each of Application Form 1 - General Information and Application Form 2D - New Sources and New Dischargers: Application for permit to Discharge Process Wastewater.

If you have any questions or comments, please do not hesitate to contact me.

Yours truly,

C.H. GUERNSEY & COMPANY

Michael Hirst

Michael Hirst, MS
Manager, Environmental Operations

MH:lmc
Enclosure

RECEIVED
DEC 26 1991
6W-PS

3555 N.W. 58th St.
Oklahoma City, OK 73112
405-947-5515
Fax 405-947-5542

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
1703 (064)

JAN 23 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 713

B & E Inc.
Attention: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

This letter is in reference to trespass case N-77922. The case was initiated on August 14, 1989, and covers:

1) construction and use of oil residue pits on public land without authorization and;

2) disposal of produced waters affecting public lands without authorization.

These actions committed by B & E, Inc. are violations of the Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2763; 43 U.S.C. 1733 and regulations found in 43 CFR 2801.3).

I want to thank you for your patience and cooperation in our effort to resolve this case. Our efforts to explore disposal and remediation options have not been successful. The Bureau of Land Management (BLM) must proceed with settlement of the trespass case. Final resolution requires the following actions:

1. removal and remediation of trespass pits;

2. investigation and remediation of affected public lands in Laguna Quatro.

TRESPASS PIT RESOLUTION

The trespass pit resolution requires three action plans and associated actions. These plans and actions are:

1. Trespass Pit Removal Action Plan for the removal of materials - the removal action plan is due March 1, 1992.

2. Trespass Pit Soil Sampling Plan for sampling of soils after removal actions are completed - the soil sampling plan is due within thirty days of completion of the removal action.

3. Trespass Pit Remedial Action Plan for remediation of the pits - the remedial action plan is due within thirty days of acceptance of the soil sampling results.

A Health and Safety Plan covering actions is required for removal and disposal of all materials in the trespass pits, sampling, and remedial actions.

Specific guidance for each action plan under Trespass Pit Resolution is described below. The BLM must approve each action plan before work begins for that plan.

1. TRESPASS PIT REMOVAL ACTION PLAN

By March 1, 1992, submit a removal action plan for the trespass pits. The following items are required in the removal action plan:

A. Removal plan for all liquids, solids, and stained soil in the trespass pits.

B. Disposal plan stating method and location for disposal of materials. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

2. TRESPASS PIT SOIL SAMPLING PLAN

Within 30 days of completion of the above removal action, submit a soil sampling plan for the trespass pits area. Sampling is required to ensure all contaminants have been removed from the trespass pits. The sampling plan shall also provide the data required for risk assessment analysis. The following items are required in the soil sampling plan:

A. The location, number, type, and depth of each sample. The minimum sample data required includes one background soil sample and four soil samples per pit.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

D. Vertical and horizontal contamination data is required. These data provide volume of additional material for removal and verifies that no release to groundwater has occurred.

3. REMEDIAL ACTION PLAN

Within 30 days of acceptance of the soil sampling results for the trespass pits, submit a remedial action plan. The following items are required in the remedial action plan:

A. Risk assessment analysis based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). This item is required only if contaminants are found after the initial removal action is completed.

B. Pit remedial action plan based on the risk assessment analysis. Minimum requirements for remediation include filling pits with compacted soil or caliche, six inches of cover material, and restoration of vegetation.

LAGUNA QUATRO TRESPASS RESOLUTION

The temporary continuance for discharge of water is hereby rescinded. A copy of the BLM letter dated August 15, 1989, (Enclosure 4) allowing temporary continuance is enclosed. Discharge from your facility affecting public lands at Laguna Quatro shall cease immediately.

Resolution of this trespass requires two actions. These actions are:

1. Laguna Quatro Sampling Plan for water and sediment sampling. The sampling plan is due March 1, 1992.

2. Laguna Quatro Removal and Remediation Action Plan for removal/remediation of trespass. The removal/remediation action plan is due within thirty days of acceptance of the sampling results.

A Health and Safety Plan for all actions is required. This plan shall cover all actions required for investigation, sampling, disposal, and remedial actions.

Specific guidance for the Laguna Quatro Trespass Resolution actions are described below. The BLM must approve each action plan before work begins for that plan.

1. LAGUNA QUATRO SAMPLING PLAN

By March 1, 1992, submit a sampling plan for the BLM managed sections of Laguna Quatro that have been affected by discharge from your facility. Both water and sediment samples are required.

A. The number of samples, location, and depth shall delineate the area of contamination and characterize the type of waste affecting public land. The sampling plan also provides the data required for risk assessment analysis.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

2. LAGUNA QUATRO REMOVAL AND REMEDIAL ACTION PLAN

Within thirty days of acceptance of the Laguna Quatro sampling results, submit a removal and remedial action plan.

A. The removal/remedial action required for the affected public lands at Laguna Quatro shall be based on a risk assessment analysis. The risk assessment analysis is based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). Specific requirements shall be written after the BLM approves the Laguna Quatro sample results.

B. A disposal plan stating method and location for disposal of materials is required. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

Enforcement authority for these required actions is described in 43 U.S.C. 1733. The removal action plan for the trespass pits is due no later than March 1, 1992. The due date for the Laguna Quatro water and sediment sampling plan is also March 1, 1992. Subsequent action plan due dates shall be established individually (see Enclosure 3).

I appreciate your patience and cooperation in this matter. If you have any questions, please contact the District Office at (505) 622-9042.

Sincerely,

Tony L. Ferguson

Tony Ferguson
Associate District Manager

4 Enclosures:
1 - Laboratory Plan (3 pp.)
2 - Risk Assessment Calculation (2 pp.)
3 - Schedule of Action Plan Due Dates (1 p.)
4 - Letter dated 8/15/89 (2 pp.)

Enclosure 1

Components of an Adequate Laboratory Quality Assurance/Quality Control Plan

New Mexico Hazardous and Radioactive Materials Bureau
Technical Support Group
(505) 827 4300

1. All constituents identified above the MDL must be reported.

   The Method Detection Limit is defined as the estimated concentration at which the signal generated by a known constituent is three standard deviations above the signal generated by a blank, and represents the 99% confidence level that the constituent does exist in the sample.

2. The "tune" of the GC/MS for volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by purging 50 ng of a 4-bromofluorobenzene (BFB) standard. The resultant mass spectra must meet the criteria given in Table 1 before sample analysis proceeds.

3. The "tune" of the GC/MS for semi-volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by injecting 50 ng of a Decafluorotriphonylphosphine (DFTPP) standard. The resultant mass spectra must meet the criteria given in Table 2 before analysis proceeds.

4. For every 20 samples perform and report:

   A. Duplicate spike for organics.

   B. Duplicate sample analysis for inorganics.

   C. Reagent blank, results provided for organic work.

   D. Surrogate and spike recoveries. See item 10.

   E. One check sample at or near the Practical Quantitation Limit for a subset of the parameters.

5. Analytical results must not be "blank corrected."

6. Any deviation from EPA-approved methodology must have a Written Standard Operating Procedure and NMED approval.

7. Detection limits must be generally in line with those listed in Appendix IX to §264.

8. The laboratory must document:

   A. That all samples were extracted, distilled, digested, or prepared (if appropriate) and analyzed within specified holding times.

   B. That if a sample for volatile analysis is received with headspace, this is reported.

   C. The date of sample receipt, extraction and analysis for each sample.

   D. Any problems or anomalies with the analysis should be documented.

   E. That all solids were analyzed dry and that the reported results are corrected to reflect a dry weight basis.

9. The name and signature of the lab manager must appear on each report.

10. The reported surrogate and spike recoveries must fall within: 1. the historical (statistically based) acceptance limits, generated at the laboratory or 2. the limits tabulated by the appropriate method from the current edition of SW-846, whichever limit is narrower. The actual historical recoveries must be submitted to HRMB with the analysis.

TABLE 1

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
50	15.0 - 40.0 percent of the base peak
75	30.0 - 60.0 percent of the base peak
95	base peak, 100 percent relative abundance
96	5.0 - 9.0 percent of the base peak
173	less than 2.0 percent of mass 174
174	greater than 50.0 percent of the base peak
175	5.0 - 9.0 percent of mass 174
176	greater than 95.0 percent but less than 101.0 percent of mass 174
177	5.0 - 9.0 percent of mass 176

TABLE 2

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
51	30.0 - 60.0 percent of mass 198
68	less than 2.0 percent of mass 69
70	less than 2.0 percent of mass 69
127	40.0 - 60.0 percent of mass 198
197	less than 1.0 percent of mass 198
198	base peak, 100 percent relative abundance
199	5.0 - 9.0 percent of mass 198
275	10.0 - 30.0 percent of mass 198
365	greater than 1.00 percent of mass 198
441	present but less than mass 443
442	greater than 40.0 percent of mass 198
443	17.0 - 23.0 percent of mass 442

Enclosure 2

Risk Assessment Calculations for Carcinogens and Noncarcinogens

Following are the two types of calculations for acceptable residual soil contaminants based on risk assessment calculations. These calculations assume a daily exposure duration of 8 hours/day, 40 hrs/week. The resulting figure for acceptable contamination (C), should be modified to reflect a larger value for C if the daily or weekly exposure is less, and a smaller value for C if the soil ingested is greater than the assumption due to local conditions. The first two equations below are suitable for situations involving only one contaminant, the second two are for multiple contaminant scenarios.

For single, noncarcinogenic contaminants

Where C, the acceptable residual soil concentration, C will be equal to the RfD* divided by the amount of soil ingested daily per kilogram of body weight (the standard RCRA model for noncarcinogenic contaminant exposure is a 10 kg child ingesting 200 mg soil/day) = 20 mg/kg weight per day:

$$C = \frac{RfD\left(\frac{\text{mg constituent}}{\text{kg*day}}\right)}{20\ \frac{\text{mg soil}}{\text{kg*day}}}$$

RfD is the reference dose. RCRA clean closures require use of the assumption that intake is by direct soil ingestion, so you will want to use the oral intake RfD for noncarcinogens. The Integrated Risk Information System (IRIS) will supply this data [(513 569-7254].

For single, carcinogenic contaminants

Where C is the acceptable residual contamination, R is the acceptable risk and is generally set at $1x10^{-6}$, SF is the carcinogenic slope factor. IRIS data includes this value in the carcinogen, oral intake data section. DI is the average daily soil ingestion. This calculation assumes a 70 kg adult consuming 100 mg of soil daily, so the DI is 100 mg/70 kg = 1.42 mg soil/kg weight per day.

$$C = \frac{R}{SF\ (\text{day/mg*kg}) \times 1.42\ \text{mg/(kg*day)}}$$

If the total constituent concentration of any chemical in the residual soil is above the limit calculated, the contaminated media must be removed to a permitted hazardous waste treatment, disposal or storage facility. Site specific factors may allow an adustment of the assumptions used in the above calculations.

For situations involving multiple contaminants, the risk from each is summed and the total risk from residual contaminants must be acceptable.

For multiple, carcinogenic contaminants

R = Risk and is set at 1 X 10^{-6} incidences of cancer (one incidence in population of one million). CDI = chronic daily intake of the carcinogen n of contaminated soil. CDI is equal to the daily soil intake times t concentration of the individual contaminant. SF is the slope factor (same in the previous example).

$$R = 1 \times 10^{-(CDI \times SF)}$$

Total R will equal the calculated R from carcinogen 1 + R from carcinogen 2 etc. Cleanup levels will be considered adequate with respect to th carcinogens when R_{tot} is less than 1×10^{-6}.

For multiple, noncarcinogenic contaminants

CDI is as immediately above, RfD is as in the first example, above. Calculat the total Chronic Hazard Index as follows:

$$\text{Total hazard index} = CDI_1 \times RfD_1 + CDI_2 \times RfD_2 + \text{etc.}$$

The total hazard index must be less than 1, i.e., 0.99 or less.

All analytical data must be submitted to the New Mexico Environment Departmen (NMED) and must be accompanied by complete QA/QC data documenting that th laboratory has followed appropriate EPA SW-846, chapter one QA/QC procedures and SW-846 analytical methods.

Ref: Risk Assessment Guidance for Superfund, Volume 1, Human Healt Evaluation Manual, Part A

ENCLOSURE 3

Schedule of Action Plan Due Dates

I. Trespass Pit Resolution

A. Removal Action Plan - due March 1, 1992

B. Soil Sampling Plan - due within thirty days of completion of removal action.

C. Remedial Action Plan - due within thirty days of acceptance of soil sampling results.

II. Laguna Quatro Resolution

A. Water and Sediment Sampling Plan - due March 1, 1992

B. Removal/Remedial Action Plan - due within thirty days of acceptance of sampling results.

Enclosure

1703 (064)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 165 405 963

AUG 15 1989

B & E, Inc.
South Y
P.O. Box 756
Carlsbad, N.M. 88220

Dear Mr. Withrow:

Your submittals titled "Hydrologic Assessment-May 1982", "Reassessment of Hydrologic Conditions-January 1986", and the "Brine Lake Sampling Report-August 1989" have been received by this office and are presently under review. The Bureau of Land Management, upon completion of its review, will make a determination whether or not your discharge into Laguna Quatro may continue.

In the interim, you are hereby granted temporary continuance of your discharge of water with the following requirements:

1. B & E, Inc will strictly adhere to all provisions outlined in OCD Order No. R-7031-A titled "Application of B & E, Inc. for an Amendment to Division Order No. R-7031, Eddy County, New Mexico".

2. Further, that B & E will immediately notify the Bureau of Land Management, Carlsbad Resource Area Office, Carlsbad, NM of any violation regarding the above mentioned order and of any discharges other than water onto federal lands, no matter how slight.

3. B & E, Inc will not request further amendments to OCD Order No. R-7031 or Order No. R-7031-A which would increase the presently permitted effluent discharge into Laguna Quatro or any other federally managed lands impacted by your facility.

Please be advised that further requirements may be imposed if the BLM determines that conditions require additional limitations due to B & E's impact upon federal lands. Failure to adhere to the above, and future requirements if imposed, will negate this permission given to B & E, Inc. to temporarily discharge water upon federal lands.

I wish to thank you for the cooperation and assistance you have given my staff thus far. If you have any questions regarding this matter please do not hesitate to contact either Mr. Fred H. Lockley at (505) 622-9042, BLM Roswell District Office or Mr. Alan Kraus at (505) 887-6544, BLM Carlsbad Resource Area Office.

Sincerely,

Orig. Sgd. Francis R. Cherry, Jr.

Francis R. Cherry, Jr.
District Manager

cc:
NM (931)
NM (067)
NM (064, F. Lockley)

4-2

Albuquerque Journal

BLM Protects Salt Lake Near Carlsbad

CARLSBAD — The U.S. Bureau of Land Management has ordered a Carlsbad company to stop discharging waste water into a salt lake near here.

Federal officials have said the decision could set a precedent for how people treat 25,000 similar lakes, known as playas, in five states.

Officials said B & E Inc. took salty waste water from drilling operations, skimmed off most of the oil and discharged the rest into the lake, which lies in an area frequented by different bird species, including some that are endangered.

"It's time to bring this to an end," Dick Manus, manager of the bureau's Carlsbad office, said Friday.

Manus said he didn't know how much, if any, the company's discharges affected the 230-acre lake. No studies were conducted, but federal officials were concerned about potential damage.

B & E, which had operated since 1982 at the site, had no comment Monday.

Playas are home to a tiny salt water shrimp eaten by shorebirds.

El Paso Times

Company ordered to stop dumping waste

CARLSBAD — The U.S. Bureau of Land Management has ordered a company to stop discharging waste water into a salt lake nea. Carlsbad. Officials said B & E Inc. took salty waste water from drilling operations, skimmed off most of the oil and discharged the rest into the lake, which lies in an area frequented by a variety of birds, including some species that are endangered. B & E, which had operated since 1982 at the site, had no comment Monday.

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Carlsbad firm accused of tainting falcon site

By Marilyn Haddrill
El Paso Times

CARLSBAD — A environmental group plans to sue a Carlsbad company over its discharges of polluted oil-well water near a salt lake where endangered falcons feed, a lawyer for the group said Friday.

David Horley, senior attorney for the Land and Water Fund of the Rockies based in Boulder, Colo., said legal notices announcing intentions to sue — on behalf of a Carlsbad environmental group — were sent in late December to B&E Inc. of Carlsbad and the U.S. Environmental Protection Agency in Dallas.

Both the private Carlsbad firm and federal agency were named as potential parties in the case.

Horley said in a telephone interview the oil-field service company might have placed several types of birds in jeopardy — including endangered peregrine

Please see Falcon / 2A

Falcon

Continued from 1A

and aplomado falcons - by dumping oil-contaminated waste water near a lake southeast of Carlsbad.

Valerie Lemon-Pierce, assistant general manager for B&E Inc., said the company complies with all environmental laws. She said B&E hauls waste water used at drilling rigs.

"We have done everything we were informed to do (by government agencies)," she said Friday.

Horley said his organization, which provides free legal assistance on environmental issues in the Rocky Mountains, is representing the Carlsbad Concerned Citizens for Responsible Land Management.

"What it does involve is our contention that the water that's been dumped into the lake has not been treated and various agencies have not been doing their job as far as protecting wildlife," said Steve West, a Carlsbad biologist and member of the Carlsbad group.

One bird taken off the lake — a black-necked stilt — had oil hydrocarbons in its body, U.S. Fish and Wildlife Service field supervisor Jennifer Fowler-Propst of Albuquerque said Friday.

She said hydrocarbons can kill wildlife or cause reproductive problems, but she said the full effect of the compounds is unknown.

She said it's not clear whether falcons living in the area eat enough contaminated waterfowl from the lake to be harmed.

Horley said the dumping site is on private property but the waste water seeps into a lake on Bureau of Land Management land.

The case will allege violations of federal clean water and endangered species laws, which require plaintiffs to give notice 60 days before filing a lawsuit.

Fowler-Propst said Fish and Wildlife has asked the EPA to step in and oversee the waste water discharge.

But Pat Rankin, assistant regional counsel for the EPA in Dallas, said the EPA has not yet decided whether it will get involved.

"There are a lot of issues involved in this," Rankin said.

He said the agency still must determine whether it has jurisdiction to regulate isolated salt lakes such as those found in arid southeastern New Mexico and West Texas.

"We are currently considering the situation and all our alternatives. That's all I can tell you," he said.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
1703 (064)

JAN 23 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 713

Received 1-27-92

B & E Inc.
Attention: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

This letter is in reference to trespass case N-77922. The case was initiated on August 14, 1989, and covers:

1) construction and use of oil residue pits on public land without authorization and;

2) disposal of produced waters affecting public lands without authorization.

These actions committed by B & E, Inc. are violations of the Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2763; 43 U.S.C. 1733 and regulations found in 43 CFR 2801.3).

I want to thank you for your patience and cooperation in our effort to resolve this case. Our efforts to explore disposal and remediation options have not been successful. The Bureau of Land Management (BLM) must proceed with settlement of the trespass case. Final resolution requires the following actions:

1. removal and remediation of trespass pits;

2. investigation and remediation of affected public lands in Laguna Quatro.

TRESPASS PIT RESOLUTION

The trespass pit resolution requires three action plans and associated actions. These plans and actions are:

1. Trespass Pit Removal Action Plan for the removal of materials - the removal action plan is due March 1, 1992.

2. Trespass Pit Soil Sampling Plan for sampling of soils after removal actions are completed - the soil sampling plan is due within thirty days of completion of the removal action.

3. Trespass Pit Remedial Action Plan for remediation of the pits - irty days of

Specific guidance for each action plan under Trespass Pit Resolution is described below. The BLM must approve each action plan before work begins for that plan.

1. TRESPASS PIT REMOVAL ACTION PLAN

By March 1, 1992, submit a removal action plan for the trespass pits. The following items are required in the removal action plan:

A. Removal plan for all liquids, solids, and stained soil in the trespass pits.

B. Disposal plan stating method and location for disposal of materials. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

2. TRESPASS PIT SOIL SAMPLING PLAN

Within 30 days of completion of the above removal action, submit a soil sampling plan for the trespass pits area. Sampling is required to ensure all contaminants have been removed from the trespass pits. The sampling plan shall also provide the data required for risk assessment analysis. The following items are required in the soil sampling plan:

A. The location, number, type, and depth of each sample. The minimum sample data required includes one background soil sample and four soil samples per pit.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

D. Vertical and horizontal contamination data is required. These data provide volume of additional material for removal and verifies that no release to groundwater has occurred.

3. REMEDIAL ACTION PLAN

Within 30 days of acceptance of the soil sampling results for the trespass pits, submit a remedial action plan. The following items are required in the remedial action plan:

A. [illegible] assessment analysis based on the New Mexico [illegible] Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). This item is required only if contaminants are found after the initial removal action is completed.

B. Pit remedial action plan based on the risk assessment analysis. Minimum requirements for remediation include filling pits with compacted soil or caliche, six inches of cover material, and restoration of vegetation.

LAGUNA QUATRO TRESPASS RESOLUTION

The temporary continuance for discharge of water is hereby rescinded. A copy of the BLM letter dated August 15, 1989, (Enclosure 4) allowing temporary continuance is enclosed. Discharge from your facility affecting public lands at Laguna Quatro shall cease immediately.

Resolution of this trespass requires two actions. These actions are:

1. Laguna Quatro Sampling Plan for water and sediment sampling. The sampling plan is due March 1, 1992.

2. Laguna Quatro Removal and Remediation Action Plan for removal/remediation of trespass. The removal/remediation action plan is due within thirty days of acceptance of the sampling results.

A Health and Safety Plan for all actions is required. This plan shall cover all actions required for investigation, sampling, disposal, and remedial actions.

Specific guidance for the Laguna Quatro Trespass Resolution actions are described below. The BLM must approve each action plan before work begins for that plan.

1. LAGUNA QUATRO SAMPLING PLAN

By March 1, 1992, submit a sampling plan for the BLM managed sections of Laguna Quatro that have been affected by discharge from your facility. Both water and sediment samples are required.

A. The number of samples, location, and depth shall delineate the area of contamination and characterize the type of waste affecting public land. The sampling plan also provides the data required for risk assessment analysis.

B. Analytical data should include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265 94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

2. LAGUNA QUATRO REMOVAL AND REMEDIAL ACTION PLAN

Within thirty days of acceptance of the Laguna Quatro sampling results, submit a removal and remedial action plan.

A. The removal/remedial action required for the affected public lands at Laguna Quatro shall be based on a risk assessment analysis. The risk assessment analysis is based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). Specific requirements shall be written after the BLM approves the Laguna Quatro sample results.

B. A disposal plan stating method and location for disposal of materials is required. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

Enforcement authority for these required actions is described in 43 U.S.C. 1733. The removal action plan for the trespass pits is due no later than March 1, 1992. The due date for the Laguna Quatro water and sediment sampling plan is also March 1, 1992. Subsequent action plan due dates shall be established individually (see Enclosure 3).

I appreciate your patience and cooperation in this matter. If you have any questions, please contact the District Office at (505) 622-9042.

Sincerely,

Tony Ferguson
Associate District Manager

4 Enclosures:
1 - Laboratory Plan (3 pp.)
2 - Risk Assessment Calculation (2 pp.)
3 - Schedule of Action Plan Due Dates (1 p.)
4 - Letter dated 8/15/89 (2 pp.)

Enclosure 1

Components of an Adequate Laboratory Quality Assurance/Quality Control Plan

New Mexico Haz[illegible] Corrective Ma[illegible]
roup

1. [illegible] tituents identified the MDL must be reported.

   The Method Detection Limit is defined as the estimated concentration at which the signal generated by a known constituent is three standard deviations above the signal generated by a blank, and represents the 99% confidence level that the constituent does exist in the sample.

2. The "tune" of the GC/MS for volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by purging 50 ng of a 4-bromofluorobenzene (BFB) standard. The resultant mass spectra must meet the criteria given in Table 1 before sample analysis proceeds.

3. The "tune" of the GC/MS for semi-volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by injecting 50 ng of a Decafluorotriphonylphosphine (DFTPP) standard. The resultant mass spectra must meet the criteria given in Table 2 before analysis proceeds.

4. For every 20 samples perform and report:

   A. Duplicate spike for organics.

   B. Duplicate sample analysis for inorganics.

   C. Reagent blank, results provided for organic work.

   D. Surrogate and spike recoveries. See item 10.

   E. One check sample at or near the Practical Quantitation Limit for a subset of the parameters.

5. Analytical results must not be "blank corrected."

6. Any deviation from EPA-approved methodology must have a Written Standard Operating Procedure and NMED approval.

7. Detection limits must be generally in line with those listed in Appendix IX to §264.

8. The laboratory must document:

   A. That all samples were extracted, distilled, digested, or prepared (if appropriate) and analyzed within specified holding times.

   B. That if a sample for volatile analysis is received with headspace, this is reported.

   C. The date of sample receipt, extraction and analysis for each sample.

   D. Any problems or anomalies with the analysis should be documented.

   E. That all solids were analyzed dry and that the reported results are corrected to reflect a dry weight basis.

9. The name and signature of the lab manager must appear on each report.

10. The reported surrogate and spike recoveries must fall within: 1. the historical (statistically based) acceptance limits, generated at the laboratory or 2. the limits tabulated by the appropriate method from the current edition of SW-846, whichever limit is narrower. The actual historical recoveries must be submitted to HRMB with the analysis.

TABLE 1

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
50	15.0 - 40.0 percent of the base peak
75	30.0 - 60.0 percent of the base peak
95	base peak, 100 percent relative abundance
96	5.0 - 9.0 percent of the base peak
173	less than 2.0 percent of mass 174
174	greater than 50.0 percent of the base peak
175	5.0 - 9.0 percent of mass 174
176	greater than 95.0 percent but less than 101.0 percent of mass 174
177	5.0 - 9.0 percent of mass 176

TABLE 2

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
51	30.0 - 60.0 percent of mass 198
68	less than 2.0 percent of mass 69
70	less than 2.0 percent of mass 69
127	40.0 - 60.0 percent of mass 198
197	less than 1.0 percent of mass 198
198	base peak, 100 percent relative abundance
199	5.0 - 9.0 percent of mass 198
275	10.0 - 30.0 percent of mass 198
365	greater than 1.00 percent of mass 198
441	present but less than mass 443
442	greater than 40.0 percent of mass 198
443	17.0 - 23.0 percent of mass 442

Risk Assessment Calculations for Carcinogens and Noncarcinogens

Following are the two types of calculations for acceptable residual soil contaminants based on risk assessment calculations. These calculations assume a daily exposure duration of 8 hours/day, 40 hrs/week. The resulting figure for acceptable contamination (C), should be modified to reflect a larger value for C if the daily or weekly exposure is less, and a smaller value for C if the soil ingested is greater than the assumption due to local conditions. The first two equations below are suitable for situations involving only one contaminant, the second two are for multiple contaminant scenarios.

For single, noncarcinogenic contaminants

Where C, the acceptable residual soil concentration, C will be equal to the RfD* divided by the amount of soil ingested daily per kilogram of body weight (the standard RCRA model for noncarcinogenic contaminant exposure is a 10 kg child ingesting 200 mg soil/day) = 20 mg/kg weight per day:

$$C = \frac{RfD\left(\frac{\text{mg constituent}}{\text{kg*day}}\right)}{20\ \frac{\text{mg soil}}{\text{kg*day}}}$$

*RfD is the reference dose. RCRA clean closures require use of the assumption that intake is by direct soil ingestion, so you will want to use the oral intake RfD for noncarcinogens. The Integrated Risk Information System (IRIS) will supply this data [(513 569-7254].

For single, carcinogenic contaminants

Where C is the acceptable residual contamination, R is the acceptable risk and is generally set at $1x10^{-6}$, SF is the carcinogenic slope factor, IRIS data includes this value in the carcinogen, oral intake data section. DI is the average daily soil ingestion. This calculation assumes a 70 kg adult consuming 100 mg of soil daily, so the DI is 100 mg/70 kg = 1.42 mg soil/kg weight per day.

$$C = \frac{R}{SF\ (\text{day/mg*kg}) \times 1.42\ \text{mg/(kg*day)}}$$

If the total constituent concentration of any chemical in the residual soil is above the limit calculated, the contaminated media must be removed to a permitted hazardous waste treatment, disposal or storage facility. Site specific factors may allow an adustment of the assumptions used in the above calculations.

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For multiple, carcinogenic contaminants

R = Risk and is set at 1 X 10^{-6} incidences of cancer (one incidence in a population of one million). CDI = chronic daily intake of the carcinogen not of contaminated soil. CDI is equal to the daily soil intake times the concentration of the individual contaminant. SF is the slope factor (same as in the previous example).

$$R = 1 \times 10^{-(CDI \times SF)}$$

R will equal [illegible] carcinogen [illegible] R [illegible] 2, Cleanup level [illegible] ed adeq[illegible] the ons when R[illegible]

For multiple, noncarcinogenic contaminants

CDI is as immediately above, RfD is as in the first example, above. Calculate the total Chronic Hazard Index as follows:

$$\text{Total hazard index} = CDI_1 \times RfD_1 + CDI_2 \times RfD_2 + \text{etc.}$$

The total hazard index must be less than 1, i.e., 0.99 or less.

All analytical data must be submitted to the New Mexico Environment Department (NMED) and must be accompanied by complete QA/QC data documenting that the laboratory has followed appropriate EPA SW-846, chapter one QA/QC procedures, and SW-846 analytical methods.

Ref: Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual, Part A

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Schedule of Action Plan Due Dates

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A. Removal Action Plan - due March 1, 1992

B. Soil Sampling Plan - due within thirty days of completion of removal action.

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A. Water and Sediment Sampling Plan - due March 1, 1992

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THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

Enclosure

1703 (064)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 165 405 963

AUG 15 1989

B & E, Inc.
South Y
P.O. Box 756
Carlsbad, N.M. 88220

Dear Mr. Withrow:

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In the interim, you are hereby granted temporary continuance of your discharge of water with the following requirements:

1. B & E, Inc will strictly adhere to all provisions outlined in OCD Order No. R-7031-A titled "Application of B & E, Inc. for an Amendment to Division Order No. R-7031, Eddy County, New Mexico".

2. Further, that B & E will immediately notify the Bureau of Land Management, Carlsbad Resource Area Office, Carlsbad, NM of any violation regarding the above mentioned order and of any discharges other than water onto federal lands, no matter how slight.

3. B & E, Inc will not request further amendments to OCD Order No. R-7031 or Order No. R-7031-A which would increase the presently permitted effluent discharge into Laguna Quatro or any other federally managed lands impacted by your facility.

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I wish to thank you for the cooperation and assistance you have given my staff thus far. If you have any questions regarding this matter please do not hesitate to contact either Mr. Fred H. Lockley at (505) 622-9042, BLM Roswell District Office or Mr. Alan Kraus at (505) 887-6544, BLM Carlsbad Resource Area Office.

Sincerely,

Orig. Sgd. Francis R. Cherry, Jr.

Francis R. Cherry, Jr.
District Manager

cc:
NM (931)
NM (067)
NM (064, F. Lockley)

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

OIL CONS. DIVISION
'92 JAN 21 AM 10 33

IN REPLY REFER TO:
1760 (064)

JAN 23 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 310 150 743

B & E Inc.
Attention: Phil Withrow
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

This letter is in reference to trespass case N-77922. The case was initiated on August 14, 1989, and covers:

1) construction and use of oil residue pits on public land without authorization and;

2) disposal of produced waters affecting public lands without authorization.

These actions committed by B & E, Inc. are violations of the Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2763; 43 U.S.C. 1733 and regulations found in 43 CFR 2801.3).

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2. investigation and remediation of affected public lands in Laguna Quatro.

TRESPASS PIT RESOLUTION

The trespass pit resolution requires three action plans and associated actions. These plans and actions are:

1. Trespass Pit Removal Action Plan for the removal of materials - the removal action plan is due March 1, 1992.

I appreciate your patience and cooperation in this matter. If you have any questions, please contact the District Office at (505) 622-9042.

Sincerely,

(Orig Sdg) Tony L. Ferguson

Tony Ferguson
Associate District Manager

4 Enclosures:
1 - Laboratory Plan (3 pp.)
2 - Risk Assessment Calculation (2 pp.)
3 - Schedule of Action Plan Due Dates (1 p.)
4 - Letter dated 8/15/89 (2 pp.)

cc:
New Mexico Oil Conservation Division w/o encl.
Attention: Roger Anderson
P.O. Box 2088
Santa Fe, New Mexico 87504

2. Trespass Pit Soil Sampling Plan for sampling of soils after removal actions are completed - the soil sampling plan is due within thirty days of completion of the removal action.

3. Trespass Pit Remedial Action Plan for remediation of the pits - the remedial action plan is due within thirty days of acceptance of the soil sampling results.

A Health and Safety Plan covering actions is required for removal and disposal of all materials in the trespass pits, sampling, and remedial actions.

Specific guidance for each action plan under Trespass Pit Resolution is described below. The BLM must approve each action plan before work begins for that plan.

1. TRESPASS PIT REMOVAL ACTION PLAN

By March 1, 1992, submit a removal action plan for the trespass pits. The following items are required in the removal action plan:

A. Removal plan for all liquids, solids, and stained soil in the trespass pits.

B. Disposal plan stating method and location for disposal of materials. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

2. TRESPASS PIT SOIL SAMPLING PLAN

Within 30 days of completion of the above removal action, submit a soil sampling plan for the trespass pits area. Sampling is required to ensure all contaminants have been removed from the trespass pits. The sampling plan shall also provide the data required for risk assessment analysis. The following items are required in the soil sampling plan:

A. The location, number, type, and depth of each sample. The minimum sample data required includes one background soil sample and four soil samples per pit.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

D. Vertical and horizontal contamination data is required. These data provide volume of additional material for removal and verifies that no release to groundwater has occurred.

3. REMEDIAL ACTION PLAN

Within 30 days of acceptance of the soil sampling results for the trespass pits, submit a remedial action plan. The following items are required in the remedial action plan:

A. Risk assessment analysis based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). This item is required only if contaminants are found after the initial removal action is completed.

B. Pit remedial action plan based on the risk assessment analysis. Minimum requirements for remediation include filling pits with compacted soil or caliche, six inches of cover material, and restoration of vegetation.

LAGUNA QUATRO TRESPASS RESOLUTION

The temporary continuance for discharge of water is hereby rescinded. A copy of the BLM letter dated August 15, 1989, (Enclosure 4) allowing temporary continuance is enclosed. Discharge from your facility affecting public lands at Laguna Quatro shall cease immediately.

Resolution of this trespass requires two actions. These actions are:

1. Laguna Quatro Sampling Plan for water and sediment sampling. The sampling plan is due March 1, 1992.

2. Laguna Quatro Removal and Remediation Action Plan for removal/remediation of trespass. The removal/remediation action plan is due within thirty days of acceptance of the sampling results.

A Health and Safety Plan for all actions is required. This plan shall cover all actions required for investigation, sampling, disposal, and remedial actions.

Specific guidance for the Laguna Quatro Trespass Resolution actions are described below. The BLM must approve each action plan before work begins for that plan.

1. LAGUNA QUATRO SAMPLING PLAN

By March 1, 1992, submit a sampling plan for the BLM managed sections of Laguna Quatro that have been affected by discharge from your facility. Both water and sediment samples are required.

A. The number of samples, location, and depth shall delineate the area of contamination and characterize the type of waste affecting public land. The sampling plan also provides the data required for risk assessment analysis.

B. Analytical data shall include, but is not limited to, Toxic Characteristic Leaching Procedure (TCLP) metals, radioactive isotopes, and constituents listed in 40 CFR 265.94 Appendix IX. All analyses shall be performed according to EPA approved methods (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods: EPA Document SW-846).

C. Laboratory Quality Assurance/Quality Control (QA/QC) data is required. Enclosure 1 provides guidance for this requirement.

2. LAGUNA QUATRO REMOVAL AND REMEDIAL ACTION PLAN

Within thirty days of acceptance of the Laguna Quatro sampling results, submit a removal and remedial action plan.

A. The removal/remedial action required for the affected public lands at Laguna Quatro shall be based on a risk assessment analysis. The risk assessment analysis is based on the New Mexico Environment Department's Risk Assessment Calculations for Carcinogens and Non-carcinogens (Enclosure 2). Specific requirements shall be written after the BLM approves the Laguna Quatro sample results.

B. A disposal plan stating method and location for disposal of materials is required. Disposal on public lands is not allowed. The disposal method and location must be approved by the appropriate State or Federal regulatory agency. Transportation and disposal manifests are required.

Enforcement authority for these required actions is described in 43 U.S.C. 1733. The removal action plan for the trespass pits is due no later than March 1, 1992. The due date for the Laguna Quatro water and sediment sampling plan is also March 1, 1992. Subsequent action plan due dates shall be established individually (see Enclosure 3).

FOR T[illegible]E BIRDS

Playa watchers hope they return

By TONY DAVI[illegible]
Staff reporter

A- 1/27/92

CARLSBAD — For biology teacher Steve [illegible]est, it all started in summer 198[illegible], when he saw a half-dozen dead [illegible]irds lying on the shore of a sal[illegible]lake 30 minutes from home.

Now, West [illegible]nd other local environmentali[illegible]s say they have won a big vict[illegible]y for birds and against waste-w[illegible]er dumping into the lake.

Last Friday, [illegible]e U.S. Bureau of Land Managem[illegible]nt ordered B&E Inc. of Carisba[illegible] to stop discharging thousan[illegible] of barrels of waste water d[illegible]y into the lake.

The compan[illegible] took salty waste water from d[illegible]illing operations, skimmed off m[illegible]ost of the oil and sent the remai[illegible]ing liquid into the lake.

It was a [illegible]ase that federal Pla[illegible]

to see PLAYA/A2

AT PLAYAS

■ BIRDS:

Peregrine falcons, considered endangered, seen less than a mile from Laguna Quatro.

Snowy plovers, which are declining and are federal candidates for endangered or threatened status, used to nest at Laguna Quatro.

Aplomado falcons, previously believed to no longer live in the United States, have been reported by one observer in the Playa Lakes area.

PLAYA From A1

officials say involved several endangered or possibly endangered bird species that have been seen in the area.

The issue had dragged on three years, brought in a half-dozen state and federal agencies, and drawn a threat of an environmental lawsuit.

"It's time to bring this to an end," said Dick Manus, manager of the bureau's Carlsbad office, in explaining Friday's decision.

The case could set a precedent for how people treat 25,000 similar lakes, called playas, lying in five states, state and federal officials have said.

A chain of these lakes lies just east of Carlsbad and just southwest of the nuclear repository, the Waste Isolation Pilot Plant. Like WIPP's surrounding salt rocks, these lakes are salty. And for years, many people thought they were wastelands.

They teem with dead salt cedars sticking a few feet out of the water. There's little surrounding vegetation, except for a handful of low-slung grasses and other shrubs and weeds along the shoreline.

capes, with countless dirt clumps sticking out of the ground.

But these lakes have taken on importance among scientists and environmentalists recently because they give life to a tiny salt-water shrimp variety that is food for thousands of shorebirds.

B&E declined comment Friday. Earlier last week, however, B&E president Phil Withrow in a telephone interview described his company as a group of honest citizens trying to make a living.

B&E had operated since since 1982 at the site. An American flag sticks out over its network of tanks and heavy trucks that sit on private property. But much of the 230-acre lake lies on federal land.

Bureau official Manus acknowledged Friday that he didn't know scientifically how much, if any, B&E's discharges were affecting Laguna Quatro.

Officials have conducted no studies proving B&E had caused damage, but they were concerned about potential damage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JAN 14 1992

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P773 284 435)

Ms. Valerie Lemon-Pierce
Assistant General Manager
B & E, Inc.
P.O. Box 756
Carlsbad, New Mexico 88220

Re: Order for Information Docket No. VI-92-1122
Facility No. NMU000006

Dear Ms. Lemon-Pierce:

Pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1251 et seq., the Environmental Protection Agency (EPA) has the authority to obtain information pertinent to carrying out its responsibilities under the CWA. Accordingly, the enclosed Order for Information is hereby served on you and B & E, Inc.

Compliance with the provisions of this Order is expected within the maximum time periods established by each part of the Order. Your cooperation and prompt attention will be appreciated. In response hereto, please reference Docket No. VI-92-1122 and your facility number and send correspondence to the attention of Ms. Dianne Ratkey (6W-ET). Failure to submit the information required by the Order could result in the issuance of an EPA administrative penalty order or referral to the United States Department of Justice for judicial action with monetary fines.

It is the policy of EPA to achieve full compliance with the NPDES permit program as rapidly as possible. This office is prepared to help you in any way it can. If you have any questions, please contact Ms. Dianne Ratkey, EPA, Dallas, Texas at (214) 655-6470.

Sincerely yours,

Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

Enclosure

cc: Mr. Jim Platt, Acting Chief
Surface Water Bureau
New Mexico Environment Department

Pat Ratkey 214-655-2106

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 6

To Al Calloway	From Val Pierce
Co. BLM	Co. B & E, Inc.
Dept	Phone # 505-393-0762
Fax #	Fax # 505-393-3495

PI - 214-655-6444

D. ASHBY COPY

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF	§	DOCKET NO. VI-92-1122
	§	
B & E, INC.	§	
	§	
PROCEEDINGS UNDER SECTION 308(a)(2) and (4)(A), CLEAN WATER ACT, [33 U.S.C. § 1318(a)(2) and (4)(A)] In Re: FACILITY NO. NM0000006	§	ORDER FOR INFORMATION

The following FINDINGS are made and Order issued pursuant to the authority vested in the Administrator of the Environmental Protection Agency (EPA) by the above referenced statute (hereinafter the Act) and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6.

I.

B & E, Inc., (hereinafter referred to as the "Respondent") is doing business in the State of New Mexico, the mailing address for which is P.O. Box 756, Carlsbad, New Mexico 88220.

II.

Section 308(a) of the Act, 33 U.S.C. § 1318(a) provides that:

> Whenever required to carry out the objective of this Act, including but not limited to ... determining whether any person is in violation of any ... limitation, prohibition ... or standard of performance ... the Administrator shall require the owner or operator of any point source to ... provide such other information as he may reasonably require ....

III.

FINDINGS OF FACT

On March 27, 1991, the NPDES General Permit (NMG320000) for the Oil and Gas Extraction Point Source Category, Onshore Subcategory was final and became effective. This permit prohibits the discharge of pollutants from any oil and gas wells and facilities subject to the Onshore Subcategory of the Oil and Gas Extraction Point Source Category into waters of the United States. It does not apply to existing wells which, at the time of permit issuance, fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F, but onshore wells in which production later fell to ten (10) or less barrels of oil per day are subject to the permit.

This permit prohibits the discharge of any pollutants from wells or facilities subject to its terms. Said pollutants include, but are not limited to:

Drilling Fluids
Drill Cuttings
Produced Water✓
Produced Sands✓
Deck and Rig Floor Drainage
Blowout Preventer Fluid
Well Treatment Fluids

On July 8-9, 1991, EPA personnel, accompanied by personnel from the United States Fish and Wildlife Service, Bureau of Land Management and the New Mexico Environment Department, conducted a site visit at the Respondent's facility. Discharges of pollutants from the facility into Laguna Quatro, from which said pollutants flow through culverts to Laguna Tres, were noted and documented. Based on information received by EPA, such discharges are continuing. Produced water discharged by the Respondent may be derived from facilities in both the Onshore and Stripper Subcategories of the Oil and Gas Extraction

Point Source Categories. Laguna Tres and Laguna Quatro are playa lakes located in Eddy County, New Mexico. Historically, the playas have provided significant nesting, roosting, feeding and loafing areas for migratory shorebirds and migratory wading birds and hunting areas for migratory raptors. They have also served as receiving waters for discharges from industrial concerns, including the Respondent and Unichem, Inc. Due to such uses, the degradation or destruction of Laguna Tres and/or Laguna Quatro could affect interstate commerce and they are thus "waters of the United States" as defined in 40 CFR Part 122.2.

ORDER

Based on the foregoing FINDINGS OF FACT and pursuant to the authority vested in the Administrator under Section 308(a)(4)(A) of the Act, 33 U.S.C. § 1318 (a)(4)(A), and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6, it is ordered:

A. That the Respondent, within thirty (30) days of the effective date of Order, shall submit the following information pertaining to any discharge since March 1991:

1) The date on which each discharge occurred, or if specific dates are not available, the frequency of the discharge;

2) The source of or the specific operation with which the discharge is associated;

3) The specific pollutants present in each discharge;

4) The quantity of each discharge;

B. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator(s) and location of each well which has provided any fluids discharged by the Respondent since March 1991.

C. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator and location of each well identified in (B) above which fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F; that is, each oil well producing 10 or less barrels of oil per day and which is operating at the maximum feasible production rate and in accordance with recognized conservation practices. The information required by this section (c) shall be submitted for those wells which fell within the Stripper Subcategory prior to March 27, 1991.

D. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit copies of any state and/or federal permit issued to the Respondent.

This information should be addressed to the Water Management Division, Enforcement Branch (6W-E), Attn: Ms. Dianne Ratkey (6W-ET), EPA, 1445 Ross Avenue, Dallas, Texas 75202-2733. It will be considered in any further evaluation of the nature and extent of the Respondent's noncompliance with the Clean Water Act. Section 309 of the Act, as amended by the Water Quality Act of 1987, provides civil and criminal penalties for failure to submit information required under Section 308 and criminal penalties for knowingly making a false statement under Section 308.

The effective date of this Order shall be the date it is received by the Respondent.

DATED: This JAN 14 1992 day of _____, 1992.

Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

cc → Bill Olson OCD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
144_ ROSS AVENUE
DALLAS, TEXAS 75202

Ed Martin

JAN 14 1992

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P773 284 435)

Ms. Valerie Lemon-Pierce
Assistant General Manager
B & E, Inc.
P.O. Box 756
Carlsbad, New Mexico 88220

Re: Order for Information Docket No. VI-92-1122
Facility No. NMU000006

Dear Ms. Lemon-Pierce:

Pursuant to Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1251 et seq., the Environmental Protection Agency (EPA) has the authority to obtain information pertinent to carrying out its responsibilities under the CWA. Accordingly, the enclosed Order for Information is hereby served on you and B & E, Inc.

Compliance with the provisions of this Order is expected within the maximum time periods established by each part of the Order. Your cooperation and prompt attention will be appreciated. In response hereto, please reference Docket No. VI-92-1122 and your Facility number and send correspondence to the attention of Ms. Dianne Ratkey (6W-ET). Failure to submit the information required by the Order could result in the issuance of an EPA administrative penalty order or referral to the United States Department of Justice for judicial action with monetary fines.

It is the policy of EPA to achieve full compliance with the NPDES permit program as rapidly as possible. This office is prepared to help you in any way it can. If you have any questions, please contact Ms. Dianne Ratkey, EPA, Dallas, Texas at (214) 655-6470.

Sincerely yours,

/s/ Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

Enclosure

cc: Mr. Jim Piatt, Acting Chief
Surface Water Bureau
New Mexico Environment Department

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF B & E, INC. PROCEEDINGS UNDER SECTION 308(a)(2) and (4)(A), CLEAN WATER ACT, [33 U.S.C. § 1318(a)(2) and (4)(A)] In Re: FACILITY NO. NMU000006	§	DOCKET NO. VI-92-1122 ORDER FOR INFORMATION

The following FINDINGS are made and Order issued pursuant to the authority vested in the Administrator of the Environmental Protection Agency (EPA) by the above referenced statute (hereinafter the Act) and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6.

I.

B & E, Inc., (hereinafter referred to as the "Respondent") is doing business in the State of New Mexico, the mailing address for which is P.O. Box 756, Carlsbad, New Mexico 88220.

II.

Section 308(a) of the Act, 33 U.S.C. § 1318(a) provides that:

> Whenever required to carry out the objective of this Act, including but not limited to ... determining whether any person is in violation of any ... limitation, prohibition ... or standard of performance ... the Administrator shall require the owner or operator of any point source to ... provide such other information as he may reasonably require ....

III.

FINDINGS OF FACT

On March 27, 1991, the NPDES General Permit (NMG320000) for the Oil and Gas Extraction Point Source Category, Onshore Subcategory was final and became effective. This permit prohibits the discharge of pollutants from any oil and gas wells and facilities subject to the Onshore Subcategory of the Oil and Gas Extraction Point Source Category into waters of the United States. It does not apply to existing wells which, at the time of permit issuance, fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F, but onshore wells in which production later fell to ten (10) or less barrels of oil per day are subject to the permit.

This permit prohibits the discharge of any pollutants from wells or facilities subject to its terms. Said pollutants include, but are not limited to:

Drilling Fluids
Drill Cuttings
Produced Water
Produced Sands
Deck and Rig Floor Drainage
Blowout Preventer Fluid
Well Treatment Fluids

On July 8-9, 1991, EPA personnel, accompanied by personnel from the United States Fish and Wildlife Service, Bureau of Land Management and the New Mexico Environment Department, conducted a site visit at the Respondent's facility. Discharges of pollutants from the facility into Laguna Quatro, from which said pollutants flow through culverts to Laguna Tres, were noted and documented. Based on information received by EPA, such discharges are continuing. Produced water discharged by the Respondent may be derived from facilities in both the Onshore and Stripper Subcategories of the Oil and Gas Extraction

Point Source Categories. Laguna Tres and Laguna Quatro are playa lakes located in Eddy County, New Mexico. Historically, the playas have provided significant nesting, roosting, feeding and loafing areas for migratory shorebirds and migratory wading birds and hunting areas for migratory raptors. They have also served as receiving waters for discharges from industrial concerns, including the Respondent and Unichem, Inc. Due to such uses, the degradation or destruction of Laguna Tres and/or Laguna Quatro could affect interstate commerce and they are thus "waters of the United States" as defined in 40 CFR Part 122.2.

ORDER

Based on the foregoing FINDINGS OF FACT and pursuant to the authority vested in the Administrator under Section 308(a)(4)(A) of the Act, 33 U.S.C. § 1318 (a)(4)(A), and duly delegated to the Regional Administrator, Region 6, and duly redelegated to the undersigned Director, Water Management Division, Region 6, it is ordered:

A. That the Respondent, within thirty (30) days of the effective date of Order, shall submit the following information pertaining to any discharge since March 1991:

1) The date on which each discharge occurred, or if specific dates are not available, the frequency of the discharge;

2) The source of or the specific operation with which the discharge is associated;

3) The specific pollutants present in each discharge;

4) The quantity of each discharge;

B. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator(s) and location of each well which has provided any fluids discharged by the Respondent since March 1991.

C. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit the name and address of the operator and location of each well identified in (B) above which fall within the Stripper Subcategory as defined in 40 CFR 435, Subpart F; that is, each oil well producing 10 or less barrels of oil per day and which is operating at the maximum feasible production rate and in accordance with recognized conservation practices. The information required by this section (c) shall be submitted for those wells which fell within the Stripper Subcategory prior to March 27, 1991.

D. That the Respondent, within thirty (30) days of the effective date of this Order, shall submit copies of any state and/or federal permit issued to the Respondent.

This information should be addressed to the Water Management Division, Enforcement Branch (6W-E), Attn: Ms. Dianne Ratkey (6W-ET), EPA, 1445 Ross Avenue, Dallas, Texas 75202-2733. It will be considered in any further evaluation of the nature and extent of the Respondent's noncompliance with the Clean Water Act. Section 309 of the Act, as amended by the Water Quality Act of 1987, provides civil and criminal penalties for failure to submit information required under Section 308 and criminal penalties for knowingly making a false statement under Section 308.

The effective date of this Order shall be the date it is received by the Respondent.

DATED: This JAN 14 1992 day of _____, 1992.

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

NEW MEXICO OIL CONSERVATION COMMISSION

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

NAME OF OPERATOR B & E, INC.					ADDRESS P.O. Box 756 CARLSBAD, N.M		
REPORT OF	FIRE	BREAK	SPILL X	LEAK	BLOWOUT	OTHER*	
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTTY	PIPE LINE	GASO PLNT	OIL RFY	OTHER* SWD
NAME OF FACILITY	Tuzlu Kopek SWD						
LOCATION OF FACILITY (QUARTER/QUARTER SECTION OR FOOTAGE DESCRIPTION)	E/2 NESE	SEC. 6	TWP. 23S	RGE. 30E	COUNTY Eddy		
DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK	15 miles from Loving, NM						
DATE AND HOUR OF OCCURENCE	12-31-91 10:00pm				DATE AND HOUR OF DISCOVERY	SAME	
WAS IMMEDIATE NOTICE GIVEN?	YES X	NO	NOT REQUIRED		IF YES, TO WHOM	OCD, BLM Owner B & E INC	
BY WHOM	Ted Casey Phil Withrow				DATE AND HOUR	12-31-91 10:00 p.m.	
TYPE OF FLUID LOST	Oil & water				QUANTITY OF LOSS	Oil 25 bbls Water 300 bbls	VOLUME RECOVERED
DID ANY FLUIDS REACH A WATERCOURSE?	YES X	NO	QUANTITY	approx 350 bbls			

IF YES, DESCRIBE FULLY** CORNER OF DIRT DYKE BROKE ON DIRT PIT - LET FLUID (OIL & WATER) ENTER THE SALT PLAYA.

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**
Dyke wall weakened one corner - possibly from all of the rainfall. Bales of h were placed around the perimeter of oil skim it contain it.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**
Most of the spill on deeded land - approx 20-30 ft - entered BLM land - immediately contained. Bio-remediation being done 1-2-92 - Chemical to eat-oil

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* Disposal Site			
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET X	DRY	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
Ground saturated - from recent rainfall, Cold temperatures, Clear night

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED Tillie Ramon TITLE Asst Gen Mgr DATE 1-2-92

*SPECIFY **ATTACH ADDITIONAL SHEETS IF NECESSARY

Spill occured 12-31-91 @ 8 pm

Emergency containment was achieved
≈ 4 acre area

All contaminants seem to be oil field production fluids (EXEMPT)

Estimated volume of 25 to 50 bbls oil & 300 bbl wat

OCD is directly overseeing remediation ~~by~~ [illegible]: 1) physical removal
2) bio-remediation

OCD will ask B & E to modify facility by reinforcing existing berms, constructing an emerg. berm around facility and possibly additional air stripping

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

Fax 885-5988

called 1/7/92 8:40

December 31, 1991

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

RE: Newspaper Article
Land and Water Fund (intent to sue)
(previously faxed to your office on 12-23-91)

ATT: Roger Anderson

On December 23, 1991 an article from our local Current Argus; "Company to be sued over water discharge" and a document RE: Notice of Intent to File Citizens' Suit under Clean Water Act 33 U.S.C. § 1365 concerning B & E Facility in New Mexico from the Land and Water Fund was faxed to your attention.

I had called twice and left a message but have not heard from you since. Today I tried to call you and was told you were out of the office. I decided to type you a letter.

My reason for wanting to talk to you was to get your comments and opinions on what may be taking place over this intent to sue. We are concerned as to what to do next or whether we should respond immediately to this document or just sit tight.

I faxed the same information to Al Collar (BLM); Mike Williams (OCD); Mike Hirst (environmental specialist in OK) and to your office. I have spoken with everyone but you.

We feel we have done everything that we were informed to do. We are quite concerned as to the outcome of the latest. Mike Williams told me that he was invited by group called the Carlsbad Concerned Citizens For Responsible Land Management to give a talk. He thought that might be where all this started. Do you have any knowledge of this?

We have filled out and filed our NPDES Permit with Region 6 EPA as of a couple of weeks ago. We have not as yet received the receipt of acknowledgment.

Please call me as soon as possible.

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

We would like your input as to whether we should be contacting an enviornmental attorney immediately.

We do realize that this group is doing what they need to do and we understand the importance of a safe and clean environment. We are just concerned about what will happen to B & E, Inc. This know doubt will bring the potash industry into the suit.

Again, thank you and please contact me.

Sincerely,

Valerie Lemon-Pierce

Valerie Lemon-Pierce
Asst. General Manager

XC: file

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

COVER PAGE

DATE: 12-23-91

TO: Roger Anderson

COMPANY: OCD

ADDRESS: Santa Fe

1-827-5741

FROM: B & E, Inc.
P.O. Box 756
Carlsbad, NM 88220

FAX NUMBER: (505) 885-5988
800 NUMBER: (800) 658-2739

NO. OF PAGES: 5 (including this cover page)

SPECIAL INSTRUCTIONS:

Please call after you've read this -

Jill

Sunday, December 22, 1991

IN BRIEF

Company to be sued over water discharge

Attorneys for the Carlsbad Concerned Citizens for Responsible Land Management said they plan to sue a local company over the discharge of contaminated water into Laguna Quatro southeast of the city.

Land and Water Fund attorneys of Boulder, Colo., said they filed notices of intent to sue under the Clean Water Act and the Endangered Species Act. The notice alleges that B&E Inc. has been discharging produced water, containing hazardous pollutants from oil and gas operations, without the required Clean Water Act permit.

The notice adds that Bureau of Land Management has failed to do biological assessments required by the Endangered Species Act, and states that two endangered species, the peregrin aicon and aplomado falcon, use the area.

"All our clients are asking is that the B&E facility, the BLM and EPA comply with the country's environmental laws," said David Horley, LAW Fund senior attorney.

Laguna Quatro is one of several salt playas found near Carlsbad. The playas are also home to species of desert herons and migratory water birds, the attorneys said.

Local officials from B&E Inc. and the Carlsbad Concerned Citizens for Responsible Land Management could not be reached for comment Saturday.

LAND AND WATER FUND

"Legal Aid For The Environment"

Certified Mail -- Return Receipt Requested

December 19, 1991

William Reilly, Administrator
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Robert E. Layton, Jr.
Region 6 Regional Administrator
U.S. Environmental Protection Agency
First Interstate Bank Building, Suite 1200
1445 Ross Avenue
Dallas, Texas 75202

Honorable William P. Barr
Attorney General of the U.S.
Department of Justice
10th and Constitution Avenue, N.W.
Washington, DC 20530

Judith Espinoza
Environment Department
State of New Mexico
1190 St. Francis Drive
Santa Fe, New Mexico 87502

Owner or Managing Agent
B & E, Inc.
South Y
P.O. Box 756
Carlsbad, New Mexico 88220

Phillip R. Withrow
Statutory Agent, B & E, Inc.
1101 Cimarron
Hobbs, NM 88240

Re: Notice of Intent to File Citizens' Suit under Clean Water Act 33 U.S.C. § 1365 concerning B&E Facility in New Mexico.

Dear Sirs:

We represent the Carlsbad Concerned Citizens for Responsible Land Management. This letter is sent to

provide formal notification that this group and its members intend to file a citizens' suit pursuant to the U.S. Clean Water Act, 33 U.S.C. § 1365 et seq. against R&E, Inc. (hereinafter "B&E") and the United States Environmental Protection Agency (hereinafter "EPA"). This notification fulfills the requirements of 33 U.S.C. § 1365(b) and 40 C.F.R. §§ 135.1 et seq.

The Clean Water Act allows citizen suits for violations of "an effluent standard or limitation under this Act," and for the failure of the EPA administrator "to perform any act or duty ... which is not discretionary with the Administrator." 33 U.S.C. § 1365(a).

a). Effluent Standards or Limitations Violated

Under 33 U.S.C. § 1311(a), (b) and (e), the "discharge of any pollutant by any person shall be unlawful" without required permits. Under 33 U.S.C. § 1342, a permit system for pollutant discharges is authorized and has been established for the State of New Mexico. EPA administers this permit program pursuant to its own regulations at 40 C.F.R. Part 122 and Part 124.The regulations "require() permits for the discharge of "pollutants" from any "point source" into "waters of the United States." 40 C.F.R. § 122.1(b) and Parts 232 and 233. The discharge at issue also violates the Final NPDES General Permits for the Oil and Gas Extraction Point Source Category, Onshore Subcategory--New Mexico(NMG320000) set forth in the Federal Register, Vol. 56, No. 37 at 7698 et seq. (2/25/91).

b). Activity Constituting a Violation and Person or Persons Responsible

In this case, upon information and belief, a B&E facility has been discharging produced water containing pollutants from oil and gas operations into surface waters of the United States without an NPDES permit as required by the Clean Water Act, pertinent regulations and applicable general permits. The EPA and specifically, EPA Region 6, have failed to require such permit or otherwise enforce the applicable requirements.

c). Location of the Violation

On information and belief, the discharge has been occurring from the B&E facility located adjacent to Laguna Quatro, also known as Laguna Cuatro, in Eddy County, southeast of Carlsbad, New Mexico. The site is located in Township 23 South, Ranges 29 and 30 East. The produced water is discharged into the Laguna Quatro playa which is hydrologically linked with other surface water playas in the region.

d). Dates of the Violation

On information and belief, such discharges are ongoing and have occurred regularly since July 21, 1982, when the New Mexico Oil Conservation Division issued Order No. R-7031.

e). Duty of the EPA Administrator

Pursuant to 33 U.S.C. § 1311(e), "(e)ffluent limitations established pursuant to this section or section 1312 of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter." EPA's point source permit program for New Mexico, established pursuant to 33 U.S.C. § 1342. and 40 C.F.R. Parts 122 and 124 constitute such "effluent limitations." EPA also is required to take pertinent enforcement measures to ensure compliance with water quality permitting measures pursuant to 33 U.S.C. § 1319(a)(3).

f). Action Not Taken by Administrator

EPA, Region 6, has failed to require B&E to obtain the required permit or to otherwise enforce the effluent limitations of the Clean Water Act, pertinent regulations and general permits against B&E's discharges.

g). Parties Giving Notice

The address of Carlsbad Concerned Citizens For Responsible Land Management is 1610 Live Oak Place, Carlsbad, New Mexico 88220. The phone number is (505) 887-5761.

For additional information please refer to exhibit A to this letter, a BLM Staff Report, which is incorporated herein by this reference. Based on the foregoing, the Carlsbad Concerned Citizens intend to file suit against B&E and EPA at the expiration of the 60 days provided for in 33 U.S.C. 1365(b).

Yours truly,

Kate Zimmerman and David Horley
Senior Attorneys

Confidential

STATE OF NEW MEXICO
Office of the
COMMISSIONER OF PUBLIC LANDS

Jim Baca
Commissioner

P.O. Box 1148
Santa Fe, New Mexico
87504-1148

Oil, Gas & Minerals Division

To: Gary Carlson & Pleas Glenn

Through: Floyd O. Prando

From: Jami Bailey

Date: December 13, 1991

Subject: Evaluation of Chemical Analyses from Laguna Quatro and B & E Disposal Co.

As an aid to the group formulating recommendations to the Commissioner regarding disposal of oil and gas produced water into playas in southeastern New Mexico, I have tabulated results of sample analyses taken from Laguna Quatro and the final effluent to that playa from the operations at B & E Disposal. The B & E sample was taken in the southeast quarter of the northwest quarter of Section 6, Township 23 South, Range 30 East; the playa sample was taken on the south side of Highway 128 in the southwest quarter of the northwest quarter of the same section, at a distance far enough from B & E to reflect more natural conditions. No State land is affected by disposal at this playa. I would also like to emphasize that I am addressing typical chemical interactions at a playa where there are representative chemical analyses available; aesthetic concerns are not taken into account in this evaluation.

Although the waters in playas are totally unfit for consumption, and no amount of human intervention can ever make them potable, in the enclosed tabulation these analyses are compared with New Mexico Water Quality Control Commission (WQCC) standards for ground water, domestic water and irrigation water and with the newly revised and proposed revisions to the EPA Safe Drinking Water Act (SDWA) maximum contaminant levels. In general, the SDWA maximum levels for drinking water are lower than the WQCC standards for ground water. Only those constituents that have regulatory standards are listed in the table, and all are stated as parts per billion concentration.

The samples were taken by the Oil Conservation Division, using standard sampling and preservation techniques and sent to two

different laboratories for analyses. There are variations in the laboratory results and higher than required detection limits due to sample interference, laboratory techniques and equipment limitations.

As you can see from the results of the analyses for the inorganic constituents in the playa and B & E samples, the detection levels for some of the contaminants (arsenic, beryllium, cadmium, cobalt, lead, nickel and silver) were simply too high to be useful in determining if SDWA or WQCC standards are being met. More accurate and expensive analyses would have to be used to determine those exact levels. Ground water standards are exceeded by boron, iron and manganese, and possibly exceeded by arsenic, barium and mercury (conflicting laboratory results).
Ground water standards are met by chromium, copper, molybdenum and zinc. It is interesting to note that the produced water is diluting the playa's total dissolved solids. The natural concentration of total dissolved solids in the playa is greater than that found in sea water or brine, and as a result no fresh water-dependent organism could survive.

The organic constituents in the effluent to the lake in the B & E samples violate ground water standards only for benzene. The other volatile organic hydrocarbons, toluene, ethylbenzene and total xylenes are well below human health standards.

The naturally occurring radioactive materials (NORMS) are concentrated far above all standards for these constituents. Elevated levels of NORMS are indigenous to the playas as well as produced water, and may be exacerbated by, but are not a result of industry activities.

In summary, the disposal of produced water into the playa is having the following effects:

A. Precipitates are formed which affect the aesthetic quality of the disposal area.

B. Inorganic constituents affecting taste, odor and appearance (aluminum, copper, iron, manganese, total dissolved solids, zinc) are generally not rendering the water any more unfit for human consumption than it is naturally. Removal of these constituents from disposal waters would not significantly improve the potability of the playa water.

C. Inorganics (heavy metals) affecting plant or animal growth or health (arsenic, barium, boron, cadmium, cobalt, lead, mercury, nickel, silver) have been analyzed at conflicting concentrations or at detection levels too high to compare with human health standards. For these questionable constituents, I have relied on the USGS Water Supply Paper 1473, Study and Interpretation of the Chemical Characteristics on Natural Water,

for guidance.

1. Barium: concentration in water controlled by narrow solubility range; does form precipitates, so probably not a large influence in playa waters.

2. Boron: naturally high in playa waters; probably very little additional adverse effect on plant/animal life from disposal of produced water.

3. Arsenic, beryllium, cadmium, cobalt, lead, mercury, nickel, silver: true concentrations in playa and disposal water unknown.

a. Cobalt and nickel are largely adsorbed by the abundant iron and manganese precipitates, so probably not a large factor in overall playa ecosystem.

b. Silver has been used as a disinfectant for water and effective 7/30/92, will be regulated under SDWA secondary levels for taste, odor and appearance.

* * The remaining constituents, arsenic, beryllium, cadmium, lead and mercury are toxic contaminants whose exact concentrations in natural playa water and disposal effluent are unknown at this time.

D. Organic constituents from oil and gas disposal water are, except for benzene, found at levels below drinking water standards. Benzene, a known carcinogen, is also a volatile organic contaminant that is commonly removed by air-stripping in ground water remediation of contaminated water supplies. The evaporation rates of the playas in southeastern New Mexico are at such a high rate particularly in the summer that the residence time of benzene in the water cannot be very long. The lab analysis for oil and grease in the B & E effluent was less than one part per billion. Laboratory detection limits for halogenated hydrocarbons such as solvents were too high to compare with WQCC standards. Halogenated hydrocarbons were undetected in the 100 ppb range.

The definitive effects from disposal of oil field related produced water into playa lakes in southeastern New Mexico can be summarized in the five words "We don't know for sure." More specialized laboratory analyses would have to be performed, and in some instances it would not be possible to get down to the level of the standards simply due to the quality of the sample and analytical interference from other elements. Potash industry dumping and leaching of spoil piles may also interact with the playa waters and those interrelationships should be evaluated. NORMS are a unique problem under study by the Environment Department and New Mexico Oil & Gas Association; the residence time of volatile organic hydrocarbons has not been studied as far

as I know.

The quality of life for animals and plants that may live in the environment surrounding the playas needs to be balanced against the political and financial needs of the State beneficiaries. Those factors must also weigh in the recommendations to the Commissioner.

COMPARISON OF SAMPLE ANALYSES AND REGULATORY MAXIMUM LEVELS
(All levels given in parts per billion [ppb])

CONTAMINANT	EPA SDWA MAXIMUM LEVEL	NM WQCC GW MAXIMUM LEVEL	LAGUNA QUATRO (8901131220) & [89033014401]	B&E FINAL EFFLUENT (8901131205) & [89033013551]
INORGANICS				
ALUMINUM	50-200	5000	<1000	<1000
ARSENIC	50	100	<500	<500-2400
BARIUM	2,000	1000	<1000	600-6500
BERYLLIUM	1	NA	<1000	<1000
BORON		750	10,000	8200-34000
CADMIUM	5	10	<1000	<50
CHROMIUM	100	50	<1000	<50
COBALT		50	<500	<500
COPPER	1,300	1000	<1000	<1000
IRON		1000	<1000	5,000-210,000
LEAD	50	50	<1000	<500
MANGANESE	50	200	870	2,500-5,200
MERCURY	2	2	<0.5	<0.5-6
MOLYBDENUM		1000	<1000	<1000
NICKEL	100	200	<1000	<1000
SILVER	100	50	<1000	<1000
ZINC	500	10000	<1000 & [<1000]	<1000
TOTAL DISSOLVED SOLIDS	500 PPM	1000 PPM	285,400	170,616-200,000
ORGANICS				
AROMATIC PURGEABLES				
BENZENE	5	10	<5	520 & [380]
TOLUENE	1,000	750	<5	750 & [580]
ETHYLBENZENE	700	750	<5	<100 & [<50]
TOTAL XYLENE	10,000	620	<5	500 & [390]
HALOGENATED PURGEABLES			<100 & [<5]	<100
RADIONUCLIDES				
G-ALPHA	15 pCi/L	NA	200-300 pCi/L	[600-800 pCi/L]
G-BETA	4 MR/YR	NA	1700-2000 pCi/L	[1600-1800 pCi/L]
RA-226 & 228	40 pCi/L	30 pCi/L	111 pCi/L	[920 pCi/L]
U-238 &234			112 pCi/L	[20 pCi/L]
URANIUM	20 PROPOSED	5000		

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Bulding
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

BRUCE KING
GOVERNOR

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

2nd
HS

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 10, 1991

Mr. Phillip Withrow
B&E, Incorporated
P.O. Box 756
Carlsbad, New Mexico 88220

RE: REQUEST FOR INFORMATION

Dear Mr. Withrow:

Pursuant to Section 74-4-4.3.A.1, NMSA 1978, the New Mexico Environment Department (NMED) requests your submission to this office of a complete listing of all waste materials disposed of onto the land surface or in pits at the B&E facility.

This information must be received by NMED no later than thirty (30) days from the receipt of this notice.

If you fail to adequately respond to this Request for Information within the thirty-day period, NMED will issue a Notice of Violation. If you fail to correct the violations cited in the NOV within the time frame set forth in the NOV, you will be subject to one or more of the following:

1. An order requiring compliance within a specified period, pursuant to §74-4-10 NMSA 1978, and/or an order assessing civil penalties of up to $10,000 per violation for each day of continued noncompliance, pursuant to §§ 74-4-10 and 74-4-12 NMSA 1978.

2. A civil action in district court for appropriate relief, including a temporary or permanent injunction, pursuant to § 74-4-10 NMSA 1978, and/or the assessment of civil penalties of up to $10,000 per violation for each day of continued noncompliance, pursuant to §§ 74-4-10 and 74-4-12 NMSA 1978.

If you have any questions regarding this matter, please contact Dr. Bruce Swanton of my staff at (505) 827-4300.

Sincerely,

Edward Horst, RCRA Programs Manager
Hazardous and Radioactive Materials Bureau

EH/bas

cc: Bruce Swanton, Technical Support, HRMB
Bill Olsen, Oil Conservation Division
Al Collar, Bureau of Land Management, Roswell Office
Barry Birch, NMED Carlsbad District Office
Kathleen M. Sisneros, Director
Water and Waste Management Division

State of New Mexico
ENVIRONMENT DEPARTMENT
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BRUCE KING
GOVERNOR

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

November 8, 1991

Mr. Tony L. Ferguson
Associate District Manager
U.S. Dept. of Interior
Bureau of Land Management
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

Re: Reply to request for regulatory opinion; Reference 1703 (064)

Dear Mr. Ferguson:

This letter is in response to your letter to Kathleen Sisneros dated October 18, 1991 requesting a regulatory opinion regarding the discharge of wastes from B&E, Inc. into pits on public lands in Eddy County.

NPDES
In regard to potential federal Clean Water Act violations, I would like to note the State of New Mexico is not delegated primacy for the National Pollutant Discharge Elimination System (NPDES) permit program. However, since this Department assists the EPA with the NPDES permit program we can make some comments.

Applicability of the Clean Water Act NPDES permit program hinges on whether the discharges are into a "water of the United States." Your letter indicates the discharges were into "pits they constructed on adjacent public land." If these pits were either in, or overflowed into, the adjacent playa lake, Laguna Quatro, then NPDES may be applicable. The next test would be whether the EPA rules the playa lake is a "water of the U.S." as defined in 40 CFR 122.2. We understand EPA is reviewing this question and is consulting with the BLM and the U.S. Fish and Wildlife Service due to concerns for migratory waterfowl use of the playa lake. If it is ruled that the lake is a water of the U.S., the Clean Water Act programs will be applicable.

The federal Clean Water Act defines in Section 307 a list of "toxic pollutants". Your letter included sample data from the various pits indicating the presence of the following chemicals:

Arsenic	ranging from	1.47 - 7.00 ppm
Chromium	ranging from	5.20 - 52.4 ppm
Lead	ranging from	13.6 - 508 ppm
Silver	ranging from	0.05 - 0.64 ppm
Selenium	ranging from	0.66 - 1.87 ppm

Toluene (1-5 ppm), Ethyl Xylenes (3-9 ppm), and Total Xylenes (<1-31 ppm) were also found to be present in the samples. All of the above pollutants, with the exception of xylenes, are classified under Section 307 as "toxic pollutants." In the Clean Water Act declaration of goals and policy, Section 101.(a)(3) it is stated that: "it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." Establishing the toxic level for a pollutant is dependant upon the organism that is exposed i.e., some species are more tolerant than others. However, some guidance can be found by referring to requirements placed upon NPDES permittees in regard to reporting the discharges of toxic pollutants found in 40 CFR 122.42. This regulation establishes reporting requirements based upon concentrations in a discharge. While it is best to read the entire regulation for the full detail, in part, the notification levels for all the above toxic pollutants is 100 ppb if the discharge is routine and 500 ppb if the discharge is non-routine. Therefore, if all the above pollutant concentrations were discharged into a water of the U.S. all (except the xylenes) would have been above the EPA toxic pollutant notification levels established for NPDES permittees.

Pursuant to Section 303 of the federal Clean Water Act, the State has adopted Water Quality Standards for Interstate and Intrastate Streams in New Mexico (copy enclosed). These standards are established to sustain and protect uses that are existing or attainable by flows resulting from point source discharges or the earth's natural hydrologic cycle. In practice, the State's position has been that wherever water exists it will minimally support an attainable use of livestock and wildlife watering and probably an attainable use of irrigation as well. Sections 3-101.D and 3-101.K set numeric criteria for these respective attainable uses. While the data provided in your letter are not easily comparable to these standards since they are "totals" and the standards are mostly expressed as "dissolved", the levels are of concern and may indicate an impairment or violation of the standards for these uses.

In regard to State water quality regulations and authority to protect water quality, in most cases the New Mexico Water Quality Control Commission Regulations adopted pursuant to the New Mexico Water Quality Act are the regulatory mechanism. However since the B&E facility is involved with the exploration / production of oil or gas the WQCC regulations may not apply. The basis for this exemption is found in the New Mexico Water Quality Act, Section 74-6-12.G NMSA 1978 which states:

> [t]he Water Quality Act does not permit the adoption of regulations or other action by the commission or other constituent agencies which would interfere with the exclusive authority of the oil conservation commission over all persons and things necessary to prevent water pollution as a result of oil or gas operations through the exercise of the power granted to the oil conservation commission under Section 70-2-12 NMSA 1978, and other laws conferring power on the oil conservation commission.

Consequently state regulation of these facilities falls under the authority of the New Mexico Oil Conservation Division (OCD). You may wish to contact Mr. Bill Olson at OCD for further information. Mr. Olson's telephone number is 827-5884.

CERCLA

Based on information available, it appears that wastes generated during oil and gas exploration and potash refining were disposed of in unlined pits and that solids in these pits now contain elevated concentrations of lead, arsenic, chromium, and silver and traces of benzene, toluene, ethylxylene [sic], and total xylenes.

CERCLA as amended by SARA (hereinafter referred to as CERCLA) excludes from the list of regulated hazardous substances "petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under" specific sections of the Federal Water Pollution Control Act, the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, and CERCLA. In practice, EPA has excluded petroleum or media contaminated with petroleum from CERCLA action with the exceptions of five RCRA listed wastes which result from petroleum refining, or petroleum contaminated with CERCLA hazardous substances not normally occurring with petroleum or petroleum products. It is not possible to determine if the benzene, toluene, and xylenes present on-site are CERCLA hazardous substances without additional information concerning their origin.

Lead is a CERCLA hazardous substance. Leaded gasoline, however, is typically excluded from CERCLA action. Information presently available does not indicate the source of elevated lead concentrations observed on-site. However, the presence of other metals at elevated concentrations suggests the source is not leaded gasoline. Hence, the contamination may be appropriately addressed under CERCLA.

In summary, contamination at the Laguna Quarto site could likely be investigated under CERCLA due to the presence of lead and possibly due to the presence of organic compounds. Remedial action under CERCLA would be contingent upon evaluation of waste characteristics and actual or potential affect to human health or the environment relative to other sites in the nation. NMED is not presently investigating this site under CERCLA authority. As the site is on federal land, the responsibility for investigation under CERCLA is with BLM.

RCRA

There are two major limitations to the possible jurisdiction of the Resource Recovery and Conservation Act (RCRA) over disposal of oilfield wastes in New Mexico playas.

1. RCRA was promulgated in November, 1980, nonretroactively. This means that RCRA does not apply to any facility that disposed of waste hazardous materials prior to this date. Nor are any wastes disposed of prior to this date RCRA hazardous wastes.

2. Regarding wastes disposed of after November, 1980, they must be known to be either: a) characteristic wastes by virtue of the presence of specific mobile hazardous compounds at set levels [characteristic wastes], or b) wastes derived from pure, sole-active-ingredient commercial chemicals [listed wastes]. Either a) or b) requires specific knowledge about the wastes at the time of their disposal.

State statutes enable the State to enforceably require industrial entities to provide complete information regarding all materials disposed of after November, 1980, to make the determinations above.

I hope the above discussion provides the information you need. If you have any questions regarding NPDES or WQCC regulations please contact me at (505) 827-2827. If you have any questions regarding CERCLA, please contact Mr. Randy Merker of the Ground Water Protection and Remediation Bureau at (505) 827-0078. If you have any questions regarding RCRA please contact Mr. Bruce

Swanton, of the Hazardous and Radioactive Materials Bureau at (505) 827-4300.

Sincerely,

Glenn E. Saums
Health Program Manager
Surface Water Section

cc:
Kathleen M. Sisneros, Director, NMED-W&WMD
Steve Cary, Chief, NMED-GWPRB
Randy Merker, NMED-GWPRB
Jim Piatt, Chief, NMED-SWQB
Benito Garcia, Chief, NMED-HRMB
Bruce Swanton, NMED-HRMB
Bill Olson, NMOCD

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

Playa Lakes

BRUCE KING
GOVERNOR

New Mexico DRUG FREE It's a State of Mind!

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

MEMORANDUM

TO: **ANITA LOCKWOOD, SECRETARY**
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

FROM: **WILLIAM J. LEMAY, DIRECTOR** WJL
OIL CONSERVATION DIVISION

SUBJECT: **JURISDICTION FOR DISPOSAL OF OILFIELD WASTE INTO PLAYA LAKES**

DATE: **OCTOBER 24, 1991**

New Mexico's Oil and Gas Act, Section 70-2-12(15) grants authority for the Oil Conservation Division (OCD) "to regulate the disposition of water produced or used in connection with the drilling for or producing of oil or gas or both and to direct surface or subsurface disposal of the water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer".

Prior to March 26,1991, natural playa salt lakes were not considered "waters of the United States" and disposal of oilfield produced water into these playas was regulated solely by the OCD.

On March 26, 1991, EPA Region 6 issued a legal opinion that Laguna Gatuna (a natural playa salt lake in western Lea County) is considered to be a "water of the United States" and all oil and gas waste discharges to the playa are prohibited without a federal NPDES permit pursuant to the Federal Clean Water Act.

On October 10, 1991, EPA Region 6 issued a second opinion deferring the declaration that Laguna Gatuna is a "water of the U. S." until a USF&WS study of wildlife use of the playas in the area is conducted.

In the event the EPA declares a playa lake a "water of the United States", under current state statues, the OCD will retain jusidiction over the disposition of oilfield wastes. Such a declaration would also require facilities disposing of oilfield wastes into playa lakes to apply for a federal NPDES permit. However, depending on the types and quality of the fluids, such a permit may not be granted. Earlier this year, the EPA prohibited discharges of oil and gas waste fluids in the "onshore" NPDES category to "waters of the U. S.".

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

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October 21, 1991

Mr. Tony L. Ferguson
Associate District Manager
Bureau of Land Management
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

RE: B&E, INC.
LAGUNA QUARTO DISPOSAL FACILITY
EDDY COUNTY, NEW MEXICO

Dear Mr. Ferguson:

By letter dated October 18, 1991, you requested a regulatory opinion concerning a trespass site on BLM land adjacent to this disposal facility which is on private land. B&E disposed of drilling solids and basic sediment from primary oil and gas exploration and production operations in unlined disposal pits constructed and operated without BLM authorization. The disposal site is adjacent to Laguna Quarto, a naturally occurring salt lake which has received additional quantities of saline fluids as a result of nearby discharges from potash refining operations.

As you know, wastes from primary oil and gas exploration and production activities are currently exempt from Subtitle C (Hazardous Waste) of the federal Resource Conservation and Recovery Act (RCRA). The scope of the exemption was outlined in EPA's Regulatory Determination which was published in the Federal Register dated Wednesday, July 6, 1988. This included a listing of the types of wastes exempted by EPA from consideration as "Hazardous Wastes", irrespective of the types and concentrations of contaminants. Additionally, correspondence earlier this year from Mr. Don Clay, EPA Assistant Administrator, clarified the status of crude oil tank bottom reclaimers with respect to the exemption and stated that "generally, those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations, are also exempt from the requirements of Subtitle C." The exceptions occur, for example, if RCRA regulated solvents (eg. chlorinated solvents) not unique to oil and gas operations were used to treat the tank bottoms. Copies of both the EPA exempted waste listing and EPA's clarification letter are enclosed.

Regarding CERCLA, the "Superfund Act", it is my understanding that a petroleum exclusion exists that prevents applicability in this instance unless, again, non-unique chemicals were used in an oil reclaiming operation. Also, before a site is listed under CERCLA, a study is undertaken to determine types and amount of exposure to humans and the environment from the pollution caused at a site. In this instance, no human habitation, no protectable ground water, and no fresh surface water exists in the vicinity of the site which would diminish the likelihood of any future CERCLA action if there were CERCLA actionable substances disposed at the site.

Regardless of the regulatory situation, I have questions about what the chemical analyses that were provided BLM by B&E are supposed to demonstrate. If they were done to show whether hazardous constituents in concentrations above RCRA standards are present, the tests conducted were inappropriate. The solids analyses were supposedly performed by Davis Research of Avon, Mississippi. I called Dr. Davis because I suspected that the very high results for metals were the result of analyses for <u>total</u> metals instead of an extractive analysis performed under EPA's new Toxicity Characteristic Leaching Procedure (TCLP) as described in 40 CFR, Part 261, Appendix II -- Method 1311. I was informed that A & L Environmental Services of Memphis was the laboratory that actually conducted all analyses and was given their telephone number. Upon contacting Mr. Jeff Papasan, Director of Environmental Services for A&L, I was told that the analyses were indeed for total metals performed using the 7000 series procedures described in SW-846. Mr. Papasan indicated that results shown in the Davis report likely were at least 20 times the levels which would result from use of Method 1310, and the differences may be even greater because of the hard time he had in digesting the samples in preparation for analysis.

In addition to the metals analyses, the organic results for benzene, toluene, ethyl benzene, and xylenes had detection limits of 1 ppm, or 1000 ppb, which is in excess of EPA's "hazardous waste" value of 0.5 ppm (500 ppb) for benzene that is applicable for non-exempt wastes. Again, the analytical methodology used for the chemical extraction of organics prior to chromatology analysis using Method 8020 may not have been compatible with TCLP Method 1310 and the detection limit should be lower. An additional method (Method 8010) must be used to detect chlorinated solvents, if they are suspected of being used at the site.

In summary, I believe that the materials deposited in the pits are not actionable under either RCRA or CERCLA. In addition, if the analyses were performed to demonstrate the occurrence of RCRA hazardous constituents, improper analytical methods were selected and used for the analyses. Finally, because of the location of the site and the lack of human habitation and absence of fresh water, I believe that the material deposited in the pits poses little environmental threat provided the pits are closed and covered in a manner which prevents further use and prevents runon or runoff of naturally occurring precipitation.

If you have any questions please contact Roger Anderson or William Olson at (505)827-5884.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

enc.

cc: Mike Williams, OCD District Office, Artesia
Kathleen Sisneros, NMED Santa Fe
Roger Hartung, EPA Region VI, Dallas
Pat Rankin, EPA Region VI, Dallas
B&E, Inc., Carlsbad

EPA WASTE CLASSIFICATION
O & G EXPLORATION AND PRODUCTION WASTES*

Oil and Natural Gas Exploration and Production Materials and Wastes Exempted by EPA from Consideration as "Hazardous Wastes" (provided non-exempt waste which is or may be "hazardous" has not been added):

- Produced water;
- Drilling fluids;
- Drill cuttings;
- Rigwash;
- Drilling fluids and cuttings from offshore operations disposed of onshore;
- Geothermal production fluids;
- Hydrogen sulfide abatement wastes from geothermal energy production;
- Well completion, treatment, and stimulation fluids;
- Basic sediment and water and other tank bottoms from storage facilities that hold product and exempt waste;
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments;
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes;
- Workover wastes;
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves;
- Gas plant sweetening wastes for sulfur removal, including amines, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge;
- Cooling tower blowdown;
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste steam);
- Packing fluids;
- Produced sand;
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation;
- Hydrocarbon-bearing soil;
- Pigging wastes from gathering lines;
- Wastes from subsurface gas storage and retrieval, except for nonexempt wastes listed below;
- Constituents removed from produced water before it is injected or otherwise disposed of;
- Liquid hydrocarbons removed from the production stream but not from oil refining;
- Gases from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons;
- Materials ejected from a producing well during the process known as blowdown;
- Waste crude oil from primary field operations and production;
- Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment;
- *Liquid and solid wastes generated by crude oil and crude tank bottom reclaimers****.

Materials and Wastes **Not** Exempted (**may** be a "hazardous waste" if tests or EPA listing define as "hazardous") **:

- Unused fracturing fluids or acids;
- Gas plant cooling tower cleaning wastes;
- Painting wastes;
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids;
- Vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste;
- Refinery wastes;
- *Liquid and solid wastes generated by refined oil and product tank bottom reclaimers****;
- Used equipment lubrication oils;
- Waste compressor oil, filters, and blowdown;
- Used hydraulic fluids;
- Waste solvents;
- Waste in transportation pipeline-related pits;
- Caustic or acid cleaners;
- Boiler cleaning wastes;
- Boiler refractory bricks;
- Boiler scrubber fluids, sludges, and ash;
- Incinerator ash;
- Laboratory wastes;
- Sanitary wastes;
- Pesticide wastes;
- Radioactive tracer wastes;
- Drums, insulation, and miscellaneous solids.

---

* Source: Federal Register, Wednesday, July 6, 1988, p.25,446 - 25,459.

** See important note on 1990 disposal restrictions for non-exempt waste on reverse.

*** See reverse side for explanation of oil and tank bottom reclaimer listings.

(rev. NMOCD 9/91)

NOTES:

1. As of September 25, 1990, any facility disposing of 1.1 tons or more of **non**-exempt waste per month with benzene as a constituent (e.g. oily liquid or solids, or aromatic wastes) is disposing of hazardous waste if, after testing, benzene levels of liquids, and of liquid leachate from solids are above 0.5 milligrams per liter (equivalent to 500 parts per billion). Benzene is a naturally occurring constituent of crude oil and refined product (especially gasoline), and is also used as a cleaning solvent. (Other types of solvents and chemicals have been subject to hazardous waste rules for several years.)

   As of March 29, 1991, facilities disposing of between 0.11 and 1.1 tons of **non**-exempt waste per month became subject to the same rules. Regulation of such facilities is the responsibility of either the US Environmental Protection Agency or the New Mexico Environment Department (dependent on jurisdiction transfer from USEPA).

   The following OCD regulated facilities, especially, may be subject to hazardous waste rules for disposal of wastes and contaminated soils containing benzene:

   - -- Oil and gas service companies having wastes such as vacuum truck, tank, and drum rinsate from trucks, tanks and drums transporting or containing non-exempt waste.
   - -- Crude oil treating plants and crude tank bottom reclaimers using benzene solvent, or liquids containing benzene as cleaning solutions.
   - -- Transportation pipelines and mainline compressor stations generating waste, including waste deposited in transportation pipeline-related pits.

   Source: Federal Register, Thursday, March 29, 1990, p.11,798 - 11,877.

2. In April, 1991, EPA clarified the status of oil and tank bottom reclamation facilities:

   A. Those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations are also exempt from the hazardous waste requirements. For example, wastes generated from the process of recovering crude oil from tank bottoms are exempt because the crude storage tanks are exempt.

   B. Those reclaimer wastes derived from non-exempt wastes (eg. reclamation of used motor oil, refined product tank bottoms), or that otherwise contain material which are not uniquely associated with or intrinsic to primary exploration and production field operations would not be exempt. An example of such non-exempt wastes would be waste solvent generated from the solvent cleaning of tank trucks that are used to transport oil field tank bottoms. The use of solvent is neither unique nor intrinsic to the production of crude oil.

   Source: EPA Office of Solid Waste and Emergency Response letter opinion dated April 2, 1991, signed by Don R. Clay, Assistant Administrator.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 1991

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Paul M. Bohannon, Esq.
Porter & Clements
NCNB Center
7000 Louisiana, Suite 3500
Houston, Texas 77002-2730

Dear Mr. Bohannon:

This is to inform you that we have concluded our review of the September 18, 1990 Request by Waste Crude Oil Reclaimers concerning the applicability of Subtitle C of the Resource Conservation and Recovery Act (RCRA) to crude oil reclaimer wastes. This letter continues with a summary of our tentative conclusions from the review of the request and our course of action for responding to the request.

In light of your request, and based upon our communications with various state regulatory authorities and industry representatives, it appears both necessary and appropriate at this time to clarify the Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes (see 53 FR 25446; July 6, 1988) with respect to crude oil reclaimer wastes. The Agency plans to respond to your request in the form of an interpretive notice that will be published in the Federal Register. The notice would explain and clarify the intended meaning of the language concerning wastes from crude oil and tank bottom reclaimers that appeared in the Agency's Regulatory Determination. Specifically, the forthcoming notice would identify those reclaimer wastes that are and are not exempt from Subtitle C of RCRA.

While the Agency plans to detail its explanation of exempt and non-exempt wastes in the forthcoming notice, following is a brief summary of our preliminary position on reclaimers' wastes. Generally, those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations are also exempt from the requirements of Subtitle C. For example, wastes generated from the process of recovering crude oil from tank bottoms obtained from product storage facilities at primary field operations are exempt from Subtitle C because the product storage tank bottoms are exempt. This is based largely on the long held principle that, generally, wastes derived from exempt wastes remain exempt.

However, there are also solid and liquid wastes from reclaimer operations that are not exempt from Subtitle C to which the Agency intended to refer in its 1988 notice. Generally, those reclaimer wastes derived from non-exempt oilfield wastes or that otherwise contain materials which are not uniquely associated with or intrinsic to primary exploration and production field operations would not be exempt. An example of these non-exempt wastes would be waste solvent generated from the solvent cleaning of tank trucks that are used to transport oil field tank bottoms. Such wastes would not be exempt from Subtitle C because the use of solvent is neither unique nor intrinsic to the production of crude oil.

The Agency plans to issue the notice as a clarification to a past Agency action -- the Regulatory Determination process -- which was subjected to public review and comment procedures. As such, the Agency would not solicit comments or additional information on the forthcoming notice. However, the Agency's public docket on the Regulatory Determination will be supplemented with materials you supplied, as well as other materials obtained by the Agency during the course of evaluating your September 18, 1990 request.

The Agency realizes the significant role that waste crude oil reclaimers can play in contributing to its waste minimization policy and goals. Our upcoming interpretive notice will allow us to avoid the inequities that would be imposed if we were to classify wastes that are exempt at primary field operations as non-exempt when generated off-site by commercial reclaimers. We trust that this letter, and the forthcoming Federal Register notice will be responsive to the concerns you and others have raised. Meanwhile, if you have any questions, please contact Mr. Bob Tonetti at (703) 308-8426.

Sincerely,

Walter W. Kovalick, Jr. for

Don R. Clay
Assistant Administrator

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88202-1397

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:

1703 (064)

OCT 18 1991

New Mexico Environment Dept.
Attn: Kathleen Sisneros
Division Director - Water and Waste Management
1190 St. Francis Drive
Santa Fe, New Mexico 87502

NM Oil Conservation Division
Attn: Dave Boyer
Environmental Bureau Chief
P.O. Box 2088
Santa Fe, New Mexico 87504

US Env. Protection Agency, Region VI
Attn: Roger Hartung (6WE)
First Interstate Bank Bldg., Suite 1200
1445 Ross Ave.
Dallas, Texas 75202

US Env. Protection Agency, Region VI
Attn: Pat Rankin (6C-A)
First Interstate Bank Building, Suite 1200
1445 Ross Ave.
Dallas, Texas 75202

Gentlemen:

This letter is a request for a regulatory opinion concerning a trespass site on public lands. The site contains waste material from a produced water discharge facility on adjacent private land. We request you provide this office with a statement addressing Resource Conservation Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulatory status. Enclosed are a site map, a copy of test results from samples taken at the site, and a copy of test results from a typical product sample.

B&E, Inc. operates a produced water discharge facility on private land in Eddy County, New Mexico. B&E disposed of waste products from this facility in pits they constructed on adjacent public land. Construction of these pits was not authorized by the Bureau of Land Management (BLM). When the BLM was notified of the situation, a trespass notice was written. B&E ceased disposal operations at the trespass site when the notice was received.

The BLM requires remediation of all trespass sites. B&E and the BLM are working on an acceptable remediation plan for this site. However, a regulatory opinion from your agency addressing the status of the waste materials at this site is required prior to remediation.

We respectfully request a response by November 8, 1991. If you have any questions or require additional information, please contact Al Collar or Tim Kreager at the BLM Roswell District Office, (505) 622-9042.

Sincerely,

Tony L. Ferguson

Tony L. Ferguson
Associate District Manager

3 Enclosures
1 - Site Map
2 - Test Results
3 - Test Results

cc:
B&E, Inc.
P.O. Box 756
Carlsbad, N.M. 88220

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

September 16, 1991

Bureau of Land Management
Roswell District Office
P.O. Box 1397
1717 West 2nd Street
Roswell, NM 99202

RE: Independent Test Results
Soil - 3 pits

ATT: Al Collar
Hazardous Materials Coordinator

Enclosed please find copies of the soil sample results from the Davis Research, Inc. located in Avon, Mississippi.

We are aware that there is lead present in the soil. It seems to be a complete mystery where it came from. Our main concern and the questions we have are;

1. If the lead is present in the one (1) pit that we put nothing in, then is it possible that there is lead present in the soil naturally?

2. Can there be further testing done in adjacent areas to solve this mystery?

We certainly appreciate the cooperation we have experienced with the BLM. Phil Withrow and myself enjoyed your visit in our office on Friday, Sept. 13, 1991.

We anxiously await your reply and possible answers to our questions.

Thank you again and if you have any questions, please don't hesitate to contact us.

Sincerely,

Valerie Lemon-Pierce

Valerie Lemon-Pierce
Asst. General Manager

Enclosures
xc:file

DAVIS
Davis Research, Inc.
P. O. Box 40
Avon, MS 38723
(601) 332-1943

August 30, 1991

B & E, Inc.
P.O. Box 2292, 700 North Shipp
Hobbs, New Mexico 88240

Arsenic (Ar), Chromium (Cr), Lead (Pb), Mercury (Ag), and Selenium (Se)

Lab no.	B & E ID	(ppm) Ar	Cr	Pb	Ag	Se
1702	Pit #1, sample #1 (0-8 in)	2.46	35.5	93.1	0.64	0.53
1703	Pit #1, sample #1 (10-20 in)	3.08	45.5	113.0	0.30	1.17
1706	Pit #1, sample #3 (0-6 in)	3.19	23.5	130.0	0.24	0.77
1707	Pit #1, sample #3 (6-12 in)	2.27	49.1	104.0	0.14	0.80
1708	Pit #1, sample #4 (5 in)	2.47	23.8	147.0	0.25	1.06
1709	Pit #2, sample #1 (0-10 in)	2.25	13.5	13.9	0.07	1.28
1710	Pit #2, sample #1 (20-28 in)	7.00	39.7	186.0	0.29	0.66
1711	Pit #2, sample #1 (36-45 in)	5.52	52.4	508.0	0.15	0.99
1712	Pit #3, sample #1 (0-10 in)	1.47	5.20	13.6	0.05	1.87

Analysis done according to USEPA Manual SW-846 "Test Methods for Evaluating Solid Waste. Physical/Chemical Methods". 3rd Edition, September 1986.

Robert G. Davis
Robert G. Davis, Ph.D.
President, Laboratory Director

DAVIS
Davis Research, Inc.
P. O. Box 40
Avon, MS 38723
(601) 332-1943

August 30, 1991

B & E, Inc.
P.O. Box 2292, 700 North Shipp
Hobbs, New Mexico 88240

BTEX

Lab no.	B & E ID	(ppm) Benzene	Toluene	Ethyl Xylenes	Total Xylenes
1704	Pit #1, sample #2 (0-10 in)	<1	<1	9	6
1705	Pit #1, sample #2 (12-18 in)	<1	<1	9	6
1709	Pit #2, sample #1 (0-10 in)	<1	<1	<1	<1
1710	Pit #2, sample #1 (20-28 in)	<1	5	7	31
1711	Pit #2, sample #1 (36-45 in)	<1	1	<1	<1
1712	Pit #3, sample #1 (0-10 in)	<1	2	3	8

Detection limit: 1 ppm

Analysis done according to SW-846 EPA Methods 8020

< = less than

Robert G. Davis

Robert G. Davis, Ph.D.
President, Laboratory Director

DAVIS
Davis Research, Inc.
P. O. Box 40
Avon, MS 38723
(601) 332-1943

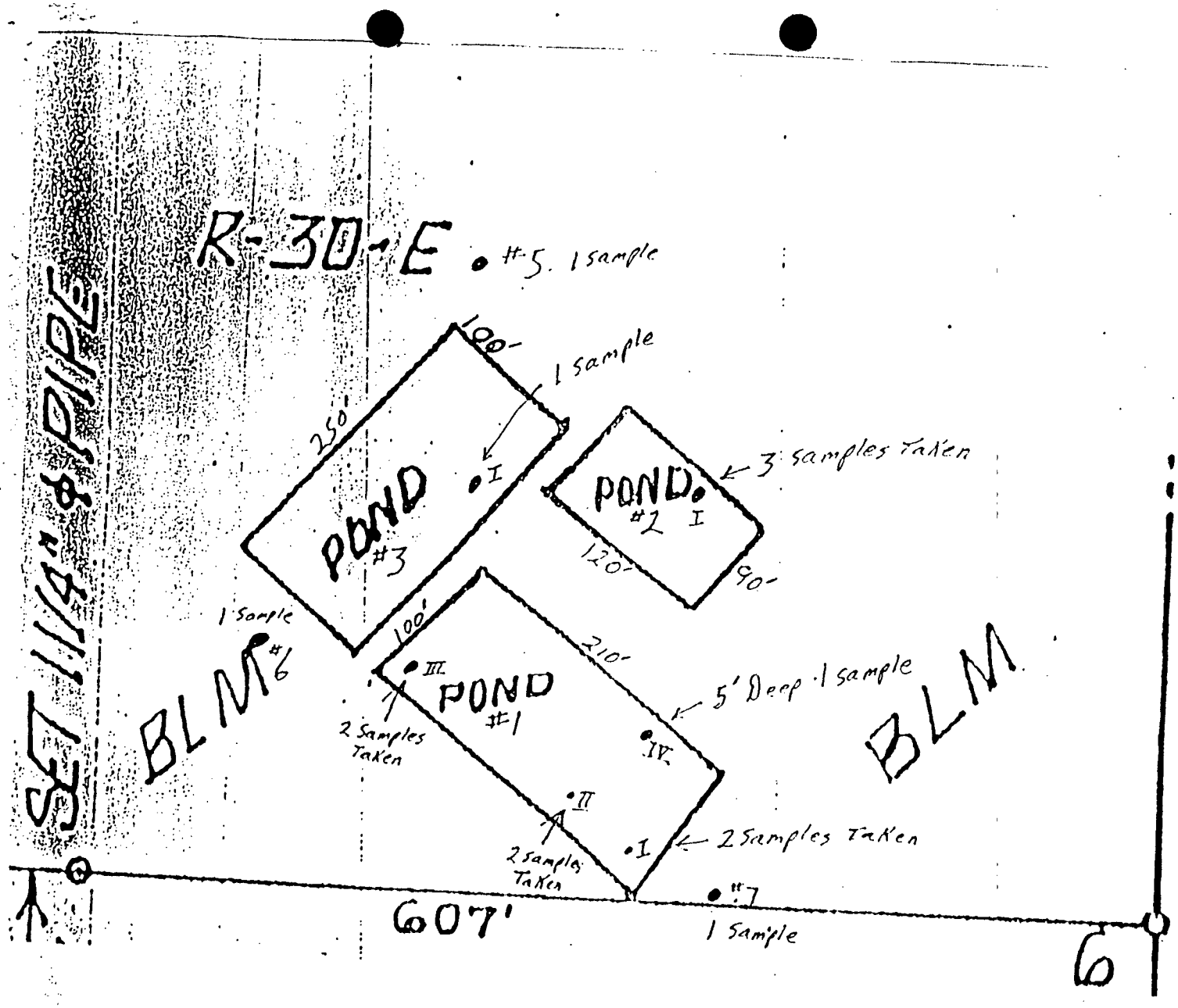
August 30, 1991

B & E, Inc.
P.O. Box 2292, 700 North Shipp
Hobbs, New Mexico 88240

SAR (Sat. paste)

Lab no.	B & E ID	Analysis
1713	STK #5	10.5
1714	STK #6	40.6
1715	STK #7	38.8

Robert G. Davis
Robert G. Davis, Ph.D.
President, Laboratory Director



#5, 6, 7 - NO METAL Test

Samples: Taken ON SITE Sealed & Boxed
Witnessed By. T2C B&E Inc.
J. D. Arg. BLM
BNM

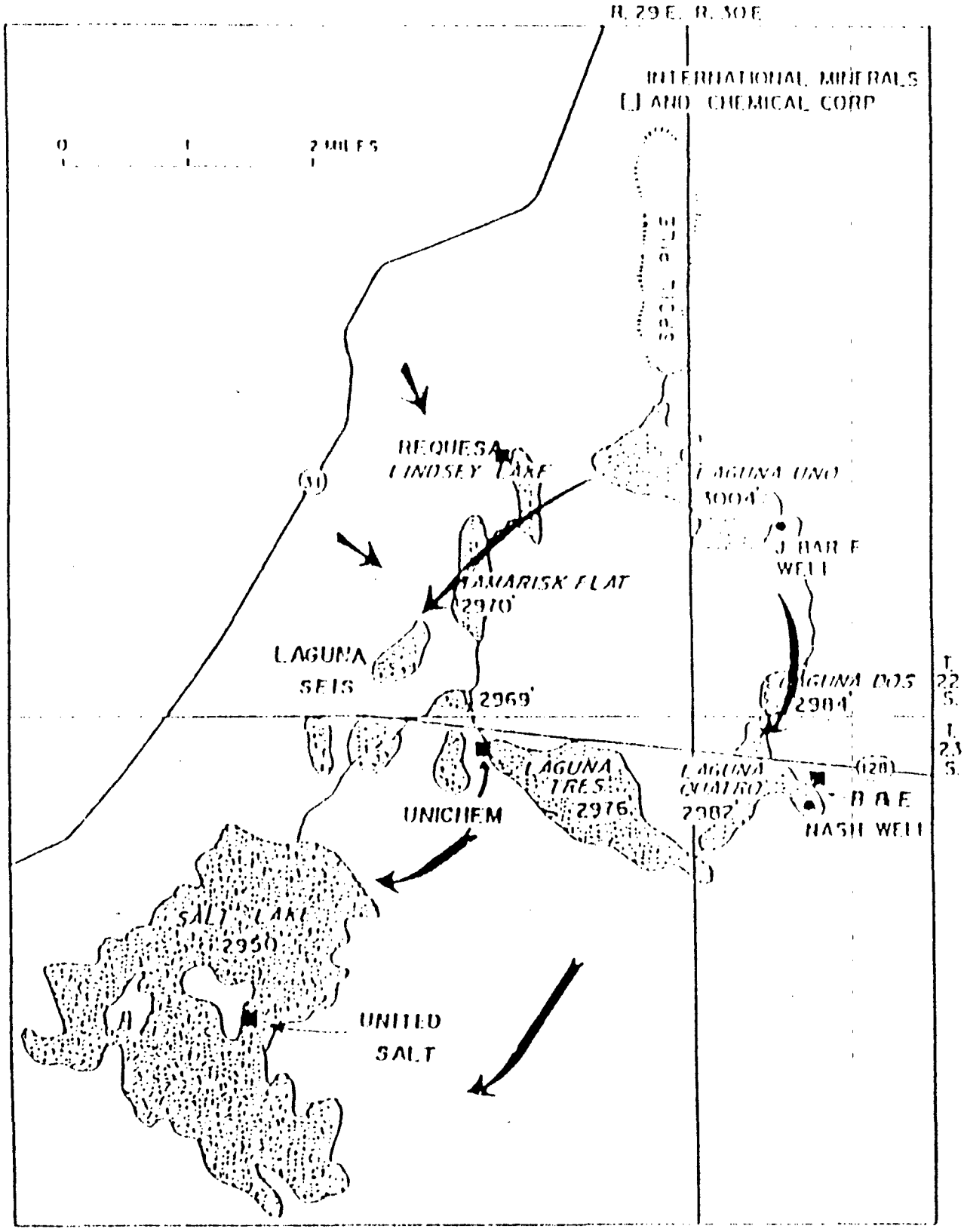


Figure 1.--Distribution of lakes in the vicinity of IMC refinery and Salt Lake, with selected altitudes. Arrows show generalized direction of ground water flow.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 58240

TO: Mr. Gene Green
P. O.Box 756, Carlsbad, NM 88220

SAMPLE RECEIVED 5-4-82

RESULTS REPORTED 5-7-82

COMPANY B & E Inc. LEASE As listed

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN

NO. 1 Produced water - taken from Brantley, 5-3-82 mud

NO. 2 Produced water - taken from Huber State, 5-3-82 Rig Supply

NO. 3 Produced water - taken from SCB #4, 5-3-82 mud

NO. 4 Produced water - taken from Southland State, 5-3-82 Rig Supply

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0904	1.1760	1.1369	1.1720
pH When Sampled				
pH When Received	6.46	5.86	6.83	5.91
Bicarbonate as HCO_3	1,488	561	1,708	744
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	13,600	67,000	2,300	43,000
Calcium as Ca	3,440	21,200	564	14,100
Magnesium as Mg	1,215	3,402	216	1,883
Sodium and/or Potassium	52,034	80,055	87,956	90,318
Sulfate as SO_4	312	234	1,775	391
Chloride as Cl	88,774	170,446	134,936	169,025
Iron as Fe	441	155	48.3	169
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	147,263	275,898	227,155	276,461
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.071	0.048	0.059	0.048
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	0.3	0.0	0.0	0.0
Nitrate, as NO_3	0.0	0.0	0.0	0.0
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Arsenic, as As	0.000	0.000	0.000	0.000
Cadmium, as Cd	0.20	0.20	0.80	0.20
Cyanide, as CN	0.00	0.00	0.00	0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

The undersigned certifies the above to be true and correct to the best of his know-

Form No. 3 **ledge and belief.**

By ___

Waylan C. Martin, M. A.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

'91 APR 1 AM 9 44

March 26, 1991

RECEIVED
APR 02 1991
SURFACE WATER
QUALITY BUREAU

Mr. Jim Piatt
Acting Bureau Chief
Surface Water Bureau
Environmental Improvement Division
New Mexico Health and Environment Department
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, New Mexico 87503

Re: Jurisdictional Status of Laguna Gatuna under the Clean Water Act

Dear Mr. Piatt:

This responds to your March 11, 1991, inquiry on the jurisdictional status of Laguna Gatuna, a playa lake located in Lea County, New Mexico. As pointed out in your letter, EPA responded to an earlier request for jurisdictional advice on Laguna Gatuna on August 13, 1987, concluding that the information provided with that request did not indicate it a "water of the United States." Significantly, the information on which that conclusion was based included a statement that Laguna Gatuna "supports no wildlife...of any kind."

In essence, we regard your inquiry as a request for reconsideration of that advice on the basis of information recently provided by the Bureau of Land Management (BLM) and the U.S. Fish & Wildlife Service (USFWS). In contrast to the basis for EPA's August 13, 1987 advice, that information indicates Laguna Gatuna is in fact used as a feeding and loafing area by migratory birds during their spring and fall migrations and as a nesting area during the breeding season. Although neither BLM or USFWS specifically identifies the species using the playa, their letters suggest they may include listed threatened and endangered species, including the Aplomado Falcon and Snowy Plover, and clearly show Laguna Gatuna is susceptible to use by those migratory species.

EPA Region 6 has regarded use by migratory birds as a use in interstate commerce since at least 1979. See, e.g., "Lake Whalen -- 'Navigable Waters' Determination," 1 Gen. Couns. Ops. 165 (January 26, 1979). Under the Agency's current definition of "waters of the United States" at 40 CFR §122.2, even potential use by migratory birds is sufficient to show a specific surface water is subject to federal jurisdiction under the Clean Water Act. Accordingly, the information submitted by BLM and USFWS compels a conclusion that Laguna Gatuna is indeed a water of the United States. Section 301(a) of the Clean Water Act, 33 U.S.C. §1311(a), thus prohibits

discharges of pollutants to Laguna Gatuna in the absence of an authorizing National Discharge Elimination System (NPDES) Permit.

Your March 11 inquiry indicates your Agency is contemplating issuance of a State permit for a surface brine disposal facility proposed by Petro-Thermo Corporation. It did not, however, indicate the location or nature of the wells producing the brine or whether the contemplated permit would authorize its discharge to Laguna Gatuna. If any of the wells producing that brine fall within the Onshore Subcategory of the Oil and Gas Extraction Point Source, its discharge to Laguna Gatuna is presumably prohibited by NPDES General Permit NMG320000. See 56 Fed. Reg. 7698 (February 25, 1991). Moreover, Section 510 of the Clean Water Act, 33 U.S.C. §1370, preempts New Mexico's authority to authorize discharges of Onshore Subcategory produced water to any water of the United States, including Laguna Gatuna.

Please note that we do not here determine that Petro-Thermo's proposed discharge would necessarily be prohibited by NPDES Permit NMG320000. Possibly, it would be subject to another subcategory of the Oil and Gas Extraction Point Source Category and might thus be authorized to discharge through issuance of an individual NPDES permit with effluent limitations reflecting appropriate levels of control for that subcategory, New Mexico's water quality standards, and other applicable State and federal law. Making a decision on that issue would, however, require substantially more information on the proposed facility and discharge.

We are providing a copy of this letter to the attorneys which requested the 1987 jurisdictional advice and to Laguna Gatuna, Inc., which we understand may now be discharging wastewater to Laguna Gatuna without an NPDES permit. If there are further questions in this matter, please call Assistant Regional Counsel Pat Rankin at (214) 655-2106.

Sincerely yours,

Myron O. Knudson

Myron Knudson, P.E.
Director
Water Management Division

cc: Mr. Tom O'Brien
USFWLS

Mr. T. Kreager
BLM

Petro-Thermo Corporation

Laguna Gatuna, Inc.

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted

Paul Watler, Esq.
Jenkins & Gilchrist

Director
New Mexico Department of Fish and Game

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 1991

Mr. Paul M. Bohannon, Esq.
Porter & Clements
NCNB Center
7000 Louisiana, Suite 3500
Houston, Texas 77002-2730

Dear Mr. Bohannon:

This is to inform you that we have concluded our review of the September 18, 1990 Request by Waste Crude Oil Reclaimers concerning the applicability of Subtitle C of the Resource Conservation and Recovery Act (RCRA) to crude oil reclaimer wastes. This letter continues with a summary of our tentative conclusions from the review of the request and our course of action for responding to the request.

In light of your request, and based upon our communications with various state regulatory authorities and industry representatives, it appears both necessary and appropriate at this time to clarify the Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes (see 53 FR 25446; July 6, 1988) with respect to crude oil reclaimer wastes. The Agency plans to respond to your request in the form of an interpretive notice that will be published in the Federal Register. The notice would explain and clarify the intended meaning of the language concerning wastes from crude oil and tank bottom reclaimers that appeared in the Agency's Regulatory Determination. Specifically, the forthcoming notice would identify those reclaimer wastes that are and are not exempt from Subtitle C of RCRA.

While the Agency plans to detail its explanation of exempt and non-exempt wastes in the forthcoming notice, following is a brief summary of our preliminary position on reclaimers' wastes. Generally, those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations are also exempt from the requirements of Subtitle C. For example, wastes generated from the process of recovering crude oil from tank bottoms obtained from product storage facilities at primary field operations are exempt from Subtitle C because the product storage tank bottoms are exempt. This is based largely on the long held principle that, generally, wastes derived from exempt wastes remain exempt.

However, there are also solid and liquid wastes from reclaimer operations that are not exempt from Subtitle C to which the Agency intended to refer in its 1988 notice. Generally, those reclaimer wastes derived from non-exempt oilfield wastes or that otherwise contain materials which are not uniquely associated with or intrinsic to primary exploration and production field operations would not be exempt. An example of these non-exempt wastes would be waste solvent generated from the solvent cleaning of tank trucks that are used to transport oil field tank bottoms. Such wastes would not be exempt from Subtitle C because the use of solvent is neither unique nor intrinsic to the production of crude oil.

The Agency plans to issue the notice as a clarification to a past Agency action -- the Regulatory Determination process -- which was subjected to public review and comment procedures. As such, the Agency would not solicit comments or additional information on the forthcoming notice. However, the Agency's public docket on the Regulatory Determination will be supplemented with materials you supplied, as well as other materials obtained by the Agency during the course of evaluating your September 18, 1990 request.

The Agency realizes the significant role that waste crude oil reclaimers can play in contributing to its waste minimization policy and goals. Our upcoming interpretive notice will allow us to avoid the inequities that would be imposed if we were to classify wastes that are exempt at primary field operations as non-exempt when generated off-site by commercial reclaimers. We trust that this letter, and the forthcoming Federal Register notice will be responsive to the concerns you and others have raised. Meanwhile, if you have any questions, please contact Mr. Bob Tonetti at (703) 308-8426.

Sincerely,

Walter W. Kovalick, Jr. for

Don R. Clay
Assistant Administrator

IN REPLY REFER TO
1790 (067)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carlsbad Resource Area Headquarters
P. O. Box 1778
Carlsbad, New Mexico 88220

ALBUQUERQUE, F.O.

	Fowler-Propst 5/13/91
	Donahoo
	Burton
	Hanson
	Cully
	Mullins
	O'Brien
	Roehm
↘	Roy
	Lusk
	Hamilton-McLean
	Lovato
	Woodfield
	File

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USFWS-AFO
MAY 9 - '91

STAFF REPORT
PRODUCED WATER DISPOSAL INTO LAGUNA TRES AND LAGUNA QUATRO EDDY COUNTY, NEW MEXICO

Purpose

This document is intended to summarize the BLM's position and facts concerning the disposal of produced water into the naturally occurring salt water lakes of Laguna Tres and Laguna Quatro.

Introduction

Currently there are two salt water disposal facilities operating in trespass: 1) the B&E trucking facility located in the NE of the SE quarter of Section 6, T 23 S, R 30 E, and; 2) the Unichem International Inc. facility located in the north half of Section 2, T 23 S, R 29 E (see figure 1). The B&E facility is located on private land but discharges into Laguna Quatro which is primarily public land. The Unichem facility is located on state land but discharges into Laguna Tres which is, once again, primarily public land.

Both of the disposal operations are occurring within the salt water disposal area designated by the New Mexico Oil Conservation Division (NMOCD), order No. R-3221. These facilities were approved by the NMOCD in 1982, order No. 7031, however neither facility was approved by the BLM. Both of these companies have been operating in trespass since 1982 and requests for rights-of-way approval have not been made as of this date.

The BLM was unaware of the problem until sometime in the fall of 1988 when some private individuals expressed concern over dead birds found in the area. After conducting a field inspection of the B&E facility, the BLM issued a trespass notice for the unauthorized disposal of produced water into the lake. The trespass notice also included the unauthorized disposal of oil-field waste (basic sediments and water, i.e. "tank bottoms") into an unlined pit on federal land. B&E was required to collect and analyze samples of the produced water and the solid material contained in the unlined pits. The results of these analyses are discussed in greater detail later in this paper.

Concerns

Before listing concerns in relation to the proposed action and the possible impacts associated with the action, there should be a clear understanding of

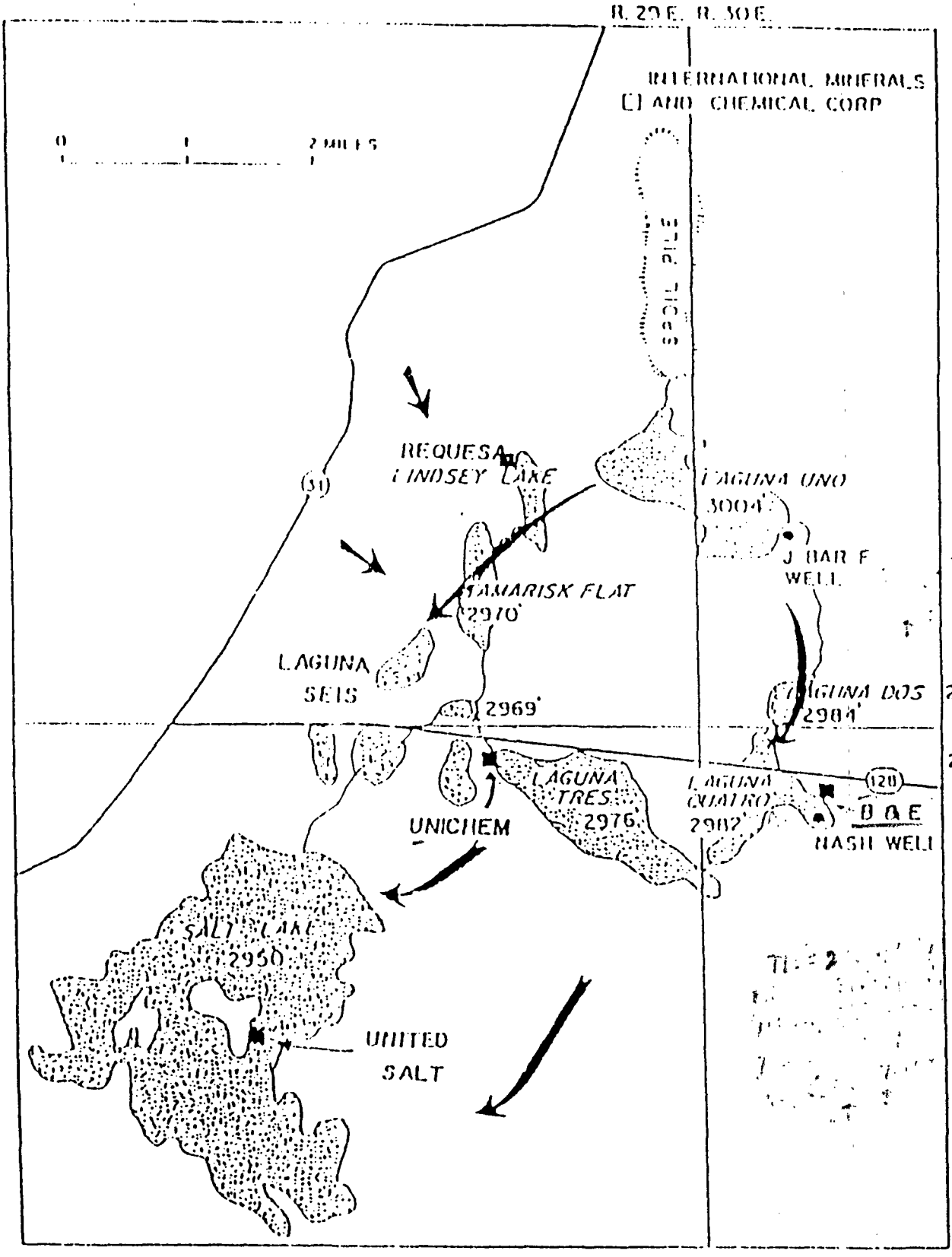

Figure 1.--Distribution of lakes in the vicinity of IMC refinery and Salt Lake, with selected altitudes. Arrows show generalized direction of ground-water flow.

what the ecosystem is and its values. The wetland ecosystem associated with this action is a naturally occurring intricate system of salt lakes or "playas". These lakes have always contained various levels of salts since the lakes were initially formed during the Cenozoic era. These ecosystems are very fragile in that several species of plant and animal life evolved concurrently with these types of communities. These same species generally have a narrow range of salinity tolerance and are highly specialized to survive within the those confines. Some examples include brine shrimp, Pecos pupfish, pickle weed and California sealavender. This same network of wetlands historically and presently provides crucial habitat for a host of migratory and non-migratory bird species. Some of the species known to use the area are Federally listed species. These include the peregrine falcon and aplomado falcon. Although these species have declined tremendously throughout the United States they are still being observed migrating through southeast New Mexico and have been observed at the salt lakes. It may be that the continued existence of the threatened and endangered species in this area is directly linked to the health of these wetland ecosystems. The following scenario takes place on the salt lakes but only represents a minute fragment of the complex web of life that is actually occurring there.

Peregrine falcons migrate through the area and begin hunting for shorebird prey.

Snowy plovers have 10 young each year that are hatched and raised on the lake. The falcon swoops upon the group and kills a young snowy plover, it then retrieves and takes to its perch to eat.

The remaining snowy plovers continue searching and feeding on brine shrimp.

The brine shrimp are experiencing a decline in numbers due to drought. The salinity levels are increasing due to water evaporation, and organic material is low due to the lack of regeneration from watershed runoffs.

If we begin entering pollutants into the system, the problems are compounded and we begin to lose grasp of what is really causing what (i.e. the decline in brine shrimp, etc.). There is no question that wetland areas are complex, valuable ecosystems; but unfortunately, there is very little scientific ecological data available for us totally understand the ecosystem functions. The concerns stated in this section demonstrate that the wetland ecosystem is being impacted without our knowing the extent of the problem or the resultant damage.

When the NMOCD approved the salt water disposal facilities on these lakes, the primary concerns addressed were; 1) how much water are these lakes able to hold without a significant change in lake level, and 2) will any fresh groundwater supplies be affected. Since these lakes contained water which was similar in salt concentration to the brine water, it seemed to be a logical disposal location. However, after reviewing all the information available we feel that the following concerns should have been addressed:

1. What affects are the hazardous constituents contained in the produced water having on the wetland ecosystem?
2. Can the hazardous materials accumulate to the extent that over a period of time the lakes become hazardous waste sites?

3. What affects are the non-hazardous chemical constituents such as oil, iron sulfate, barium, and boron having on the wetland ecosystem?

4. To what degree are these chemicals being attenuated, i.e. dilution, evaporation, sorption, biodegradation, etc.?

5. If the wetland ecosystem is degrading as a result of effluents and current disposal volume, what type and level of disposal could facilitate safe operation?

Planning, Policy, and Law

The Carlsbad Resource Management Plan (RMP) does allow for disposal of produced water in unlined pits by special permit in areas described in NMOCD order R-3221, and both of the subject lakes lie within this area. However, the RMP does not allow for disposal of produced water near playa lakes, water wells, or springs, or within 100-year floodplains. Obviously, direct disposal into the playa lakes contradicts this RMP decision.

The BLM policy and guidance on disposal of produced water from oil and gas production on public land places further restrictions on off-lease, collective disposal pit facilities. Most important among these are; 1) the requirement that the pit shall be impervious to leakage or, if not, lined, and 2) a requirement that there be a monitoring and contingency plan for any escape of water from the facility, including overflow, washout, infiltration, seepage, and/or leakage. The policy also states that the preferred method of disposing of produced water is by injection. Clearly, the intent of the BLM policy statement and the RMP is to prevent the discharge of produced water onto the surface.

In addition to the RMP there are several environmental laws with which the Bureau is required to comply. These include the Endangered Species Act, Protection of Migratory, Game and Insectivorous Birds Act, and the Fish and Wildlife Coordination Act. Our level of responsibility and commitment for each of these acts are outlined below.

Endangered Species Act

The Bureau is responsible for carrying out this act and is required to protect and enhance endangered species or their habitat on, or in association with all public lands. Therefore, the Bureau must assure that all proposed land use actions on public land will not detrimentally impact the survival or recovery of any state or federally listed species. Currently, we know the federally endangered aplomado falcon (Falco femoralis) and the federally endangered peregrine falcon (Falco peregrinus) occur on and around these wetlands (BLM files, 1988 and S. West, 1989). As a result, the Bureau entered formal consultation with U.S. Fish and Wildlife Service (USFWS) August 16, 1989. Copies of our letter and the USFWS response are attached as Appendix A. The falcon species are not known to nest in the area but they do use the wetlands for roosting, hunting, and feeding especially during their fall and spring migration. The snowy plover (Charadrius alexandrinus) is currently a federal "notice of review" species with the possibility of being listed as endangered or threatened in the near future. This species nests on both Laguna Tres and Laguna Quatro. Additional state and federally listed animals and plants probably occur within the area, but detailed surveys have not been conducted to date. Section 7 of the Act requires us to prepare a biological assessment

of the direct and indirect impacts of the proposed action upon the survival and recovery of the falcons. Currently, we do not have the time, money or manpower to collect the information necessary to fulfill these requirements. A very important aspect of the assessment is the inclusion of any conservation measures and/or reasonable and prudent alternatives to the proposed action which, when implemented, would eliminate any jeopardy to the continued existence of the species involved. These conservation measures can include compensation outside of the area affected by the proposed activity (i.e purchase of habitat, habitat improvements, reclamation of disturbed habitats, etc.). However, we are still responsible for eliminating the adverse impacts of the proposed action and jeopardy to the falcons. After the Bureau provides the USFWS with an assessment, the consultation process is terminated when the USFWS issues a final opinion to us. This will be stated as either a jeopardy or non-jeopardy opinion. If a jeopardy biological opinion is issued, BLM must notify the USFWS in writing of its final decision on the proposed action. Currently, the USFWS has serious concerns beyond the Endangered Species Act which includes Migratory Species and Clean Water Act violations.

Protection of Migratory, Game and Insectivorous Birds

Under this act the Secretary of the Interior is authorized to adopt such measures as may be necessary to ensure the preservation, distribution, introduction, and restoration of game birds and other wild birds. The Bureau's level of responsibility includes assurance that public land managers fulfill these commitments through planning and review of land use actions. The migratory birds protected by this act are listed in 50 CFR 10.13.

For the last two years, the Bureau and USFWS have entered into a partnership to demonstrate their commitment to protection of migratory birds. This commitment is especially apparent in New Mexico with the extensive meetings and efforts we expended with the New Mexico Oil Conservation Division in developing new state regulations for fluid disposal to conform with Bureau standards. The USFWS is very sincere in its enforcement of these regulations as they have begun assessing fines of up to $10,000 per incident for the loss of migratory species associated with oil and gas production and facilities. The Bureau is responsible for evaluating all proposed fluid disposal actions as to the stipulations or mitigation necessary to protect migratory species within the area. In 1989, our staff biologist and Mr. Steve West documented some bird species loss on and adjacent to the B&E fluid disposal site but we are not sure as to the Bureau's liability if migratory bird species loss is documented in association with a Bureau approved action.

We currently know of 40 different migratory bird species that use the Laguna Tres and Laguna Quatro wetlands extensively (BLM files and S. West). With detailed inventories, this figure will probably exceed 100 species. Most importantly, these wetlands provide nesting and rearing habitat for several colonial and shorebird species (S. West, 1989). We have not found specific Bureau policy that requires us to coordinate with the USFWS under this Act, but two of the species included on the Migratory Birds list are the falcons mentioned under the endangered species section above. Therefore, the potential loss of falcons as migratory bird species would be addressed under the guise of the Endangered Species Act.

Fish and Wildlife Coordination Act

The purpose of this act is to recognize the "vital contribution of our wildlife resources to the Nation, the increasing public interest and significance thereof due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs..." . In other words, wildlife associated with water resource development is to be given equal consideration. The key to this act is that it authorizes the Secretary of the Interior to "make such investigations as he deems necessary to determine the effects of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and other polluting substances on wildlife, and to make reports to the Congress concerning such investigations and of recommendations for alleviating dangerous and undesirable effects of such pollution".

There is no specific Bureau policy detailing our consultation responsibility, if any; but the Act does describe the level of cooperation, surveys and investigations for which agencies are responsible. Also, any agency within the Department can initiate to the Secretary a request for an investigation. It does not have to be the agency that is considering authorization of the proposed action.

Related Issues and Questions

It is not possible for the BLM to approve such operations without an environmental assessment which addresses the above mentioned concerns. Due to all the unknown variables involved, such as the effects of toxic chemicals and other chemicals on wetland ecosystems, this environmental assessment would be very difficult for the Carlsbad Resource Area (CRA) to prepare.

Both B&E and Unichem International are being permitted to continue operations without written authorization on an interim basis pending a decision as to whether or not we can authorize these operations. If a decision is not forthcoming in the near future, can we continue to allow the unauthorized disposal until a decision is made? Indications are that one to two years, if not longer, could be required to gather the data necessary to prepare an environmental assessment or environmental impact statement which will adequately address the T&E species and hazardous materials concerns.

If operations were to shut down immediately, there would not only be an economic impact on B&E Trucking and Unichem International but there would also be impact to the operators which utilize these two facilities. If suddenly faced with no place to dispose of produced water, would individual operators shut in their oil & gas wells, or would production continue with the produced water being disposed of illegally? Will this have a bigger environmental impact than that which is currently being realized?

Another concern is the affect that the closure of these facilities would have on similar facilities on federal, state, and private lands. Approximately 18 miles northeast of Laguna Tres and Laguna Quatro, a similar disposal facility exists at Laguna Gatuna. This facility, belonging to Laguna Gatuna Inc., is located on private land and discharges into a playa lake on public land. This action is authorized under a BLM, 30-year, renewable right-of-way granted in

1979. Closure of the B&E and Unichem facilities would undoubtedly result in an increased disposal volume at the Laguna Gatuna facility. This would probably also result in increased disposal volumes at the numerous facilities located on state and private lands about which we have little knowledge and over which we have no control. An obvious question is whether we can even allow the Laguna Gatuna facility to continue to operate given the T&E species and hazardous materials concerns.

Since the State of New Mexico has primacy over water, would additional conflicts be created with the state if BLM approval is not granted? While the NMOCD is concerned primarily with protecting fresh ground water supplies and does not really address other potential problems, the BLM is obligated to consider other potential impacts in addition to contamination of the groundwater, namely the issue of hazardous substances contained within the produced water and the effects of these substances on public lands. Oil and gas companies feel they should have the right to discharge into these lakes because the potash mines discharge into them. However, it must be noted that there are many other chemical constituents contained in produced water which do not exist in the brine discharge from the potash mines. In fact, there is very little similarity between the two waters except for the salt content.

Produced Water Analysis

Very few samples have been taken of the produced water discharged into the lakes since operations began in 1982. To the best of our knowledge the discharge at the Unichem facility has not been sampled and only three samples have been taken from the B&E facility (Appendix B). These samples were taken from the facility in early 1989, two sampled by the NMOCD and the other by New Mexico State Department of Parks and Recreation. These samples contained many hazardous substances, as listed by the EPA in 40 CFR 117, which included Arsenic, Benzene, Toluene, and Xylenes. All of the hazardous substances were below the EPA's EP toxicity level; however, due to the high volume of water being disposed of, a considerable quantity of hazardous material can accumulate in the sediments over time even at very low concentrations. There have been no analysis of the lake sediments.

Table 1 shows the estimated quantities of hazardous substances which have been discharged into Laguna Quatro since 1982. This estimate was made using the average of the concentrations given from the three water samples obtained from the B&E trucking facility. This estimate is at best very rough considering that only three water samples have been taken since operations began in 1982; however, the volatile organics (Benzene, Toluene, Xylene) had little variation in concentration between the individual samples which is a good indication that these samples are fairly representative. There was a significant variance in levels of Arsenic for which tests were completed in two of the samples and ranged between 0.5 mg/l and 2.4 mg/l. These are currently the only available figures, and the estimates can be modified at a later date as more data become available. Using the average concentration of 1.45 mg/l of Arsenic, 0.45 mg/l of Benzene, 0.67 mg/l of Toluene, and 0.45 mg/l of Xylenes the following quantities were estimated to have been discharged from the B&E facility since 1982:

Arsenic--38,310 lbs	Toluene--17,701 lbs
Benzene--11,889 lbs	Xylenes--11,889 lbs

The above figures apply to the B&E facility only. There is no available data for the Unichem International facility. It is suspected that the volatile organics (Benzene, Toluene, Xylenes) would be of a higher volume at the Unichem International facility since that facility uses only a system of separation tanks and "skimmer pits" (Appendix C). The B&E facility also utilizes an aeration system immediately prior to the discharge of the produced water. This system encourages volatilization and biodegradation, thus ideally reducing the concentrations of these chemicals in the discharged water.

It is of particular importance to note that these amounts may or may not be totally safe to the wildlife/riparian habitat. No one can responsibly answer that question since these issues were never previously addressed. Another point to consider is that the wetland ecosystem may be affected by other chemicals contained in the produced water which are not hazardous substances.

Alternatives

1. Issue trespass notices for all operations within Laguna Tres, and Laguna Quatro watersheds, and require the immediate cessation of all disposal activities that affect public lands.

2. Initiate a detailed environmental assessment (EA) or environmental impact statement to address these and any other issues related to the surface disposal of produced waters on public lands in southeastern New Mexico. This would require joint participation by the FWS, NMOCD, New Mexico State Engineer's Office, and the New Mexico Department of Game & Fish. This option would require one or more of the following: 1) notification of all affected parties that operations may/may not continue pending outcome of the EA, 2) notification to all parties that cost reimbursement will/will not be required to pay for EA preparation, 3) immediate initiation of baseline data acquisition and sampling of the lake ecosystems.

3. Depending upon the outcome of the environmental assessment, the right-of-way held by Laguna Gatuna, Inc., authorizing the surface disposal of produced water into Laguna Gatuna, should be reviewed and the determination made as to whether the BLM can allow the continued use of this playa for water disposal. The right-of-way holder's rights would have to be observed unless it can be shown that they are violating other federal or state laws.

4. No Action. This alternative would quite possibly prompt action from interested parties and agencies. It would not solve the problem of the existing unauthorized use of public lands.

Budgetary Concerns

All of the above alternatives except #4 will constitute considerable manpower needs on the already strained Carlsbad Resource Area staff. Alternative #3 would be far beyond
the current capabilities and would require thousands of dollars for baseline studies, sample analysis, travel, hazardous materials consultants, public meetings, publication, etc.

The staffing needs of at least three full-time professionals for at least one year would be the minimum needed. Other related costs could exceed $50,000 in any one Fiscal Year.

Recommendations

It is our recommendation that the following actions be taken.

1. Unichem International should be served with a formal notice of trespass for their unauthorized disposal of produced water on public land. The notification should be similar to that previously issued to B&E, Inc.

2. Unichem International and B&E, Inc. should be formally advised that their disposal into the playas will be allowed to continue on an interim basis, pending the results of further investigations. We should advise them of our concerns regarding potential impacts to the threatened and endangered species using and/or frequenting the playas and, of our concerns regarding the potential for contamination of the playas with hazardous substances. The interim approval to continue operations should be predicated on the understanding that we may order the immediate cessation of the disposal on public lands if any of the following conditions arise.

A. Our investigations reveal at any time that a problem exists with hazardous materials contamination or that there will be a problem with hazardous materials contamination if the operations are allowed to continue.

B. We receive a jeopardy opinion from the U.S. Fish & Wildlife Service.

C. It is determined at any time that either of the operations are in violation of any applicable state or federal laws or regulations.

3. Samples of the lake sediments should be collected and analyzed without delay. We should also include samples from nearby lakes that have not been utilized for produced water disposal.

4. We should initiate the process by which we will prepare the environmental assessment and Resource Management Plan amendment described previously under Alternative #2. These documents should address the environmental concerns discussed earlier in this report in addition to any other relevant factors that become evident through the scoping process.

It is expected that preparation of the environmental assessment and plan amendment would require a significant expenditure of time (one to two years is not unreasonable) and funds. It is quite possible that some of the required expertise would not be found among the Carlsbad Resource Area or Roswell District staffs. The advisability of contracting some of the work is an option that would need to be seriously examined. A decision to proceed with the environmental assessment and plan amendment must be accompanied by sufficient funding to permit the work to be accomplished within an acceptable timeframe.

5. At such time that sufficient information exists, a biological assessment, analyzing the effects of the disposal operations on threatened and endangered species, should be prepared. The BLM should then continue the formal Section 7 consultation with the U.S. Fish and Wildlife Service. It may well be that this information will not exist until the environmental assessment is completed, in which case the Section 7 consultation would obviously follow completion of the environmental assessment.

The above recommendations provide for a compromise between immediate cessation of operations and a no action alternative. The former option might easily promt litigation which might otherwise be avoided. The latter option, given the sensitive nature of the issues (hazardous materials, threatened and endangered species) could prompt **Rationale** similar adverse actions and negative publicity for the BLM. If all recommendations are adopted, it will allow for operations to continue on an interim basis while we attempt to obtain the answers whereby we can make a reasoned, logical decision regarding the future for disposal of produced water into the playa lakes in southeastern New Mexico.

Allowing interim operations with the recommended conditions will provide at least a minimum of protection to the BLM should it be determined that a violation of any laws or regulations exist. It also will provide some defense against any charges of arbitrary and capricious decision-making. The recommended course of action admits to the complexity of the issue and to the lack of factual data to make a proper decision.

Implications

As stated above, the recommendations in this report represent a compromise course of action. As with all compromises there are some issues left imperfectly resolved. Adoption of the above recommendations will carry with it the following implications.

1. Current BLM policy and the Carlsbad RMP decisions are such that the existing operations are not permissible. Given the above, and the lack of an environmental assessment, we cannot issue rights-of-way to B&E, Inc. or Unichem International. Interim operations will be technically, unauthorized.

2. Interim operations might well compound any existing problems with hazardous materials or threatened and endangered species. If the BLM allows operations to continue beyond a time when we have reasonable cause to be concerned about these issues, we could be inviting problems with other regulatory agencies and interested parties.

3. The fate of the B&E, Inc. and Unichem International operations will probably have a direct effect on the existing, authorized Laguna Gatuna, Inc. operations. The circumstances at Laguna Gatuna and the Laguna Tres-Laguna Quatro system are very similar and could have identical implications regarding hazardous materials and threatened and endangered species. We could well be into a scenario of terminating a right-of-way.

4. If it becomes necessary to disallow the discharge of produced water into the lakes, we would probably be forced to examine the effects that the region's potash mines are having on the lakes. These mines discharge indirectly and directly into many of the lakes in the area. The BLM has been asked why this is allowed to continue and the comment has been made that if we disallow produced water disposal, we should not allow the direct or indirect disposal of potash mine refining waste.

5. Allowance of interim operations may give the oil and gas industry an opportunity to develop other viable alternatives. Ceasing operations would probably have two effects. The authorized facility at Laguna Gatuna would

probably experience an increase in business, thus compounding any negative environmental impacts at that lake. It could also encourage an increase in illegal dumping of produced water along roads, drainages, and quite possibly, the Pecos River.

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West, S. 1989. Status of heronries on BLM lands in southeast New Mexico.

16 U.S.C. 701-718h, Protection of Migratory Game and Insectivorous Birds.

16 U.S.C. 661-667e, Fish and Wildlife Coordination Act.

40 CFR 116, Designation of Hazardous Substances.

P.L. 97-304, The Endangered Species Act.

New Mexico Department of Game and Fish, 1988. Handbook of Endangered Species.

TABLE 1.

ESTIMATED QUANTITIES OF HAZARDOUS SUBSTANCES

[illegible]

DATE	MONTHLY DISCHARGE In Barrels	LBS of ARSENIC	LBS of Benzene	LBS of TOLUENE	LBS of XYLENES
September	5,250.0	26.7	8.3	12.3	8.3
October	29,394.0	149.4	46.4	69.0	46.4
November	62,896.0	319.7	99.2	147.7	99.2
December	56,245.0	285.9	88.7	132.1	88.7
TOTAL FOR 1982	153,785.0	781.6	242.6	361.1	242.6
January	64,887.0	329.8	102.1	152.4	102.1
February	42,220.0	214.6	66.6	99.1	66.6
March	43,338.0	220.3	68.4	101.8	68.4
April	46,684.0	237.3	73.6	109.6	73.6
May	51,406.0	261.3	81.1	120.7	81.1
June	26,986.0	137.2	42.6	63.4	42.6
July	29,647.0	150.7	46.8	69.6	46.8
August	33,584.0	170.7	53.0	78.9	53.0
September	41,374.0	210.3	65.3	97.2	65.3
October	38,706.0	196.7	61.0	90.9	61.0
November	37,532.0	190.7	59.2	88.1	59.2
December	42,651.0	216.8	67.3	100.2	67.3
TOTAL FOR 1983	499,015.0	2,536.1	787.1	1,171.9	787.1
January	69,269.0	352.0	109.3	16[illegible]	109.3
February	63,327.0	321.8	99.9	148.7	99.9
March	66,556.0	338.3	105.0	156.3	105.0
April	54,723.0	278.1	86.3	128.5	86.3
May	62,584.0	318.1	98.7	147.0	98.7
June	63,754.0	324.0	100.6	149.7	100.6
July	74,291.0	377.6	117.2	174.5	117.2
August	87,022.0	442.3	137.3	204.4	137.3
September	93,165.0	473.5	146.9	218.8	146.9
October	81,704.0	415.2	128.9	191.9	128.9
November	69,947.0	355.5	110.3	164.3	110.3
December	78,261.0	397.7	123.4	183.8	123.4
TOTAL FOR 1984	864,603.0	4,394.2	1,363.7	2,030.4	1,363.7
January	72,823.0	370.1	114.9	171.0	114.9
February	70,521.0	358.4	111.2	165.6	111.2
March	72,168.0	366.8	113.8	169.5	113.8
April	72,313.0	367.5	114.1	169.8	114.1
May	113,285.0	575.7	178.7	266.0	178.7
June	116,159.0	590.4	183.2	272.8	183.2
July	120,830.0	614.1	190.6	283.8	190.6
August	120,235.0	611.1	189.6	282.4	189.6
September	145,305.0	738.5	229.2	341.2	229.2
October	151,987.0	772.4	239.7	356.9	239.7
November	152,213.0	773.6	240.1	357.5	240.1
December	134,595.0	684.0	212.3	316.1	212.3
TOTAL FOR 1985	1,36[illegible]	[illegible]	2,117.4	[illegible]	[illegible]

TABLE 1 - CONTINUED

DATE	MONTHLY DISCHARGE In Barrels	LBS of ARSENIC	LBS of Benzene	LBS of TOLUENE	LBS of XYLENES
January	139,554.0	709.3	220.1	327.7	220.1
February	139,291.0	707.9	219.7	327.1	219.7
March	102,264.0	519.7	161.3	240.2	161.3
April	72,345.0	367.7	114.1	169.9	114.1
May	66,886.0	339.9	105.5	157.1	105.5
June	70,427.0	357.9	111.1	165.4	111.1
July	105,291.9	535.1	166.1	247.3	166.1
August	111,102.0	564.7	175.2	260.9	175.2
September	72,085.0	366.4	113.7	169.3	113.7
October	137,121.0	696.9	216.3	322.0	216.3
November	137,291.0	697.8	216.5	322.4	216.5
December	125,528.0	638.0	198.0	294.8	198.0
TOTAL FOR 1986	1,279,185.0	6,501.2	2,017.6	3,004.0	2,017.6
January	107,777.0	547.8	170.0	253.1	170.0
February	136,670.0	694.6	215.6	321.0	215.6
March	119,697.0	608.3	188.8	281.1	188.8
April	123,283.0	626.6	194.4	289.5	194.4
May	101,082.0	513.7	159.4	237.4	159.4
June	110,926.0	563.8	175.0	260.5	175.0
July	115,578.0	587.4	182.3	271.4	182.3
August	107,253.0	545.1	169.2	251.9	169.2
September	111,023.0	564.3	175.1	260.7	175.1
October	116,917.0	594.2	184.4	274.6	184.4
November	94,932.0	482.5	149.7	223.0	149.7
December	107,141.0	544.5	169.0	251.6	169.0
TOTAL FOR 1987	1,245,138.0	6,328.1	1,963.9	2,924.0	1,963.9
January	112,117.0	569.8	176.8	263.3	176.8
February	101,955.0	518.2	160.8	239.4	160.8
March	114,568.0	582.3	180.7	269.0	180.7
April	101,599.0	516.4	160.2	238.6	160.2
May	103,617.0	526.6	163.4	243.3	163.4
June	119,384.0	606.7	188.3	280.4	188.3
July	129,214.0	656.7	203.8	303.4	203.8
August	119,936.0	609.5	189.2	281.7	189.2
September	108,769.0	552.8	171.6	255.4	171.6
October	108,717.0	552.5	171.5	255.3	171.5
November	117,941.0	599.4	186.0	277.0	186.0
December	124,902.0	634.8	197.0	293.3	197.0
TOTAL FOR 1988	1,362,719.0	6,925.7	2,149.4	3,200.2	2,149.4

TABLE 1 - CONTINUED

DATE	MONTHLY DISCHARGE In Barrels	LBS of ARSENIC	LBS of Benzene	LBS of TOLUENE	LBS of XYLENES
January	111,125.0	566.8	175.3	261.0	175.3
February	126,257.0	641.7	199.1	296.5	199.1
March	132,852.0	675.2	209.5	312.0	209.5
April	109,194.0	555.0	172.2	256.4	172.2
May	105,103.0	534.2	165.8	246.8	165.8
June	82,299.0	418.3	129.8	193.1	129.8
July	124,153.0	631.0	195.8	291.6	195.8
August	0.0	0.0	0.0	0.0	0.0
September	0.0	0.0	0.0	0.0	0.0
October	0.0	0.0	0.0	0.0	0.0
November	0.0	0.0	0.0	0.0	0.0
December	0.0	0.0	0.0	0.0	0.0
TOTAL FOR 1989	790,983.0	4,020.0	1,247.6	1,857.5	1,247.6
TOTAL SINCE 1982	MONTHLY DISCHARGE In Barrels	LBS of ARSENIC	LBS of Benzene	LBS of TOLUENE	LBS of XYLENES
	7,537,862.0	38,309.6	11,889.2	17,701.7	11,889.2

TABLE 1.

ESTIMATED QUANTITIES OF HAZARDOUS SUBSTANCES

DATE	MONTHLY DISCHARGE In Barrels	LBS of ARSENIC	LBS of Benzene	LBS of TOLUENE	LBS of XYLENES
September	5,250.0	26.7	8.3	12.1	8.1
October	29,396.0	149.4	46.4	69.0	46.4
November	62,896.0	319.7	99.2	147.7	99.2
December	56,245.0	285.9	88.7	132.1	88.7
TOTAL FOR 1982	153,785.0	781.6	242.6	361.1	242.6
January	64,887.0	329.8	102.3	152.4	102.3
February	42,220.0	214.6	66.6	99.1	66.6
March	43,338.0	220.3	68.4	101.8	68.4
April	46,684.0	237.3	73.6	109.6	73.6
May	51,406.0	261.3	81.1	120.7	81.1
June	26,986.0	137.2	42.6	63.4	42.6
July	29,667.0	150.7	46.8	69.6	46.8
August	33,584.0	170.7	53.0	78.9	53.0
September	41,374.0	210.3	65.3	97.2	65.3
October	38,706.0	196.7	61.3	90.9	61.0
November	37,532.0	190.7	59.2	88.1	59.2
December	42,651.0	216.8	67.3	100.2	67.3
TOTAL FOR 1983	499,015.0	2,536.1	787.1	1,171.9	787.1
January	69,269.0	352.0	109.3	162.7	109.3
February	63,327.0	321.8	99.9	148.7	99.9
March	66,556.0	338.3	105.0	156.3	105.0
April	54,723.0	278.1	86.3	128.5	86.3
May	62,584.0	318.1	98.7	147.0	98.7
June	63,754.0	324.0	100.6	149.7	100.6
July	74,291.0	377.6	117.2	174.5	117.2
August	87,022.0	442.3	137.3	204.4	137.3
September	93,165.0	473.5	146.9	218.8	146.9
October	81,704.0	415.2	128.9	191.9	128.9
November	69,947.0	355.5	110.3	164.3	110.3
December	78,261.0	397.7	123.4	183.8	123.4
TOTAL FOR 1984	864,603.0	4,394.2	1,363.7	2,030.4	1,363.7
January	72,823.0	370.1	114.9	171.0	114.9
February	70,521.0	358.4	111.2	165.6	111.2
March	72,168.0	366.8	113.8	169.5	113.8
April	72,313.0	367.5	114.1	169.8	114.1
May	113,285.0	575.7	178.7	266.0	178.7
June	116,159.0	590.4	183.2	272.8	183.2
July	120,830.0	614.1	190.6	283.8	190.6
August	120,235.0	611.1	189.6	282.4	189.6
September	145,305.0	738.5	229.2	341.2	229.2
October	151,987.0	772.4	239.7	356.9	239.7
November	152,213.0	773.6	240.1	357.5	240.1
December	134,595.0	684.0	212.3	316.1	212.3
TOTAL FOR 1985	1,342,434.0	6,822.6	2,117.4	3,152.1	2,117.4

APPENDIX A

Official communications with United States Fish and Wildlife Service

APPENDIX B

Analytical Results of Water Samples

Lab No. Accu-Labs 77-32602-123

ORGANIC ANALYSIS REQUEST FORM

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. 89033013
DATE REC. ______
PRIORITY ______
PHONE(S): 827-5812

COLLECTION CITY: Carlsbad ; COUNTY: Eddy

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 0 3 3 0 1 3 5 5

LOCATION CODE: (Township-Range-Section-Tracts) | | | + | | + | + | | | (10N04E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: ______

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ______

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice . Sample stored in an ice bath (Not Frozen).
- [ ] P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- [X] P-HCl Sample Preserved with Hydrochloric Acid (2 drops/40 ml)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Headspace (1-6 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes
- [ ] (774) SDWA VOC's I (8 Regulated +)
- [ ] (775) SDWA VOC's II (EDB & DBCP)

Other Specific Compounds or Classes

- [ ] ______
- [ ] ______

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (763) SDWA Pesticides & Herbicides

Remarks: ______

FIELD DATA:

pH= ____; Conductivity= >50,000 umho/cm at ____ °C; Chlorine Residual= ____ mg/l

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

Depth to water ____ ft.; Depth of well ____ ft.; Perforation Interval ____ - ____ ft.; Casing: ______

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

B & E Disposal* Effluent outfall to lake (Produced water) *Oil field waste disposal

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): David R Boyer Method of Shipment to the Lab: Express

CHAIN OF CUSTODY

I certify that this sample was transferred from DB to DM at (location) ALR on 4/5/89 12:25 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact: Yes [ ] No [ ]

Signature: [signature]

For OCD use: Date owner notified: ______ Phone or Letter? Initials ______

Accu-Labs Research, Inc.

Mr. David Boyer
NM Oil Conservation Division

RE: 9649-29059-20
Date Samples Rec'd: 4-5-89
P.O. No. 77-521.07-123

REPORT OF ANALYSIS

ALR Designation	9649-29059-20-10	9649-29059-20-11	9649-29059-20-12
Sponsor Designation	8903291420	8903301000	8903301355
	3-29-89	3-30-89	3-30-89
GC/MS VOLATILE ORGANICS, µg/L:			
Chloromethane	Not Analyzed	Not Analyzed	<100
Bromomethane			<100
Vinyl chloride			<100
Chloroethane			<100
Methylene chloride			<50
1,1-Dichloroethene			<50
1,1-Dichloroethane			<50
Total 1,2-Dichloroethene			<50
Chloroform			<50
1,2-Dichloroethane			<50
1,1,1-Trichloroethane			<50
Carbon tetrachloride			<50
Bromodichloromethane			<50
1,2-Dichloropropane			<50
c-1,3-Dichloropropene			<50
Trichloroethene			<50
Benzene			300
Dibromochloromethane			<50
1,1,2-Trichloroethane			<50
t-1,3-Dichloropropene			<50
2-Chloroethylvinyl ether			<50
Bromoform			<50
1,1,2,2-Tetrachloroethane			<50
Tetrachloroethene			<50

Accu-Labs Research, Inc.

Mr. David Boyer
NM Oil Conservation Division

RE: 9649-29859-20
Date Samples Rec'd: 4-5-89
P.O. No. 77-521.07-123

RECEIVED
MAY 17 1989
OIL CONSERVATION DIV.
SANTA FE

REPORT OF ANALYSIS

ALR Designation	9649-29859-20-10	9649-29859-20-11	9649-29859-20-12
Sponsor Designation	8903291420	8903301000	8903301355
	3-29-89	3-30-89	3-30-89
Determination: µg/L			
Toluene			580
Chlorobenzene			<50
Ethyl benzene			<50
Total Dichlorobenzenes			<50
Total Xylenes			390
Determination: mg/L			
Aluminum, total	0.3	--	--
Barium, total	0.09	--	--
Boron, total	0.1	--	--
Cadmium, total	<0.005	--	--
Calcium, total	170	52	--
Chromium, total	0.005	--	--
Cobalt, total	<0.005	--	--
Copper, total	0.041	--	--
Iron, total	0.88	--	--
Magnesium, total	23	48	--
Manganese, total	0.028	--	--
Mercury, total	<0.001*	--	--
Molybdenum, total	0.007	--	--
Nickel, total	0.02	--	--
Potassium, total	50	6.2	--
Silver, total	<0.005	--	--
Sodium, total	1100	2300	--
Strontium, total	0.88	--	--
Zinc, total	0.019	--	--
Total Alkalinity, (as $CaCO_3$ to pH 4.5)	110	1600	--

754 WPU

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

89-40 C

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

S.L.D. No. OR-
DATE REC. 1-19-89
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Eg Carlsbad ; COUNTY: Edd

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8901131205

LOCATION CODE: (Township-Range-Section-Tracts) 2315+3015+06+214 (10N06E24341)

USER CODE: 821215 SUBMITTER: David Boyer CODE: 21610

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER:

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____

RECEIVED
APR 27 1989
OIL CONSERVATION DIV.
SANTA FE

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- [X] P-HCl Sample Preserved with Hydrochloric Acid (2 drops/40 ml)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analyses required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Headspace (1-5 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes
- [ ] (774) SDWA VOC's I (8 Regulated +)
- [ ] (775) SDWA VOC's II (EDB & DBCP)

Other Specific Compounds or Classes

- [ ] ____
- [ ] ____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: Halogenated 10ppb or less if possible

FIELD DATA:

pH= 7 ; Conductivity= >50,000 umho/cm at ____ °C; Chlorine Residual= ____ mg/l

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

Depth to water ____ ft.; Depth of well ____ ft.; Perforation Interval ____-____ ft.; Casing:

Sampling Location, Methods and Remarks (i.e. odors, etc.)
B&E Disposal, Final effluent, outside Berm Tank.

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): David G Boyer Method of Shipment to the Lab: Folder

CHAIN OF CUSTODY

I certify that this sample was transferred from ____ to ____

at (location) ____ on ___/___/___ - ___:___ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact: Yes [ ] No [ ]

Signatures ____ ____

For OCD use: Date ...

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

February 1, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0040

Distribution
(X) Submitter
(X) SLD Files

To: NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

From: Organic Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: A purgeable water sample submitted to this laboratory on January 19, 1989

User:
STATE PARKS & RECREATION

DEMOGRAPHIC DATA

COLLECTION		LOCATION	
On: 13-Jan-89	*By:* Boy . . .	*Township:* 23S	*Section:* 06
At: 1205 hrs.	*In/Near:* Carlsbad	*Range:* 30E	*Tract:* 244

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Halogenated Purgeables (33)	0.00	N	100.00	ppb
Benzene	520.00		100.00	ppb
Toluene	750.00		100.00	ppb
Ethylbenzene	0.00	T	100.00	ppb
p- & m-Xylene	500.00		100.00	ppb
1,2-Dimethylbenzene	100.00		100.00	ppb

Notations & Comments:
MDL = Minimal Detectable Level.
A = Approximate Value; N = None Detected above Detection Limit; P = Compound Present, but not quantified; T = Trace (<Detection Limit); U = Compound Identity Not Confirmed.
Seals: Not Sealed[ ]; Intact: No[ ], Yes[ ] & Broken By: _____ Date: _____

Laboratory Remarks: B & E Disposal

Analyst: Gary C. Eden 1/26/89
Gary C. Eden — Analysis Date
Analyst, Organic Chemistry

Reviewed By: R. F. Meyerhein
Richard F. Meyerhein 02/01/89
Supervisor, Organic Chemistry Section

B & E Dispo

Accu-Labs Research, Inc.

11485 W. 48th Avenue Wheat Ridge, Colorado 80033 (303) 423-2766

Mr. David Boyer
NM Oil Conservation Division
State Land Office Bldg.
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: 9649-29142-3
Date Samples Rec'd: 1-20-89
P.O. No. 77-521.07-123

REPORT OF ANALYSIS

ALR Designation	9649-29142-3-1	9649-29142-3-2	9649-29142-3-3
Sponsor Designation	8901121115	8901121645	8901131205
	1-12-89	1-12-89	1-13-89
Determination: mg/L			
Aluminum, total	<1.0*	<1.0*	<1.0*
Barium, total	3.0	10	0.6
Boron, total	190	38	8.2
Cadmium, total	<0.05*	<0.05*	<0.05*
Calcium, total	64,000	--	8900
Chromium, total	<0.05*	<0.05*	<0.05*
Iron, total	<0.1*	7.4	210
Lead, total	<0.5*	<0.5*	<0.5*
Magnesium, total	21,000	--	1400
Manganese, total	4.3	3.8	5.2
Mercury, total	0.0072	0.0060	0.0060
Potassium, total	12,000	--	1100
Sodium, total	34,000	--	47,000
Total Alkalinity, (as $CaCO_3$ to pH 4.5)	280	--	170
Carbonate (as CO_3)	<5	--	<5
Bicarbonate (as HCO_3)	340	--	210
pH	5.5	--	7.0
Specific Conductance, µmhos/cm	900,000	--	340,000
Arsenic, total	0.24	0.13	2.4
Selenium, total	<0.25*	<0.25*	--
Total Solids	540,000	--	200,000
Bromide	2000	--	310

B & E Disposal

Accu-Labs Research, Inc.

Mr. David Boyer
NM Oil Conservation Division

RE: 9649-29142-3
Date Samples Rec'd: 1-20-89
P.O. No. 77-521.07-123

REPORT OF ANALYSIS

ALR Designation	9649-29142-3-1	9649-29142-3-2	9649-29142-3-3
Sponsor Designation	8901121115	8901121645	8901131205
	1-12-89	1-12-89	1-13-89
Determination: mg/l.			
Chloride	230,000	--	110,000
Sulfate (as SO_4)	240	--	770
Ion Balance	103	--	85

* Higher detection limit due to sample matrix interference.

These samples are scheduled to be discarded 30 days after the date of this report.

Mary Fabiniak
Mary Fabiniak
Water Laboratory
Supervisor

MF/dh

APPENDIX C

Photographs

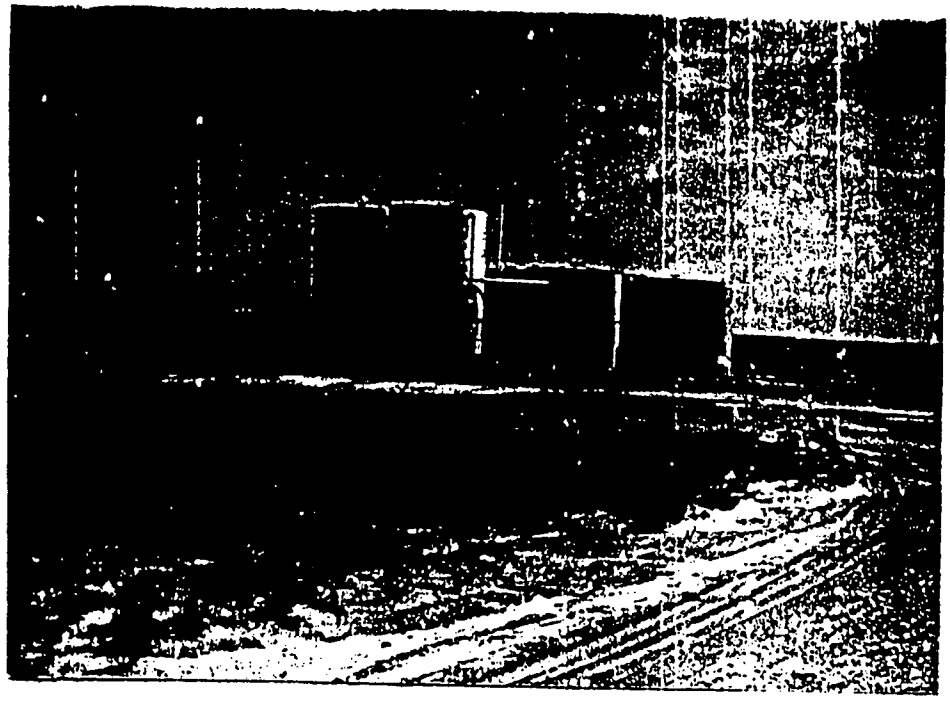

Photo No. 1. Southwest view of the separation tanks incorporated into the Unichem International salt water disposal facility. This facility is located on state land adjacent to Laguna Tres.

Photo No. 2. One of the two "skimmer pits" incorporated at the Unichem International facility. Note this is the last process by which produced water is treated at this facility prior to discharge into Laguna Tres.

Photo No. 3. Southwest view of the aereation unit of the B & E Trucking salt water disposal facility located adjacent to Laguna Qatro. Note the produced water at this unit is processed through a series of separation tanks, not shown, prior to entering the aeration unit.

Photo No. 4. The final discharge of produced water from the B & E facilty into Laguna Quatro.

Photo No. 5. The final discharge of produced water from the Unichem International facility into Laguna Tres.

OIL CONSERVATION DIVISION
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91 JUL 1 AM 9 08

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

June 27, 1991

OCD-Santa Fe
P.O. Box 2088
Santa Fe, NM 87504

OCD-Artesia
P.O. Drawer DD
Artesia, NM 88210

BLM-Carlsbad
P.O. Box 1778
Carlsbad, NM 88220

RE: Progress on reclamation of pits at Tuzlu Kopek

This letter is to inform everyone involved in this unfortunate situation as to the progress of reclamation of the pits at our disposal site; Tuzlu Kopek. Sec. 6 T 23S R 30E Eddy County.

Attached please find the legal description of the property where B & E has made arrangements with Jay Mobley to bury the stained soil in trenches.

Mr. Mobley is having a surveyor (Jack Hamilton) survey the property sometime next (7-1-91 - 7-5-91) so everything will be legal and at that time the exact location on the 80 acres will be specified.

After we receive the information on the survey from Mr. Mobley we will submit a drawing of the trenches. At which time this information will be submitted to Roger Anderson (OCD-Santa Fe) for final approval of proposed work. We then expect to have authorization from the OCD and will submit this to the BLM as previously discussed.

Again, this letter is to simply inform everyone involved as to the developments of the arrangements being made to rectify the situation.

Thank you for your patience and consideration.

Sincerely,

Valerie Lemon-Pierce

Valerie Lemon-Pierce

Attachment

xc: Roger Anderson-OCD-Santa Fe; Mike Williams-OCD-Artesia;
Dick Manus-BLM-Carlsbad; our file

No. 1

```
**********************************************************************************
**
**              PRINT KEY FROM-A6          BY USER-EDITH       08/21/89     14.18.24
**
**********************************************************************************

   Scn# 1 TW 23 NS S RG 30 EW E S 21 NE|NW|SW|SE| X     M=misc    BK      PG 0000
01 NENW, NWNE SEC 21-23-30             |QTR=X|          OWNER # 0022282  DIST 100
02 80 ACRES                                    MOBLEY, W L JR
03 MAP#325-6 & 325-3.1                  PROPERTY CD # 4 000 022 282 002
04 LOC MOBLEY RANCH ROAD
05
06
07                                          Land          132  C.A.              0
08                                          Imp           420
09                                          P.P.            0  Fam ex            0
10                                          M.H.            0  Vet ex            0
11                                          Lstk            0  Oth ex            0
12                                          Total         552  NET             552
00 Key line# to insert after, use CMD-10
   Date created          by              changed          by              Current Yea
 |Description |*| Code|Quantity |Rate(2)|Value- F U L L |date  | user     |
 LAND N/R     2    106 000000000  0000000   000000360


CMDS |1=u/prop|5=u/owner|6=u/alt loc|8=u/prior|9=no|
```

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

COVER PAGE

DATE: June 21, 1991

TO: Diane Kuyer

COMPANY: OCD

ADDRESS: Santa Fe

(1-827-5741)

FROM: B & E, Inc.
P.O. Box 756
Carlsbad, NM 88220

FAX NUMBER: (505) 885-5988
800 NUMBER: (800) 658-2739

Will send more info wk of 7/1

NO. OF PAGES: 3 (including this cover page)

SPECIAL INSTRUCTIONS:

Please read and
Contact me 6-24-91
Thanks again
Val

Called 6/25 RAK

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Phone (505) 885-6663

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Winch Truck
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June 21, 1991

Oil Conservation Division
Santa Fe Office

ATT: Dave Boyer

Attached please refer to our letter to Dick Manus with the BLM Carlsbad Office.

We are asking permission from the OCD to get authorization or permission (permit) to follow through with option No. 1 (circled).

The BLM has agreed to go along with our option provided they have from us written authorization to dispose of it in that manner from the OCD.

Today 6-21-91 I had a conversation with Mike Williams and he at that time advised us to talk with you and get your okay.

We would appreciate a telephone conversation with you on Monday June 24, 1991 discussing the contents of this letter. (800-658-2739)

Mike Williams did request the (legals) location on the private land where the stained soil with be buried. We will provide him the necessary information as soon as possible.

Again, thank you for your time and we wish to hear from you on June 24, 1991.

Sincerely,

Valerie Lemon-Pierce
B & E, Inc.

Equipment & Supplies
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B & E, INC.
South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

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Frac Tanks

June 14, 1991

Bureau of Land Management
Carlsbad Resource Area Headquarters
P.O. Box 1778
Carlsbad, NM 88221

RE: Remedial Action for reclaiming 3 pits - BLM Land

ATT: Dick Manus

This letter is to inform you that we are working on a solution for reclamation of the 3 pits on BLM land. We had an interoffice meeting on June 13, 1991 to look at and discuss our options. Below are two options:

1) To contact Jay Mobley about digging and burying the stained soil on private (deeded) land. Purchasing used equipment (2 dump trucks, front end loader, and dozer) and using our own manpower to complete the reclamation as cost effectively as possible.

2) To contact Ken Marsh with CRI (Controlled Recovery, Inc.) to see if the stained soil can be disposed of at this facility that just recently opened and if they can handle the volume we need to dispose of and how costly the disposal price will be along with hiring a contractor to perform the work and transport the soil.

We realize that this unfortunate situation needs to be reconciled for everyones benefit and as soon as possible. We are making this a priority but want you to be aware that it may take sometime to make arrangements and get the reclamation underway and completed in a timely manner.

We do want to thank the BLM for their consideration, patience and help. We also, wish to set a meeting with you at your convenience during the week of June 17-21, 1991 to discuss the contents of this letter. Please let us hear from you.

Sincerely,

Valerie Lemon-Pierce
Office/Personnel/Mgr.

xc: file
Attachments

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

September 13, 1990

CERTIFIED MAIL
RETURN RECEIPT NO. P-918-402-356

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

RE: Construction of Unlined Pit
Tuzlu Kaprek Disposal Facility
Eddy County, New Mexico

Dear Mr. Withrow:

The Oil Conservation Division (OCD) has reviewed your application to construct a new unlined disposal pit at your previously approved disposal facility located in Section 6, Township 23 South, Range 30 East, NMPM, Eddy County, New Mexico.

Pursuant to OCD Rule 711, your proposal to construct a second disposal pit and a retaining wall as outlined in attachments 1 and 2 of your application dated July 24, 1990 are hereby approved.

Please be advised this approval does not relieve you of liability should your operation result in actual pollution of surface or ground water or the environment actionable under other laws and/or regulations.

If you have any questions, please contact Roger Anderson at (505) 827-5884.

Sincerely,

William J. LeMay, Director

WJL/RCA/sl

cc: OCD Artesia Office

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Brine Supply Wells
Salt Water Disposal

OIL CONSERVATION DIVISION
RECEIVED
'90 SEP 11 AM 8 32

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

September 7, 1990

1-800-658-2739
FAX 885-5988

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

RE: Approval of proposed construction
Tuzlu Kopek Disposal Facility

ATT: Dave Boyer
Roger Anderson

Attached please find original copies of maps that were faxed to your office on September 7, 1990.

This letter is just a follow-up of our conversation and copies we discussed over the phone.

We certainly appreciate the help we have received from your office and from Mike Williams in the Artesia Office.

If you have any further questions please don't hesitate to contact Phil Withrow or myself at the above 800 number.

Again, we thank you.

Sincerely,

Valerie Pierce
B & E, Inc.

Attachments

xc: M. Williams, OCD-Artesia
file

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Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
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Vacuum Trucks
Winch Truck
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Frac Tanks

July 24, 1990

Oil Conservation Division
P.O. Drawer DD
Artesia, NM 88210

RE: Permission to construct proposed dirt pit

ATT: Mike Williams, Supervisor
OCD - District II

Attached please find a schematic of our Disposal Facility; Tuzlu Kopek (Sec. 6 T 23S R 30E).

Highlighted in blue is the new proposed dirt pit (60' x 325') in vertical conjunction to the existing dirt pit (30' x 325').

B & E, Inc. will haul in all material (caliche) to build 8 ft. dikes surrounding new proposed dirt pit.

When construction is completed we will net the exposed dirt pit according to Division Order R-8952.(FOR PROTECTION OF MIGRATORY BIRDS).

If you have any further questions please don't hesitate to contact us.

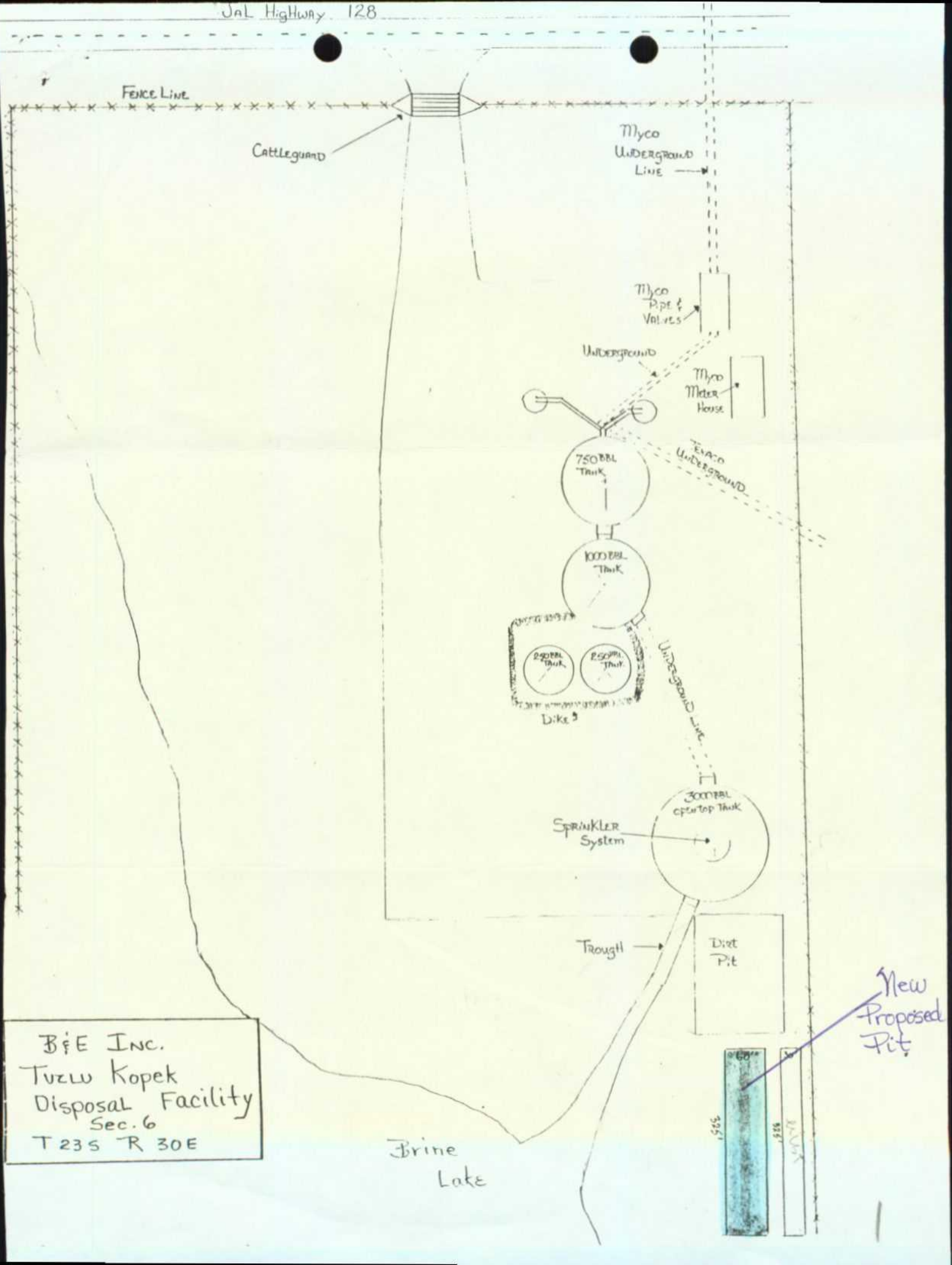
Thank you for your consideration.

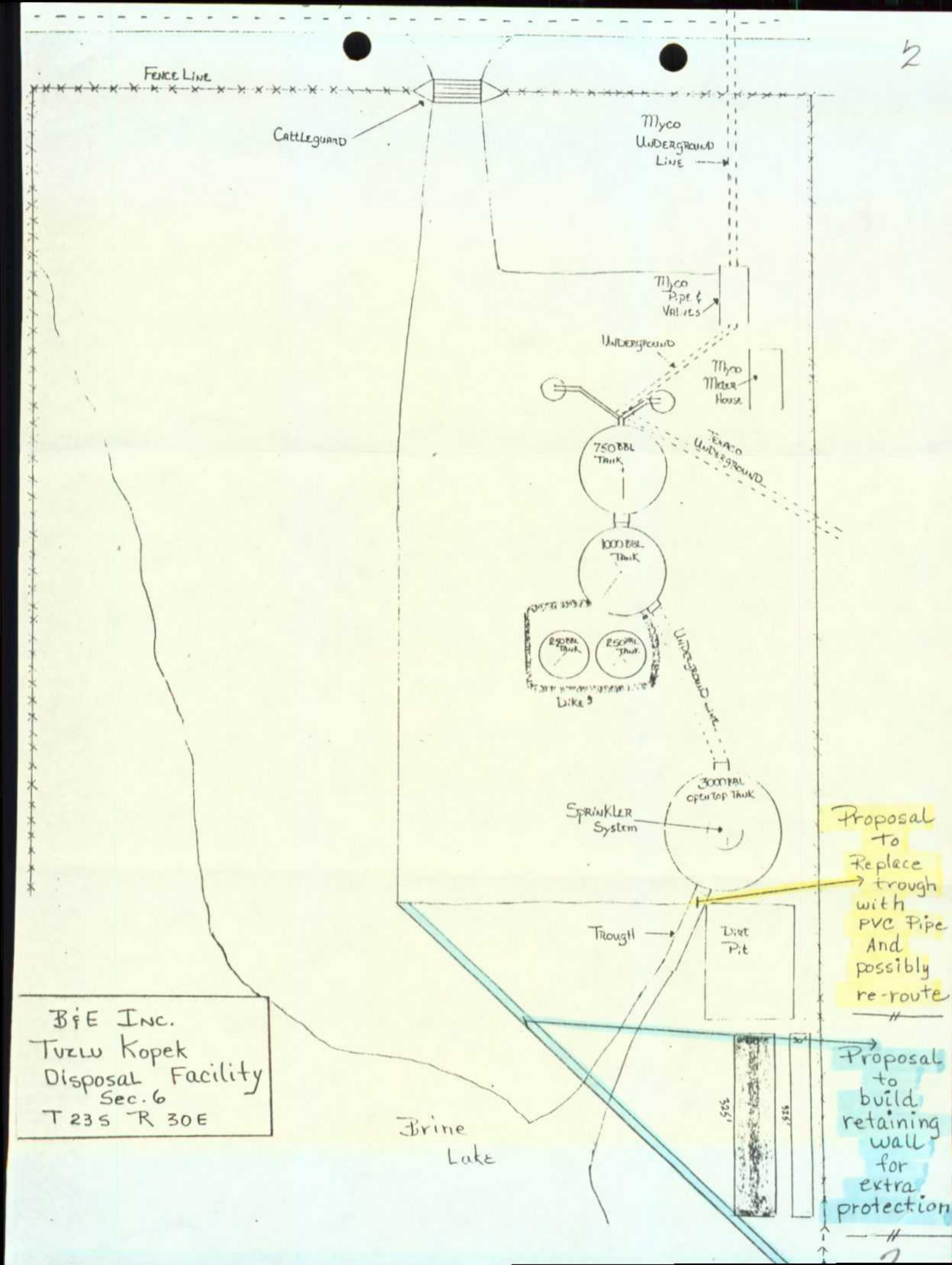
Sincerely,

Phil Withrow
Owner/Mgr.

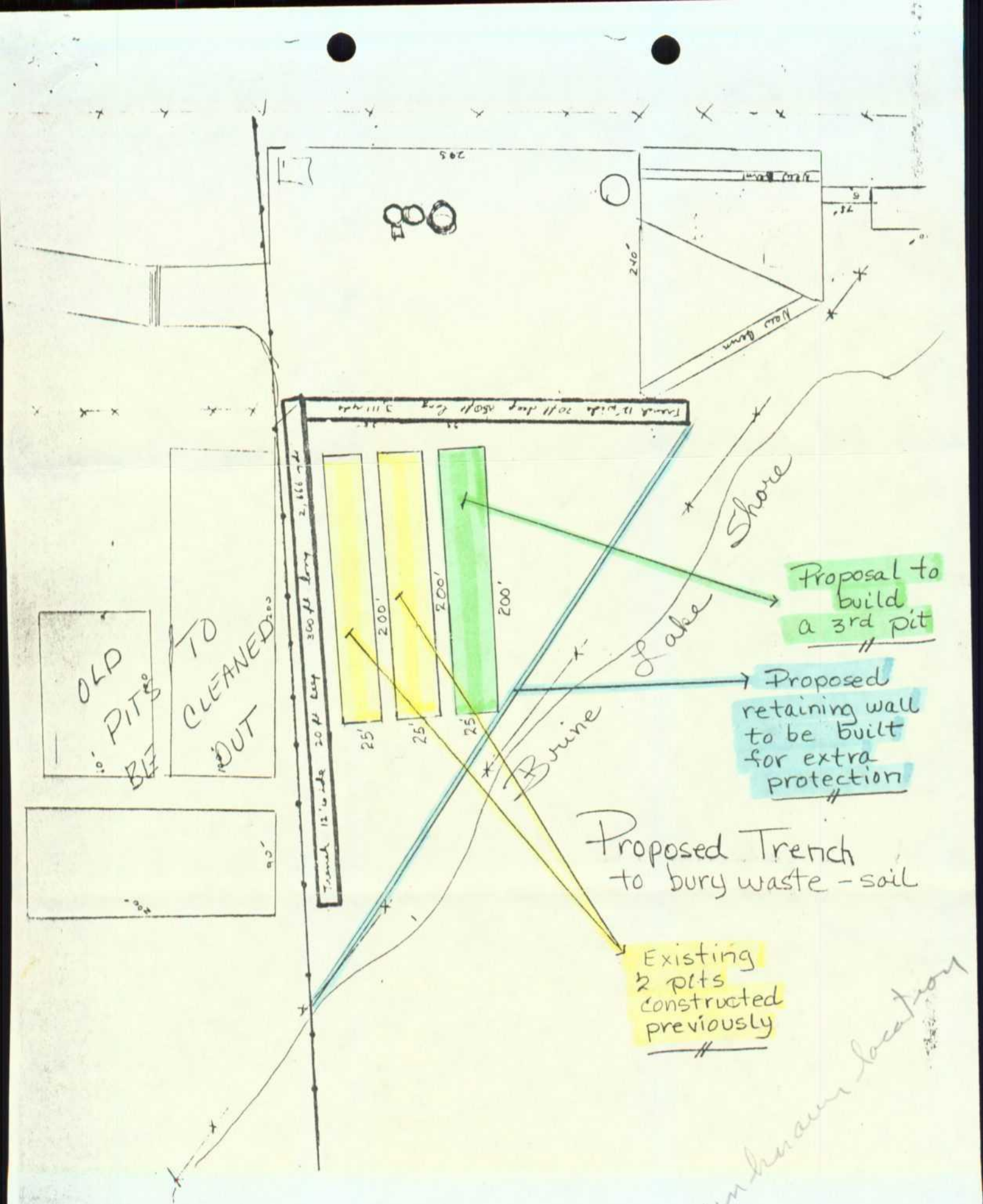
PW/val

Attachments
xc: file


Jal Highway 128
Fence Line
Cattleguard
Myco Underground Line
Myco Pipe & Valves
Underground
Myco Meter House
750 BBL Tank
Underground
1000 BBL Tank
250 BBL Tank
250 BBL Tank
Dike
Underground Line
3000 BBL open top Tank
Sprinkler System
Trough
Dirt Pit
New Proposed Pit
B & E Inc.
Tuzlu Kopek
Disposal Facility
Sec. 6
T 23 S R 30 E
Brine Lake



B & E Inc.
Tuzlu Kopek
Disposal Facility
Sec. 6
T 23 S R 30 E


OLD PITS BE TO CLEANED OUT
25'
200'
25'
200'
25'
200'
Shore
Lake
Brine
Proposal to build a 3rd pit
Proposed retaining wall to be built for extra protection
Proposed Trench to bury waste - soil
Existing 2 pits constructed previously
underwater location

8/16/90

Florine,

This matter will probably be set for the 9/19/90 Hearing, please hold until confirmed. Thanks

M. S.

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B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

July 24, 1990

Oil Conservation Division
P.O. Drawer DD
Artesia, NM 88210

RE: Permission to construct proposed dirt pit

ATT: Mike Williams, Supervisor
OCD - District II

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Highlighted in blue is the new proposed dirt pit (60' x 325') in vertical conjunction to the existing dirt pit (30' x 325').

B & E, Inc. will haul in all material (caliche) to build 8 ft. dikes surrounding new proposed dirt pit.

When construction is completed we will net the exposed dirt pit according to Division Order R-8952.(FOR PROTECTION OF MIGRATORY BIRDS).

If you have any further questions please don't hesitate to contact us.

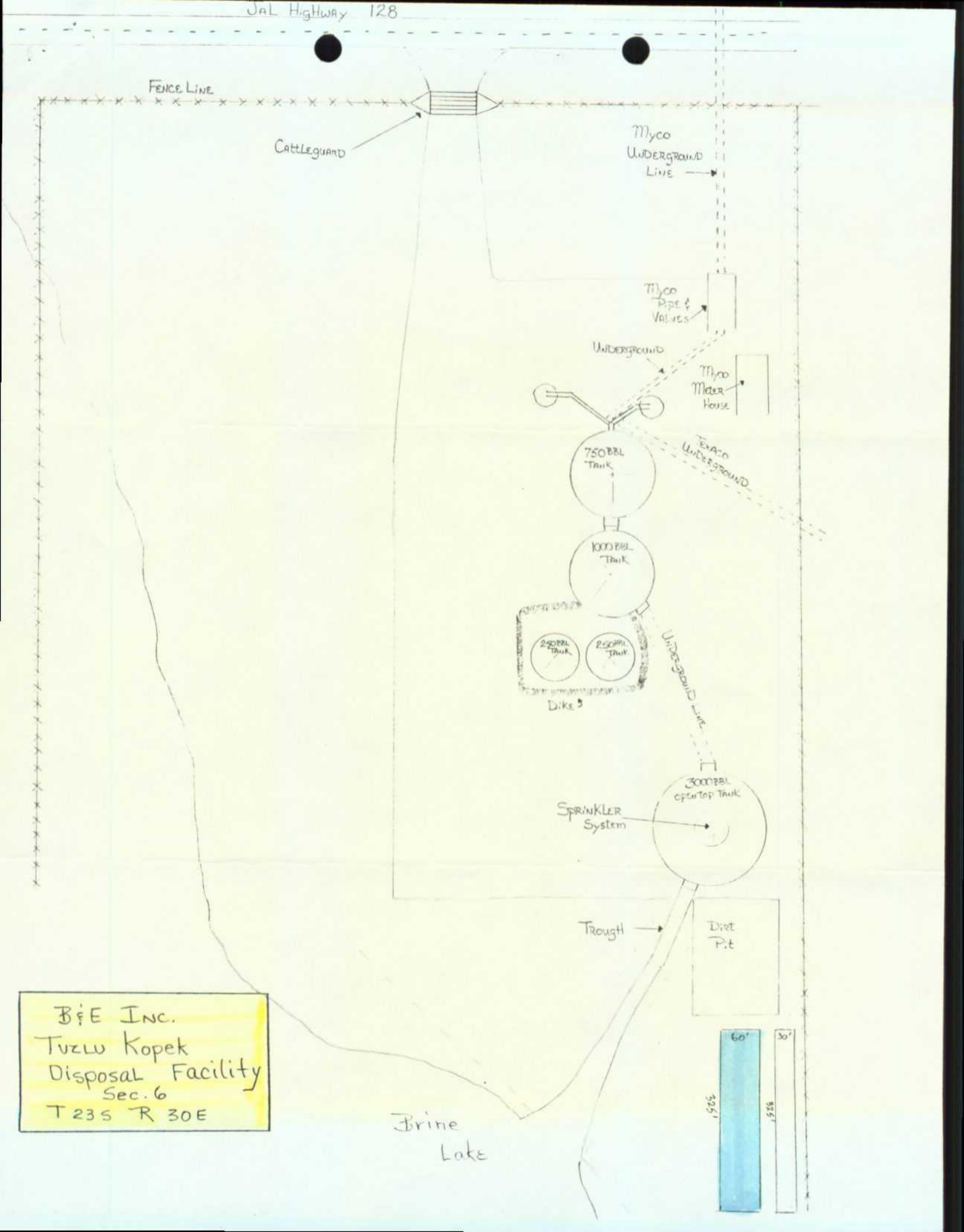
Thank you for your consideration.

Sincerely,

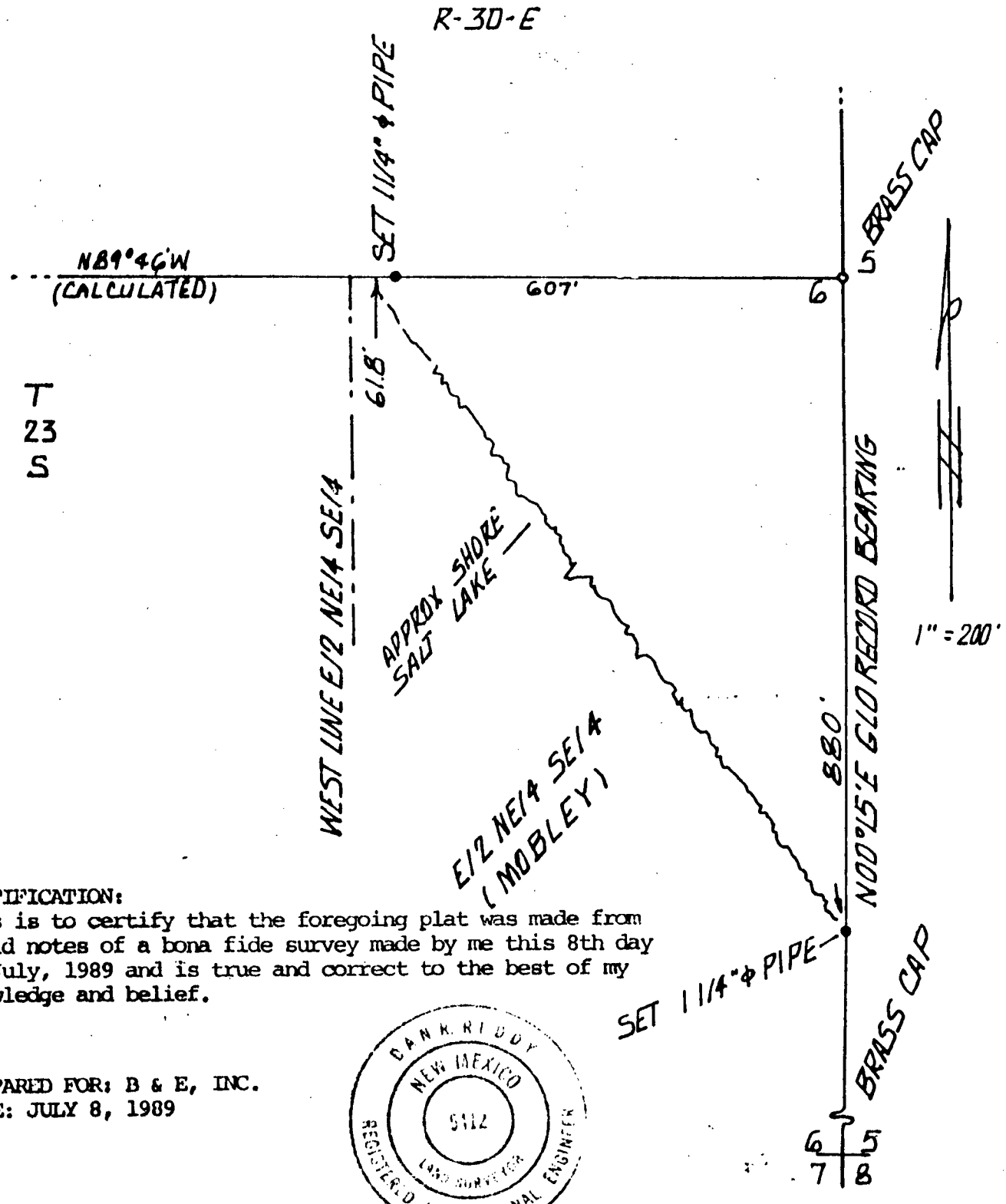
Phil Withrow
Owner/Mgr.

PW/val

Attachments
xc: file


JAL HIGHWAY 128
FENCE LINE
CATTLEGUARD
MYCO UNDERGROUND LINE
MYCO PIPE & VALVES
UNDERGROUND
MYCO METER HOUSE
TEXACO UNDERGROUND
750 BBL TANK
1000 BBL TANK
250 BBL TANK
250 BBL TANK
DIKE
UNDERGROUND LINE
3000 BBL OPEN TOP TANK
SPRINKLER SYSTEM
TROUGH
DIRT PIT
60'
30'
325'
325'
B & E INC.
TUZLU KOPEK
DISPOSAL FACILITY
SEC. 6
T 23 S R 30 E
BRINE LAKE

PLAT OF SURVEY



CERTIFICATION:
This is to certify that the foregoing plat was made from field notes of a bona fide survey made by me this 8th day of July, 1989 and is true and correct to the best of my knowledge and belief.

PREPARED FOR: B & E, INC.
DATE: JULY 8, 1989

DAN R. REDDY
NEW MEXICO
5412
REGISTERED PROFESSIONAL ENGINEER
LAND SURVEYOR

Dan R. Reddy

DAN R. REDDY NEW MEXICO PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 5412

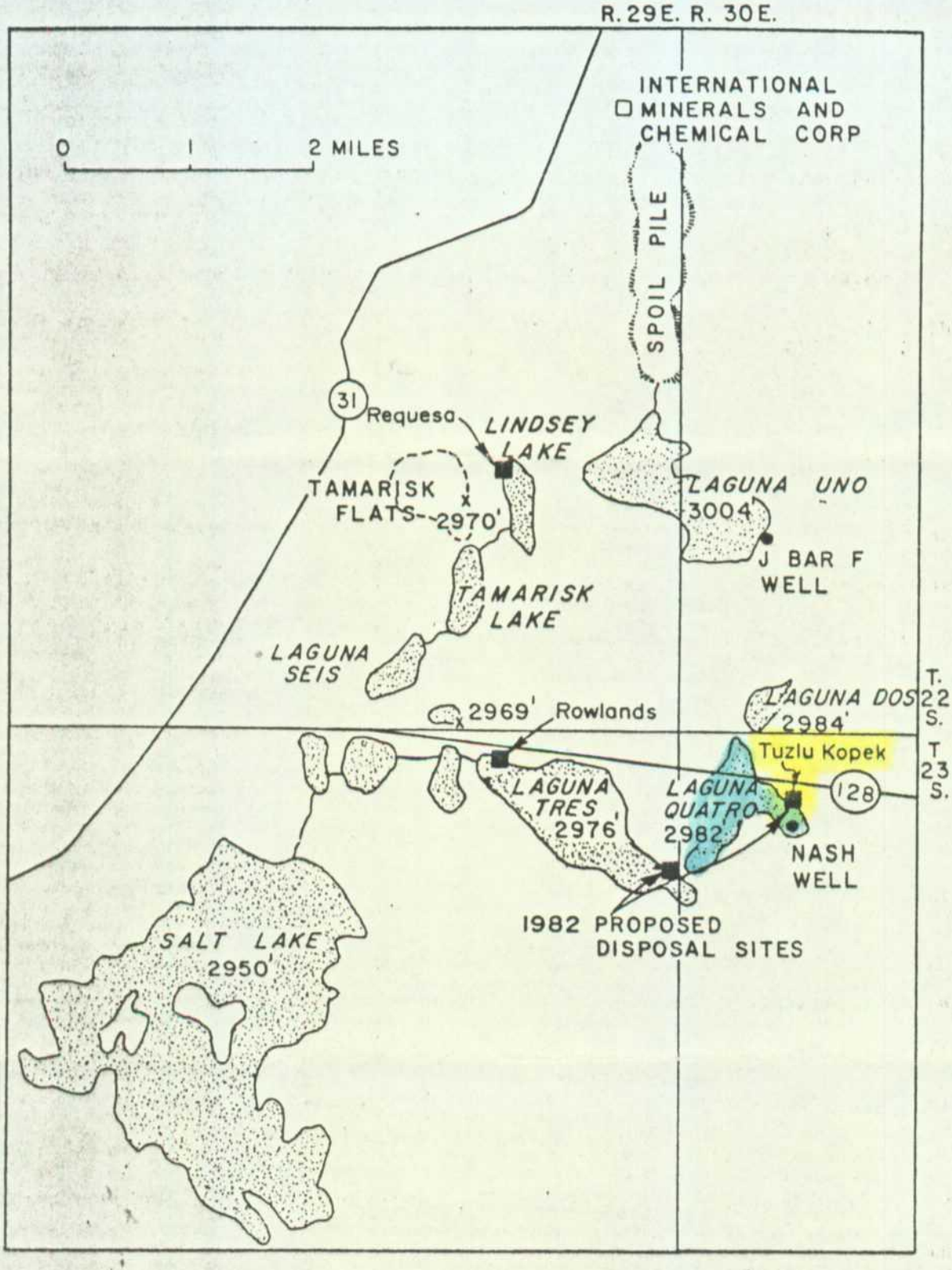


Figure 3.--Distribution of lakes in the vicinity of IMC Refinery and Salt Lake, with selected altitudes. The 1982 proposed sites, Tuzlu Kopek facility, and Rowlands facility are located at Laguna Quatro and Laguna Tres.

LCT David Boyer

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway NE
Albuquerque, New Mexico 87107

Glenn

FYI

Jim

January 9, 1990

Mr. Roger Hartung, Chief
Enforcement Branch (6WE)
Environmental Protection Agency, Region VI
Dallas, Texas.

Dear Mr. Hartung:

The U.S. Fish and Wildlife Service (Service) for the past year has been actively investigating the impact of oil recovery fluids disposal practices from oil and gas recovery wells on migratory birds in eastern New Mexico, and west Texas. The Service has been coordinating with the Oil Conservation Division, New Mexico Department of Natural Resources and the Texas Railroad Commission to resolve problems associated with oil disposal in tanks and pits. Oil and brine water disposal into natural playa lakes continues to be of concern to the Service. Service interest in preserving playa lake habitat for wildlife stems from our participation in the Playa Lakes Joint Venture and North American Waterfowl Management Plan. Congressional legislation, the Migratory Bird Treaty Act (MBTA) and the Endangered Species Act, direct the Service to protect migratory birds and endangered species. These comments and recommendations have been prepared under the authority of and in accordance with the requirements of the Fish and Wildlife Coordination Act (FWCA) (48 stat. 401. as amended; 16 U.S.C. 661-667e) and the Endangered Species Act.

The Playa Lake Region has been identified as the second most important wintering area for migratory waterfowl and shorebirds in the Central Flyway. Only the Texas Gulf Coast winters more birds. There are at least 25,000 playa lake basins (2,462 are in New Mexico) in the five state area representing the Southern Great Plains. Playa lakes are ephemeral and as a result, the annual estimates of the numbers of waterfowl using the playas range from 500,000 to 2,800,000 ducks and 100,000 to 750,000 geese (1988, Fish and Wildlife Service Playa Lakes Habitat Concept Plan). These wetlands also provide important feeding and resting areas for thousands of cranes, shorebirds and waterfowl during the spring migration.

On August 16, 1989, the Bureau of Land Management (Bureau), Carlsbad Resource Area, requested the Service evaluate the effects on fish and wildlife resources utilizing playa lakes of granting a right-of-way permit to B&E Incorporated (B&E). The permit would allow B&E to continue disposing oil recovery operations fluids from the Kuzlu Kopek Disposal Facility into the Laguna Quatro playa. The playa is located 15 miles east of Carlsbad, Eddy County, New Mexico in Sections 6 and 7, T23S, R30E and Sections 1 and 12, T23S, R29E.

A member of my staff and Bureau personnel toured the site on August 31, 1989. The surface area of the playa is approximately 230 acres and contains saline water year round. The terrain surrounding the playa is a mixture of gently rolling gypsum hills and sandy plains. The shores are sparsely vegetated with salt cedar and Utah glasswort. Information provided by the Bureau confirmed the presence of two Federally endangered species, the American peregrine falcon and Aplomado falcon, in the vicinity of the playa. Additionally, the snowy plover, a category II species, nests on the shores of Laguna Quatro. There is a potential for severe contamination of the Laguna Quatro by trace elements and petroleum hydrocarbons. If the playa is contaminated, migratory birds and endangered species would be exposed by means of direct contact or ingestion. Another major concern is the discharge of brine fluids into the playa. An increase in the salinity may affect the survival rate of algae and invertebrates such as brine flies and brine shrimp (increased salinity also eliminates emergent vegetation). This would adversely effect endangered species and migratory birds that rest or feed on the playa.

Migratory bird mortalities have been reported at Laguna Quatro (J. Juen, Bureau, pers. comm.). The practice of disposing of oil recovery fluids and other wastes into playa lakes, generally without proper permits is widespread in New Mexico and west Texas. In New Mexico it is estimated that 100,000 waterfowl die as a result of contact with oil from disposal pits and playas. According to Service law enforcement personnel, 544 dead birds were recently found trapped in oil on a playa in New Mexico. It is estimated that another 250,000 migratory birds such as shorebirds and songbirds meet a similar fate each year.

Playa lakes were included as surface waters of the United States in the July 1, 1987 amendments to the Clean Water Act (CWA) (40 CFR 122.2). Laguna Quatro and other playa lakes used as disposal basins would most likely meet these criteria.

The Service recommends those point source discharges originating from B&E and other disposal facilities be regulated under the NPDES permit process (It is our understanding that this site is not currently regulated by EPA under section 402 of the CWA). The applicants would then have to meet the "no toxic materials in toxic amounts" standard and the State of New Mexico standard that no visible oil sheen be present in the outfall (WQCC 88-1; 1-102, General Standards, Water Quality Standards for Interstate and Intrastate Streams in New Mexico).

The Service requests that the EPA, Region VI, investigate B&E, and other facilities that discharge into playa lakes for possible violations of the CWA. We request that you keep this office informed as to the disposition of the investigation since Interior trust resources will be adversely affected by continuation of current disposal methods. It would be best if the Service and EPA coordinate investigations to determine the extent of the discharge activities and document subsequent effects upon wildlife resources.

If you have any questions, please call Richard Roy or Thomas O'Brien at (505)883-7877 or FTS 474-7877.

Sincerely yours,

John C. Peterson
Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Environmental Improvement Division, Surface Water Bureau, Attn: Jim Platt, Santa Fe, New Mexico
State Director, Bureau of Land Management, Attn: Mary Jane Erickson, Santa Fe, New Mexico
Area Director, Bureau of Land Management, Carlsbad, New Mexico
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement and Law Enforcement, Attn: Tom Lane, Albuquerque, New Mexico

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

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

Cons. #2-22-89-I-160

August 30, 1989

Memorandum

To: Natural Resource Specialist, Bureau of Land Management, Carlsbad Resource Area Headquarters, Carlsbad, New Mexico

From: Acting Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services, Albuquerque, New Mexico

Subject: Proposed Right-of-Way for disposal of fluids from oil recovery operations into wetlands in the Laguna Tres and Laguna Quatro areas Eddy County, New Mexico

This responds to your letter dated August 16, 1989 requesting information on the effects of the subject project on threatened or endangered species, and wetlands. The proposed action involves granting a right-of-way to D&E, Inc. to dispose of fluids from oil recovery operations into the Laguna Tres and Laguna Quatro wetlands. Your geographic area of interest is Eddy County, New Mexico.

We have used the information in your request to narrow the list of species occurring in the project area to those which may be affected by the proposed action. We find that the American peregrine falcon and aplomado falcon may be found in the project area (See enclosure). According to the Bureau of Land Management both species are known to be in the immediate area.

Wetlands, riparian vegetation and other sensitive wildlife habitat on or near the site should also be protected. If impacts cannot be avoided, a mitigation plan should be developed to compensate for fish and wildlife losses.

We suggest you contact the New Mexico Department of Game and Fish and the New Mexico Energy, Minerals and Natural Resources Department for information concerning fish, wildlife and plants of State concern.

The Fish and Wildlife Service believes there are serious environmental impacts due to this Right-of-Way proposal. The discharge of untreated oil recovery fluids into surface waters of the United States violates the Clean Water Act (33 U.S.C. 466 et seq.). Migratory birds and endangered species

utilize these wetlands into which this waste water is discharged and they may be adversely affected due to water quality degradation and contamination from trace elements and toxic organic compounds. We recommend that prior to granting the Right-of-Way proposal, representatives of our offices meet to discuss the impacts of the proposal. Richard Roy of our office will contact you shortly to set up time and day to meet.

If you have any questions, please contact me or Richard Roy at (505) 883-7877 or FTS 474-7877.

Michael J. Donahoo

cc:
Director, New Mexico Department of Game and Fish, Attn: Chris Pease, Santa Fe, New Mexico
Director, New Mexico Environmental Improvement Division, Attn: Jim Piatt, Santa Fe, New Mexico
Regional Administrator, Environmental Protection Agency, Dallas, Texas
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico

Species List

Proposed Right-of-Way for disposal fo fluids from oil recovery operations into wetlands in the Laguna Tres and Laguna Quatro areas, Eddy County, New Mexico

August 30, 1989

American Peregrine Falcon (Falco peregrinus anatum) - The peregrine falcon prefers areas with steep rocky cliffs in close proximity to water. Preferred habitat contains dense bird populations in conjunction with large gulfs of air such as in canyons.

Authority: John P. Hubbard, New Mexico Department of Game and Fish, State Capitol, Santa Fe, New Mexico 87503, (505) 827-7952.

Aplomado Falcon (Falco femoralis septentrionalis) - An endangered bird, is currently not found in New Mexico but may be introduced into historic range in the State. Historic range includes Catron, Chaves, Dona Ana, Eddy, Grant, Hidalgo, Lea, Lincoln, Luna, Otero, Sierra, and Socorro Counties. This species is found in open woodland, savanna or grassland habitats.

Authority: John P. Hubbard, New Mexico Department of Game and Fish, State Capitol, Santa Fe, New Mexico 87503, (5505) 827-7894.

Equipment & Supplies
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B & E, INC.

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

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Frac Tanks

August 1, 1989

U.S. Department of the Interior
Bureau of Land Management
P.O. Box 1397
Roswell, New Mexico 88202-1397

ATT: Fran Cherry
District Manager

RE: Continuance of Operations
Tuzlu Kopek Disposal Facility
Sec. 6 T 23S R 30E

Mr. Cherry:

We are writing this letter requesting authority to continue operations at our Tuzlu Kopek Disposal Facility until a decision or final determination is made concerning the long term use of the above mentioned facility.

We are enclosing reports for Hydrologic Assessment dated May 1982; Reassessment of Hydrologic Conditions dated January 1986; and Brine Lake Samples dated August 1989.

We sincerely appreciate consideration in this matter. If you have any further questions, please don't hesitate to contact myself or Valerie Lemon at the above address and phone number.

Thank you again.

Sincerely,

Phil Withrow
Owner/Manager
B & E, Inc.

PW/val
Enclosures
XC: Dick Manus; BLM
Carlsbad District

Equipment & Supplies
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Frac Tanks

August 1989 Tuzlu Kopek Disposal Facility

Contents of Report

Monthly Discharge and Cumulative Barrel Amounts starting in September 1982 thru July 1989.

Map showing designated areas where samples where collected for testing.

Test Results from samples collected from C.E.P. (EPA approved lab) in Santa Fe, NM. (Collected 7-27-89)

Comparison of N.M.WQCC Ground-Water Standards and U.S. EPA Drinking-Water Standards & Health Advisories, 10-88.

Organic Analysis Report from Oil Conservation Division from Accu Labs. (Report Dated 6-23-89) (Date analyzed 2-27-89)

B & E, Inc.
Tuzlu Kopek Disposal Facility
Section 6 Township 23 South Range 30 East
Eddy County
State of New Mexico

Equipment & Supplies
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August 1989

Monthly and cumulative production figures for Tuzlu Kopek Disposal Facility operated by B & E, Inc., at Laguna Quatro since operation began in September 1982. (Amounts are in BBLS)

Date	Monthly Discharge	Cumulative Total
1982		
September	5,250	5,250
October	29,394	34,644
November	62,896	97,540
December	56,245	153,785
1983		
January	64,887	218,672
February	42,220	260,892
March	43,338	304,230
April	46,684	350,914
May	51,406	402,320
June	26,986	429,306
July	29,647	458,953
August	33,584	492,537
September	41,374	533,911
October	38,706	572,617
November	37,532	610,149
December	42,651	652,800
1984		
January	69,269	722,069
February	63,327	785,396
March	66,556	851,952
April	54,723	906,675
May	62,584	969,259
June	63,754	1,033,013
July	74,291	1,107,304
August	87,022	1,194,326
September	93,165	1,287,491
October	81,704	1,369,195
November	69,947	1,439,142
December	78,261	1,517,403

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

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Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
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Frac Tanks

Date	Monthly Discharge	Cumulative Total
1985		
January	72,823	1,590,226
February	70,521	1,660,747
March	72,168	1,732,915
April	72,313	1,805,228
May	113,285	1,918,513
June	116,159	2,034,672
July	120,830	2,155,502
August	120,235	2,275,737
September	145,305	2,421,042
October	151,987	2,573,029
November	152,213	2,725,242
December	134,595	2,859,837
1986		
January	139,554	2,999,391
February	139,291	3,138,682
March	102,264	3,240,946
April	72,345	3,313,291
May	66,886	3,380,177
June	70,427	3,450,604
July	105,291	3,555,895
August	111,102	3,666,997
September	72,085	3,739,082
October	137,121	3,876,203
November	137,291	4,013,494
December	125,528	4,139,022
1987		
January	107,777	4,246,799
February	136,670	4,383,469
March	119,697	4,503,166
April	123,283	4,626,449
May	101,082	4,727,531
June	110,926	4,838,457
July	115,578	4,954,035
August	107,253	5,061,288
September	111,023	5,172,311

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

Date	Monthly Discharge	Cumulative Total
1987		
October	116,917	5,289,228
November	94,932	5,384,160
December	107,141	5,491,301
1988		
January	112,177	5,603,478
February	101,955	5,705,433
March	114,568	5,820,001
April	101,599	5,921,600
May	103,617	6,025,217
June	119,384	6,144,601
July	129,214	6,273,815
August	119,936	6,393,751
September	108,769	6,502,520
October	108,717	6,611,237
November	117,941	6,729,178
December	124,902	6,854,080
1989		
January	111,125	6,965,205
February	126,257	7,091,462
March	132,852	7,224,314
April	109,194	7,333,508
May	105,103	7,438,611
June	82,999	7,521,610
July	124,153	7,645,763

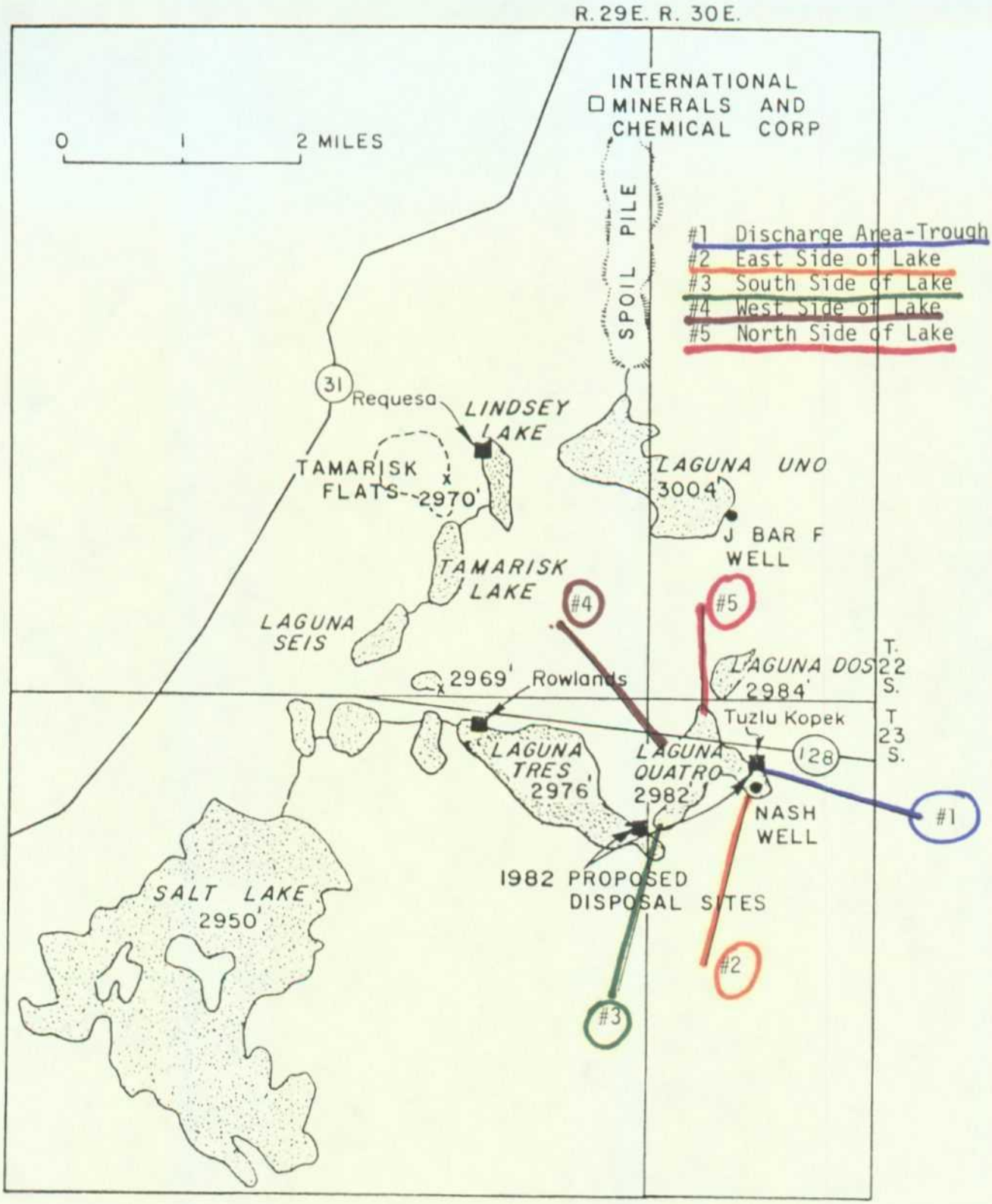


Figure 3.--Distribution of lakes in the vicinity of IMC Refinery and Salt Lake, with selected altitudes. The 1982 proposed sites, Tuzlu Kopek facility, and Rowlands facility are located at Laguna Quatro and Laguna Tres.

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

July 27, 1989

Control Environmental Pollution
1925 Rosina Street
Santa Fe, NM 87501

RE: Emergency Rush Water Samples

ATT: Teresa Hall

The two water samples that I requested your lab to run should arrive no later than 10:30 a.m. on Saturday, July 29, 1989, by Federal Express.

Each gallon of water to be sampled is properly labeled from where it was taken.

The method of payment that we discussed (payment within 30 days of sample anaylsis) is very satisfactory and again thank you for being so helpful and accommodating.

If you have any questions, please don't hesitate to contact myself at the above address and phone number.

Again, thank you very much.

Sincerely,

Valerie Lemon

Valerie Lemon
B & E, Inc.

XC: file
Fred Lockley - BLM (Roswell District)
Dick Manus - BLM (Carlsbad District)

Controls for Environmental Pollution, Inc.

Date: August 3, 1989

Telecopy To: Phil Withrow

885-1701

From: James J. Mueller

Number of Pages Including Coversheet: 4

Confirmation Number: (505) 982-9841 Ext. 15

1925 Rosina • Santa Fe, New Mexico 87502 • (505) 982-9841

[redacted], P.O. BOX 5351 • Santa Fe, New Mexico 87502

PAGE 1 CEP, Inc. REPORT LAB # 89-07-616

RECEIVED: 07/31/89 08/03/89 10:41:47

REPORT TO: B and E Transport
P. O. Box 756
Carlsbad, NM 88220

ATTEN: Phil Withrow

CLIENT: BE TRANSPORT SAMPLES: 2
COMPANY: B and E Transport
FACILITY:

WORK ID: Enviro., W.Q. & Organics
TAKEN:
TRANS: Federal Express
TYPE: Water
P.O. #:
INVOICE: under separate cover

PREPARED BY: Controls for Environmental Pollution, Inc.
1925 Rosina Street
Santa Fe, NM 87502

ATTEN:
PHONE: (505) 982-9841

CERTIFIED BY

CONTACT: GAIL

Remainder of sample(s) for routine analysis will be disposed of three weeks from final report date. Sample(s) for bacteria analysis only, will be disposed of one day after final report. This is not applicable if other arrangements have been made.

* Higher detection limit due to high solids.
** High statistics due to large amount of dissolved solids.

SAMPLE IDENTIFICATION

01	Discharge-Brine Lake #1
02	Composite-Brine L. 2,3,4,5

CEP, Inc. TEST CODES and NAMES used on this report

AG 1	Silver
ALPHA1	Gross Alpha
AS 1	Arsenic
BA 1	Barium
BETA 1	Gross Beta
CA 1	Calcium
CD 1	Cadmium
CL 1	Chloride
CN 1	Cyanide
CO2 1	Carbon Dioxide
CO3 W	Carbonate (as CaCO3)
COLOR1	Color
FE 1	Iron
FU 1	Total Uranium
F 1	Fluoride
H2S 1	Hydrogen Sulfide
HARDT1	Hardness (total)
HCO3 W	Bicarbonate (as CaCO3)
HG T 1	Mercury (total)
ION RA	Ion Ratio
K 1	Potassium
MG 1	Magnesium
NA 1	Sodium
NO3 1	Nitrate, Nitrogen (as N)
OX D 1	Oxygen, Dissolved
O G 1	Oil and Grease
PB 1	Lead
PH 1	pH
RA226W	Radium-226
RA228W	Radium-228
RESIS1	Resisitivity
SE 1	Selenium
SO4 W	Sulfate
SP GRV	Specific Gravity
TEMP 1	Temperature
TSS 1	Total Suspended Solids
TS 1	Solids, Total
TURB 1	Turbidity (Formazin NTU)

Controls for Environmental Pollution, Inc.
P.O. BOX 5351 • Santa Fe, New Mexico 87502
IN STATE 505/982 9841
OUT OF STATE 800/545-2188

REPORT OF ANALYSIS

LAB # 89-07-616

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Discharge-Brine Lake #1	not specified	Chloride	104100	
		Cyanide	<0.1	
		Carbonate (as CaCO3)	0	
		Color	<1	(units)
		Fluoride	0.34	
		Hydrogen Sulfide	22.4	(%)
		Hardness(total)	54520	
		Bicarbonate (as CaCO3)	193	
		Nitrogen, Nitrate (as N)	0.1	
		Oxygen, Dissolved	0	
		Oil and Grease	112	
		pH	7.31	(units)
		Resisitivity	219492	(umhos/cm)
		Sulfate	1121	
		Specific Gravity	1.146	(gm/cc)
		Temperature	17	(degrees C)
		Total Suspended Solids	530	
		Solids, Total	159854	
		Turbidity (Formazin NTU)	190	(units)
		Silver	0.01	
		Arsenic	0.03	
		Barium	4.2	
		Calcium	14720	
		Cadmium	0.009	
		Iron	1.19	
		Mercury (total)	<0.0004	
		Potassium	659	
		Magnesium	2889	
		Sodium	43200	
		Lead	0.021	
		Selenium	<0.01	
		Gross Alpha	148+/-90**	(pCi/liter)
		Gross Beta	269+/-63	(pCi/liter)
		Total Uranium	0.002	
		Radium-226	13.2+/-0.6	(pCi/liter)
		Radium-228	<2*	(pCi/liter)
		Carbon Dioxide	24	
		Ion Ratio	0.9677	

Controls for Environmental Pollution, Inc.
P.O. BOX 5351 • Santa Fe, New Mexico 87502
IN STATE 505/982-9041
OUT OF STATE 800/545-2188

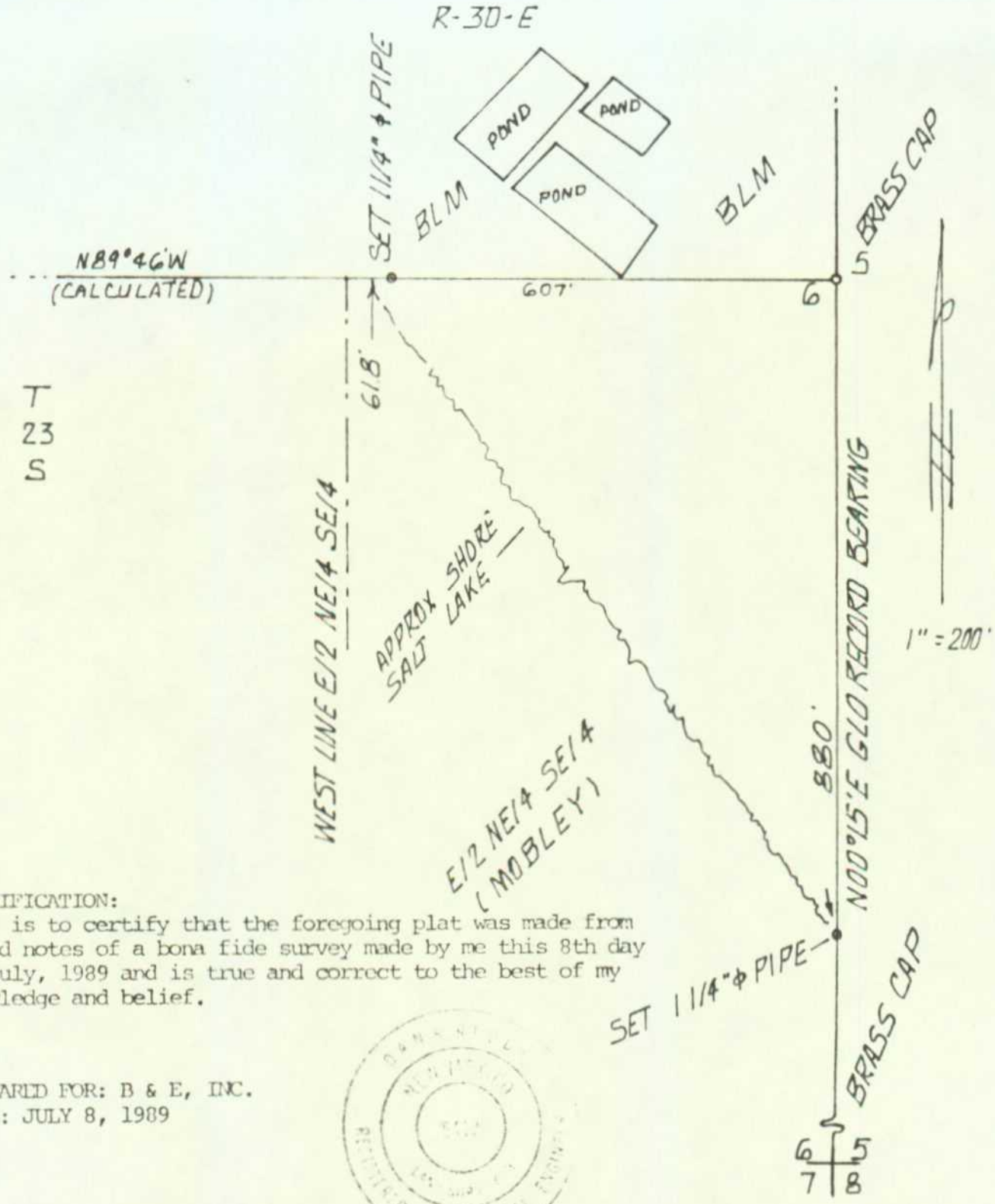
REPORT OF ANALYSIS

LAB # 89-07-616

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Composite-Brine L. 2,3,4,5	not specified	Chloride	200900	
		Cyanide	<0.1	
		Carbonate (as CaCO3)	0	
		Color	<1	(units)
		Fluoride	0.78	
		Hydrogen Sulfide	23.0	(%)
		Hardness(total)	39010	
		Bicarbonate (as CaCO3)	177	
		Nitrogen, Nitrate (as N)	0.2	
		Oxygen, Dissolved	6.3	
		Oil and Grease	25	
		pH	7.25	(units)
		Resisitivity	282204	(umhos/cm)
		Sulfate	17860	
		Specific Gravity	1.257	(gm/cc)
		Temperature	17	(degrees C)
		Total Suspended Solids	949	
		Solids, Total	361945	
		Turbidity (Formazin NTU)	10545	(units)
		Silver	<0.01	
		Arsenic	0.05	
		Barium	0.1	
		Calcium	664	
		Cadmium	0.009	
		Iron	0.10	
		Mercury (total)	<0.0004	
		Potassium	24700	
		Magnesium	9840	
		Sodium	101400	
		Lead	0.032	
		Selenium	<0.01	
		Gross Alpha	130+/-90**	(pCi/liter)
		Gross Beta	6743+/-215	(pCi/liter)
		Total Uranium	0.024	
		Radium-226	6.7+/-1.0	(pCi/liter)
		Radium-228	<2*	(pCi/liter)
		Carbon Dioxide	24	
		Ion Ratio	0.9739	

PLAT OF SURVEY

Tuzlu Kopek SWD
Sec. 6 T 23S R 30E
Eddy County, New Mexico

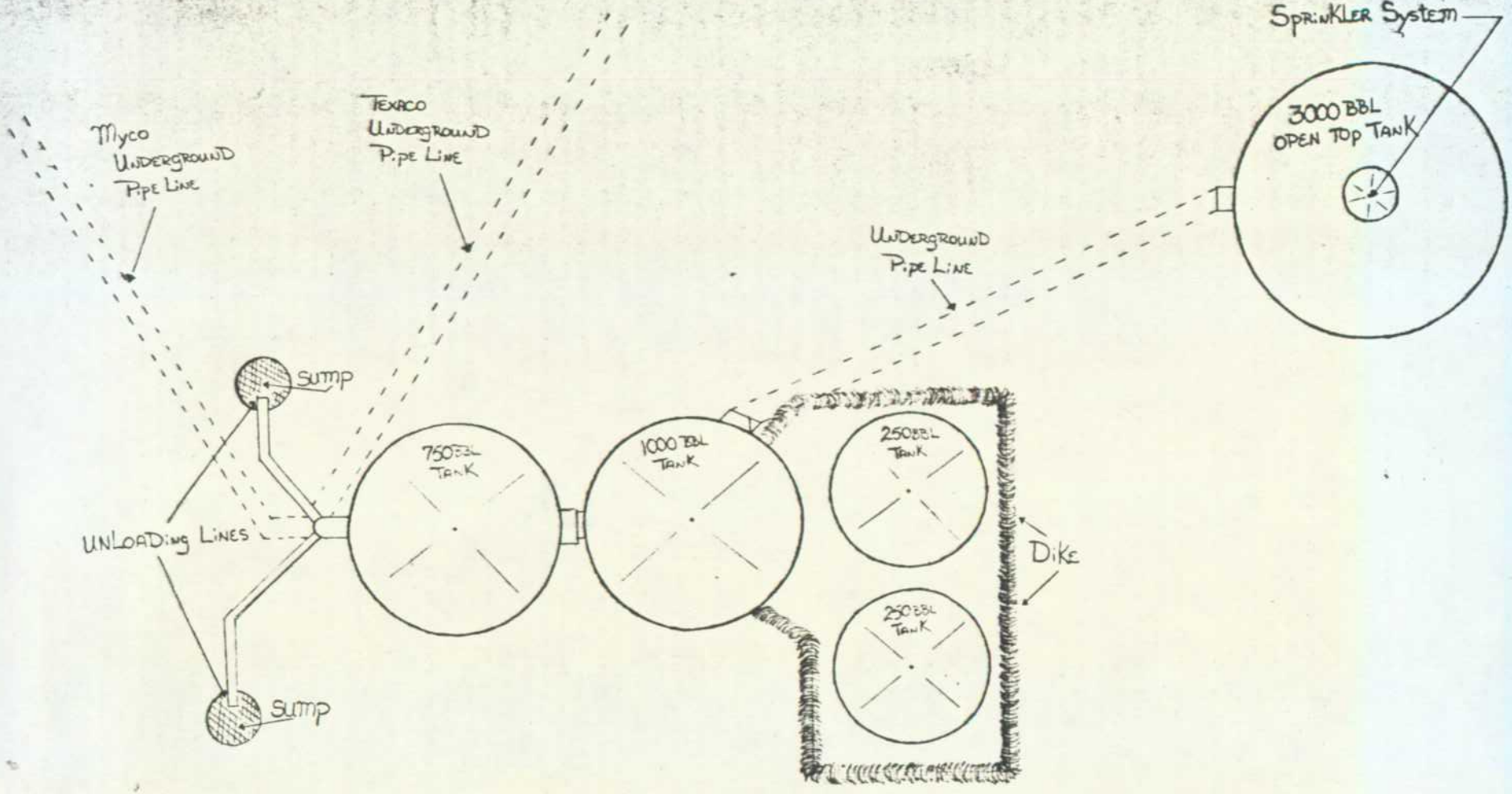


CERTIFICATION:
This is to certify that the foregoing plat was made from field notes of a bona fide survey made by me this 8th day of July, 1989 and is true and correct to the best of my knowledge and belief.

PREPARED FOR: B & E, INC.
DATE: JULY 8, 1989

Dan R. Reddy

DAN R. REDDY NEW MEXICO PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 5412



B & E Inc.

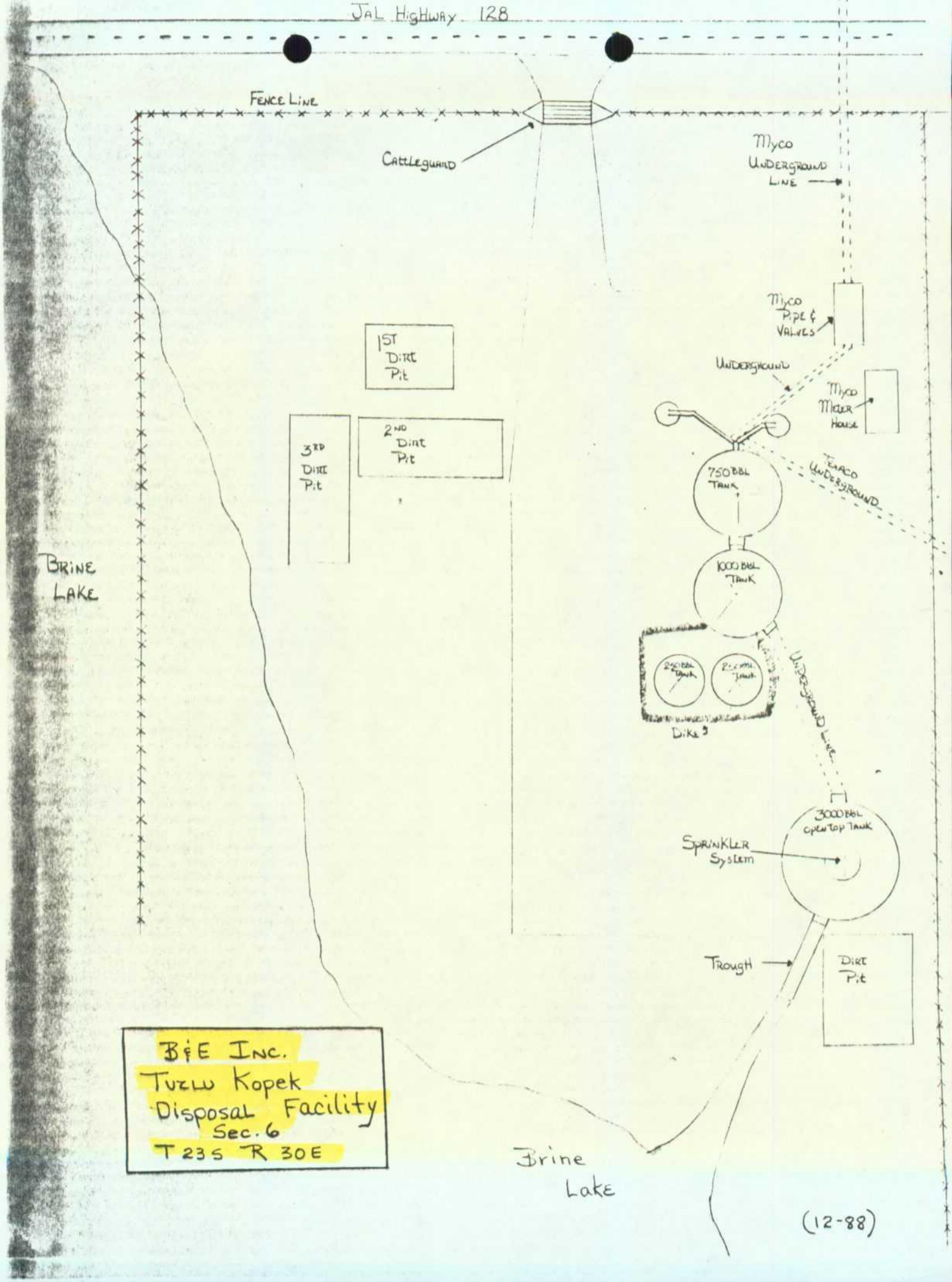
Tuzlu Kopek

Disposal

Sec. 6

T 23S R 30E

(12-88)


JAL HIGHWAY 128
FENCE LINE
CATTLEGUARD
MYCO UNDERGROUND LINE
MYCO PIPE & VALVES
UNDERGROUND
MYCO METER HOUSE
1ST DIRT PIT
2ND DIRT PIT
3RD DIRT PIT
TEXACO UNDERGROUND
750 BBL TANK
1000 BBL TANK
250 BBL TANK
DIKE
UNDERGROUND LINE
3000 BBL OPEN TOP TANK
SPRINKLER SYSTEM
TROUGH
DIRT PIT
BRINE LAKE
BRINE LAKE
B&E INC.
TUZLU KOPEK
DISPOSAL FACILITY
SEC. 6
T 23 S R 30 E
(12-88)

6840 (067)

AUG 16 1989

Endangered Species Office
Attn: Dr. John Hubbard
New Mexico Department of Game and Fish
Villagra Building
Santa Fe, NM 87503

Dear Dr. Hubbard:

The BLM Carlsbad Resource Area Office is requesting a list of potential rare species of concern for the Laguna Tres and Laguna Quatro Areas (fig. 1). We are currently considering a right-of-way action to dispose of fluids from oil recovery operations into these wetland systems. Both lakes are saline and hold water year-long with very little tree canopy except for scattered clumps of salt cedars. The surrounding terrain includes a mixture of gently rolling gypsum hills and sandy plains. The area receives an average precipitation of 12 inches supporting a variety of grasses and shrubs around the lakes.

Thank you for your assistance.

Sincerely,

Jesse J. Juen

Jesse Juen
Natural Resource Specialist

067:JJuen: cp:8/11/89:WANG#001111.2

Submit 4 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-134
Aug. 1, 1989

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

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

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

OIL CONSERVATION DIVISION

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

Permit No. B-016
(For Division Use Only)

SEP -6 '89

O. C. D.
ARTESIA, OFFICE

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952

FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule711(I)

Operator Name: B & E, Inc.

Operator Address: P.O. Box 756 Carlsbad, New Mexico 88220

Lease or Facility Name Tuzlu Kopek SWD Facility Location E/2 NESE 6 23S 30E
Ut. Ltr. Sec. Twp. Rge

Size of pit or tank: 3000 bbl tank

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

3000 bbl tank
_____ The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.
tank

The 3000 bbl tank located on the facility is a sprinkler tank but installed cables and yellow flagging make it not hazardous to wildlife

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

This tank should be free and clean of any hydro carbons.

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

_____ Operator proposes the following alternate protective measures:

Our company people constantly monitor and check our system several times a day.

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

Signature [signature] Title Owner/Manager Date 9-1-89

Printed Name Phil Withrow Telephone No. 505-885-6663

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 8/29/89 RECEIVED Approved by [signature]

Inspected by MW Title SUPERVISOR, DISTRICT II

SEP 13 1989 Date SEP 11 1989

OIL CONSERVATION DIV.
SANTA FE

Submit 4 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-134
Aug. 1, 1989

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

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

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

RECEIVED
AUG 09 '89
O. C. D.
ARTESIA, OFFICE

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

Permit No. A-008
(For Division Use Only)

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

Operator Name: B & E, Inc.

Operator Address: P.O. Box 756 Carlsbad, New Mexico 88220

Lease or Facility Name Tuzlu Kopek SWD Facility Location E/2 NESE 6 23S 30E
Ut. Ltr. Sec. Twp. Rge

Size of pit or tank:

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

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

The brine lake does not contain any hydrocarbons or anything else that would be harmful to wildlife.

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

If this should happen clean-up would begin immediately by skimming with a vacuum truck.

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

_____ Operator proposes the following alternate protective measures:

Our company people constantly monitor and check our system several times a day.

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

Signature [signature] Title Owner/Manager Date 8-4, 1989

Printed Name Phil Withrow Telephone No. 505-885-6663

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 8/29/89

Inspected by MW

Approved by [signature]

Title SUPERVISOR, DISTRICT II

Date AUG 31 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
ALLIED BANK TOWER AT FOUNTAIN PLACE
1445 ROSS AVENUE
DALLAS, TEXAS 75202

August 13, 1987

BAILEY
CC

RECEIVED
AUG 1 1987
STEPHENSON, CARPENTER, CROUT, & OLMSTED

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted
P. O. Box 669
Santa Fe, New Mexico 87504-0669

Re: Pollution Control, Inc.
Brine Disposal Project in Lea County, New Mexico

Dear Mr. Comeau:

This is in response to your letter dated July 29, 1987, in which you submit documentation that Laguna Gatuna, a playa lake, is not "waters of the United States."

Based on the information you submitted, EPA would not consider the referenced playa lake to be "waters of the United States" as that term is defined at 40 CFR § 122.2. Playa lakes may be considered "waters of the United States" if they "would affect or could affect interstate or foreign commerce." You indicate in your letter that there are no recreational, industrial, or other uses that could affect interstate commerce, and that the playa lake is not hydrologically connected to "waters of the United States." Based on this understanding of the facts, EPA agrees that Laguna Gatuna would not be considered "waters of the United States." If you have any further questions, please contact me.

Sincerely,

James L. Collins

James L. Collins
Associate Regional Counsel

cc: Paul Watler, Esq.
Jenkins & Gilchrist
3200 Allied Bank Tower
Dallas, Texas 75202

PAILEY

STEPHENSON, CARPENTER, CROUT & OLMSTED
Attorneys at Law
Coronado Building, 141 E. Palace Avenue
Post Office Box 669
Santa Fe, New Mexico 87504-0669

Telephone (505) 982-4611
Telecopier (505) 988-2987

Donnan Stephenson
Of Counsel

Richard N. Carpenter
G. Stanley Crout
Charles D. Olmsted
Michael R. Comeau
Larry D. Maldegen
Michael W. Brennan
Sunny J. Nixon
William P. Templeman
C. Mott Woolley
Jon J. Indall
Stephen J. Lauer
Michael S. Yesley
Lindsay A. Lovejoy, Jr.
Patricia J. Turner
Richard S. Mackenzie
Joseph E. Manges
Candace Kern
Rebecca Dempsey
Paula A. Johnson
Nicholas F. Persampieri
Grey W. Handy

July 29, 1987

Mr. Ken Huffman
Chief, Industrial Permits Section
Region VI
United States Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: Pollution Control, Inc.
Brine Disposal Project in Lea County, New Mexico

Dear Mr. Huffman:

This letter is in response to your suggestion at our meeting on July 16, 1987, that Pollution Control, Inc. ("Pollution Control"), submit a letter with appropriate documentation setting forth the reasons why we believe the playa in which Pollution Control proposes to dispose produced oil well brine is not a "water of the United States" as that term is used in the Clean Water Act ("CWA") and applicable regulations. At the outset, we would like to express our appreciation for the opportunity to discuss this matter with you and to submit this letter. We hope that a prompt resolution of the issue will be achieved.

Pollution Control is a New Mexico corporation owned and operated by Larry Squires, a resident of Lea County, New Mexico. Mr. Squires is also the owner and operator of Snyder Ranches, a large cattle ranching property located in Lea County. The Snyder Ranches operation consists of fee land and land leased from the State of New Mexico and the Bureau of Land Management. The operations of Pollution Control are confined to Snyder Ranch property and property leased from the State and the BLM.

For approximately fifteen years, Pollution Control has operated a surface salt water disposal facility at a playa known as "Laguna Gatuna" located on Sections 17 and 18, Township 20 South, Range 32 East, N.M.P.M., under orders issued by the Oil Conservation Division of the New Mexico Energy and Minerals Department. The most recent Order of the Division (*In the Matter of the Hearing Called by the Oil Conservation Division for the Purpose of Considering: Application of Pollution Control, Inc. for an Amendment to Division Order No. R3725, Lea County, New Mexico* ("1984 Order"), Case No. 8292, Order of the Division (August 20, 1984)) is

attached to the enclosed "Hydrologic Assessment of the Salt Lakes Area, Western Lea County, New Mexico" prepared by Geohydrology Associates, Inc. in 1984 ("Hydrologic Assessment").*

In its 1984 Order, which authorized an expansion of Pollution Control's disposal facilities, the Oil Conservation Division made the following findings:

> (5) That the geohydrologic evidence presented in this case reaffirms or establishes that:
>
> (a) Laguna Gatuna is sited within the confines of a collapse structure;
>
> (b) naturally occurring highly mineralized springs are located on the periphery of Laguna Gatuna;
>
> (c) the water in Laguna Gatuna is not fresh water;
>
> (d) that portion of the Triassic red beds underlying said Laguna Gatuna is virtually impermeable and therefore prevents seepage from said lake into the sand stringers within said red beds which may contain fresh water;
>
> (e) as to sands that are in communication with said lake, the major flow of surface and subsurface water within the boundaries of said collapse structure is towards Laguna Gatuna;
>
> (f) the evidence indicates that there is no leakage of water from Laguna Gatuna into the adjoining formations containing fresh waters;
>
> (g) the salt springs and brine associated with Laguna Gatuna are more highly mineralized than water collected from oil wells in the immediate area;

---

* We have also enclosed the Business Lease between the State of New Mexico and Pollution Control, dated October 28, 1984; the Decision, dated October 19, 1979, of the Bureau of Land Management, United States Department of the Interior, to grant a right-of-way to Pollution Control for the operation of the salt water disposal facility; and a detailed map of Laguna Gatuna showing the land ownership and leases in the vicinity of Pollution Control's facilities.

> (h) Laguna Gatuna is a suitable disposal site for as much as 30,000 barrels of brine per day;
>
> (i) there is no evidence that the fifteen years of operation by Pollution Control Inc [sic] has adversely impacted the hydrological system in the vicinity of Laguna Gatuna and that continued operations as proposed will not endanger the pre-1969 conditions;
>
> (j) Laguna Gatuna is a satisfactory repository for solid oil-field waste products; and,
>
> (k) the utilization of Laguna Gatuna for the disposal of water produced in conjunction with the production of oil or gas, or both, and oil field waste products, including drill cuttings and drilling muds will not constitute a hazard to fresh water supplies that may exist in the vicinity of said lake.

1984 Order, page 37.

The evidence on which the Oil Conservation Division based these findings included the Hydrologic Assessment, which concluded *inter alia* that

> There is no evidence to show that 15 years of operation by Pollution Control, Inc., has adversely impacted the hydrologic system in the vicinity of Laguna Gatuna. Continued operation of the existing facilities will not endanger the pre-1969 conditions.

Hydrologic Assessment, page 33.

Although Pollution Control's disposal activities are authorized by the Oil Conservation Division, the question has recently been raised whether those activities constitute disposal into "waters of the United States" for the purposes of the CWA. Section 502(7) of the Federal Water Pollution Control Act ("FWPCA"), 33 U.S.C.A. § 1362(7), defines "navigable waters" as "the waters of the United States, including the territorial seas." To implement the FWPCA, EPA has adopted a detailed definition of "waters of the United States" in 40 C.F.R. § 122.2. We believe that a careful examination of EPA's definition demonstrates that Pollution Control's activities do not involve the "waters of the United States."

EPA's definition of "waters of the United States" must of course be read in the light of the many cases that have determined the constitutional limits of federal jurisdiction under the CWA. Those cases make it clear that the particular conditions of a disposal property govern the application of the definition, and so we turn next to a description of the property involved.

Pollution Control proposes to dispose of oil-field brines entirely on property that is owned or leased by Pollution Control or Mr. Squires or to which a right-of-way has been granted by the BLM for the purpose of the disposal activities. The produced water that will be disposed of is not considered a "hazardous waste" by EPA and contains no hazardous waste constituents regulated by the EPA. *See* letter dated June 3, 1987, from Jami Bailey, Oil Conservation Division, to Larry Squires (attached to Hydrologic Assessment), page 39A. The property is a playa that remains dry except during periods of heavy rainfall. The area is a collapse structure that drains less than two square miles. Through two precipitation tributaries, about 8000 gallons of precipitation runoff are entrapped annually. *See* Hydrologic Assessment, pages 27-30.

The playa is a natural groundwater discharge point, with naturally occurring, highly mineralized, intermittent springs on the periphery of Laguna Gatuna. *Id.* at page 26. The stratum underlying the area is virtually impermeable and therefore prevents seepage. There is no evidence that previous operation of the facility for fifteen years has had any adverse impact on the hydrological system in the vicinity. To the contrary, the evidence indicates no leakage of water into adjoining formations. 1984 Order at page 37.

The water of Laguna Gatuna is not fresh, *id.*, and it supports no wildlife or agriculture of any kind. (Fresh water needs in the area are supplied by pipeline.) No recreation of any sort -- hunting, hiking, boating or fishing -- occurs in the area; its natural conditions do not attract visitors. There is no evidence of use by migratory waterfowl.

Essentially, the playa is a natural depression with water that, when intermittently present, is not fresh and does not flow to or reach any other body of water on the surface or underground, regularly or intermittently. There is no use of the water by interstate travelers or for interstate commercial purposes, since it has no recreational value of any kind and is unsuited for agricultural production. Finally, the discharge is entirely contained on property that is owned or leased by Pollution Control.

Under EPA's definition, a property is a "water of the United States" if it is included in any one of several categories. We believe that none of the categories applies to the playa proposed to be used by Pollution Control. The first category is "all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce." As noted above, the playa is unsuitable for any recreational or agricultural use and supports no wildlife. Thus, the playa has no attraction for visitors in interstate commerce and supports no agricultural or other production that might go into interstate commerce.

The second category -- "all interstate waters, including interstate wetlands" -- is inapplicable because the playa is located entirely within Lea County, New Mexico.

The third category of EPA's definition is:

> All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters
>
> (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
>
> (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
>
> (3) Which are used or could be used for industrial purposes by industries in interstate commerce[.]

The area used by Pollution Control for disposal of brine is clearly a "playa lake," but its use has no effect, and can have no effect, on interstate or foreign commerce. Taking the subcategories in order, the playa has no attraction for travelers since it is devoid of any recreational possibilities, it does not support any fish or shellfish, and the waters that collect occasionally after heavy precipitation are not suitable for any industrial use. Further, there is no agricultural or other use that might affect interstate or foreign commerce, and no way in which the degradation or destruction of the playa could affect interstate or foreign commerce.

The fourth category -- "impoundments of waters otherwise defined as waters of the United States" -- is inapplicable because the playa does not impound any "waters of the United States." The only waters present are precipitation after a heavy rainfall. The fifth category -- "tributaries" of waters of the United States -- is inapplicable because the playa has no flow to any other water system, either on the surface or in groundwater. The next category -- "the territorial sea" -- is obviously inapplicable. The final category -- "wetlands" adjacent to waters of the United States -- is inapplicable because there are no waters of the United States in the vicinity of the playa.

We note that Laguna Gatuna might be considered a "waste treatment system," which EPA's definition specifically excludes from "waters of the United States." The provision that limits this exclusion to man-made bodies of water is currently under suspension. *See* 45 *Federal Register* 48620 (July 21, 1980); 48 *Federal Register* 14146 (April 1, 1983). If EPA does not fully agree with our position

that the playa is not a "water of the United States," we request that the agency determine whether this exclusion is applicable.

The case law relating to the definition of "waters of the United States" supports our position that the playa is not covered by the CWA. The federal courts have upheld CWA coverage for discharges that are not directly into navigable waterways, but in no case has a court approved coverage of a discharge that does not have a tributary relationship to a navigable-in-fact waterway or to a water with a significant effect on interstate commerce.

In *U.S. v. City of Fort Pierre, S.D.*, 747 F.2d 464, 21 ERC 2054 (8th Cir. 1984), the Eight Circuit concluded that the Fort Pierre Slough is not a wetland as contemplated by Congress in passing the Clean Water Act. The court noted that the Slough is located in a privately owned area and has no hydrological connection with the nearby Missouri River. Any standing water in the Slough resulted only from rains and runoff, until certain actions by the Corps of Engineers trapped the surface water in the Slough. The Slough "is now devoid of wildlife, supports no fish or fowl, and is not conducive to recreation or other significant use by the public." 747 F.2d at 467. The quoted language is an accurate description of the playa used by Pollution Control for brine disposal. Although the court in *City of Fort Pierre* limited its holding to the situation resulting from the Corps' intervention, the characteristics of the site which the court found persuasive in determining that the Slough was not a "water of the United States" would lead to the same result in the case of Laguna Gatuna.

The cases that have upheld coverage under the CWA are easily distinguishable on their facts. CWA coverage has been found by the Tenth Circuit in cases involving tributaries -- regular or intermittent -- of waters of the United States, *see Ward v. Coleman*, 598 F.2d 1187 (10th Cir. 1979), *reversed on other grounds*, 448 U.S. 242 (1980), and *U.S. v. Texas Pipe Line Co.*, 611 F.2d 345 (10th Cir. 1979); a non-navigable stream, located entirely within one county, which supported trout and beaver and was used for agricultural irrigation, *see U.S. v. Earth Sciences, Inc.*, 599 F.2d 368 (10th Cir. 1979); and an arroyo which might connect with navigable-in-fact streams during times of intense rainfall and through underground acquifers, *see Quivira Min. Co. v. U.S.E.P.A.*, 765 F.2d 126 (10th Cir. 1985). Other courts have upheld coverage under the CWA in cases where discharges to normally dry arroyos could reasonably end up in a body of water in which there is some public interest, *U.S. v. Phelps Dodge Corp.*, 391 F. Supp. 1181 (D. Ariz. 1975); and where destruction of wetlands surrounding a lake would reduce the lake's attraction to the many out-of-state visitors who came for recreation, *see U.S. v. Byrd*, 609 F.2d 1204 (7th Cir. 1979).

None of these factual situations which have supported findings of CWA coverage is present at the playa. No water flows from the playa -- as a tributary or through underground acquifers -- to any other

body of water. The playa does not support any wildlife or agriculture, and it has no attraction for visitors.

Arbuckle *et al.*, *Environmental Law Handbook* (8th Ed. 1985), state at page 271 that the few exclusions to the definition of "waters of the United States" which have been recognized to date "seem to be limited to situations where the waterway in question is wholly confined on the property of the discharger, does not result in any flow beyond the property line, and is not available for significant public use." The playa where Pollution Control proposes to dispose brine presents all of these elements of an exclusion from the definition of "waters of the United States."

For the reasons set forth above, we submit that Laguna Gatuna is not a "water of the United States." Please advise us if any further information is required to assist your determination.

Very truly yours,

Michael R. Comeau

MRC/jrb
Enclosures:
- Hydrologic Assessment of the Salt Lakes Area, Western Lea County, New Mexico prepared by Geohydrology Associates, Inc. in 1984
- Business Lease between the State of New Mexico and Pollution Control, dated October 28, 1984
- The Decision, dated October 19, 1979, of the Bureau of Land Management, United States Department of the Interior, to grant a right-of-way to Pollution Control for the operation of the salt water disposal facility
- A detailed map of Laguna Gatuna showing the land ownership and leases in the vicinity of Pollution Control's facilities

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

September 19, 1989

GARREY CARRUTHERS
GOVERNOR

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

B. and E. Inc.
P. O. Box 2292
Hobbs, New Mexico 88240

Attention: Phil Winthrow

Re: $25,000 Cash Bond for Commercial
Disposal Facility
B. & E. Inc., Operator
NE/4 of Sec. 26, T-22-S, R-29-E,
Eddy County
Bond No. OCD-215

Dear Mr. Winthrow:

The Oil Conservation Division hereby approves the above-referenced Commercial Disposal Facility bond effective this date.

Sincerely,

WILLIAM J. LEMAY,
Director

dr/

cc: Oil Conservation Division
Artesia, New Mexico

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
ARTESIA DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

P.O. DRAWER DD
ARTESIA, NEW MEXICO 88210
(505) 748-1283

January 10, 1989

Bureau Of Land Management
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88201-1397

Attention: Francis R. Cherry, Jr.

Gentlemen:

In reference to your letter dated 12/22/88 concerning environmental issues at B & E, Inc. salt water disposal system located in Sec 6, T-23S, R-30E. On December 29, 1988 at 10:00 AM I visited the Tuzlu Kopek disposal facility. I was accompanied by B & E personnel and BLM personnel, 1 from Carlsbad and 1 from Roswell.

A review of the issues of concern to the BLM revealed the following:

1. The drainage path is stained with a dark substance that appears to be iron sulfide. If indeed it is iron sulfide, it is not in violation of NMOCD Rule 116. B & E,Inc. will take a sample of the water and a sample of the soil under the black substance for an analysis to be run at a lab and submitted to the BLM and the OCD.

2. The fencing around the sludge pits is in compliance with our Rule 313 since the entire battery area is either fenced or surrounded by the lake. Our Rule 711 will be in effect and enforced by March 21, 1989 and the gate will be locked at that time.

3. No sludge bed berm has been breached, however the fire wall around the battery has been cut to allow drainage of rain water from the battery area. Hay has been scattered from the drainage area to salt lagoons to pick up any oil that might be accumulated from the battery area to the drainage. It did appear that a trace of hydrocarbons might have run down through this area. I informed B & E, Inc. that the fire wall was to protect the lakes from any leak or rupture that might occur at their battery and that the fire wall would have to be repaired and the rainwater picked up by trucks if it created any problems. B & E, Inc. assured me this would be done within the next week.

4. Mr. Lockley did have a picture of the skeletal remains of a bird outside of a pit. Although Mr. Lockley or myself saw no skeletal remains, I do believe there is a possibility of a problem for birds to be killed or trapped in one of the sludge beds. Mr. Bill LeMay, director of the OCD in Santa Fe, along with Mr. Jerry Sexton, district supervisor for the OCD in Hobbs, and myself have appointed an industry committee to address this problem. The first meeting is tentatively scheduled for January 11, 1989 in Roswell, New Mexico.

5. The order the NMOCD issued was for the facility. When an order is issued by the NMOCD it does not grant trespass on State, Fee or Federal land. It is the responsibility of the operator to acquire the lease for the land which they are going to use. After our visit with B & E Inc, I believe it was their understanding that the location was on Fee land. Mr. Withrow is presently working on his lease for this location.

Mr. Cherry, if there is anything I have not answered for you please feel free to call or write me a note. I will do the best I can to answer your questions.

Sincerely,

Mike Williams
Supervisor, District II

MW:br

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

December 31, 1988

Oil Conservation Division
P.O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87504

RE: Tuzlu Kopek Disposal Facility
Laguna Tres & Cautro - reclaiming facilities

ATT: Roger Anderson

Attached please find the information that you requested.

We are in the process of locking the facility with a combination lock and contacting customers who have permission to use our facility.

The $25,000 Bond is in the process of being issued. Underwriters Indemnity through the Leavell-Danford Agency in Eunice, NM is approving our company for the bond.

As soon as we hear from the above mentioned Insurance Company we will contact you immediately.

If you have any further questions, please don't hesitate to contact us at the above address and phone number.

Thank you for your consideration.

Sincerely,

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

PW/val

Attachments

xc: OCD District Office
file

Tuzlu Kopek Disposal Facility

Sec. 6 T 23S R 30E

Laguna Tres Disposal Facility

Sec.-12 T-23S R-29E

Laguna Cuatro Disposal Facility

Sec.-6 T-23S R-30E

In Accordance - Rule 711

Case No. 9378

Order No. R-8662

Phil Withrow
Owner/Manager
B & E, Inc.

FIELD OFFICE

P.O. Box 756
South Y
Carlsbad, NM 88220

505-885-6663

MAIN OFFICE

P.O. Box 2292
700 N. Shipp
Hobbs, NM 88240

505-393-0762

LANDOWNERS OF RECORD

W.L. Mobley
Edith M. Mobley
1049 Standpipe Rd.
Carlsbad, NM 88220

LONG TERM GROUND LEASE

THIS LEASE MADE THIS 15-11 day of June, 1982, between W. L. MOBLEY, JR. and EDITH M. MOBLEY, his wife, whose address is 1049 Standpipe Rd., Carlsbad, NM, hereinafter called "Lessor", and B & E, INC., a New Mexico corporation, whose address is P. O. Box 756, Carlsbad, New Mexico 88220, hereinafter called "Lessee".

SECTION FOUR

Warranties of Title and Quiet Possession

Lessor covenants that it is seized of the demised premises in fee simple except as to the oil, gas and other minerals, and has full right to make this lease and that Lessee shall have quiet and peaceable possession of the demised premises during the term hereof. Lessor shall furnish to Lessee an abstract of title brought down to date and Lessee shall have a reasonable time within which to examine the same.

Description of Facilities

See attached Information

SECTION ONE

Demise and Description of Premises

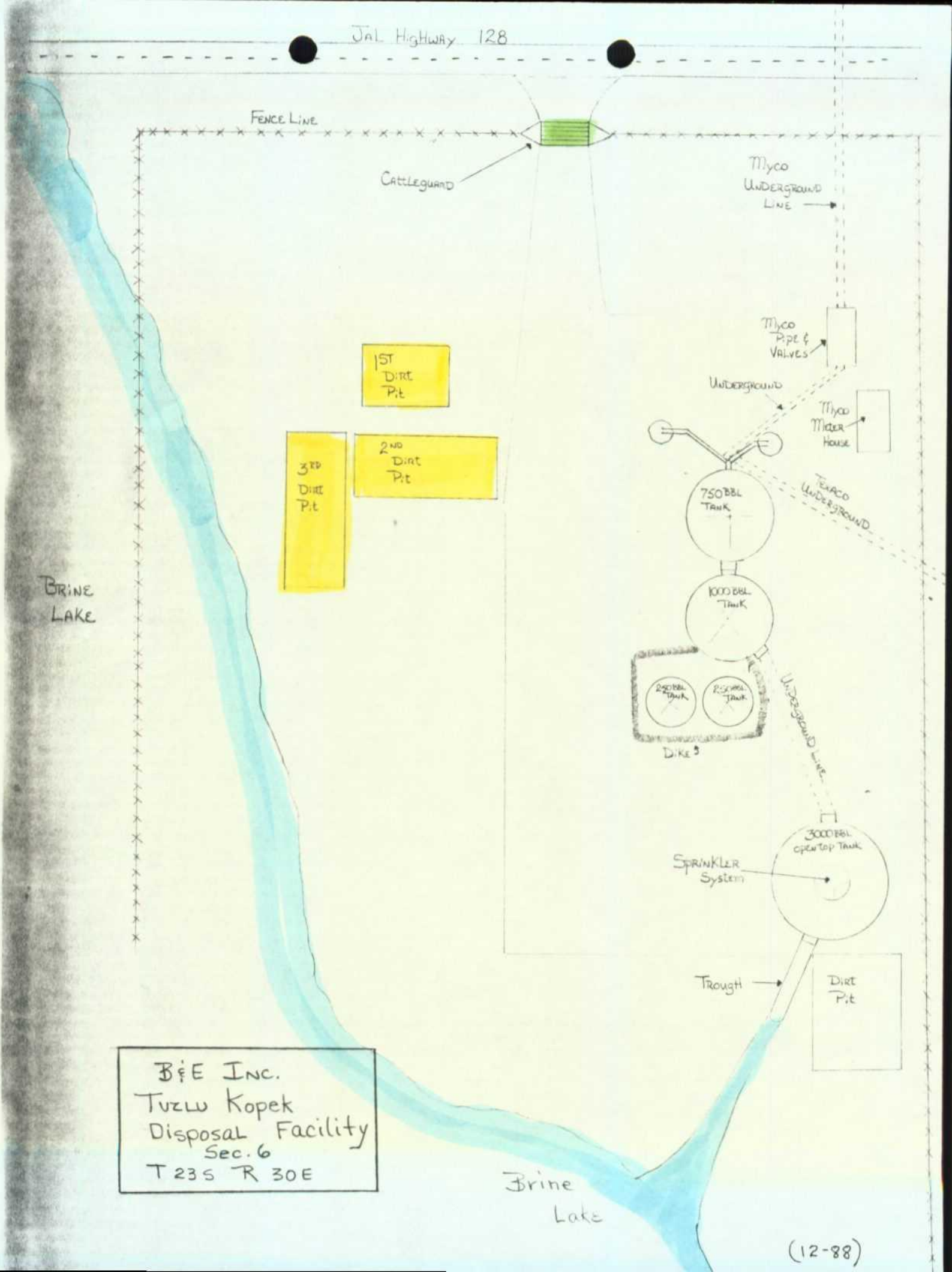
Lessor leases to Lessee and Lessee hires from Lessor for the purpose of conducting any lawful business the real property described in Exhibit "A" attached hereto and incorporated by reference.

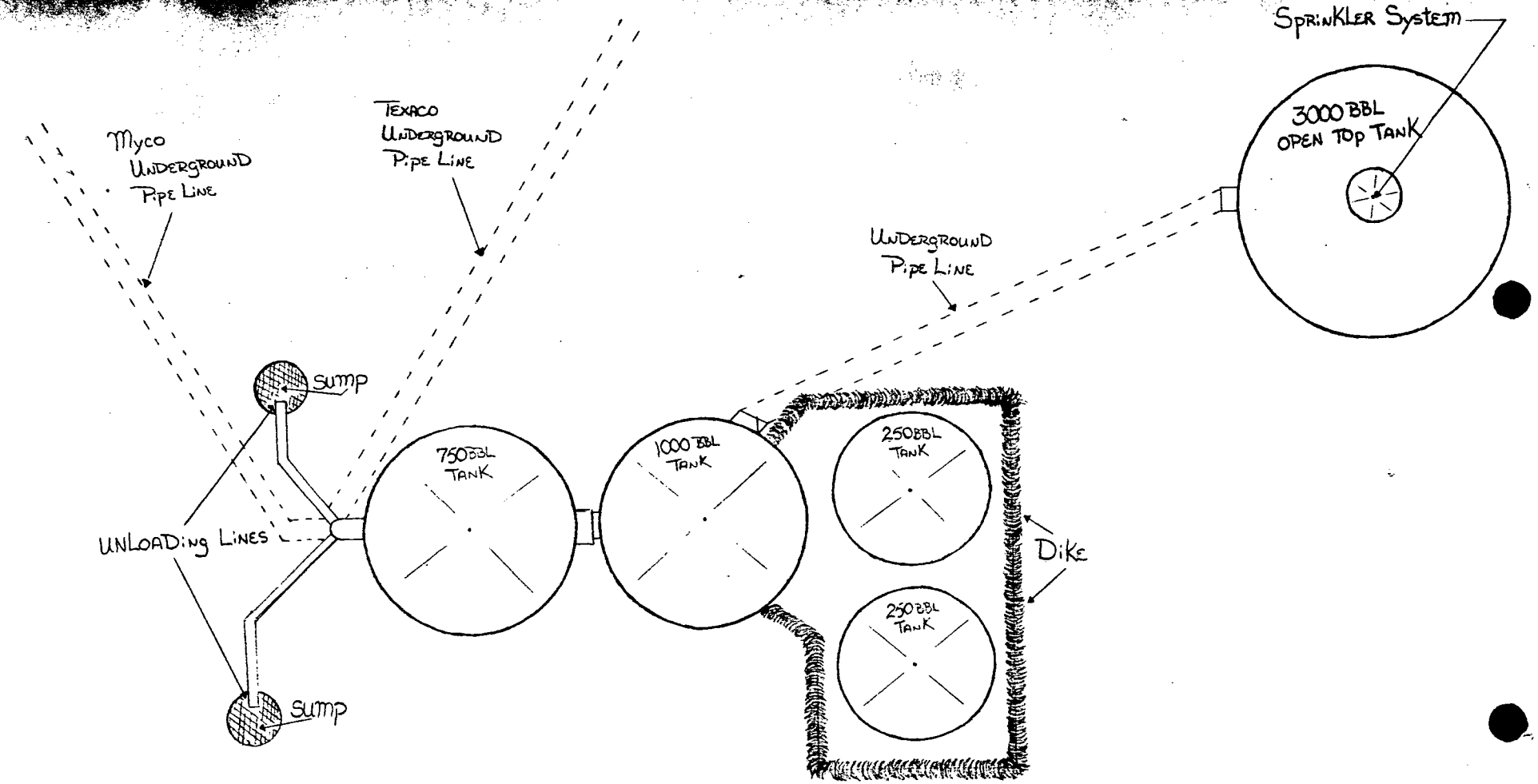
EXHIBIT "A"

TOWNSHIP 23 SOUTH, RANGE 30 EAST,

N.M.P.M., EDDY COUNTY

SECTION 6: E/2 NESE


Jal Highway 128
Fence Line
Cattleguard
Myco Underground Line
Myco Pipe & Valves
Underground
Myco Meter House
Texaco Underground
1st Dirt Pit
2nd Dirt Pit
3rd Dirt Pit
750 BBL Tank
1000 BBL Tank
250 BBL Tank
Dike
Underground Line
3000 BBL open top Tank
Sprinkler System
Trough
Dirt Pit
Brine Lake
Brine Lake
B&E Inc.
Tuzlu Kopek
Disposal Facility
Sec. 6
T 23 S R 30 E
(12-88)



B & E Inc.
Tuzlu Kopek
Disposal
Sec. 6
T 23S R 30E

(12-88)

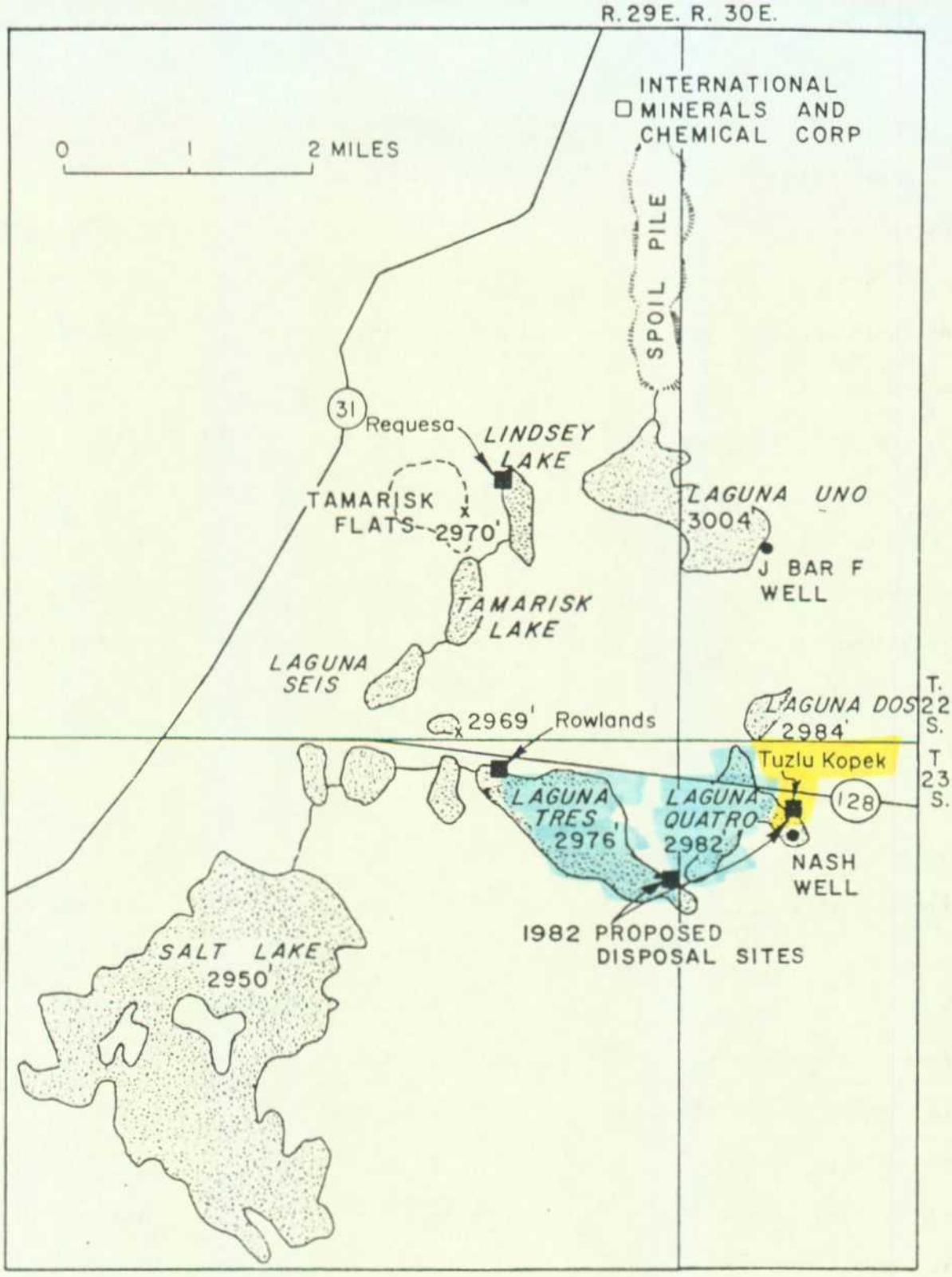


Figure 3.--Distribution of lakes in the vicinity of IMC Refinery and Salt Lake, with selected altitudes. The 1982 proposed sites, Tuzlu Kopek facility, and Rowlands facility are located at Laguna Quatro and Laguna Tres.

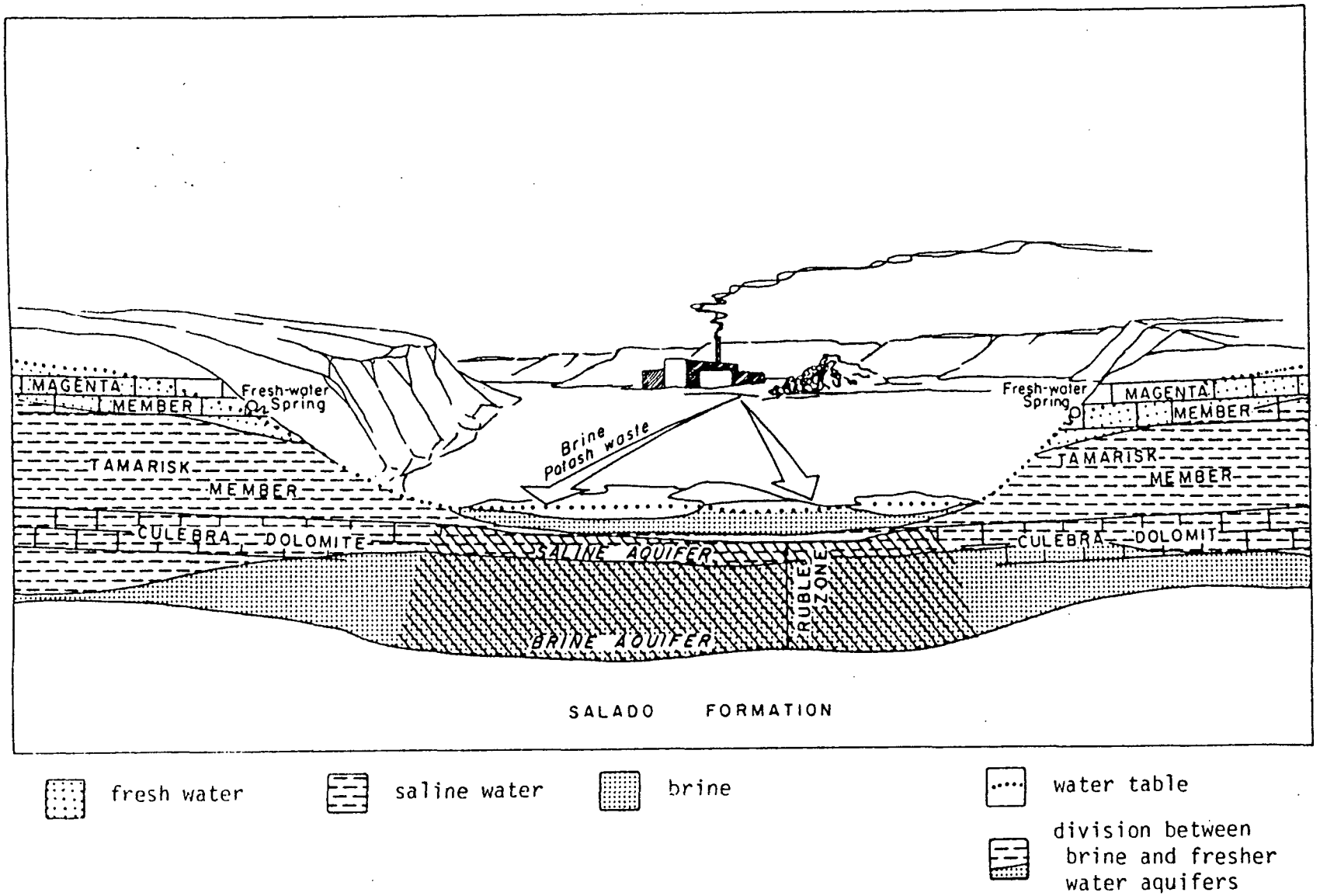


Figure 2.--Diagrammatic east-west cross section through Nash Draw, showing stratigraphic units and ground-water relationships.

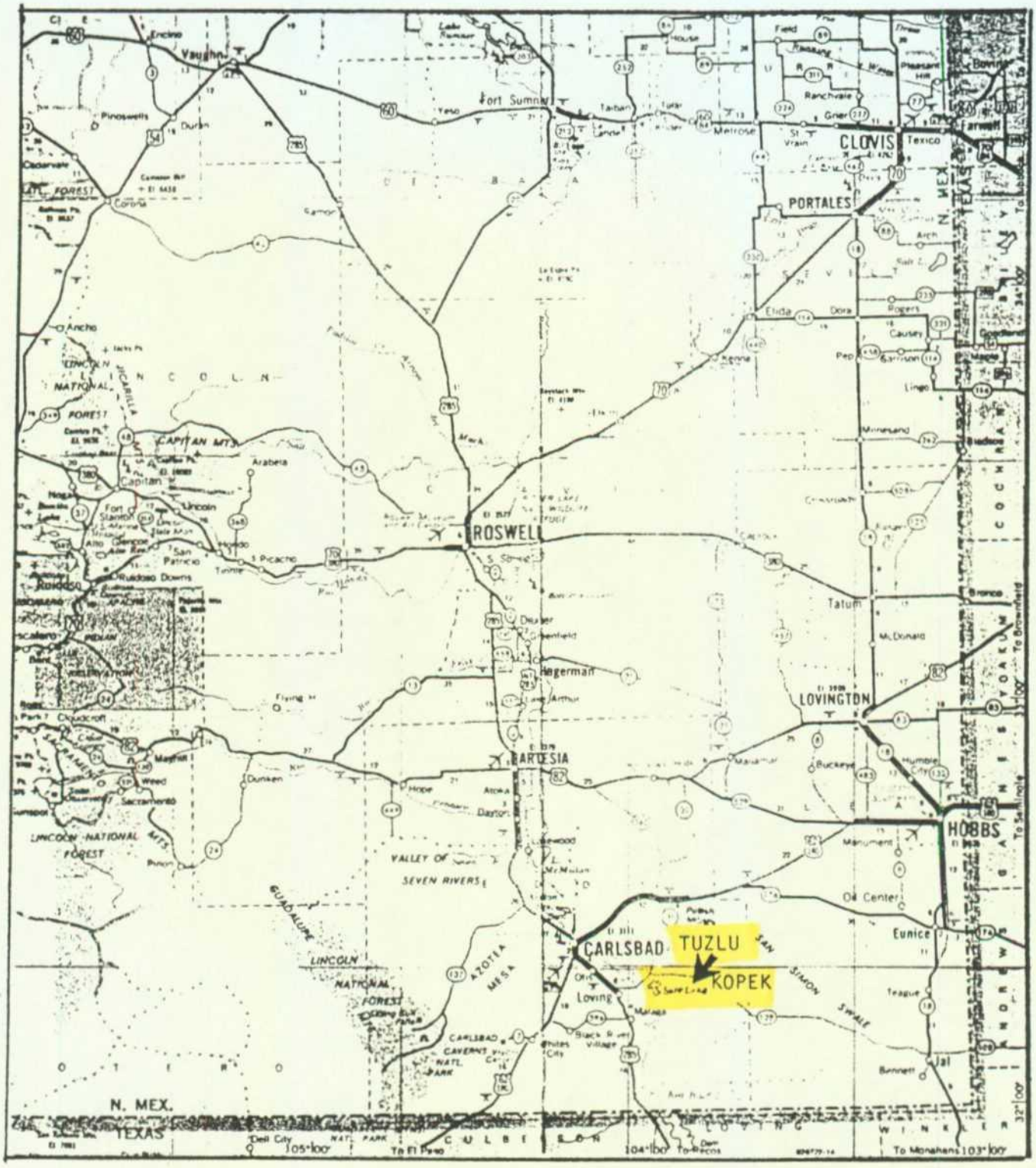
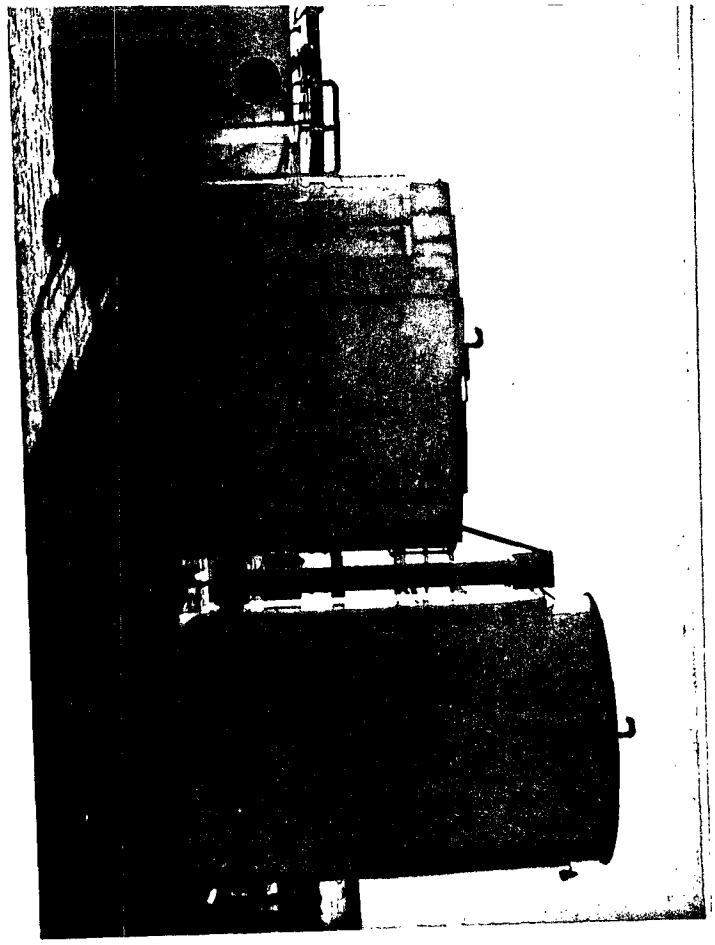
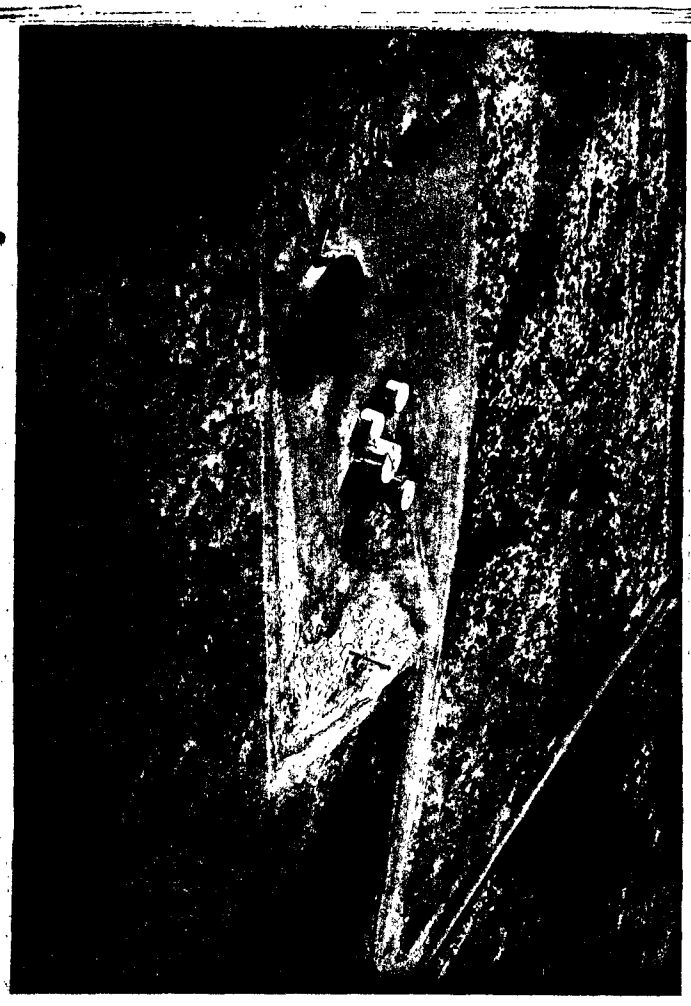
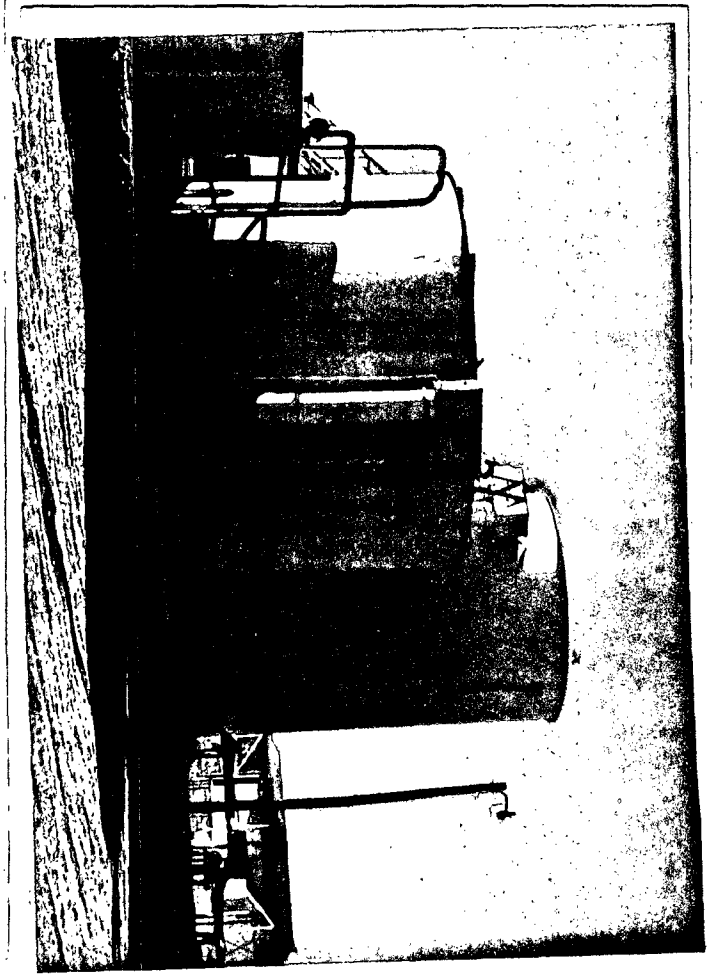
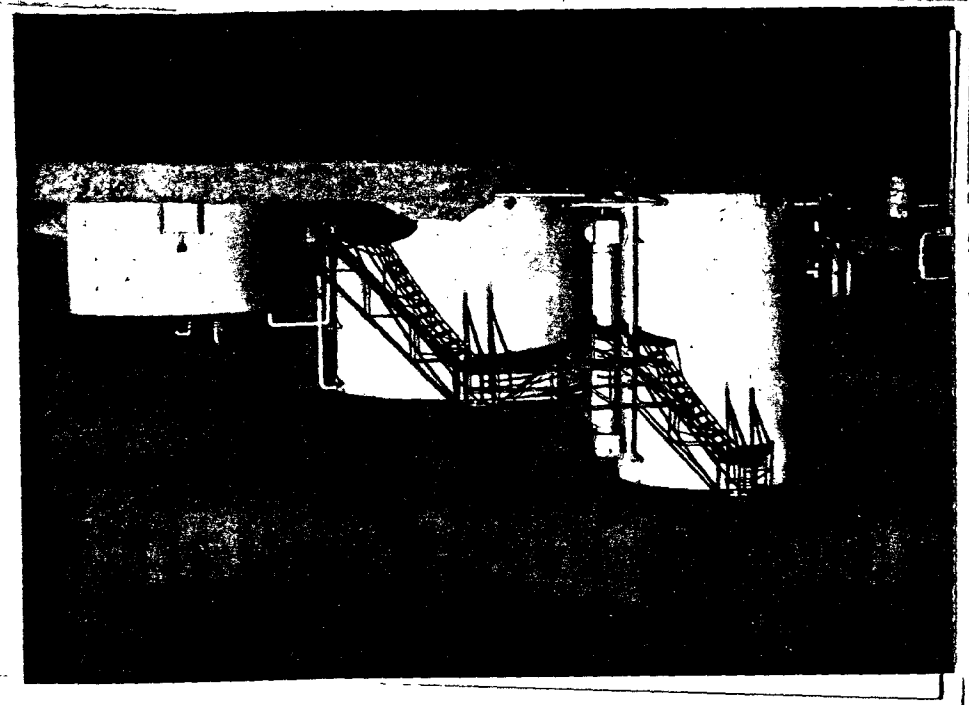


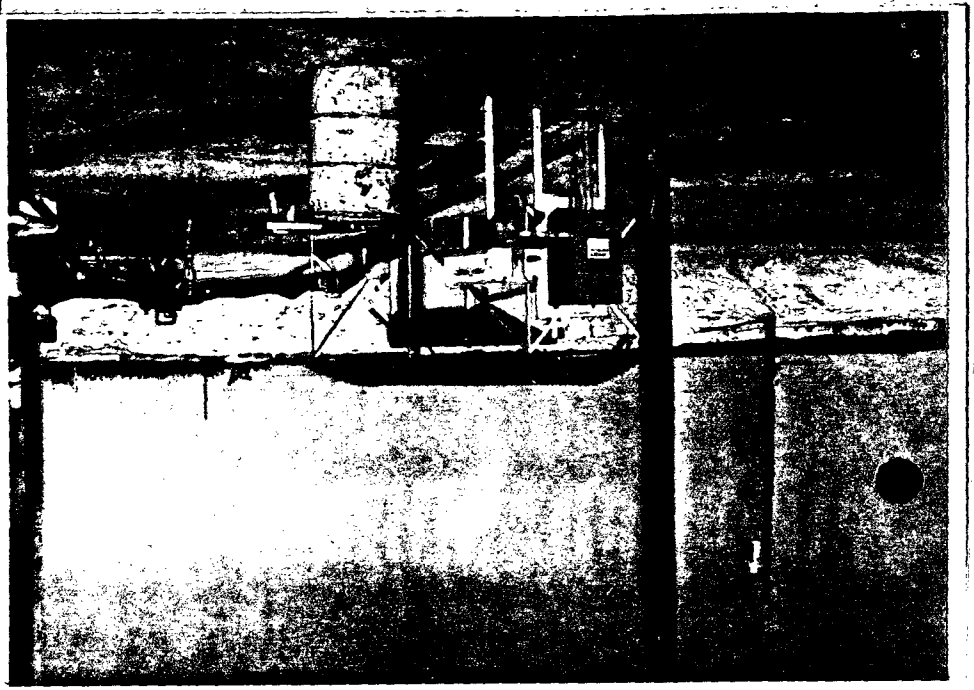
Figure 1.--Location map of Laguna Tres area.

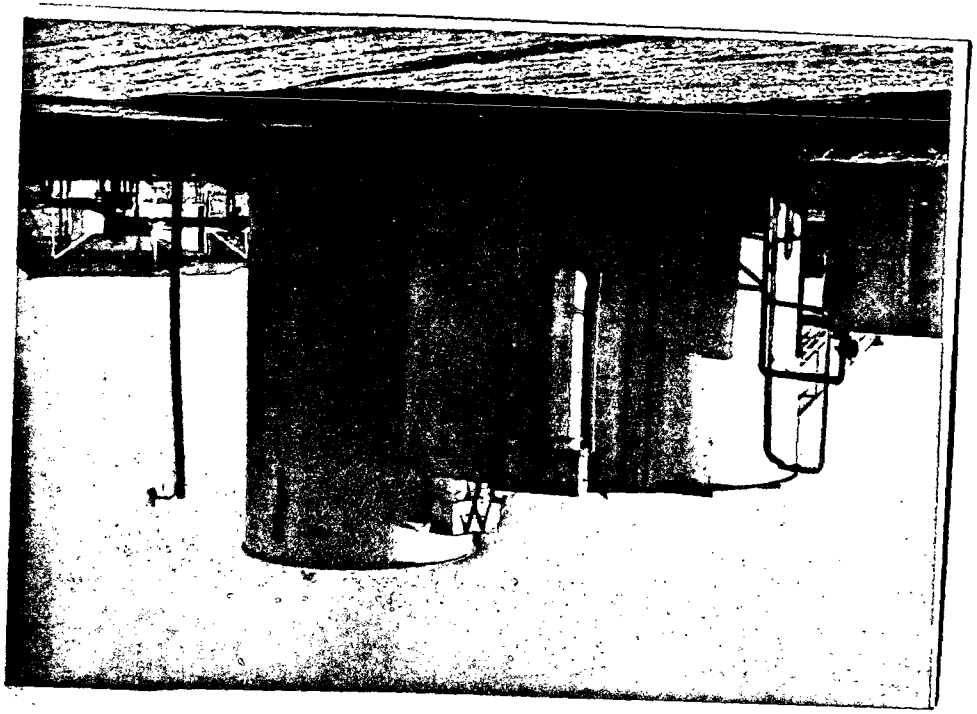


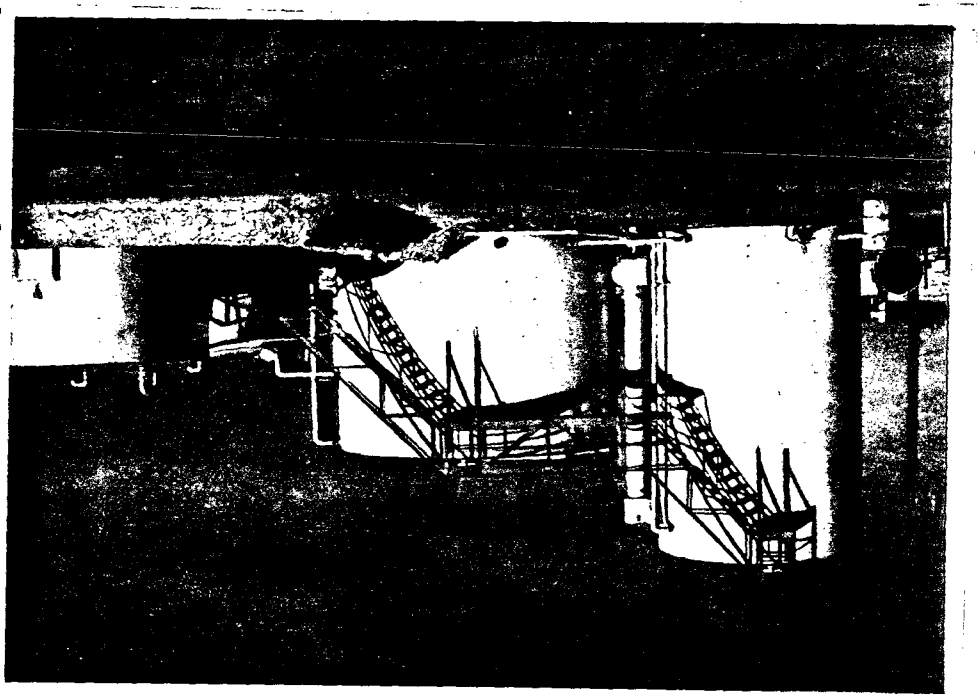












Routine Inspection and Maintenance Plan

There is a company man checking the facilities twice daily.

1. Checking tanks and walking pits.

2. Checking unloading and loading procedures of our company trucks and others who have permission to use our facility.

3. Checking and reading meters for pipelines.

4. Checking general operating procedures and repairing any minor problems associated with our disposal facility operations.

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

Closure Plan

Tuzlu Kopek Disposal Facility

We would notify Texaco and Myco Companies that we were going to shut down our disposal facility. We would give them a certain (reasonable) amount of time to disconnect their pipelines to our facility.

COMPLETE SHUTDOWN OF THE FACILITY

Clean all tanks on ground surface.

Transfer tank bottoms to open dirt pits.

Dis-assemble miscellaneous pipe connections, valves, walkways, stairways, etc.

Remove, load and haul tanks to B & E, Inc. storage yard.

We would then close and fill in all open dirt pits.

Remove cattelguard.

Replace fence.

If landowner requested, we would return the deeded land to its natural state.

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

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

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

AFFIDAVIT OF VERIFICATION

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

P D Withrow

Phil Withrow
Manager-Owner
B & E, Inc.

STATE OF NEW MEXICO
)ss.
COUNTY OF EDDY

On this 9th day of January, 1989 before me personally appeared Phil Withrow, to me known to be the person decribed in and who executed the foregoing instrument and acknowledged that they executed the same as their free act and deed.

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

MY COMMISSION EXPIRES:

Feb 21, 1989

Valerie Lemon
Notary Public

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
ROSWELL DISTRICT OFFICE
P.O. BOX 1397
ROSWELL, NEW MEXICO 88201

TAKE PRIDE IN AMERICA

1703 (064)

DEC 22 1988

State of New Mexico
Oil Conservation Division
811 S 1
Artesia, NM 88210

Gentlemen:

We wish to bring to your attention environmental issues of concern to the Bureau of Land Management (BLM) regarding B&E's operation located adjacent to State highway 128 (SE¼NE¼ of Section 6, T. 23 S., R. 30 E. and the NE¼SE¼ of Section 6, T. 23 S., R. 30 E.). B&E's structures include the following items:

1. Above ground storage tanks
2. An above ground aeration tank
3. Control/Storage shed and associated piping
4. Three sludge beds (in trespass on Federal lands)
5. Numerous mobile tanks (parked in trespass on Federal lands)

The issues of concern to the BLM are as follows:

1. The drainage path of the aeration tanks effluent discharge is stained which appears to be a waste petroleum product. At the time of our inspection of the site this stain extended to the salt water lagoons. This appears to be in violation of NMOCD Rule 116.

2. The sludge beds utilized for the disposal of bottom sediments and waste are not fenced. Perimeter fencing of the entire facility is present but access to the site is not controlled thus allowing for easy trespass and the possibility of injury or fatality exists. This appears to be in violation of NMOCD Rule 313.

3. The western most sludge bed berm appears to have been breached. Hay or straw has been scattered leading from the breached area to the salt lagoons which is indicative an oil spill clean-up operation. We wish to see the report that should have been submitted to your office by B&E under NMOCD Rule 116 para 6.

4. We have received information, and evidence does exist, that a bird kill has taken place in this vicinity. Cause of death has not been determined at this time. Occurrences of this nature, depending upon cause, could be in violation of the Federal and State fish and wildlife regulations and the US Endangered Species Act.

5. According to the telephone conversation on December 16, 1988 between Mr. Mike Williams, NMOCD Artesia and Mr. Fred H. Lockley, Environmental Scientist, Bureau of Land Management, Roswell, the New Mexico Oil Conservation Division issued Order Number 7031 to R&L which permitted construction and utilization of this facility. Please be advised that NMOCD issued operating permits to R&L facilities which are in illegal trespass on Federal lands. Please provide this office with OCD's policy regarding permitting procedures and what assurances OCD requires to ensure the requester is in fact the legal owner or lessee of the property in question.

Upon completion of your investigation regarding the above, it is requested you provide this office with your findings and what course of remedial action OCD will require of R&L to return the Federal lands in question back into environmental compliance. If you require any further information regarding this matter, please contact Mr. Fred H. Lockley at (505) 622-9042.

Sincerely,

Orig. Sgd. Francis R. Cherry, Jr.

Francis R. Cherry, Jr.
District Manager

cc:
NMOCD, Santa Fe
EID, Roswell/Carlsbad/Santa Fe
USEPA, Dallas, TX
NM Fish & Game, Santa Fe
US Fish & Wildlife Service, Albuquerque

Ragsdale W/ BLM approved

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P.O. Box 1397
Roswell, New Mexico 88201-1397

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
1703 (064)

RECEIVED

DEC 23 '88

O. C. D.
ARTESIA, OFFICE

DEC 22 1988

State of New Mexico
Oil Conservation Division
811 S 1
Artesia, NM 88210

Gentlemen:

We wish to bring to your attention environmental issues of concern to the Bureau of Land Management (BLM) regarding B&E's operation located adjacent to State highway 128 (SE¼NE¼ of Section 6, T. 23 S., R. 30 E. and the NE¼SE¼ of Section 6, T. 23 S., R. 30 E.). B&E's structures include the following items:

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The issues of concern to the BLM are as follows:

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2. The sludge beds utilized for the disposal of bottom sediments and waste are not fenced. Perimeter fencing of the entire facility is present but access to the site is not controlled thus allowing for easy trespass and the possibility of injury or fatality exists. This appears to be in violation of NMOCD Rule 313. Area fenced

3. The western most sludge bed berm appears to have been breached. Hay or straw has been scattered leading from the breached area to the salt lagoons which is indicative an oil spill clean-up operation. We wish to see the report that should have been submitted to your office by B&E under NMOCD Rule 116 para 6. From location not pit Remember w/ skim oil that washes across location

Nothing on location Fed Pictures of bones

4. We have received information, and evidence does exist, that a bird kill has taken place in this vicinity. Cause of death has not been determined at this time. Occurrences of this nature, depending upon cause, could be in violation of the Federal and State fish and wildlife regulations and the US Endangered Species Act.

5. According to the telephone conversation on December 16, 1988 between Mr. Mike Williams, NMOCD Artesia and Mr. Fred H. Lockley, Environmental Scientist, Bureau of Land Management, Roswell, the New Mexico Oil Conservation Division issued Order Number 7031 to B&E which permitted construction and utilization of this facility. Please be advised that NMOCD issued operating permits to B&E facilities which are in illegal trespass on Federal lands. Please provide this office with OCD's policy regarding permitting procedures and what assurances OCD requires to ensure the requester is in fact the legal owner or lessee of the property in question.

Upon completion of your investigation regarding the above, it is requested you provide this office with your findings and what course of remedial action OCD will require of B&E to return the Federal lands in question back into environmental compliance. If you require any further information regarding this matter, please contact Mr. Fred H. Lockley at (505) 622-9042.

Sincerely,

Francis R. Cherry, Jr.

Francis R. Cherry, Jr.
District Manager

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

September 27, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

B & E, INC.
P. O. Box 756
Carlsbad, New Mexico 88220

RE: Laguna Tres Disposal Facility, 12-23S-29E
Laguna Cuatro Disposal Facility, 6-23S-30E

Dear Sir:

Commercial surface waste disposal facilities in New Mexico are now regulated by Oil Conservation Division (OCD) Rule 711 (enclosed). This rule, which became effective June 6, 1988, outlines specific information required by the OCD to permit commercial surface disposal facilities. Although your facilities were previously permitted by the Division through a hearing process, certain information now required by Rule 711 must be supplied by B & E, Inc. in order for the facilities to come into compliance with the new rule.

The following information must be furnished to the OCD within 120 days:

1. Contact person's name and phone number.

2. Names and addresses of facility sites' landowners and landowners of record within one-half mile.

3. Description of facilities with diagrams indicating location of pits, fences, cattleguards, tanks, etc.

4. Routine inspection and maintenance plan.

5. Closure plan.

6. Affidavit of verification by an authorized representative of the company.

Public Notice requirements were fulfilled through the hearing process, so no additional public notice is required.

If B & E, Inc. has not already fulfilled the $25,000 bond requirement or the annual status report, it has until December 30, 1988 to do so. Please contact me in Santa Fe at 827-5884, if you have any questions or if I can be of any assistance.

Sincerely,

Jami Bailey
Geologist III

JB:sl

Enclosure

cc: OCD - Artesia

CHECKLIST FOR COMPLIANCE WITH RULE 711

Facility Name and Mailing Address: B+E, INC. P.O. Box 756 CARLSBAD, NM 88220

Order No.: R-7031 + R-7031-A
Location: 6-23S-30E LAGUNA CUATRO
Contact Person: 12-23S-29E LAGUNA TRES

Date of Review:

1. Plat and topo maps showing location in relation to governmental surveys and roads, watercourses, water wells and dwellings within one mile.

2. Names and addresses of facility site landowners and landowners of record within one-half mile.

3. Description of facility with a diagram indicating location of fences and cattleguards, and detailed engineering construction/installation diagrams of pits, liners, dikes, piping, sprayers, and tanks.

4. Plan for disposal of approved waste solids or liquids.

5. Contingency plan for reporting and cleanup of spills or releases.

6. Routine inspection and maintenance plan.

7. Closure plan.

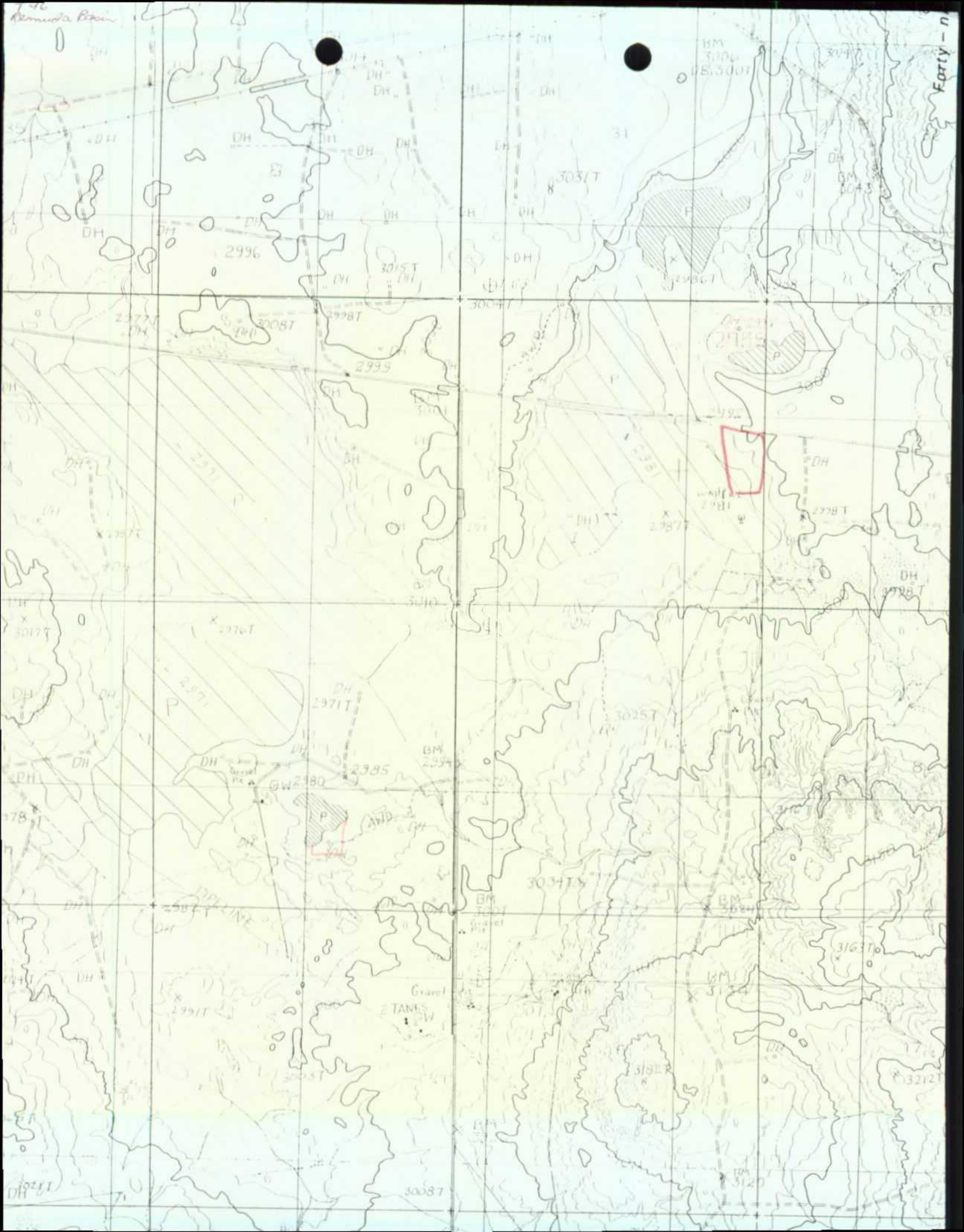
8. Geohydrological evidence that fresh water will not be affected.

9. a. Proof that owners and occupants within ½ mile were notified.

   b. OCD public notice.

10. Affidavit of verification.

11. Bond (required by 12/30/88 for current facilities).



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Gravel Pit
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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 8800
Order No. R-7031-A

APPLICATION OF B & E, INC. FOR AN AMENDMENT TO DIVISION ORDER NO. R-7031, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on January 9, 1986, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 11th day of March, 1986, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, B & E, Inc., seeks authority to increase the maximum allowable discharge of produced water into Laguna Cuatro to 15,000 barrels per day at their commercial salt water disposal facility located in Section 6, Township 23 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) The applicant further seeks authority to dispose of drill cuttings, drilling fluids, and other related solids obtained in conjunction with the drilling and production of oil and gas, and limited to non-petroleum products, into three unlined pits located at said disposal site.

(4) By Division Order No. R-7031, issued in Case No. 7612, and dated July 21, 1982, the applicant was given authority to construct and operate a salt water treating and disposal facility on the northeast side of a brine lake known as Laguna Cuatro located as described in Finding No. (2) above.

(5) Finding No. (9) of said Division Order No. R-7031 stated that the facility should be capable of handling up to 14,400 barrels of water per day but that 7,500 barrels of water per day was a reasonable limit to place on the facility at that time.

(6) The maximum allowable discharge of 7,500 barrels of water per day was placed on the facility in order to assure that there would not be any detrimental effects to the existing hydrologic system in said lake.

(7) A hydrologic study was conducted on the Laguna Cuatro site by Geohydrology Associates, Inc. in 1985 to determine the hydrologic impact of increasing the discharge of salt water to 15,000 barrels per day into said lake.

(8) The results of this study indicated that the evaporation rates in Laguna Cuatro are at least adequate to dispose of the additional volume of salt water and that there will not be any detrimental effects to the existing hydrologic system in said lake due to such increased volume.

(9) The discharge of 15,000 barrels of salt water per day into Laguna Cuatro should not create a hazard to any fresh water in the area for which a present or reasonably foreseeable beneficial use is or will be made.

(10) The applicant proposes to construct three unlined surface pits to be located in the vicinity of their salt water disposal facility for the purpose of disposing of drill cuttings and drilling fluids.

(11) Based on the hydrologic evidence presented at the hearing and in Division Case No. 7612, the use of unlined pits at this location to dispose of drill cuttings, drilling fluids, and other related solids should not create a hazard to any fresh water in the area for which a present or reasonably foreseeable beneficial use is or will be made.

(12) At the time of the hearing the applicant stated that the maximum fill level in all of the above mentioned pits is to be limited to a plane two feet below the crest of the dikes surrounding the pits.

(13) Said facility should have adequate fencing, gates, and cattle guards installed and maintained to preclude livestock and unauthorized persons from entering the property.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, B & E, Inc., is hereby authorized to increase their discharge to 15,000 barrels per day into Laguna Cuatro at their salt water disposal site, located in Section 6, Township 23 South, Range 30 East, NMPM, Eddy County, New Mexico, provided that the facility is operated in such a manner as to reduce insoluble oils from the disposal discharge stream to an average concentration of less than 15 parts per million.

(2) The applicant is further authorized to construct and operate three unlined pits at said disposal site for the purpose of disposing of drill cuttings, drilling fluids, and other related solids obtained in conjunction with the drilling and production of oil and gas, and limited to non-petroleum products.

PROVIDED HOWEVER THAT, the sizes and locations of said unlined pits shall be in accordance with the engineering data presented at the time of the hearing and marked as B & E, Inc. Exhibit No. "A".

PROVIDED FURTHER THAT, the facility shall have adequate fencing, gates, and cattle guards installed and maintained to preclude livestock and unauthorized persons from entering the facility.

PROVIDED FURTHER THAT, the maximum fill level in each of the above said pits shall be limited to a plane two feet below the crest of the dikes surrounding the pits.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

R. L. STAMETS
Director

S E A L
fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 7612
Order No. R-7031

APPLICATION OF B & E, INC. FOR SALT WATER DISPOSAL, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 23, 1982, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 21st day of July, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, B & E, Inc., has certain rights to dispose of salt water in a brine lake known as Laguna Cuatro and is in the process of acquiring rights to also dispose of salt water in a brine lake known as Laguna Tres, both in Eddy County, New Mexico.

(3) That the applicant proposes to install and operate a commercial facility for the disposal of salt water into the Southeast end of Laguna Tres in Section 12, Township 23 South, Range 29 East and/or into the Northeast side of Laguna Cuatro in Section 6, Township 23 South, Range 30 East, both in Eddy County, New Mexico.

(4) That Order (3) of Division Order No. R-3221, as amended, prohibits in that area encompassed by Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, the disposal, subject to minor exceptions, of water produced in conjunction with the production of oil or gas, or both, on the surface of the ground, or in any pit, pond, lake, depression, draw, streambed, or arroyo, or in any watercourse, or in any other

place or in any manner which would constitute a hazard to any fresh water supplies and said disposal has not previously been prohibited.

(5) That the aforesaid Order No. R-3221 was issued in order to afford reasonable protection against contamination of fresh water supplies designated by the State Engineer through disposal of water produced in conjunction with the production of oil or gas, or both, in unlined surface pits.

(6) That the State Engineer has designated, pursuant to Section 65-3-11 (15), N.M.S.A., 1953 Compilation, all underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids as fresh water supplies to be afforded reasonable protection against contamination; except that said designation does not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination.

(7) That the applicant seeks an exception to the provisions of the aforesaid Order (3) of Division Order No. R-3221, as amended, to permit the commercial disposal of produced salt water into either or both of the aforesaid lakes at the sites described above.

(8) That the applicant proposes to install and operate an effective system for the removal of oily and solid waste material from the waters to be disposed of, said system being equipped to monitor the discharge stream and to automatically shut the facility down should water quality deteriorate below an accepted average level of 15 parts insoluble oils per million parts of water.

(9) That said facilities should be capable of handling up to 14,400 barrels of water per day at each of the proposed sites, but 7,500 barrels per day is a reasonable limit to place on each facility at this time.

(10) That the discharge of 7,500 barrels of salt water per day into either or both of the proposed salt lakes will not create a hazard to any fresh water in the area for which a present or reasonably foreseeable beneficial use is or will be made.

(11) That the surface area of each of the aforesaid salt lakes is sufficient to permit the evaporation of at least 7500 barrels of salt water per day, and the disposal of that amount of water into each of said lakes will not adversely affect the existing hydrologic systems in said lakes.

(12) That the commercial disposal of salt water into Laguna Tres and/or Laguna Cuatro in the amounts and manner described above will not impair correlative rights nor cause waste, and should be approved, provided however, that the Division Director should be authorized to suspend disposal operations by the applicant into either or both of said lakes if applicant fails to prevent oil or other deleterious wastes from escaping to the lakes in harmful quantities.

IT IS THEREFORE ORDERED:

(1) That the applicant, B & E, Inc., is hereby authorized to install and operate a commercial salt water treating and disposal facility at the southeast end of Laguna Tres in Section 12, Township 23 South, Range 29 East, NMPM, and/or at the northeast side of Laguna Cuatro in Section 6, Township 23 South, Range 30 East, NMPM, both in Eddy County, New Mexico, said systems being limited to the disposal of a maximum of 7,500 barrels of salt water per day at each site.

(2) That the operator shall install and maintain in good operating condition a salt water treating facility at each site utilized for salt water disposal, said treating facility being designed and operated in such a manner as to reduce insoluble oils from the disposal discharge stream to an average concentration of less than 15 parts per million.

(3) That each of the aforesaid salt water treating facilities shall be so equipped as to monitor the salt water disposal stream and automatically shut the facility down if disposal water quality should deteriorate to an unacceptable level.

(4) That the Division Director shall have authority to suspend operations at the facilities herein authorized upon failure of the applicant to prevent oil or other deleterious substances from entering Laguna Tres and/or Laguna Cuatro in harmful quantities.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E A L

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

M E M O R A N D U M

TO: DEBORAH HATHAWAY, WATER RESOURCE ENGINEERING SPECIALIST, SEO OFFICE

FROM: DAVID G. BOYER, ENVIRONMENTAL BUREAU CHIEF, OCD

SUBJECT: REPORT OF CONTAMINATION OF LOWER CRETACEOUS FORMATIONS IN NORTHERN LEA COUNTY.

I enclose a report on the above reported contamination prepared by our geologist and field representative, Jami Bailey. The contamination of the spring is apparently due to natural features, while the cause of the contamination of the two water wells in Section 26, T10S, R33E, remains undetermined. As reported in Ms. Bailey's memo, the two wells could not be readily located this year, and well records are not available.

It is interesting to note that the 1967 Lane Salt Lake report by Ed Reed lists a well in Section 23, one mile north of Section 26, that has a chloride concentration (210mg/ l) that is the same as one of the wells in Section 26 for the 1963 measurement. I suppose it is a possibility that one of these locations is incorrect.

As noted in Ms. Bailey's report, the abandoned oil well was drilled in 1962 and plugged in 1967. Prior to 1969, any water from this or most other wells in Lea County was allowed to be disposed of in unlined pits. Beginning that year, such disposal was banned in the four county area of Southeast New Mexico.

If you need further information, please let me know.

May 18, 1987
ag/

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

April 9, 1987

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

MEMORANDUM

TO: David Boyer, Environmental Bureau Chief

FROM: Jami Bailey, Field Representative JB

SUBJECT: Report of Contamination of Lower Cretaceous Formations in Northern Lea County

INTRODUCTION

A report on degradation of lower Cretaceous water sands under the New Mexico Southern High Plains, which was prepared by J.A. Tony Fallin of the Texas Water Development Board, was forwarded to the Oil Conservation Division by the State Engineer Office. The report includes draft maps on the geology and hydrology of lower Cretaceous strata in southern Roosevelt and northern Lea Counties. It suggests that "updip water wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous sands."

Three contaminated points are located in Fallin's report. J.I. Wright of the State Engineer Office reported the following information on them in his 1986 "Contamination of Fresh Ground-Water Supplies in Southeastern New Mexico":

Well Location	Source	Chloride, mg/l	Date
10.33.07.233	Spring	4290	1967
10.33.26.22321	Well	10224	1968
		22980	1976
10.33.26.42321	Well	210	1963
		3904	1976
		3750	1984

CONTAMINATED SPRING ANALYSIS

On May 17, 1967, the Oil Conservation Commission heard Case 3570, the application of Stoltz and Company for salt water disposal in Lane Salt Lake. This playa lake, located mainly in Sections 6 and 7, Township 10 South, Range 33 East, contains on the east side, the spring listed as being contaminated in Fallin's report.

Ed L. Reed, a consulting hydrologist, appeared as an expert witness for Stoltz and Company and testified on his study of ground water conditions at Lane Salt Lake and

its vicinity. Testimony was presented on the spring in question and on two other seeps also on the east side of the lake in Section 6. Analyses by Southwestern Laboratories in April and May, 1967 indicate the following concentrations:

(Fallin's)	Seep	10.33.7.32	Chloride 12,262 mg/l	
	Seep	10.33.6.44	Chloride 12,788 mg/l	
	Seep	10.33.6.44	Chloride 15,240 mg/l	TDS 48,290 mg/l
Lake Water			Chloride 120,696 mg/l	TDS 260,140 mg/l

The chloride concentration for the Fallin seep differs markedly from the concentration reported on the same day in 1967 in SEO records. However, Reed's analysis is consistent with the other two springs and the lake water. On page 28 of the transcript of the hearing, Mr. Reed responded to a question as to whether these were ever fresh water springs, with the answer "I have no information that these were ever fresh water springs... There is no seepage of fresh water in the Ogallala at this time and I see no evidence that it has been there in the recent past." Reed concluded that there is a water table divide southeast of the lake along the 4160 contour line that creates a reversal in the regional hydraulic gradient and defines the Lane Salt Lake basin.

The eastern side of the lake was described as bluffs composed of wind-blown material, largely gypsum crystals and sand grains blown out of the lake from sandy areas on the west side. No bedrock outcrops were observed.

Reed also testified that although Cretaceous strata were exposed in two places on the west side of the lake, in Section 7 and in Section 13, it was his judgment that the base of Lane Salt Lake underneath the evaporites is upon impermeable Triassic, with the Ogallala and the Cretaceous eroded off.

Oil Conservation Commission Order No. R-3238, later amended by R-3238-A and -B, granted authority to Stoltz and Company to dispose of produced water in Lane Salt Lake, yet required installation of three monitor wells to the south and east in Section 7. These wells were to be drilled to the top of the Triassic redbeds. The wells were sampled and analyzed for chlorides prior to disposal in the lake, and then quarterly thereafter.

The report "Contamination of Fresh Ground-Water Supplies in Southeastern New Mexico" by J.I. Wright of the Roswell SEO lists these monitor wells as producing from the Ogallala, and shows that the chloride concentration in 1975 was less than one-half what it was in 1967. 1975 was the last year of record for these wells in the SEO report.

Specifically:

Well	Location	Chloride mg/l (1967)	Chloride mg/l (1975)
OB-1	10S.33E.07.334421	320	136
OB-2	10S.33E.07.434222	292	166
OB-3	10S.33E.07.42114	520	254

Oil Conservation Division records for these wells include data through March 1987 and are available in our files. The following results were reported by Unichem International Inc. laboratories:

Well	Chloride, mg/l (1987)
OB-1	120
OB-2	170
OB-3	450

Obviously, over the past 20 years, disposal of produced water in Lane Salt Lake has not contaminated the observation wells designed to monitor Ogallala water quality in the vicinity of the lake.

Oil and gas activity in sections immediately to the south and east of the lake has been limited to one well in Section 8 and two wells in Section 17. The wells in unit P of Section 8 and unit J of Section 17 were dry holes; a well in unit A of Section 17 was drilled in 1976 and plugged and abandoned in 1983. The analyses of Fallin's seep predate the drilling of this well, so the chloride concentration can not be attributable to past upgradient oil and gas activity within the lake basin.

Summary on "Contaminated" Seep

I suggest that the value of 4290 mg/l chloride concentration reported for the sample collected from the seep by the SEO on the very same day (May 9, 1967) as Southwestern Laboratories received their sample and reported 12,262 mg/l, is an issue that cannot be resolved; however, the SEO reported a specific conductance of 25,060 umhos, indicating at any rate that it was not fresh water to be protected under Oil Conservation Division regulations. It is apparent that this seep can not be included as being contaminated by oil field brines or other man-caused sources.

CONTAMINATED CRETACEOUS WELLS

Reed's area of review included Section 26 where Fallin's two contaminated wells are located. It is apparent that Reed had no knowledge of the wells: his maps do not include wells in that section and his 4150 water table contour line which crosses through Section 26 is indicated as postulated and without control.

Of the 17 wells and 3 seeps which Reed investigated within the area covered by all of T10S, R33E, one-half of T10S, R32E, and parts of T9S, R32 and 33E, three water wells were identified as being Triassic wells, and all the rest were Ogallala wells. No Cretaceous wells were indicated within this area. Depth to water in the Triassic wells was between 100-125 feet while depth to water in the Ogallala wells was less than 50 feet.

Recently Eddie Seay of the Oil Conservation Division Hobbs district office spent several hours searching for the two SEO Cretaceous wells located in Section 26, T10S, R33E and reported as contaminated. No water wells were readily located in that section.

I contacted the State Engineer Office in Roswell to obtain copies of the well records for these wells in Section 26. They do not have the needed records in that office. The Santa Fe SEO did not have copies of the well records. OCD oil and gas well records for units A and I in Section 26 are very general for surface

stratigraphy, indicating only that sand, shale and caliche are present. Without further information, I can not verify that there are water wells that are indeed Cretaceous.

INVESTIGATION SUMMARY

There are several approaches to investigating Fallin's thesis that updip wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous reservoir sands under the Southern High Plains of New Mexico. The areas I investigated were:

A. Whether the three points of contamination identified on Fallin's map did produce from fresh-water Cretaceous strata or from non-protectable (greater than 10,000 mg/l TDS) aquifers.

B. Whether the contamination was from oil field brines or from naturally occurring processes.

C. Whether there was evidence of degradation of Cretaceous water downgradient from the identified points of high chloride concentration.

Results

1. The seep at Lane Salt Lake is a naturally high chloride spring producing water that is not defined as fresh water (water with less than 10,000 mg/l TDS), and so is not protectable under OCD rules. Monitor wells downdip from the lake show no chloride contamination in Ogallala water over the past 20 years. These wells were drilled to the top of the Triassic redbeds and would have intercepted any Cretaceous strata present. Though these wells are downdip, they are not downgradient as mapped by Reed.

2. Well 10.33.26.22321 was first reported in 1968 having a chloride concentration of 10,224 mg/l, or approximately 20,000 mg/l TDS. No well records are available to confirm the water producing formation, but the original analysis indicates that production was from a non-protectable aquifer (probably Triassic or Permian). This well was listed in the SEO report as drilled for "oil drilling purposes" and was abandoned by 1976. An item to note is that salt water is preferred over fresh water for drilling through shales, so the possibility exists that this well may have been producing from a formation originally and naturally high in chlorides.

3. Well 10.33.26.42321 was also drilled for oil drilling purposes and abandoned by 1976. No information can be found as to depth to water, total depth, water producing formation, or possible cause of contamination. The closest oil well, located at 10.33.26.4214, was drilled in 1962, produced from the Pennsylvanian Bough "C", and plugged and abandoned in 1967. The well record indicates that no important water sands were encountered.

   Chloride analyses of the produced water for this oil well are not available, however, analyses of produced water from Pennsylvanian strata are published in the USGS Open-file report 75-579, "Water Quality Data from Oil and Gas Wells in Part of the Permian Basin, Southeastern New Mexico and Western Texas" by W.C. Hiss. A wide range of values can be found as shown by the following:

Well Location	Producing Formation	Chloride,mg/l	Comment
Section 23,T19S,R31E	Strawn	81	nonrepresentative
Section 1,T20S,R24E	Canyon Group	777	
Section 30,T19S,R25E	Cisco	2,300	commingled
Section 22,T18S,R31E	Undivided Penn.	33,000	

4. Fallin's thesis that updip wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous sands can not be substantiated for the three points listed in his report. The USGS Atlas HA-679, Geohydrology of the High Plains Aquifer in Southeastern New Mexico by Hart and McAda, contains a map showing the altitude and configuration of the water table contours for the High Plains aquifier in 1978. The water table contours indicate a northeast rotating to southeast gradient for the late Tertiary and Quaternary geologic units, including the Ogallala Formation, in Township 10 South, Range 33 East. Reed's exhibit at the hearing (enclosed) on the ground water conditions of Lane Salt Lake and vicinity indicates a ground water divide southeast of the lake defining the basin and more distant, a southeastern dip in the water table and a southeastern trending channel in the top of the Triassic. This channel corresponds to the topographic Simanola Valley. To ensure that logical pathways of ground water movement were included in the investigation, I looked at chloride level changes in Cretaceous wells northeast to southeast of Fallin's 3 points.

   Three miles northeast of the spring at Lane Salt Lake, a Cretaceous water well at 9.33.34.144421 decreased in chlorides from 126 to 120 mg/l between 1979 and 1984. Four and one-half miles east-southeast, a Cretaceous well at 10.33.13.33413 increased from 346 to 475 from 1979 to 1984.

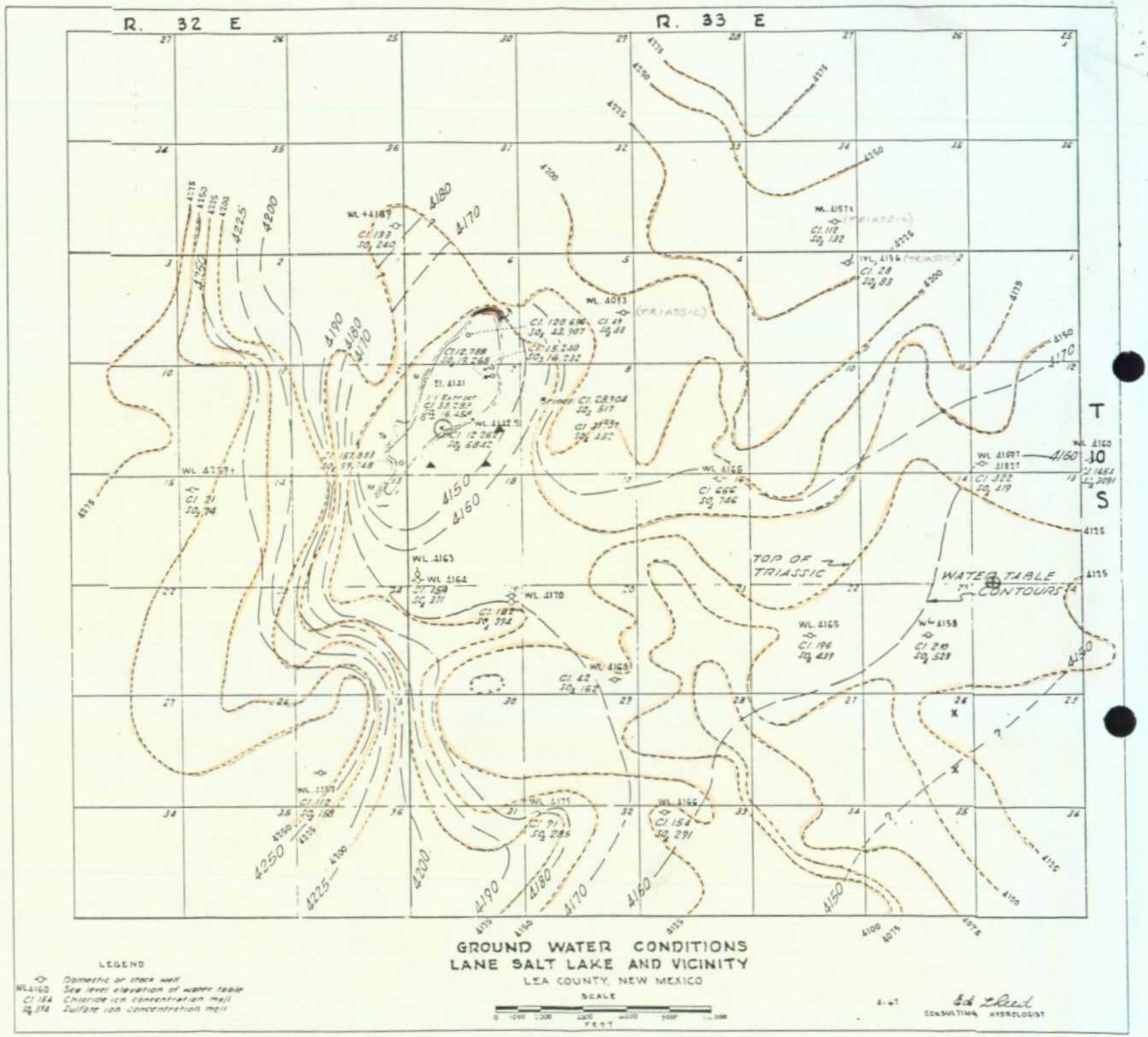
   This well had a probable water level between 4175 and 4150 in 1978 according to the USGS Atlas HA-679. Surface elevation of the windmill is 4202, making this a shallow well located at the very edge of a closed basin. Obviously hydrologic, geologic, well construction factors, or a nearby oil well that produced between 1967 and 1974 may be involved in the increase of chlorides rather than migration of fluids from a point 4 1/2 miles away.

   About three miles northeast of Fallin's two wells in Section 26, a Cretaceous well located at 10.34.20.43311A actually decreased in chlorides from 950 to 794 mg/l between 1979 and 1984. Five miles east of Section 26, a well at 10.34.27.14222 increased from 54 to 86 mg/l; seven miles east, a well at 10.34.36.412134 increased from 54 to 73 mg/l. No Cretaceous wells were located southeast or south of Section 26.

There is no question that in many areas, past practices of the oil and gas industry have contaminated ground water. However, in this case, Fallin's thesis is not substantiated by the significant increase in chlorides in a well 4 1/2 miles away, where other factors are more likely to have caused the change, or by minor changes in other wells up to seven miles away. To paraphrase Wright, the apparent decrease [and increase] of chloride content can be due to sampling procedures. "It is difficult to draw valid conclusions from historical changes in chemical quality of produced water as allowance must be made for many factors that affect the reliability of available analyses. Laboratory standards are subject to

considerable variation and comparison of an analysis of water pumped from a well with an analysis of water bailed from an abandoned, unequipped well may lead to erroneous conclusions..."

JB/cr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FALLING CONTAM. WELLS 105.33E-24
OCD OBSERVATION WELL 103.33E.7
INCREASED CHLORIDES 1970-1974 103.33E.13.33413
TOP OF TRIASSIC
WATER TABLE CONTOURS
LEGEND
Domestic or stock well
WL 4160 Sea level elevation of water table
Cl 154 Chloride ion concentration me/l
SO4 394 Sulfate ion concentration me/l
GROUND WATER CONDITIONS
LANE SALT LAKE AND VICINITY
LEA COUNTY, NEW MEXICO
SCALE
FEET
Ed Reed
CONSULTING HYDROLOGIST

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
ALLIED BANK TOWER AT FOUNTAIN PLACE
1445 ROSS AVENUE
DALLAS, TEXAS 75202

August 13, 1987

BAILEY
COPY

Michael R. Comeau, Esq.
Stephenson, Carpenter, Crout & Olmsted
P. O. Box 669
Santa Fe, New Mexico 87504-0669

Re: Pollution Control, Inc.
Brine Disposal Project in Lea County, New Mexico

Dear Mr. Comeau:

This is in response to your letter dated July 29, 1987, in which you submit documentation that Laguna Gatuna, a playa lake, is not "waters of the United States."

Based on the information you submitted, EPA would not consider the referenced playa lake to be "waters of the United States" as that term is defined at 40 CFR § 122.2. Playa lakes may be considered "waters of the United States" if they "would affect or could affect interstate or foreign commerce." You indicate in your letter that there are no recreational, industrial, or other uses that could affect interstate commerce, and that the playa lake is not hydrologically connected to "waters of the United States." Based on this understanding of the facts, EPA agrees that Laguna Gatuna would not be considered "waters of the United States." If you have any further questions, please contact me.

Sincerely,

James L. Collins

James L. Collins
Associate Regional Counsel

cc: Paul Watler, Esq.
Jenkins & Gilchrist
3200 Allied Bank Tower
Dallas, Texas 75202

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ROSWELL

S. E. REYNOLDS
STATE ENGINEER

March 19, 1987

DISTRICT II
909 E. 2ND STREET
P.O. BOX 1717
ROSWELL, NEW MEXICO 88201

File: L-6.3.3

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

Attention: Jami Bailey

Gentlemen:

Enclosed please find 3 copies of well logs of water wells drilled in Sections 20, 22 and 35 of Township 10 South, Range 33 East. We do not have well logs for the 2 wells you were interested in since this particular area is out of the Lea County Underground Water Basin and we do not have much coverage on these sections.

I hope this information will help you out.

Yours very truly,

Johnny R. Hernandez
Basin Supervisor

JRH/fh

Encls. Well Records (3)

FIELD ENGR. LOG

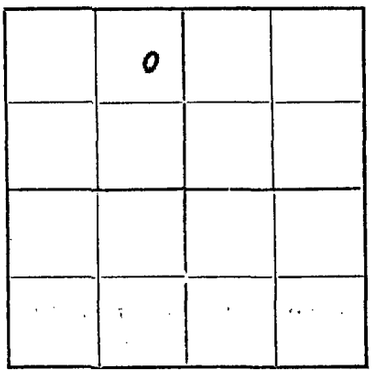
Form WR-23

STATE ENGINEER OFFICE 9 R[illegible]h I[illegible]ttution No. 1

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well FORSTER DRILLING COMPANY

Street and Number P.O. Box 32

City Odessa State Texas

Well was drilled under Permit No. ____ and is located in the ____ ¼ NE ¼ NW ¼ of Section 22 Twp. 10 S. Rge. 33 E.

(B) Drilling Contractor Abbott Brothers License No. WD-46

Street and Number P.O. Box 637

City Hobbs State New Mexico

Drilling was commenced APRIL 19____

Drilling was completed April 19 67

Elevation at top of casing in feet above sea level ____ Total depth of well 95

State whether well is shallow or artesian shallow Depth to water upon completion 57

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	57	88	31	water sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
8	Surface nipple only		0	5	5			

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ____ License No. ____

Street and Number ____ City ____ State ____

Tons of Clay used ____ Tons of Roughage used ____ Type of roughage ____

Plugging method used ____ Date Plugged ____ 19____

Plugging approved by:

____ Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

STATE ENGINEER OFFICE

Date Received ____

1967 APR 26 AM 8:20

File No. File for record Use ____ Location No. 10.33.22.120

Section 6 LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	5	5		surface soil
5	16	11		caliche
16	57	41		sandy clay
57	88	31		sand, water
88	95	7	red	clay

L S Elev _____ _____
Depth to K _____ Trc _____
Elev of K _____ Trc _____

Loc. No. 10.33.22.120
Hydro. Survey _____ Field Check _____

SOURCE OF ALTITUDE GIVEN
Interpolated from Topo. Sheet _____
Determined by Inst. Leveling _____
Other _____

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Murrell Abbott jrs
Well Driller

Form WR-23

FIELD ENGR. LOG

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

			o

(Plat of 640 acres)

(A) Owner of well Noble Drilling Co.

Street and Number Drawer 550

City Midland State [illegible]

Well was drilled under Permit No. ________ and is located in the

____ ¼ SE ¼ SE ¼ of Section 20 Twp. 19S Rge. [illegible]

(B) Drilling Contractor Abbott Brothers License No. [illegible]

Street and Number P. O. Box 637

City Hobbs State New Mexico

Drilling was commenced May 25 19____

Drilling was completed May 25 19[illegible]

Elevation at top of casing in feet above sea level ________ Total depth of well [illegible]

State whether well is shallow or artesian shallow Depth to water upon completion 35

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	35	82	47	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
7	Surface nipple only							

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ________ License No. ________

Street and Number ________ City ________ State ________

Tons of Clay used ________ Tons of Roughage used ________ Type of roughage ________

Plugging method used ________ Date Plugged ________ 19____

Plugging approved by:

____
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received ✓

STATE ENGINEER OFFICE DISTRICT

1966 JUN -6 AM 8:22

File No. 0-13 (Misc) Lea Use Oil Location No. 10.33.20.440

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		soil
1	22	21		caliche
22	35	13		sand
35	82	47		water sand

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Murrell Abbott Jr

Well Driller

Form WR-23

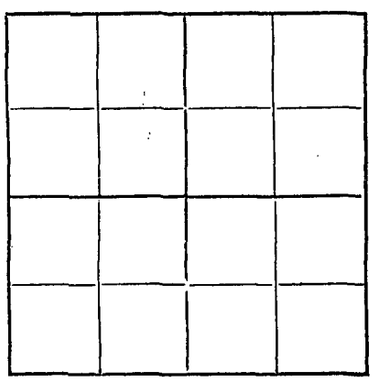
STATE ENGINEER OFFICE

FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Davey O'Brien Drilling Co.

Street and Number 1205 First National Bank Bldg.

City Fort Worth 2 State Texas

Well was drilled under Permit No. ____ and is located in the

Anderson State Lease Pool Section 35 Twp. 10 S Rge. 33 E

(B) Drilling Contractor P & P Drilling Co. License No. WD-281

Street and Number 1121 S. Love

City Lovington State New Mexico

Drilling was commenced April 15 19 62

Drilling was completed April 17 19 62

Elevation at top of casing in feet above sea level ____ Total depth of well 45

State whether well is shallow or artesian Shallow Depth to water upon completion 35

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	30	40		
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
				None				

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
		6			

Section 5 PLUGGING RECORD

Name of Plugging Contractor ____ License No. ____

Street and Number ____ City ____ State ____

Tons of Clay used ____ Tons of Roughage used ____ Type of roughage ____

Plugging method used ____ Date Plugged ____ 19 ____

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE ROSWELL, NEW MEXICO DISTRICT II

JUN - 8 AM 8:16 1962

File No. Mine-Lea Use ____ Location No. 10.33.35

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	2			Soil
2	12			Clichie
12	30			Sandy Clay
30	40			Water Sand
40	45			Sandy Clay

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Otis H. Pruett

Well Driller

MEMORANDUM

To: Bill Fleming, Chief, Hydrology Section
From: Deborah Hathaway, Water Resource Enginnering Specialist -6/72
Subject: Contamination of Lower Cretaceous Formations in Northern Lea County
Date: February 23, 1987

.....

By letter of February 12, 1987 to S.E. Reynolds, J.A. Tony Fallin, geologist with the Texas Water Development Board, noted that some wells in northern Lea County have exceptionally high levels of total dissolved solids and may indicate a situation of degrading water quality due to migration of oil field brines. With his letter, Mr. Fallin sent draft maps prepared as part of a baseline study of the geology and hydrology of the lower Cretaceous strata under the High Plains of Texas and New Mexico. One of the maps shows water quality in lower Cretaceous sands, including three contaminated observation points. The other maps are isopach and structure elevation maps relating to the lower Cretaceous formations. The following comments are offered regarding the problem of water quality degradation in this area:

1. The State Engineer Office is aware of water quality degradation in the area noted by Fallin and elsewhere in Lea County. J.I. Wright of the State Engineer Office, District 2, discusses this problem in his May 1986 report, "Contamination of Fresh Ground-Water Supplies in Southeastern New Mexico". Brine is introduced into aquifers by leakage from brine-disposal pits, improperly constructed brine-disposal wells, poorly constructed oil wells, faulty oil well casing and improperly plugged oil wells.

2. Contaminated water has been encountered in numerous sections in northern Lea County, in addition to the area shown on Fallin's map, including sections within the acceptable quality areas of Fallin's map. The sections in which water is known to contain abnormal concentrations of chloride are shown on plates within Wright's report.

3. Three contaminated points are identified on Fallin's map. Jim Wright's report contains the following data for these three points:

Location	Source	Chloride, mg/l	Date
10.33.07.233	spring	4290	1967
10.33.26.22321	well	10224	1968
		22980	1976
10.33.26.42321	well	210	1963
		3904	1976
		3750	1984

A natural salt lake which has been used for brine disposal is in in the vicinity of the spring in section 7 and may explain the large chloride concentration at this point. Additional investigation would be required to confirm this and to determine the source of the poor quality water at the other two points.

4. The contaminated area described by Fallin is outside of the declared Lea County Underground Water Basin.

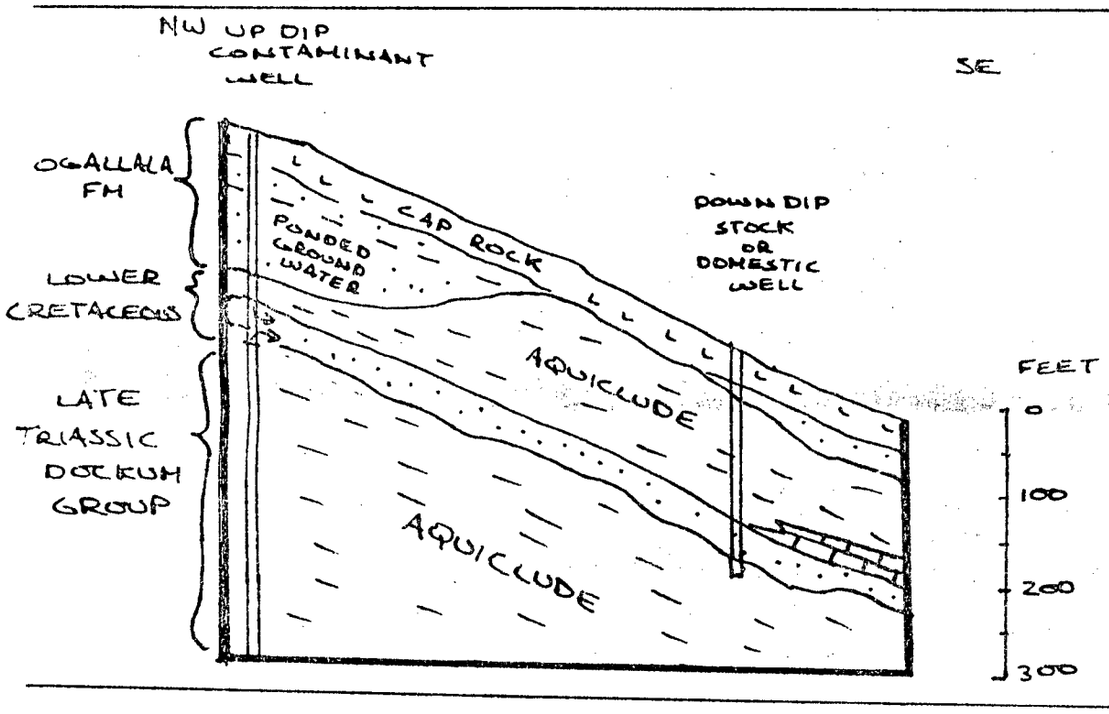
5. The Oil Conservation Division of the Energy and Minerals Department has jurisdiction over disposal of brine and other potentially contaminating activities of the oil industry. Fallin's letter has been brought to the attention of Dave Boyer of that division, who will investigate the problem further, and, initiate appropriate remedial action, if necessary and feasible.

6. Fallin's maps will be placed in the Ground-water file for Lea County in the SEO library as they contain geologic data which may be useful in future ground-water investigations.

FEBRUARY 12, 1987

GENTLEMEN

UNAWARE OF WHAT NEW MEXICO'S STATE POLICY MIGHT BE FOR PROTECTING FRESH WATER AQUIFERS, I'D SIMPLY LIKE TO CALL TO YOUR ATTENTION THAT UPDIP WELLS SHOWING APPARENT CONTAMINATION FROM OIL FIELD BRINES OR OTHER SOURCES APPEAR TO BE DEGRADING WATER QUALITY IN DOWN DIP LOWER CRETACEOUS RESERVOIR SANDS UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO. THE MAIN CONTAMINATION



GENERALIZED CROSS SECTION, SOUTHERN HIGH PLAINS, NEW MEXICO

APPEARS TO BE OCCURRING UNDER AN AREA WHERE FRESH GROUND WATER IS ALSO PONDED IN THE OVERLYING OGALLALA FORMATION, A SITUATION THAT MIGHT BE CORRECTED BY DEEPER WELL INJECTION OR OTHER REMEDIAL ACTION.

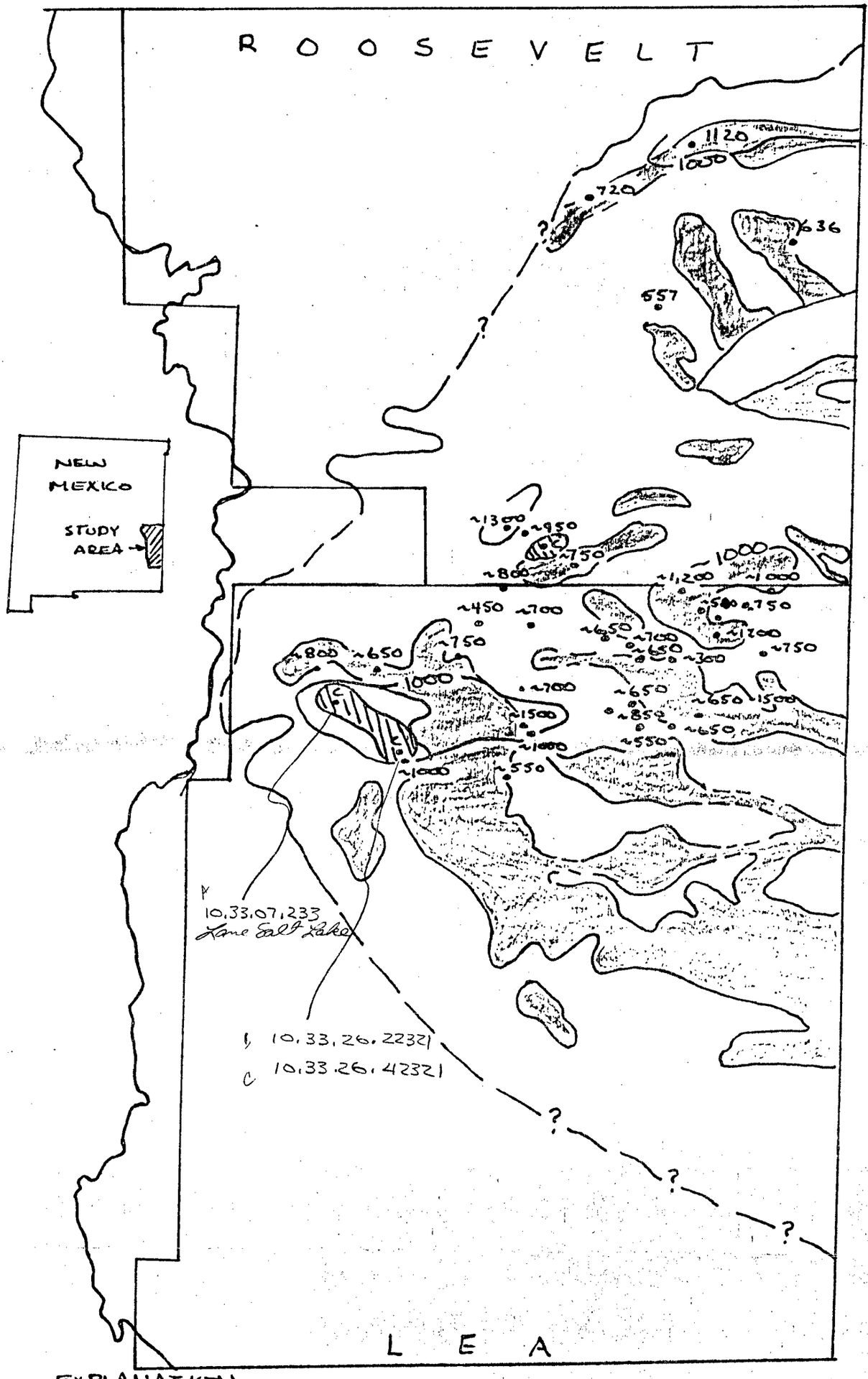
THANK YOU FOR YOUR TIME.

J. A. Tony Fallin

J.A. TONY FALLIN
GEOLOGIST, TEXAS WATER DEVELOPMENT BOARD
AUSTIN, TEXAS

COPIES TO:

R.B. COLLINS
STEVE REYNOLDS
SHERMAN GALLOWAY



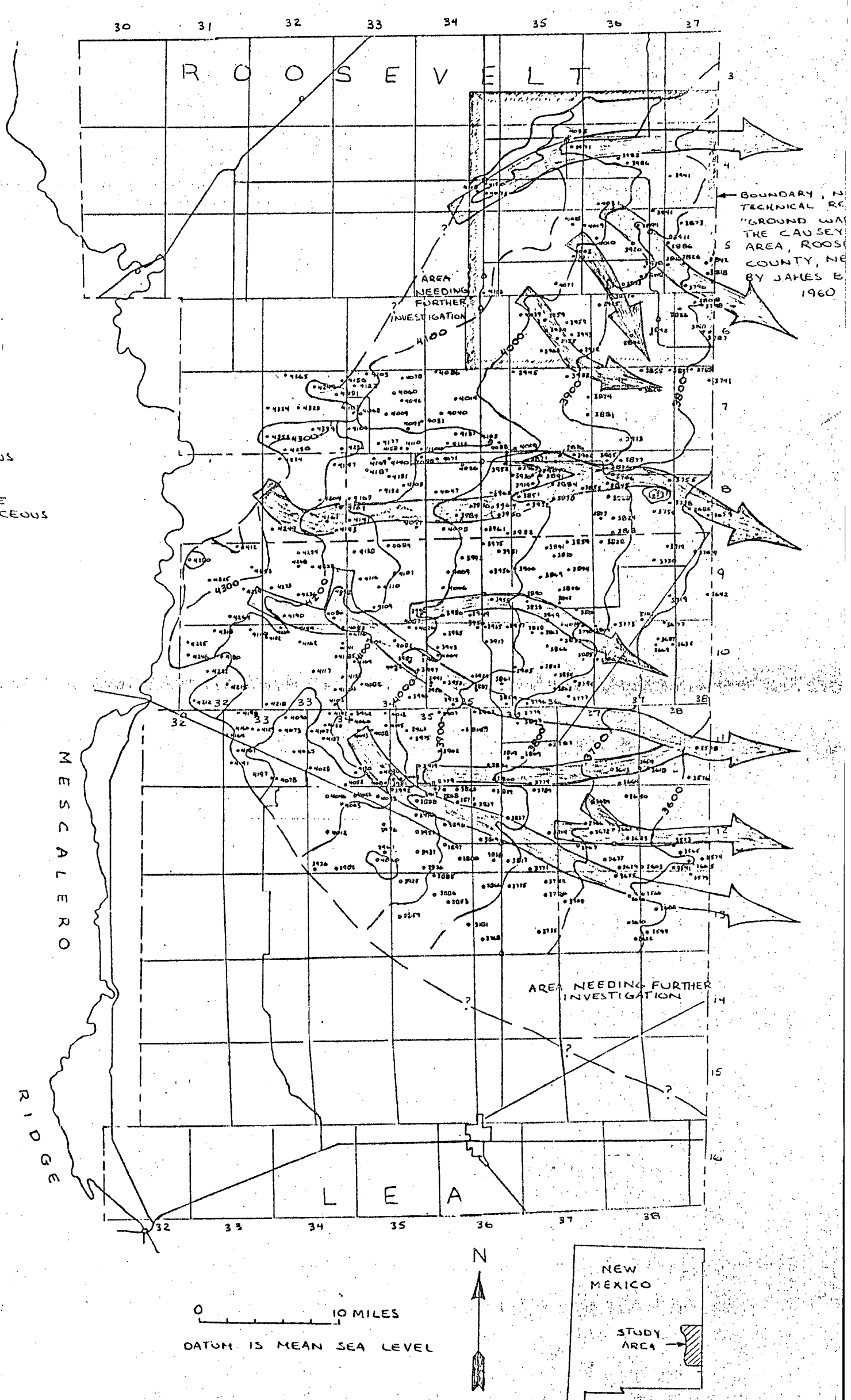
EXPLANATION

- 557 T.D.S. MEASURED BY WATER QUALITY ANALYSIS
- ~700 T.D.S. ESTIMATED FROM SPECIFIC CONDUCTANCE AND PARTIAL ANALYSES
- ~1000 T.D.S. CONTOUR LINE
- C CONTAMINATED WELL SHOW >5,000 ppm T.D.S.
- MAJOR SAND TREND IN LOWER CRETACEOUS STRATA

MAP SHOWING WATER QUALITY IN LOWER CRETACEOUS WELLS RESPECTIVE TO MAJOR LOWER CRETACEOUS SAND TRENDS UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO

Are these wells in Ogallala or Cretaceous? Many are outside shaded areas —

STRUCTURE CONTOUR MAP SHOWING TOP OF LATE TRIASSIC — BASE OF EARLY CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO



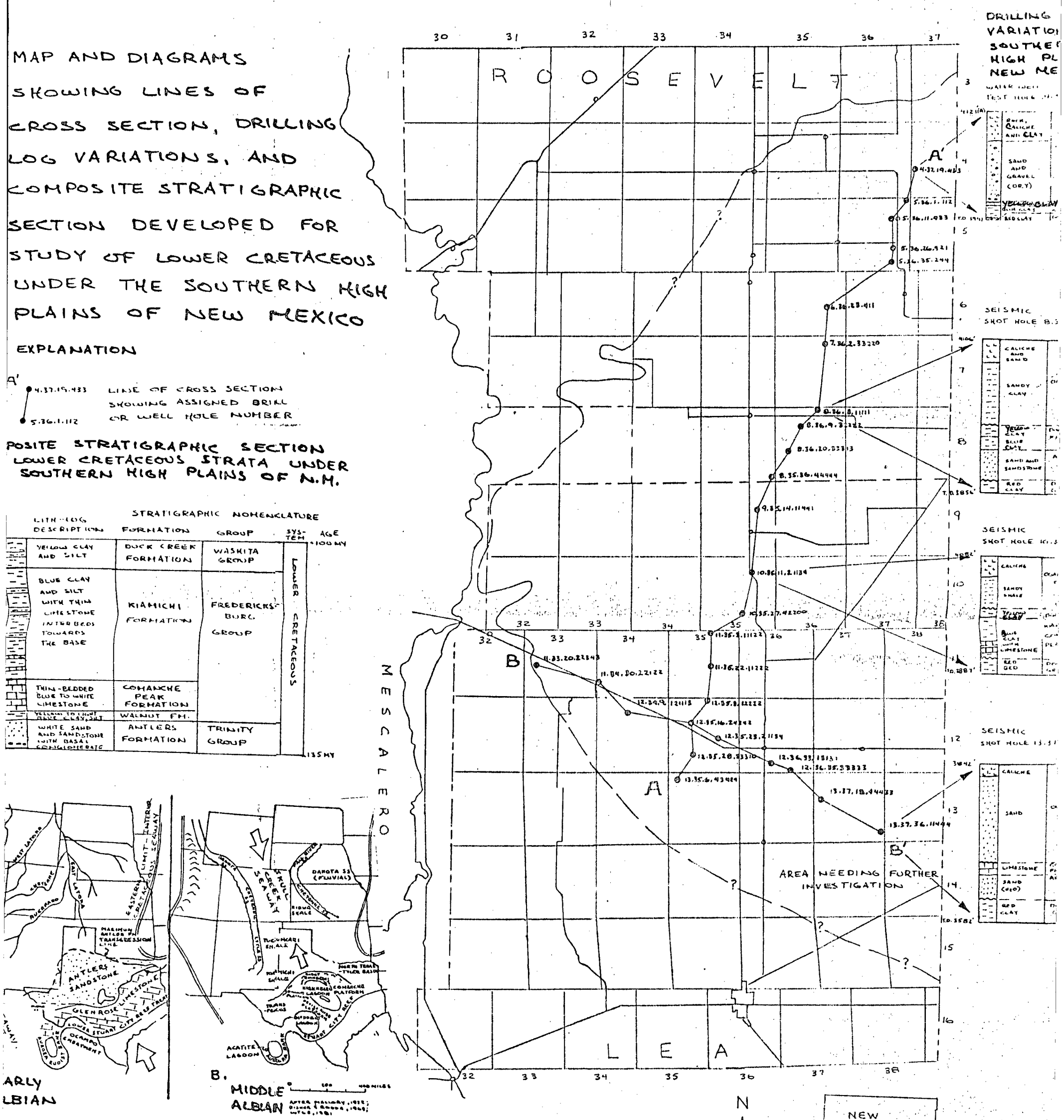
EXPLANATION

- 4353 — DRILL HOLE CONTROL POINT SHOWING ELEVATION OF LATE TRIASSIC - EARLY CRETACEOUS BOUNDARY
- ~4000~ — STRUCTURE CONTOUR ON THE LATE TRIASSIC - EARLY CRETACEOUS BOUNDARY
- PALEO - DRAINAGE COURSE ATOP THE LATE TRIASSIC DOCKUM GROUP

PREPARED BY J. A. TONY FALLIN, GEOLOGIST, TEXAS WATER DEVELOPMENT BOARD, AUSTIN, TEXAS AS PART OF A BASELINE STUDY OF THE GEOLOGY AND HYDROLOGY OF LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF TEXAS AND NEW MEXICO.

DATA ACCUMULATION ASSISTED BY ART MASON, NEW MEXICO STATE ENGINEERS OFFICE, AND SHERMAN GALLOWAY, CONSULTANT, ROSWELL, NEW MEXICO, FEBRUARY, 1987.

MAP AND DIAGRAMS SHOWING LINES OF CROSS SECTION, DRILLING LOG VARIATIONS, AND COMPOSITE STRATIGRAPHIC SECTION DEVELOPED FOR STUDY OF LOWER CRETACEOUS UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO



EXPLANATION

A' — 4.37.19.433 — 5.36.1.112

LINE OF CROSS SECTION SHOWING ASSIGNED DRILL OR WELL HOLE NUMBER

POSITE STRATIGRAPHIC SECTION
LOWER CRETACEOUS STRATA UNDER
SOUTHERN HIGH PLAINS OF N.M.

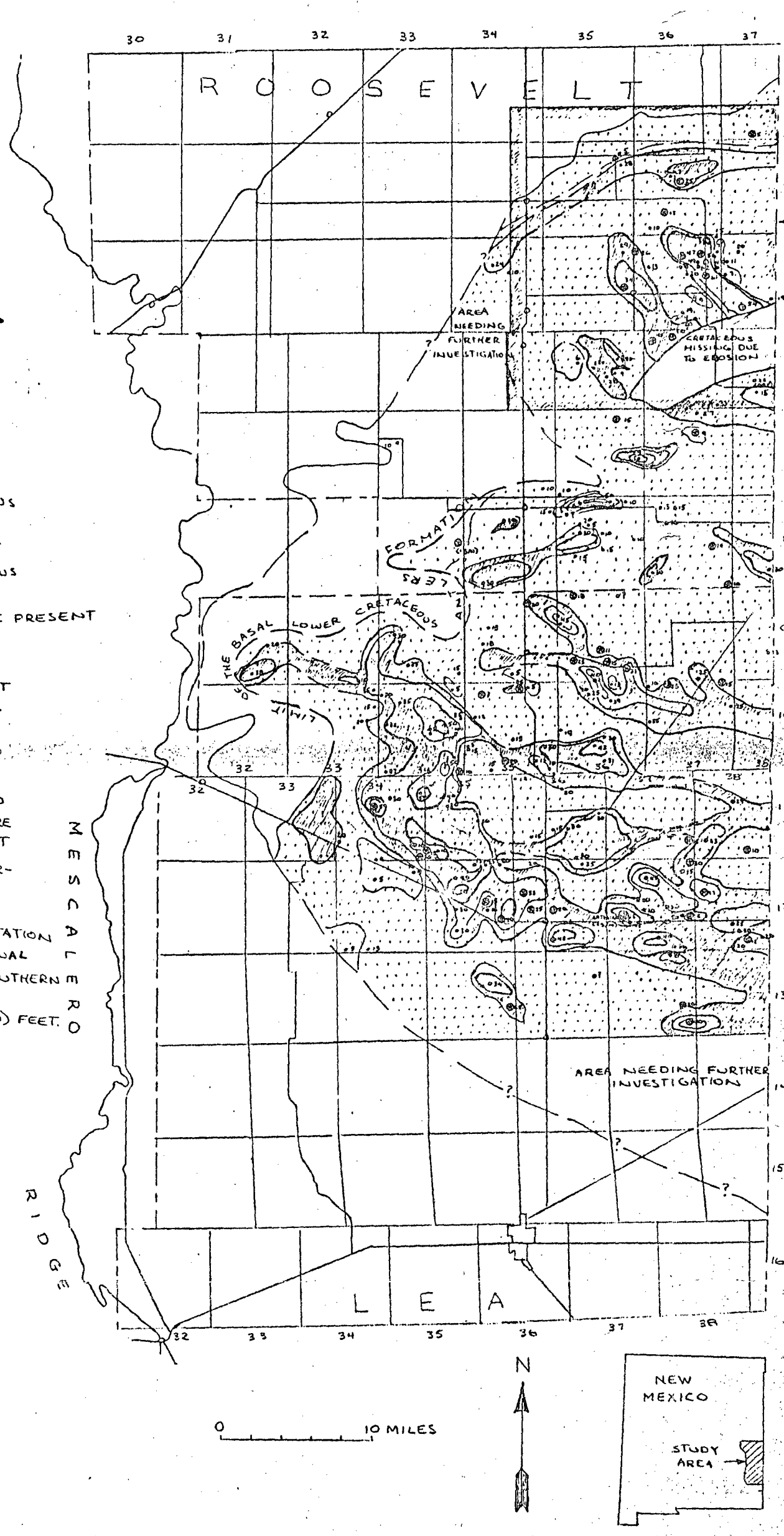
STRATIGRAPHIC NOMENCLATURE

LITHOLOGIC DESCRIPTION	FORMATION	GROUP	SYSTEM	AGE
YELLOW CLAY AND SILT	DUCK CREEK FORMATION	WASHITA GROUP	LOWER CRETACEOUS	~100 MY
BLUE CLAY AND SILT WITH THIN LIMESTONE INTERBEDS TOWARDS THE BASE	KIAMICHI FORMATION	FREDERICKSBURG GROUP		
THIN-BEDDED BLUE TO WHITE LIMESTONE	COMANCHE PEAK FORMATION			
YELLOW TO LIGHT BLUE CLAY, SILT	WALNUT FM.			
WHITE SAND AND SANDSTONE WITH BASAL CONGLOMERATIC	ANTLERS FORMATION	TRINITY GROUP		135 MY

LEOGEOGRAPHIC MAPS SHOWING
WER CRETACEOUS FACIES TRENDS
R EARLY AND MIDDLE ALBIAN TIME

PREPARED BY J. A. TONY FALLIN, GEOLOGIST, TEXAS WATER DEVELOPMENT BOARD, AUSTIN, TEXAS AS PART OF A BASELINE STUDY OF THE GEOLOGY AND HYDROLOGY OF LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS. FEBRUARY, 1987

.AP SHOWING THE ISTRIBUTION AND HICKNESS OF SAND N THE BASAL LOWER RETACEOUS ANTLERS ORMATION UNDER THE OUTHERN HIGH PLAINS F NEW MEXICO



EXPLANATION

- .20 DRILL HOLE LOCALITY SHOWING MEASURED THICKNESS OF SAND IN THE BASAL LOWER CRETACEOUS ANTLERS FORMATION.
- .11 DRILL HOLE LOCALITY WITH REPORTED GROUND-WATER FLOW IN THE BASAL LOWER CRETACEOUS ANTLERS FORMATION.
- ANTLERS FORMATION MAY BE PRESENT AND UP TO 20 FEET THICK.
- ANTLERS FORMATION PRESENT AND 20 OR MORE FEET THICK.

OTE: SAND BODY GEOMETRY PATTERNS KOWN ON THIS MAP ARE DRAWN TO EFLECT THICKENING IN AREAS WHERE ALEO - DRAINAGE CHANNELS ARE CUT ATO THE UPPER SURFACE OF UNDER- ING LATE TRIASSIC STRATA. AS NTERPRETIVE PATTERNS, THEY ARE UBJECT TO CHANGE OR RE-INTERPIRETATION ND MAY DIFFLR SOMEWHAT FROM ACTUAL EOLOGIC CONDITIONS UNDER THE SOUTHERN GH PLAINS. ISOPACH CONTOUR ITERVALS ON THE MAP ARE TEN (10) FEET.

PARED BY J. A. TONY FALLIN, OLOGIST, TEXAS WATER DEVELOPMENT IRD, AUSTIN, TEXAS AS PART A BASELINE STUDY OF THE OLOGY AND HYDROLOGY OF DER CRETACEOUS STRATA DER THE SOUTHERN HIGH PLAINS TEXAS AND NEW MEXICO. A ACCUMULATION ASSISTED BY MASON, NEW MEXICO STATE SINEERS OFFICE, AND SHERMAN OWAY, CONSULTANT, ROSWELL, W MEXICO, FEBRUARY, 1987.

← BOUNDARY, N.M.
TECHNICAL REPO
"GROUND WATER
THE CAUSEY -
AREA, ROOSEVE
COUNTY, NEW
BY JAMES B. C
1960

RESERVOIR PARA

APPROXIMATE AREA UNDERLAIN BY SAND
1,300 SQ. MI
833,000 ACRES

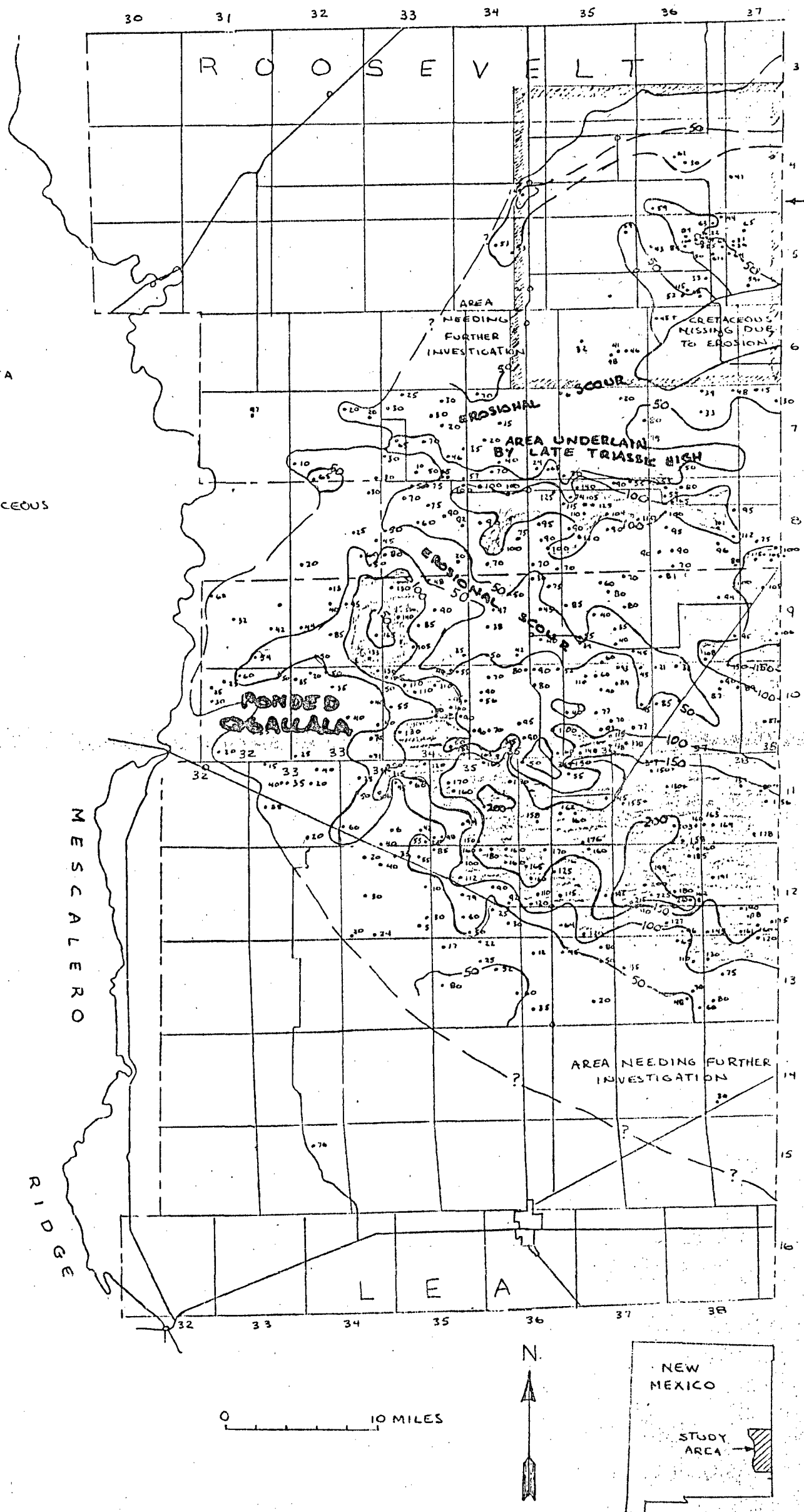
AVERAGE THICKNESS OF SAND RESERVOIR
15 FEET

ESTIMATED POROSITY OF SAND RESERVOIR
20 PERCENT

FULL RESERVOIR STORAGE CAPACITY
2,496,000 ACRE FEET

* RESERVOIR WELL GALOIR, QUARTZ), SOME AREAS, UNCON SOLIDATED IN THIN SILT AND INTERBEDS MAY BE PRESENT, AND BASAL CONGLOMERATE IS FOUND OVER MUCH OF THE AREA
SAND FRACTION WELL SORTED, TO MEDIUM GRAINED AND COMPOSED PREDOMINANTLY OF QUARTZ. GRAINS FROSTING AND OTHER PARAMETERS SUGGEST DEPOSITION WAS IN A BEACH -NEAR SHORE MARINE ENVIRONMENT
CONFINED BY OVERLYING CLAY AND MARL INTERBEDS AND BY UNDER FINE-GRAINED BED SEDIMENTS RESERVOIR IS COMMONLY UNDER ARTESIAN PRESSURE EXCEPTIONS OCCUR WHERE UNCASED SEISMIC HOLES PERMIT UPWARD DRAINAGE INTO OVERLYING OGALLALA RESERVOIRS AND CONSEQUENT DEPRESSURIZATION OF THE LOWER CRETACEOUS SYSTEM
RECHARGE IS LIMITED BASICALLY TO INFILTRATION FROM OVERLYING RESERVOIRS IN THE OGALLALA FORMATION

ISOPACH MAP OF LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO



EXPLANATION

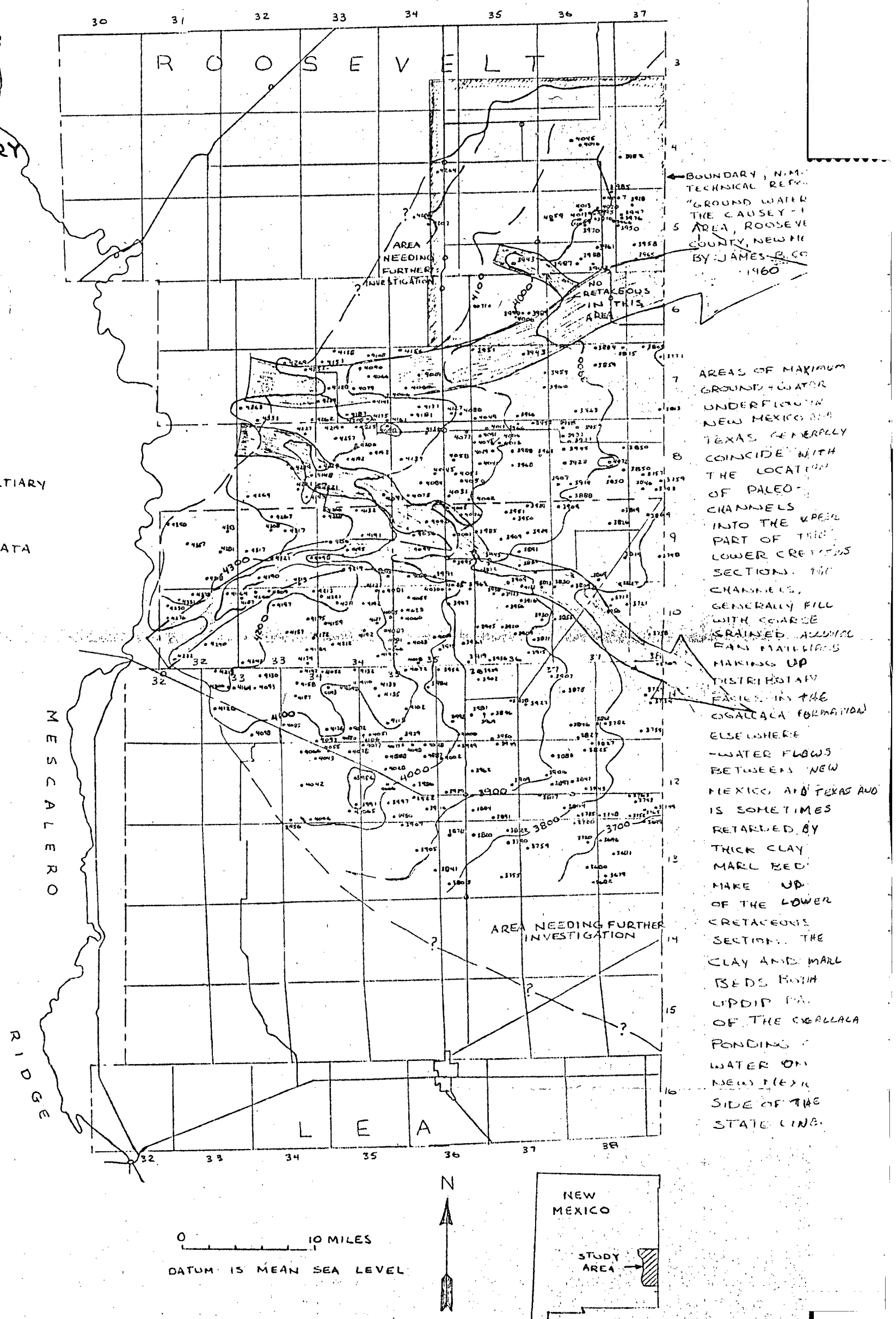
.164 DRILL HOLE CONTROL POINT SHOWING MEASURED THICKNESS OF LOWER CRETACEOUS STRATA

~100~ ISOPACHOUS CONTOUR. LINE INTERVAL: FIFTY (50) FEET.

AREA UNDERLAIN BY 100 OR MORE FEET OF LOWER CRETACEOUS SECTION

PREPARED BY J. A. TONY FALLIN, GEOLOGIST, TEXAS WATER DEVELOPMENT BOARD, AUSTIN, TEXAS AS PART OF A BASELINE STUDY OF THE GEOLOGY AND HYDROLOGY OF LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF TEXAS AND NEW MEXICO. DATA ACCUMULATION ASSISTED BY ART MASON, NEW MEXICO STATE ENGINEERS OFFICE, AND SHERMAN GALLOWAY, CONSULTANT, ROSWELL, NEW MEXICO, FEBRUARY, 1987.

STRUCTURE CONTOUR MAP SHOWING TOP OF LOWER CRETACEOUS BASE OF UPPER TERTIARY (OGALLALA) STRATA UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO



EXPLANATION

- 4269 — DRILL HOLE CONTROL POINT SHOWING ELEVATION OF LOWER CRETACEOUS - UPPER TERTIARY BOUNDARY
- 4100 — STRUCTURE CONTOUR ON THE LOWER CRETACEOUS - UPPER TERTIARY BOUNDARY
- PALEO-DRAINAGE COURSE ATOP LOWER CRETACEOUS STRATA

PREPARED BY J. A. TONY FALLIN, GEOLOGIST, TEXAS WATER DEVELOPMENT BOARD, AUSTIN, TEXAS AS PART OF A BASELINE STUDY OF THE GEOLOGY AND HYDROLOGY OF LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF TEXAS AND NEW MEXICO.

DATA ACCUMULATION ASSISTED BY ART MASON, NEW MEXICO STATE ENGINEERS OFFICE, AND SHERMAN CALLOWAY, CONSULTANT, ROSWELL, NEW MEXICO, FEBRUARY, 1987.

BOUNDARY, N.M. TECHNICAL REP... "GROUND WATER ... THE CAUSEY - ... AREA, ROOSEVE... COUNTY, NEW ME... BY: JAMES B. CO... 1960

AREAS OF MAXIMUM GROUND-WATER UNDERFLOW IN NEW MEXICO AND TEXAS GENERALLY COINCIDE WITH THE LOCATION OF PALEO-CHANNELS INTO THE UPPER PART OF THE LOWER CRETACEOUS SECTION. THE CHANNELS, GENERALLY FILL WITH COARSE GRAINED ALLUVIAL FAN MATERIALS MAKING UP DISTRIBUTARY FACIES IN THE OGALLALA FORMATION ELSEWHERE. WATER FLOWS BETWEEN NEW MEXICO AND TEXAS AND IS SOMETIMES RETARDED BY THICK CLAY MARL BED MAKE UP OF THE LOWER CRETACEOUS SECTION. THE CLAY AND MARL BEDS MAY IN UPDIP PA... OF THE OGALLALA PONDING ... WATER ON NEW MEXI... SIDE OF THE STATE LINE.

MAP SHOWING THE DISTRIBUTION AND THICKNESS OF LIMESTONE FACIES IN LOWER CRETACEOUS STRATA UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO

EXPLANATION

- .30 — DRILL HOLE LOCALITY SHOWING MEASURED THICKNESS OF LIMESTONE FACIES
- ~10~ — ISOPACHOUS CONTOUR. LINE INTERVAL: TEN (10) FEET.
- LIMESTONE FACIES MAY BE PRESENT AND UP TO 20 FEET THICK
- LIMESTONE FACIES PRESENT AND 20 OR MORE FEET THICK

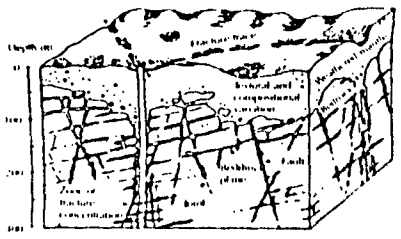


DIAGRAM ILLUSTRATING CONCENTRATION OF GROUND WATER ALONG FRACTURE ZONES IN CARBONATE TERRANE.

EPARED BY J. A. TONY FALLIN, OLOGIST, TEXAS WATER DEVELOPMENT ARD, AUSTIN, TEXAS AS PART A BASELINE STUDY OF THE OLOGY AND HYDROLOGY OF ER CRETACEOUS STRATA DER THE SOUTHERN HIGH PLAINS TEXAS AND NEW MEXICO A ACCUMULATION ASSISTED BY MASON, NEW MEXICO STATE GINEERS OFFICE, AND SHERMAN OWAY, CONSULTANT, ROSWELL, W MEXICO, FEBRUARY, 1987.

ROOSEVELT

LEA

NESCALERO RIDGE

PLAINS

STRATA UNDER THE SOUTHERN HIGH PLAINS

LOWER CRETACEOUS

LIMIT OF LIMESTONE FACIES

APPROXIMATE NORTHWEST

AREA NEEDING FURTHER INVESTIGATION

Seismic shot hole section in 8,36.8.1111 doesn't show limestone, so what is the basis for this map? →

0 10 MILES

N

NEW MEXICO

STUDY AREA

RESERVOIR PARA

APPROXIMATE AREA UNDERLAIN BY
750 SQ. MI
480,000 ACRE

AVERAGE THICKNESS OF LIMESTONE
10 FEET

EFFECTIVE POROSITY OF LIMESTONE
15 PERCENT

FULL RESERVOIR STORAGE CAPACITY
7,200 ACRE FEET

SPOTTY "PATCH" DEPOSITS OF YIELD ONLY SMALL AMOUNTS OF WATER TO TAPPING. LOWER CRETACEOUS RESERVOIRS UNDER THE SOUTHERN HIGH PLAINS OF NEW MEXICO. THE GROUND WATER IS GENERALLY CONCENTRATED ALONG OR FRACTURE SHOWN IN THE DIAGRAM TO THE LEFT.

ROSE DIAGRAM SHOWS ORIENTATION OF LINEAMENT TREND IN THE SOUTHERN HIGH PLAINS AS INDICATED BY DRAINAGE ANALYSIS (REC

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

APPLICATION FOR RIGHT-OF-WAY

UCTIONS: The use of this form is optional. If used, this ication must be typed or printed plainly in ink. Submit ication in triplicate to the Bureau of Land Management, Roswell ict Office, P.O. Box 1397, Roswell, NM 88201.	Serial Number

1. Name of applicant	2. Address (include zip code)
B & E, Inc.	P. O. Box 756 Carlsbad, New Mexico 88220

The above-named applicant hereby applies for a right-of-way on public land pursuant to regulations in 43 CFR Group 2800 and agrees that the right-of-way, if approved, will be subject to the terms and conditions contained in 43 CFR Group 2800. Applicant desires to obtain the benefits of (insert appropriate right-of-way from list below) other necessary transportion road, and the primary purpose of the right-of-way is for a (indicate primary purpose right-of-way is to be used for) access to private land for operation of Saltwater disposal facility.

RIGHT-OF-WAY AUTHORITY	PRIMARY PURPOSE OF RIGHT-OF-WAY
(a) PL 94-579 (Section 501(a)(1)).	.Water Facilities
(b) PL 94-579 (Section 501(a)(4)).	.Power Transmission and Distribution Lines and Generating Plants
(c) PL 94-579 (Section 501(a)(5)).	.Radio and Television Sites, Telephone and Telegraph Lines
(d) PL 94-579 (Section 501(a)(6)).	.Tramroads and Logging Roads Railroads and Railroad Station Grounds State and County Roads
(e) PL 94-579 (Section 501(a)(7)).	.Other necessary transportation or oth systems or facilities which are in t public interest
(f) PL 94-579 (Section 507).	.Federal Agencies
(g) Title 23 U.S.C. Secs. 107 and 317.	.Federal Aid Roads and Highways
(h) Act of February 25, 1920 (30 U.S.C. 185), as amended	.Oil and Natural Gas Pipelines and Var Related Plant Sites

Check Appropriate Block:

This is an application for a new right-of-way /X/ (Note old road existing on subject propert
This is an application to amend existing right-of-way, /_/ serial number
This is an application to renew existing right-of-way, /_/ serial number
which is due to expire on (date)

Have you utilized the proposed right-of-way prior to this application?

/_/ Yes /X/ No

If yes, indicate the date such use commenced, under what authority if any, and any other pertinent details:

N/A

Are you enclosing the nonrefundable payment as required by 43 CFR [illegible]?

/X/ Yes /_/ No

If length is less than 5 miles, payment is $50 per mile or fraction thereof

If length is 5 to 20 miles, payment is $100

If length is over 20 miles, payment is $100 for each 20 miles or fraction thereof

If application is for a site (e.g., communication, reservoir, plant or other nonlinear facility) payment is $250 for each 40 acres or fraction thereof (See 43 CFR 2802.1-2(a)(

(a) X Corporation; (b) ___ Partnership or Association; (c) ___ Individual

(d) ___ State or Local Governmental Agency or Instrumentality Thereof

---

8. ASSURANCE OF COMPLIANCE (TITLE VI, CIVIL RIGHTS ACT OF 1964): If you are not subject payment of rental in accordance with 43 CFR 2802.1-7, you must execute and furnish the DI Form 1350, Assurance of Compliance. Forms are available upon request from the New Mexico State Office, Bureau of Land Management.

---

9. CORPORATIONS ONLY: Corporations must furnish the showings listed below unless previou furnished. If showings were furnished with a previous right-of-way application, indic the case file number _____.

X(a) Furnish a copy of corporation's chapter or articles of incorporation, certified b the proper State official of the State where the corporation was originated.
(b) A corporation, other than a private corporation, should furnish a copy of the law under which it was formed and due proof of organization under the same.
(c) If not incorporated in the State where the proposed right-of-way is located, you furnish a certificate of the proper State official showing that the corporation i entitled to operate in such State.
X(d) Furnish a copy of the resolution or bylaws of the corporation authorizing the fil of this application.

---

10. INDIVIDUALS ONLY: Please check appropriate blank. N/A

(a) ___ I am a native born citizen of the United States.
(b) ___ I am a naturalized citizen of the United States.

If you check "(b)", you must attach the information required in 43 CFR 2802.1-4(a).

---

11. PARTNERSHIPS AND ASSOCIATIONS ONLY: Partnerships or associations must furnish a certified copy of the articles of association. Please check appropriate blank:N/A

(a) ___ Certified copy of articles of association is attached herewith.
(b) ___ Furnished with previous right-of-way application, case file serial number____
(c) ___ No articles of association exist.

If you checked "c", this application must be made over the signature of each member, and ea member must state whether he is a native born citizen of the United States. If any member i a naturalized citizen, he must furnish the information required in 43 CFR 2802.1-4(a). Att statement of citizenship to this application.

---

12. Do you intend to utilize another party's existing structure or facility (i.e. power pol building, highway right-of-way etc.)?

/_/ Yes /X/ No If yes, you must attach proof that you have permission from such party.

---

13. RADIO, TELEVISION, MICROWAVE, AND COMMUNICATION FACILITIES ONLY: (a) In order to determine whether the site is available for your proposed facilities, you must furnish herewith the relevent technical parameters of your proposed facilities. Form 2860-1 is available for this purpose and is available upon request from the New Mexico State Office, Bureau of Land Management.
(b) If the site is determined to be available for your proposed facilities, you will b notified. The actual right-of-way will not be granted until you have furnished a co of your F.C.C. license or permit showing that your proposed facilities are authorized b the Federal Communications Commission. Such license or permit must be issued in the na as indicated in item No. 1 of this application. N/A

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14. WATER FACILITIES ONLY: If the proposed right-of-way involves the storage, diversion, or conveyance of water, you must furnish herewith a statement of the proper State official, or other evidence, showing your right to use the water. If no water right has been obtained, attach proof herewith that an application for water right has been filed with the proper State official. Attached is a copy of Order.

---

15. OIL AND NATURAL GAS PIPELINES ONLY: (a) You must indicate the specific use to which the proposed pipeline is to be put: N/A

(a) Show the electric generating plant or connecting plants that will generate the power to be transmitted.

N/A (b) Describe the electrical transmission line or distribution line.

(c) Furnish a detailed description of the environmental impact of the project.

(d) If the transmission facility will have a voltage of 33 kilovolts or more, you must execute and furnish herewith the wheeling rights stipulations. Forms for this purpose are available upon request from the New Mexico State Office, Bureau of Land Management.

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17. Any application under the Federal Land Policy and Management Act of 1976 in excess of 50 feet in width or for a structure or facility right-of-way of over 10,000 square feet must

N/A be accompanied by a statement showing the reasons why the larger right-of-way is required. The right-of-way will not be granted in excess of such sizes in the absence of a satisfactory showing of a need therefor.

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18. RIGHT-OF-WAY MAPS: Right-of-way maps, showing the survey and location of the proposed right-of-way, must be submitted with this application in accordance with the regulations in 43 CFR 2802.1-5(a) and the instructions listed below. The extent of rights granted will be based on the right-of-way maps submitted; therefore, the accuracy and completeness of the right-of-way maps cannot be overemphasized:

(a) A map prepared on tracing linen, or on tracing paper having a 100 percent rag content must be furnished for each application, except for applications under Title V, 43 U.S.C. Sec. 317 and applications by communication site secondary users (Note: A secondary user of a communication site is defined as a right-of-way applicant that has permission to utilize space in or at an existing, authorized communication facility of a primary user. In lieu of the original right-of-way map, the secondary user must submit a copy of the primary user's right-of-way map together with a subsequent applicant's certification.

(b) Three permanent type print copies of the right-of-way map (five copies for electrical transmission or distribution lines) must be furnished with all applications.

(c) Map scale should be either 2,000, 1,000, or 500 feet to the inch depending on the type of development and amount of detail to be shown. An optional scale of 5,280 feet to the inch may be used for electrical transmission and distribution lines of nominal voltage less than 33 kv.

(d) Map must show the survey of the center line (traverse line for reservoirs) including courses and distances. The initial and terminal points of survey must be accurately connected by course and distance to the nearest corner of the public-land survey or to a permanent monument.

✓ (e) Map must show width of right-of-way and state total distance of right-of-way on Federal land. State width 50 feet.

(f) All 40-acre subdivisions of affected public land must be shown and subdivisions, section, township, and range clearly marked.

(g) Map must contain the statement of the engineer and certificate of the applicant as required by 43 CFR 2802.1-5(a)(7). For format see Forms 1 and 2 of Appendix B in 43 CFR Group 2800.

(h) CANALS, DITCHES, OR LATERALS ONLY: The width of the high-water line must be indicated on map.

(i) PIPELINES ONLY: The diameter of the pipeline must be indicated on map. State diameter _____.

(j) RESERVOIRS ONLY: Indicate the capacity of reservoir in acre-feet, the area within high-water line, the source of water supply, the location and height of dam, and total acreage on Federal lands.

(k) COMMUNICATION FACILITIES AND PLANT SITES ONLY: Map must also contain a site layout drawing showing the location and extent of ground to be occupied by the proposed structures or facilities. The total area of the grounds must be indicated, and the existing or proposed buildings and structures must be platted and identified, including the purpose of each and their dimensions and relative positions. At least one of the structures must be connected by course and distance to the survey of the site. The site layout drawing must contain the statement of the engineer and certificate of the applicant as required by 43 CFR 2881.1(d). For format see Forms 3 and 4 of Appendix B of 43 CFR Group 2800.

Have you enclosed the right-of-way maps required in item No. 18 above.

[X] Yes [ ] No If no, explain

I certify that the information given in this application is true, complete, and correct to the best of my knowledge and belief and is given in good faith.

(Date) _____ Signature of Applicant or Authorized Official

STATE OF NEW MEXICO

CERTIFICATE OF COMPARISON

OF

B & E, INC.

The State Corporation Commission certifies that the attached is a true copy of the following document filed in this office:

ARTICLES OF INCORPORATION----------Filed March 31, 1969

In Testimony Whereof, the State Corporation Commission of the State of New Mexico has caused this certificate to be signed by its Chairman and the seal of said Commission to be affixed at the City of Santa Fe on this 31st *day of* March, 1969

ATTEST

ELLIOTT P. LENAVIDES, CLERK

FLOYD CROSS, CHAIRMAN

ARTICLES OF INCORPORATION

OF

B & E, INC.

We, the undersigned, hereby associate ourselves togethe for the purpose of forming a corporation under the laws of the State of New Mexico, and hereby certify that:

ARTICLE I.

The name of the corporation shall be B & E, Inc.

ARTICLE II.

The location of the principal office of the corporatior in the State of New Mexico shall be 703 Sunset Circle, P. O. Box 2292, Hobbs, New Mexico.

ARTICLE III.

Objects for which the corporation is being formed are: To engage in and carry on the business of general oil field contracting, servicing of oil field tools and equipment, oil wells, transportation of oil field supplies and equipment, or any other business necessary or incidental to the operation of an oil field servicing company; including the buying and selling of equipment leasing or renting of equipment or other machinery used in connection with the servicing of oil wells and equipment and transportation of oil field supplies and equipment; to buy and sell, lease mortgage interests in real or personal property or mineral interests therein.

ARTICLE IV.

The amount of total authorized capital stock of this corporation is $200,000.00, divided into 20,000 shares of common stock of the par value of $10.00 each.

ARTICLE V.

The amount of capital stock with which this corporatio is commencing business is $1,000.00.

ARTICLE VI.

The names and addresses of the incorporators and the number of shares subscribed for by each respectively, the aggregate of which will be the amount of capital stock issued and outstanding with which the corporation will commence business, are as follows:

NAME	ADDRESS	NO. OF SHARES
Phillip B. Withrow	Hobbs, New Mexico	99
Julie E. Withrow	Hobbs, New Mexico	1
Ben F. Moore	Hobbs, New Mexico	-0-

Said incorporators shall serve as the Board of Directors for the corporation for its first three months of existence or until their successors are elected by a regualr meeting of the stockholders.

ARTICLE VII.

The Board of Directors shall have power to make, alter, amend, or rescind the By-Laws of the corporation, to fill vacancies occurring in the Board of Directors for any cause, to elect and appoint officers, agents, committees of managers as they deem necessary, with such powers as they confer.

ARTICLE VIII.

The duration of this corporation shall be 100 years.

ARTICLE IX.

The annual meeting of the Board of Directors shall immediately follow the annual meeting of the stockholders, which meeting shall be held on the second Tuesday of April of each year.

ARTICLE X.

The corporation will not commence business until at least One Thousand Dollars ($1,000.00) has been received for the issuance of shares.

ARTICLE XI.

The address of its initial registered office is 703 Sunset Circle, Hobbs, New Mexico, and the name of its initial registered agent at the same address is Phillip B. Withrow.

WITNESS OUR HANDS and seals this 20th day of March,

1969.

PHILLIP B. WITHROW

JULIE E. WITHROW

BEN F. MOORE

STATE OF NEW MEXICO)
)ss.
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this 28th day of March, 1969, by PHILLIP B. WITHROW, JULIE E. WITHROW, and BEN F. MOORE.

NOTARY PUBLIC

My Commission Expires:

10-29-70

NMAS
New Mexico Archaeological Services, Inc.
P. O. Box 1341
Carlsbad, New Mexico 88220
(505) 887-7646

Reconnaissance
Excavation
Analysis
Explanation
Curation

29 July 1982

Mr. Gene Green
B AND E, INCORPORATED
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Green:

Enclosed please find NMAS' Archaeological Clearance Report for B AND E, INCORPORATED's proposed road in Section 6, T23S, R30E, in Eddy County, New Mexico. No cultural resources were recorded during this reconnaissance, and hence NMAS is suggesting clearance for this project.

If you have any questions pertaining to this report, please call my office. Thank you for asking NMAS to do this reconnaissance.

Yours sincerely,

J. Loring Haskell

Dr. J. Loring Haskell
Principal Investigator

Enclosure

cc: Mr. Thomas Zale, BLM, Carlsbad
Ms. Ann Ramage, BLM, Roswell
Mr. Curtis Schaafsma, Laboratory of Anthropology, Santa Fe
Mr. Thomas W. Merlan, SHPO, Santa Fe

as

Archaeological Clearance Report

for

B AND E, INCORPORATED

, Proposed Road in
Section 6, T23S, R30E,
NMPM, Eddy County, New Mexico

Prepared

By

Dr. J. Loring Haskell

Submitted

By

Dr. J. Loring Haskell
Principal Investigator
New Mexico Archaeological Services, Inc.
Carlsbad, New Mexico

29 July 1982

Permit No. 81-NM-306

ABSTRACT

New Mexico Archaeological Services, Inc., representing B AND E, INCOPORATED, Carlsbad, undertook an archaeological reconnaissance of Bureau of Land Management lands scheduled to be impacted by the construction of a road. The proposed easement will be situated in Section 6, T23S, R30E, NMPM, Eddy County, New Mexico. No cultural resources were recorded during this reconnaissance, and hence NMAS is suggesting clearance for B AND E, INCORPORATED's proposed work.

of their make up and are composed of silt loams. Salt efflorescence is characteristic of soils occurring near the playa. Pedons, taxonomically speaking, belong to the Typic Gypsiorthid subgroup.

Floristics

Local soils host a sparse overstory of Atriplex canescens and Tamarix sp. Forbs, few in number, are limited to Allenrolfea occidentalis and Euphorbia sp. The Gramineae is represented by sporadic Sporobolus airoides.

Cultural Resources

No cultural properties were recorded during this reconnaissance. Locally, the absence of siliceous lithic material, potable water, and shelter combined to limit land usage to ephemeral uses. Elevated areas to the east are known to host task loci and isolated cultural resources.

Recommendations

NMAS recommends clearance for B AND E, INCORPORATED's road project and suggests that work-related activities proceed in accordance with company plans. Clearance, of course, is granted by the Bureau of Land Management. If cultural resources are encountered during construction, the BLM and NMAS should be notified immediately.

Introduction

On 21 July 1982, New Mexico Archaeological Services, Inc., (NMAS), Carlsbad, undertook for B AND E, INCORPORATED, Carlsbad, an archaeological reconnaissance of lands administered by the Bureau of Land Management in Eddy County, New Mexico. The reconnoitered easement will be impacted by the construction of a road. This project was advanced by Mr. Gene Green, B AND E, INCORPORATED, and administered by Dr. J. Loring Haskell, Principal Investigator, NMAS, Inc. This reconnaissance was undertaken by Dr. Haskell.

Survey Technique

For this investigation, B AND E, INCORPORATED's proposed road was investigated for evidence of man's past activities by walking it in two, 35 ft wide, close interval (15° or less), zigzag transects. Methodologically, this procedure served to promote optimal conditions for the visual examination of areas to be impacted by construction-related activities.

Proposed Road
Section 6, T23S, R30E

Location

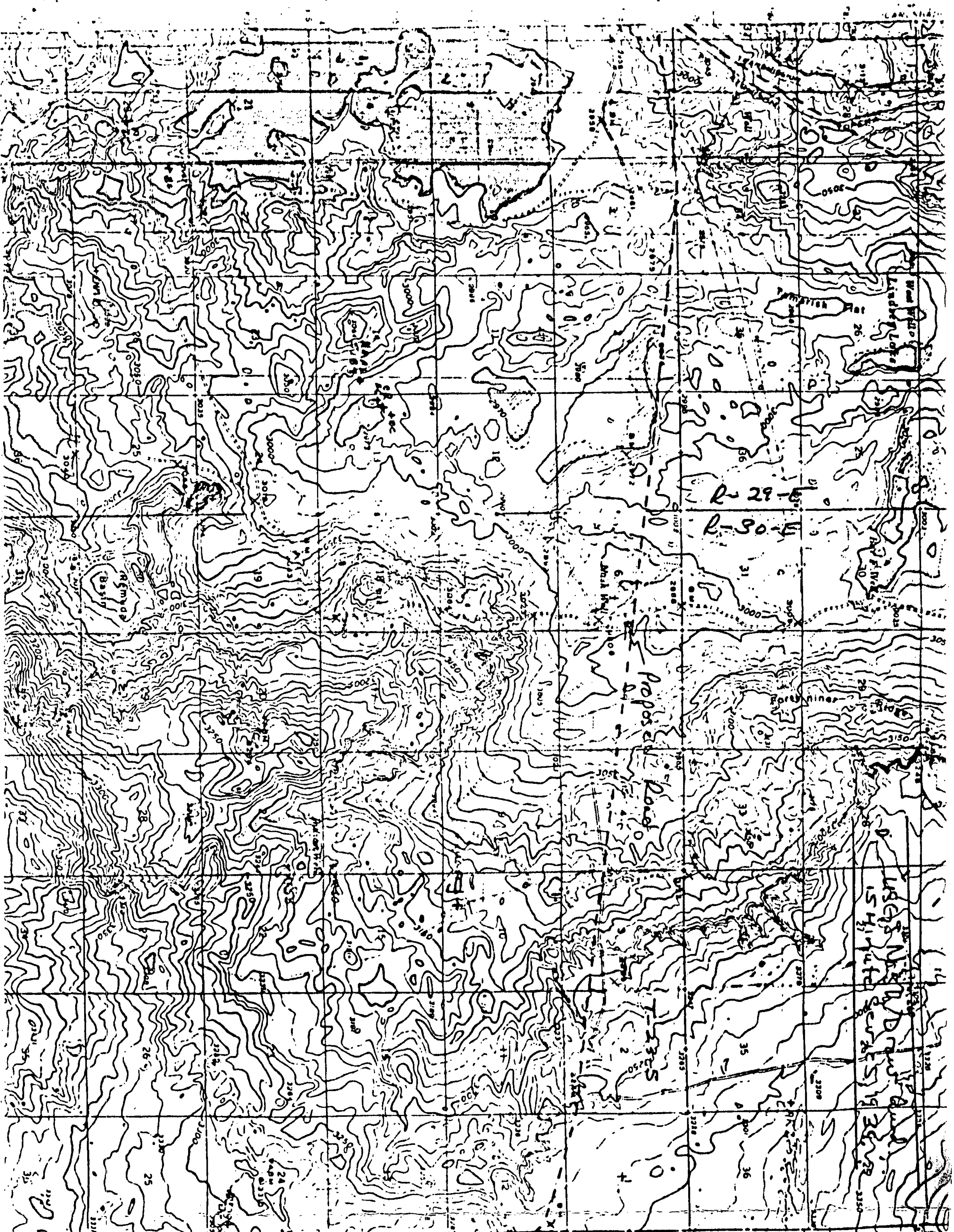
As proposed, B AND E, INCORPORATED's easement will measure 50 X 403.67 ft on federal lands and will be situated in the:

SE¼NE¼, Section 6, T23S, R30E, NMPM, Eddy County, NM

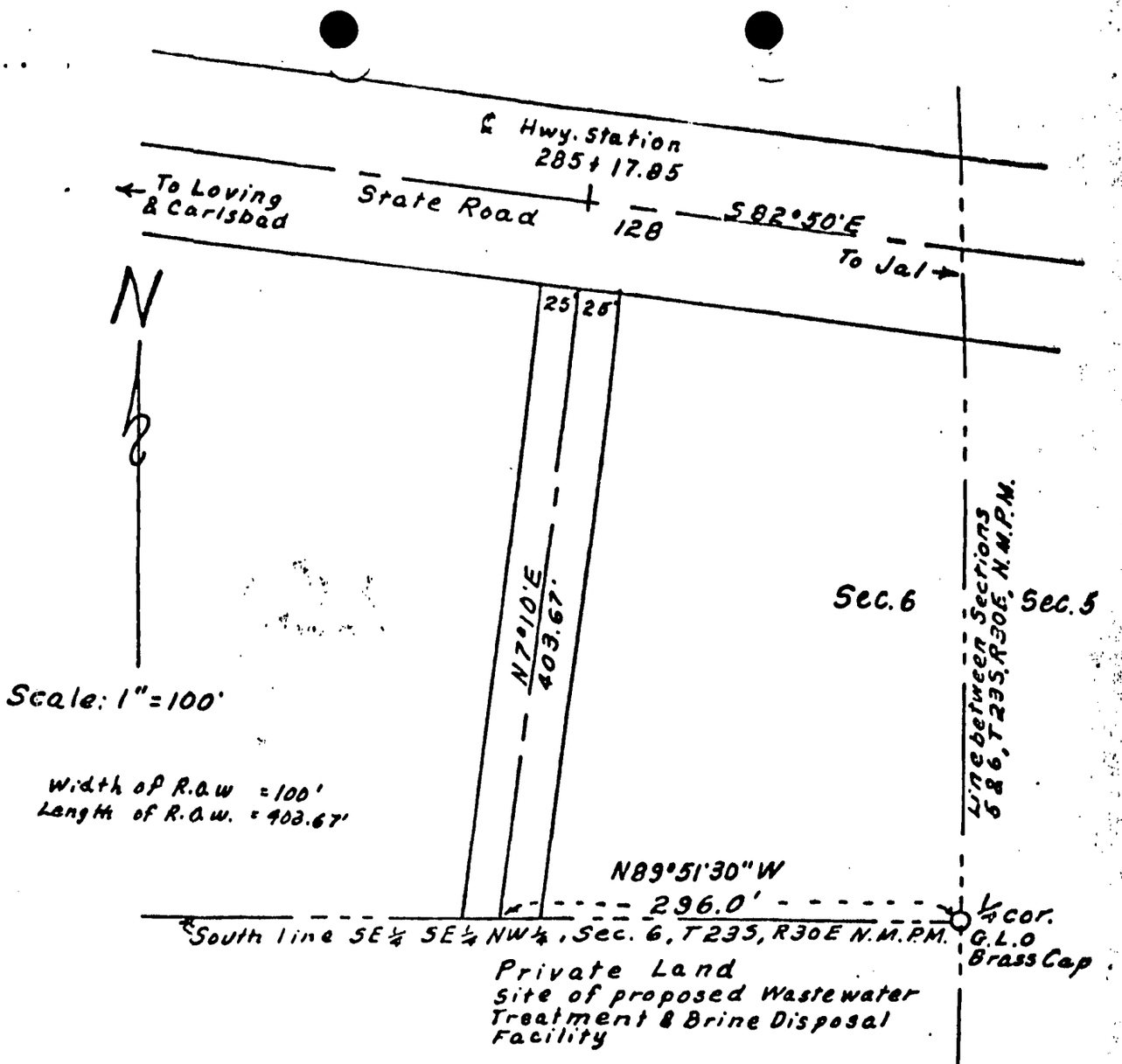
Map Reference: USGS NASH DRAW QUADRANGLE, 15 Minute Series, 1939.

Terrain

B AND E, INCORPORATED's proposed road will be situated due north of a major subsidence feature, or playa. This feature, one of a series in the central portion of Nash Draw, presently acts as a receptacle for brackish water. Local soils are highly gypsiferous in terms



R-29-E
R-30-E
Proposed Road
Tamarisk Flat
Forty Niner Ridge



PLAT OF SURVEY

OF PROPOSED ROADWAY LOCATED IN

SE¼SE¼NE¼ OF SECTION 6, T23S, R30E, N.M.P.M.,

EDDY COUNTY, NEW MEXICO

DESCRIPTION: A tract of land in Eddy County, New Mexico, located in the SE¼SE¼NE¼ of Section 6, T23S, R30E, N.M.P.M., being a strip of land 50 feet in width, being 25 feet on each side of the following described center line: Beginning at a point on the South line of the SE¼SE¼NE¼ of said Section 6, which point is N89°51'30"W a distance of 296.0 feet from the East ¼ corner of said Section 6, Thence N7°10'E a distance of 403.67 feet to the South Right-of-Way line of New Mexico State Road 128.

Applicants Certificate

This is to certify that H. F. Kannady, who subscribed the statement hereon, is the person employed by the undersigned to prepare this map which has been adopted by the applicant as the approximate final location of the works thereon shown and that this map is filed as a part of the complete application in order that the applicant may obtain the benefits of PL 94-579 and I further certify that the right-of-way herein described is desired for roadway purposes.

D & E, INC.
By: Gene Lewis

Attest: _____

This is to certify that the above plat was made by me from field notes of a survey made under my supervision and is true and correct to the best of my knowledge and belief.

H. F. Kannady

H. F. KANNADY, Registered Professional Engineer and Land Surveyor of New Mexico, No. 1140.

KANNADY ENGINEERING C[illegible]

308 N. Canal
Carlsbad, New Mexico

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

LONG TERM GROUND LEASE

THIS LEASE MADE THIS 15th day of June, 1982, between W. L. MOBLEY, JR. and EDITH M. MOBLEY, his wife, whose address is 1049 Standpipe Rd., Carlsbad, NM, hereinafter called "Lessor", and B & E, INC., a New Mexico corporation, whose address is P. O. Box 756, Carlsbad, New Mexico 88220, hereinafter called "Lessee".

SECTION ONE

Demise and Description of Premises

Lessor leases to Lessee and Lessee hires from Lessor for the purpose of conducting any lawful business the real property described in Exhibit "A" attached hereto and incorporated by reference.

SECTION TWO

Term

This lease shall be for an initial term of five years, commencing and terminating as hereinafter described.

SECTION THREE

Rent

Lessee shall pay as rental for said premises the sum of $3,600.00 per year in monthly installments of $300.00 each; the first installment to be due and payable on the date of commencement of the lease and on the same day of each and every month thereafter. The rental shall be paid to Lessor at the address shown above.

SECTION FOUR

Warranties of Title and Quiet Possession

Lessor covenants that it is seized of the demised premises in fee simple except as to the oil, gas and other minerals, and has full right to make this lease and that Lessee shall have quiet and peaceable possession of the demised premises during the term hereof. Lessor shall furnish to Lessee an abstract of title brought down to date and Lessee shall have a reasonable time within which to examine the same.

CORMICK AND FORBES
ATTORNEYS AT LAW
SUJAC BUILDING
P. O. BOX 1716
RLSBAD, NM 88220
(505) 885-4171

SECTION FIVE

Construction of Improvements

It is understood this is a ground lease covering only the land described above, and Lessee intends to build on said premises at its own risk and expense a salt water disposable facility suitable for its purposes. Lessor shall have no control over the type of construction and in no event shall Lessor have any liability for any expenses or risks incurred by Lessee in the construction, remodeling or repair of said improvements.

SECTION SIX

Encumbrance of Lessee's Leasehold Interest

Lessee may encumber by mortgage or deed of trust, or other proper instrument, its leasehold interest and estate in the demised premises, together with all buildings and improvements placed by Lessee thereon, as security for any indebtedness of Lessee. The execution of any such mortgage, or deed of trust, or other instrument, or the foreclosure thereof, or any sale thereunder, either by judicial proceedings or by virtue of any power reserved in such mortgage or deed of trust, or conveyance by Lessee to the holder of such indebtedness, or the exercising of any right, power, or privilege reserved in any mortgage or deed of trust, shall not be held as a violation of any of the terms or conditions hereof, or as an assumption by the holder of such indebtedness personally of the obligations hereof. No such encumbrance, foreclosure, conveyance, or exercise of right shall relieve Lessee from its liability hereunder.

SECTION SEVEN

Subletting and Assignment

Lessee may sublet the premises in whole or in part without Lessor's consent, but the making of any such sublease shall not release Lessee from, or otherwise affect in any manner, any of Lessee's obligations hereunder.

In like manner, Lessee may assign or transfer this lease or any interest thereof without the prior consent of Lessor, but any such assignment or transfer shall not release Lessee from any of its obligations hereunder.

SECTION EIGHT

Taxes and Assessments

Lessee shall pay all special assessments and levies or charges made by any political subdivision for the improvements to be made on the property, and shall pay the same in cash as they shall fall due and before they shall become delinquent and as required by the act and any proceedings under which such assessments, levies or charges are made by any political subdivision. If the right is given to pay either in one sum or in installments, Lessee may elect either mode of payment and its election shall be binding on Lessor. If by making any such election to pay in installments, any of such installments shall be payable after the termination of this lease or any extended term thereof, such unpaid installments shall be prorated as of the date of termination, and amounts payable after such date shall be paid by Lessor. All taxes and charges under this Section shall be prorated at the commencement and expiration of the term hereof.

SECTION NINE

Utilities

1. Lessor agrees to allow the utilities access to the premises and to provide the necessary easements requested by the utilities to guarantee access. Lessee shall make all applications and institute any proceedings attendant to the establishment of utilities at said premises.

2. Lessee shall fully and promptly pay for all water, gas, heat, light, power, telephone service, and other public utilities of every kind furnished to the premises throughout the term hereof, and all other costs and expenses of every kind whatsoever of or in connection with the use, operation, and maintenance of the premises and all activities conducted thereon, and Lessor shall have no responsibility of any kind for any thereof.

SECTION TEN

Liens

Lessee shall keep all of the premises and every part thereof and all buildings and other improvements at any time located thereon free and clear of any and all mechanics', materialmen's, and other liens for or arising out of or in

connection with work or labor done, services performed, or materials or appliances used or furnished for or in connection with work or construction, by, for, or permitted by Lessee on or about the premises, or any obligations of any kind incurred by Lessee, and at all times promptly and fully to pay and discharge any and all claims on which any such lien may or could be based, and to indemnify Lessor and all of the premises and all buildings and improvements thereon against all such liens and claims of liens and suits or other proceedings pertaining thereto.

SECTION ELEVEN

Indemnification of Lessor

Lessor shall not be liable for any loss, injury, death, or damage to persons or property which at any time may be suffered or sustained by Lessee or by any person whosoever may at any time be using or occupying or visiting the demised premises or be in, on, or about the same, whether such loss, injury, death, or damage shall be caused by or in any way result from or arise out of any act, omission, or negligence of Lessee or of any occupant, subtenant, visitor or user of any portion of the premises, or shall result from or be caused by any other matter or thing whether of the same kind as or of a different kind than the matters or things above set forth, and Lessee shall indemnify Lessor against all claims, liability, loss, or damage whatsoever on account of any such loss, injury, death or damage. Lessee hereby waives all claims against Lessor for damages to the building and improvements that are now on or hereafter placed or built on the premises and to the property of Lessee in, on, or about the premises, and for injuries to persons or property in or about the premises, from any cause arising at any time. The two preceding sentences shall not apply to loss, injury, death or damages arising by reason of the negligence or misconduct of Lessor, its agents or employees.

SECTION TWELVE

Effect of Eminent Domain

1. Effect of total condemnation. In the event the entire demised premises shall be appropriated or taken under the power of eminent domain by any public or quasi-public authority, this lease shall terminate and expire as

of the date of such taking, and Lessee shall thereupon be released from any liability thereafter accruing hereunder. All compensation and damages payable on account of such taking or condemnation which shall represent the value of the land and improvements so taken or condemned and any damages thereto shall be payable to the Lessor; provided, however, that out of any compensation and damages, Lessor shall pay to Lessee that proportion of such award representing improvements which the unexpired term of the lease at the time of condemnation bears to the year term of this lease.

2. Effect of partial condemnation. In the event a portion of the demised premises shall be so appropriated or taken, this lease shall continue in full force and effect as to the part not taken, and the rental to be paid by Lessee during the remainder of the term shall be equitably adjusted.

SECTION THIRTEEN

Attorney's Fees

If any action at law or in equity shall be brought to recover any rent under this lease, or for or on account of any breach of, or to enforce or interpret any of the covenants, terms or conditions of this lease, or for the recovery of the possession of the demised premises, the prevailing party shall be entitled to recover from the other party as part of the prevailing party's costs reasonable attorneys' fees, the amount of which shall be fixed by the court and shall be made a part of any judgment or decree rendered.

SECTION FOURTEEN

Destruction of Improvements

If the improvements to be placed on the premises by Lessee should be destroyed by fire or other casualty, to such an extent that they are no longer useable, then Lessee shall within a reasonable time either:

a. Reconstruct the destroyed premises; or

b. Clear the land of all debris.

In the event the improvements to be placed on the premises are totally destroyed and Lessee elects to clear the land of all debris, then, in that event, this lease shall be at end at Lessee's election.

SECTION FIFTEEN

Commencement

The parties herein understand that Lessee has an application pending before the New Mexico Oil Conservation Commission for approval of the proposed salt water disposal facility. The initial term shall commence five days after an Order of Approval is entered by said commission and the initial term shall terminate five years thereafter. In the event said commission denies the application this lease shall be null and void and the parties shall have no responsibilities hereunder. Lessee shall promptly give Lessor written notice of the commission's action.

SECTION SIXTEEN

Option to Renew

Lessor is hereby given the option to renew this lease for two consecutive ten year periods after expiration of the primary term of this lease. The terms and conditions of this lease shall remain the same, including Lessee's option to purchase granted herein except that the lease rental shall be adjusted as hereinafter provided as a result of changes in the "Gross National Product Implicit Price Deflator". To exercise these options to renew, Lessee must give Lessor written notice of its intention to do so at least 90 days prior to the termination of any term provided for herein. In addition to the options to renew granted herein, Lessor covenants and grants to Lessee the right of first refusal to meet all bonafide offers to purchase the property if Lessor desires to sell the same.

SECTION SEVENTEEN

Rental Adjustment for Option Terms

In the event Lessee exercises the options to renew granted herein, then the rental specified in this lease shall be subject to increase or decrease in accordance with changes in the "Gross National Product Implicit Price Deflator". The "Gross National Product Implicit Price Deflator" (GNP Deflator) is issued quarterly by the Office of Business Economics of the Department of Commerce and can be found in "Economic Indicators" published by the Superintendent of Documents, Government Printing Office, Washington, D. C. 20202.

Attached to this agreement as Exhibit "A" is a photocopy from "Economic Indicators" giving the GNP Deflator index figures as of the 1st quarter of 1982, (hereinafter refered to as "base quarter"). The adjustment shall be made in the following manner:

a. For each option period the annual rental for that option period shall bear the same ratio to the GNP Deflator for the last published quarter available of said Deflator prior to the beginning of the option term as $3,600.00 bears to the GNP Deflator for the base published quarter available of the GNP Deflator prior to the beginning of the option term. By way of example, if the GNP Deflator in the base quarter shall be 160 and the same index for the last published quarter prior to the option period shall be 176, the rental for the option period would be increased by ten percent. In like manner, if the index for the base quarter should be 160 and the index for the last published quarter prior to the option period shall be 144, the rental for the option period would be reduced ten percent.

b. In like manner, in the event Lessee exercises the second ten year option provided for herein, the annual rental shall be adjusted accordingly.

c. In the event the GNP Deflator is not available, then in that event, a reliable governmental or other nonpartisan publication evaluating the information thereto for use in determining the GNP Deflator shall be used in lieu of the GNP Deflator index now available. If no such publication is available, the parties shall negotiate in good faith to determine a fair rental.

SECTION EIGHTEEN

Fencing

Lessee shall fence the demised premises with a five-wire barbed wire fence and maintain said fence in good condition during the term of this lease.

SECTION NINETEEN

Restoration

At the end of the initial lease term provided for herein or the end of the

option terms provided for herein, when Lessee vacates the premises, Lessee shall remove its improvements and restore the property to its original condition to the extent reasonably possible.

SECTION TWENTY

Remedies for Default or Breach

If Lessee should fail to pay the rental provided for herein, or if Lessee should violate any of the other terms, conditions or covenants of this lease, Lessor shall notify Lessee in writing of such default or breach, such notice to be given at the addresses set forth in Section Twenty-Seven or at such other address as may be furnished in writing by Lessee to Lessor. If the default in rental or the breach of covenants is not cured within forty-five days after the mailing of such notice, then Lessor may at its option:

a. Elect to continue the lease in force and pursue its remedies for collection of the rental or breach of covenant; or

b. Declare this lease terminated, in which latter event Lessor may repossess the premises and Lessee shall thereafter have no claim to the same or to any improvements placed thereon by it.

c. However, so long as the Lessee uses its best efforts to cure default after notice, other than payment of rent hereunder, this lease shall not be terminated by reason of such other default.

SECTION TWENTY-ONE

Termination of Lease

At the end of this lease, and the option periods herein if exercised by Lessee, then Lessee shall remove the improvements placed on the property and restore it as set forth in Section Eighteen above. If at that time Lessor shall elect to lease the premises or shall receive a bona fide offer to lease from any third person which Lessor desires to accept, it shall first offer a lease to Lessee, specifying the terms and conditions of said offer and lease and Lessee shall have thirty days after receipt of such notice in writing to elect whether to lease the property upon the same terms and conditions as specified. If Lessee declines to lease the property on the terms specified then Lessee shall have no

further rights to the property and shall yield peaceful possession upon his completion of the restoration as set forth in Section Eighteen above.

SECTION TWENTY-TWO

Waiver

The waiver by Lessor of, or the failure of Lessor to take action with respect to, any breach of any term, covenant, or condition herein contained, shall not be deemed to be a waiver of such term, covenant, or condition, or subsequent breach of the same, or any other term, covenant, or condition therein contained. The subsequent acceptance of rent hereunder by Lessor shall not be deemed to be a waiver of any preceding breach by Lessee of any term, covenant, or condition of this lease, other than the failure of Lessee to pay the particular rental so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of such rent.

SECTION TWENTY-THREE

Effect of Lessee's Holding Over

Any holding over after the expiration of the term of this lease, with consent of Lessor, shall be construed to be a tenancy from month-to-month, at the same monthly rental as required to be paid by Lessee for the period immediately prior to the expiration of the term hereof, and shall otherwise be on the terms and conditions herein specified, so far as applicable.

SECTION TWENTY-FOUR

Parties Bound

The covenants and conditions herein contained shall, subject to the provisions as to assignment, transfer and subletting, apply to and bind the heirs, successors, executors, administrators, and assigns of all of the parties hereto; and all of the parties hereto shall be jointly and severally liable hereunder.

SECTION TWENTY-FIVE

Time of the Essence

Time is of the essence of this lease, and of each and every covenant, term, condition, and provision hereof.

SECTION TWENTY-SIX

Section Captions

The captions appearing under the section number designations of this lease are for convenience only and are not a part of this lease and do not in any way limit or amplify the terms and provisions of this lease.

SECTION TWENTY-SEVEN

First Option to Purchase

Lessor in consideration of Lessee entering into this lease grants to Lessee a first option to purchase the real property herein described. If at any time during the term of this lease or any extension thereof, Lessor shall elect to sell its said real property or shall receive a bona fide offer from any third person, it shall first offer such property to Lessee specifying the terms and conditions of said offer and upon which sale will be made and Lessee shall have thirty days after receipt of such notice in writing in which to purchase said property upon the same terms and conditions as specified. If Lessee declines to purchase such real property under the terms specified, Lessor may thereafter sell said premises without obligation to Lessee; provided, however, that before said property may be sold at a more favorable price or upon more favorable terms Lessor shall again offer said property to Lessee specifying a more favorable offer or more favorable terms contained in said offer from any third person and Lessee will then have thirty days after receipt of such written notice to elect to purchase such property at such revised price or terms. In the event the subject property is sold to a third party under the terms of this agreement, said sale shall be subject to Lessee's rights under the terms of this agreement except for the first option to purchase granted in this paragraph.

SECTION TWENTY-EIGHT

Notices

Any notice or demand which under the terms of this lease or under any statute must or may be given or made by the parties hereto shall be in writing and may be given or made by mailing the same by certified mail addressed to the following parties at the addresses shown below:

B & E, INC.,
P. O. Box 756
Carlsbad, New Mexico 88220

W. L. Mobley, Jr. & Edith M. Mobley
1049 Standpipe Road
Carlsbad, New Mexico 88220

However, any party may designate in writing such new or other address to which such notice or demand shall thereafter be so given, made or mailed. Any notice given hereunder by mail shall be deemed delivered when deposited in the United States general or branch post office, enclosed in a certified mail, prepaid envelope addressed as hereinbefore provided.

IN WITNESS WHEREOF, the parties have executed this lease the day and year first above written.

W. L. Mobley, Jr.

Edith M. Mobley

LESSOR

B & E, INC., a
New Mexico corporation

ATTEST:

By

LESSEE

EXHIBIT "A"

TOWNSHIP 23 SOUTH, RANGE 30 EAST,

N.M.P.M., EDDY COUNTY

SECTION 6: E/2 NESE

EXHIBIT "A"

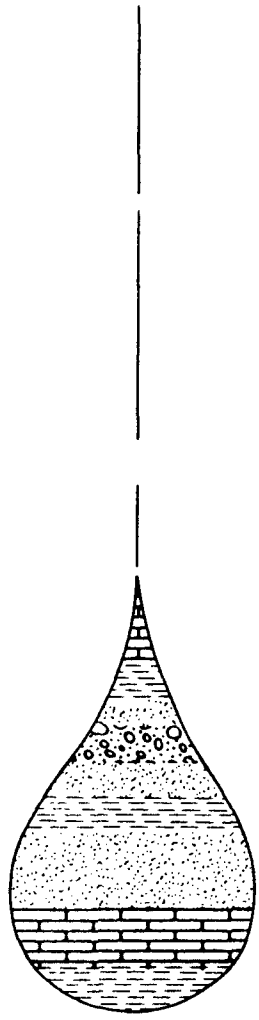
REASSESSMENT OF HYDROLOGIC CONDITIONS
LAGUNA TRES AREA
EDDY COUNTY, NEW MEXICO

by

Geohydrology Associates, Inc.

4015 Carlisle, N.E. • Suite A • (505) 884-0580
Albuquerque, New Mexico 87107

January 1986



Geohydrology
Associates, Inc.

REASSESSMENT OF HYDROLOGIC CONDITIONS, LAGUNA TRES AREA EDDY COUNTY, NEW MEXICO

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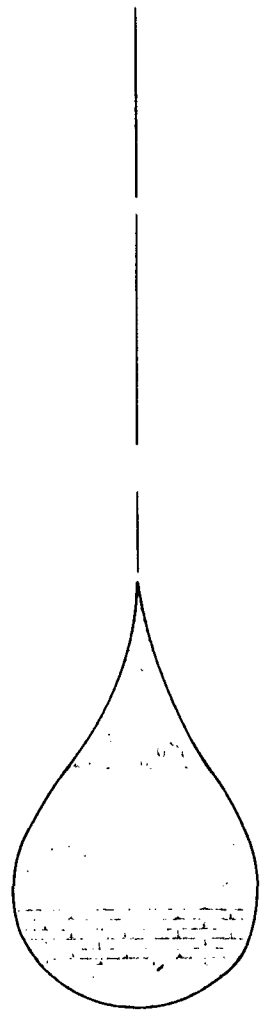

4015 Carlisle, N.E. • Suite A • (505) 884-0580
Albuquerque, New Mexico 87107

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ILLUSTRATIONS

REASSESSMENT OF HYDROLOGIC CONDITIONS, LAGUNA TRES AREA EDDY COUNTY, NEW MEXICO

by

Geohydrology Associates, Inc.

In May 1982 B&E, Incorporated, of Carlsbad, New Mexico, requested that a hydrologic study be conducted in the vicinity of Laguna Tres, Eddy County, New Mexico. The Laguna Tres area is located approximately 18 miles east of Carlsbad in Township 23 South, Ranges 29 and 30 East (fig. 1). The purpose of this hydrologic investigation was to determine the effects that might result from discharge of oil-field brines into existing brine lakes. Two separate sites had been proposed by B&E, Inc.; one site was proposed for Laguna Tres and the other site was proposed for the east end of Laguna Quatro. An application for salt-water disposal was made before the Oil Conservation Commission as Case No. 6712 which was heard by the Commission on June 22, 1982.

By Order No. R-7031, the Oil Conservation Commission granted B&E, Inc., permission to discharge 7,500 barrels of brine per day at each of the two proposed sites. Subsequently a processing and discharge facility was constructed at the Laguna Quatro site and named Tuzlu Kopek (Salty Dog). The Tuzlu Kopek facility has been in operation since September 1982.

In November 1985 B&E requested that a reassessment of the area be made to determine the impacts of the Tuzlu Kopek facility on Laguna Quatro and the feasibility of expanding this site to double its capacity. This report contains a summary of the findings. The 1982 and 1985 studies were made by representatives of Geohydrology Associates, Inc., of Albuquerque. T. E. Kelly was project leader for both investigations.

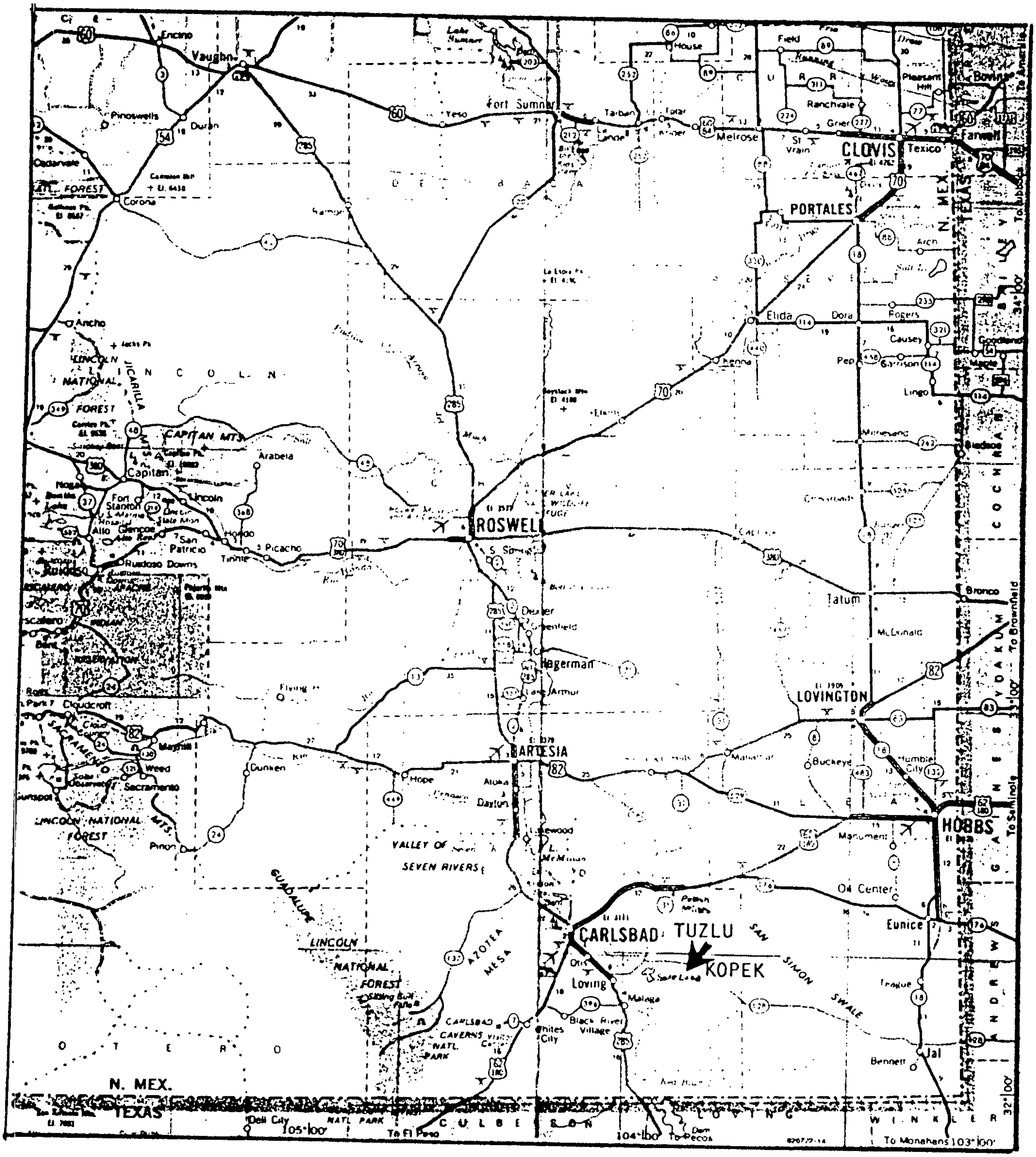

Figure 1.--Location map of Laguna Tres area.

DESCRIPTION OF THE PROJECT AREA

Previous Studies

Many of the earlier studies were devoted to the regional characteristics of the ground-water system. According to Robinson and Lang (1938), most of lower Nash Draw drains into the large, natural Laguna de la Sala Grande, commonly called Salt Lake. They also concluded that brine from the lake is not discharging into the Pecos River. Other investigations were made by Thomas (1963) and Mower and others (1964). However most of this work was completed before the major impacts of the potash refineries were exerted on the area.

Gilkey and Stotelmyer (1965) made one of the earliest detailed water-supply studies of the Nash Draw area. They concluded that brine-disposal ponds at the potash refineries contribute to the hydrologic system by leakage. A detailed study by Geohydrology Associates, Inc. (1979) identified significant quantities of brine entering the ground-water system, although much of this is confined to the Clayton Basin area which is north of Nash Draw and the project area. All of these factors have a bearing on the suitability of Laguna Quatro as a brine-disposal site.

The regional pattern of ground-water flow from northeast to southwest has been described by earlier studies. However this flow pattern has been changed locally by various factors, including the potash refineries, and various natural and man-made factors. The State Highway Department has channelized the local flow system near the proposed site.

In addition to the previous report that was prepared for B&E, Inc., (Geohydrology Assoc., 1982a), the consultant has prepared two other reports

describing the geohydrologic conditions in the Salt Lake area. The Lindsey Lake area was evaluated for Requesa, Inc. (Geohydrology Assoc., 1982) and an assessment of the Laguna Tres area was made for Unichem International (Geohydrology Assoc., 1982b), All of these studies concluded that the area northeast of Salt Lake was suitable for brine disposal.

The studies authorized by B&E, Inc. were based on a thorough literature and file search of existing data; it also drew heavily from the earlier reports by Geohydrology Associates, Inc., which were prepared under contract with the Bureau of Land Management. A field reconnaissance was made which included a visual inspection of the area between Laguna Uno and Salt Lake, including Laguna Quatro. An analysis of the data and the resulting conclusions are presented in this report.

Geology

Owing to the mineral development of the region, a number of studies of the geology have been made. These include the work by King (1942), Hendrickson and Jones (1952), Vine (1963), Brokaw and others (1972) and Geohydrology Associates, Inc. (1978, 1978a, 1979). The reader is referred to these studies for more detailed information than is warranted by this report.

Only two formations in the project area are directly concerned by this study (fig. 2). These are the Rustler Formation at the surface and the underlying Salado Formation. The Rustler generally is subdivided into uppermost Forty-niner Member, the Magenta Member, the Tamarisk Member, the Culebra Dolomite, and the Lower Member at the base of the formation.

Rustler Formation

The Forty-niner and Magenta Members of the Rustler Formation have been

removed by erosion from the inner part of Nash Draw; however it is likely that some rubble may remain as erosional remnants in the bottom of the Draw. Nevertheless, these two members generally do not affect the discharge of waste that is proposed by B&E, Inc., at Laguna Quatro. As illustrated by Figure 2, these formations are present only on the flanks of Nash Draw.

The Tamarisk Member (Vine, 1963, p. 14) was named for its exposure at Tamarisk Flat about two miles northwest of the Tuzlu Kopek facility. This member consists of about 115 feet of massive, coarsely crystalline gypsum in the outcrop but is chiefly anhydrite in the subsurface. Throughout most of the area of Nash Draw, the Tamarisk deposits are blanketed by a thin layer of silt and clay that was washed down from the rim of the Draw. However in the vicinity of Laguna Quatro, there are massive exposures of deformed gypsum beds and large selenite crystals indicating recrystallization by the movement of ground water.

Brine from the potash refineries in and near Nash Draw is being deposited primarily into disposal ponds excavated in the Tamarisk Member.

The Culebra Dolomite is a distinctive and persistent marker bed about 30 feet thick in the Rustler Formation. Where tapped by wells, the Culebra produces large quantities of highly mineralized water, as in the vicinity of Mississippi Chemical Corporation in Section 11, T. 21 S., R. 29 E. The dolomite is underlain by the lower member of the Rustler Formation consisting of 60 to 120 feet of siltstone and fine-grained sandstone that locally contains gypsum, anhydrite, and halite (Brokaw and others, 1972, p. 50).

There is a leached zone at the base of the Rustler which is estimated to average about 60 feet in thickness. This insoluble residue is regarded as basal Rustler Formation by some authors (Cooper and Glanzman, 1971) and as uppermost Salado Formation by others (Vine, 1963, p. 7). Regardless of

the name used, this zone consists of an insoluble rubble of brecciated clastics and limestone which collapsed following the solution of the underlying evaporite deposits. This rubble represents material from the Tamarisk Member, the Culebra Dolomite, and the Lower Member. Because of the brecciated and unconsolidated nature of this material, it is a major zone of groundwater movement.

Salado Formation

This formation is an areally extensive unit which underlies much of Eddy County east of the Pecos River and it extends far beyond the study area. The Salado consists of more than 75 percent salt deposits with minor amounts of clastic rocks, anhydrite, and dolomite. The Salado is the source deposit of the potash which is mined in the region.

The Salado exerts major control over the shallow and surficial structures in the area because it is readily soluble and underlies the entire potash area, including Laguna Tres and Laguna Quatro. Collapse structures, such as Nash Draw, are widespread and control the deposition of eolian and alluvial material in the area.

Structure contours on the top of the Salado Formation show that the Nash Draw depression, in which Laguna Quatro is located, reflects a similar trough in the top of the salt (Vine, 1963, pl. 1). These are closed depressions in the top of the salt in the area of Salt Lake and the chain of lakes which drain to the Salt Lake. The depth to the top of the Salado Formation in the vicinity of Laguna Quatro is approximately 275 feet.

Topographic Setting

Nash Draw is the principal surface feature in the potash mining area of Eddy County. According to Vine (1963, p. B38), this feature is an un-

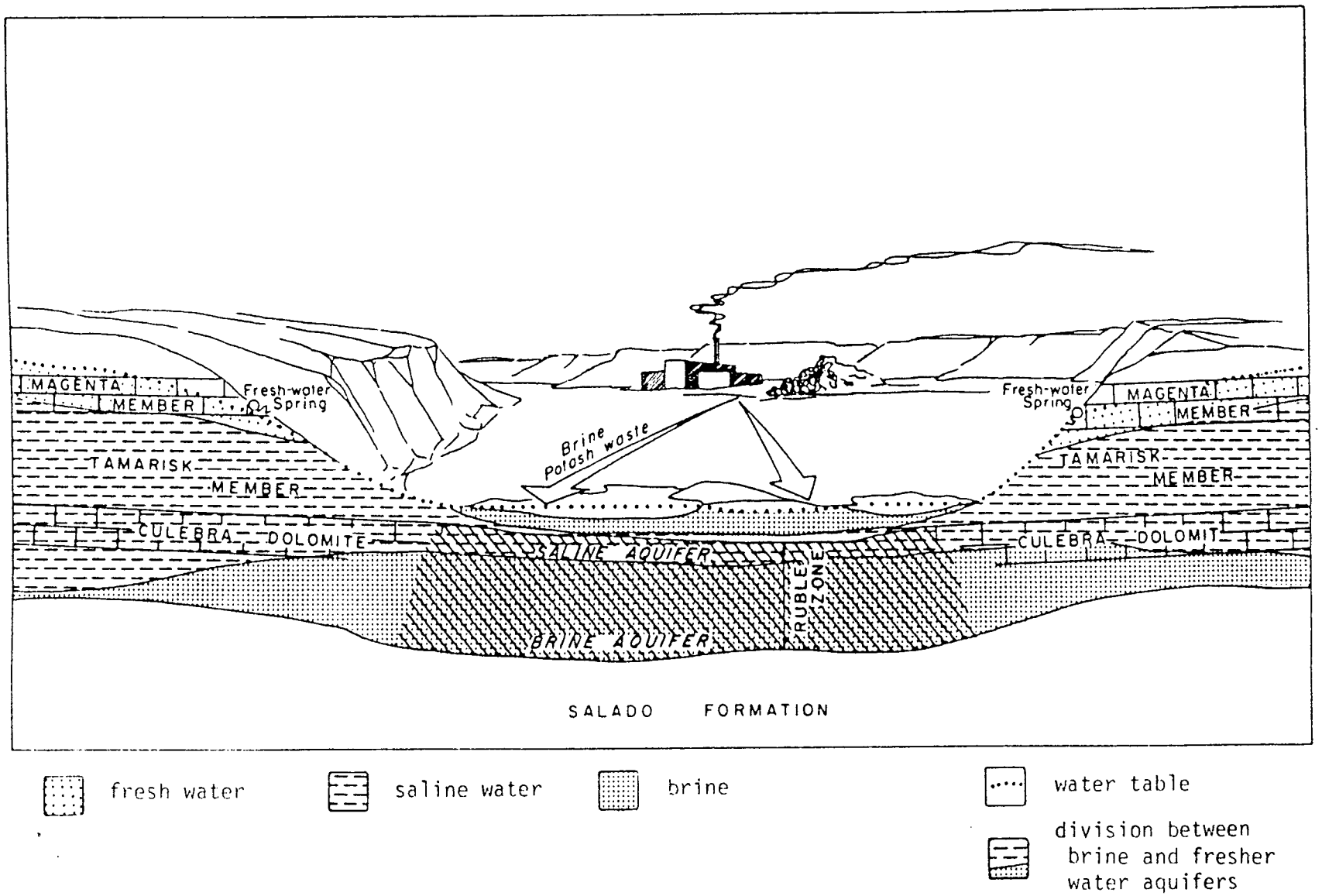

Figure 2.--Diagrammatic east-west cross section through Nash Draw, showing stratigraphic units and ground-water relationships.

drained depression which resulted from regional differential solution of evaporite deposits in the upper Salado and/or lower Rustler Formations. The solution of these deposits resulted in large-scale collapse of the Tamarisk Member, Culebra Dolomite, and the Lower Members. Evidence for solution within the Rustler can be found almost everywhere that the formation is exposed at the surface.

Contour lines drawn on top of the massive salt in the Salado Formation show a high degree of similarity between the topography of Nash Draw and the top of the salt. The Salt Lake overlies a closed depression on top of the Salado. Likewise, there is a large closed depression northeast of Salt Lake which is ringed by a series of surface lakes, including Laguna Quatro (fig. 3) at which the Tuzlu Kopek facility is located.

Although the regional dip of beds is toward the east, the rocks exposed along the margins of Nash Draw dip toward the depression. This also is true in Clayton Basin farther north. In addition, hydration of anhydrite to gypsum causes localized doming. Sinkholes and domes influence the direction of ground-water movement, which in turn controls the development of collapse structures through which ground water readily migrates.

Hydrology

Ground Water

Two comprehensive studies of the hydrology of the potash area have been made by Brokaw and others (1972) and Geohydrology Associates, Inc. (1979). These studies have shown that the normal hydrologic system has been modified by collapse of Nash Draw and Clayton Basin. This has been further complicated by discharge from the various potash refineries in the area.

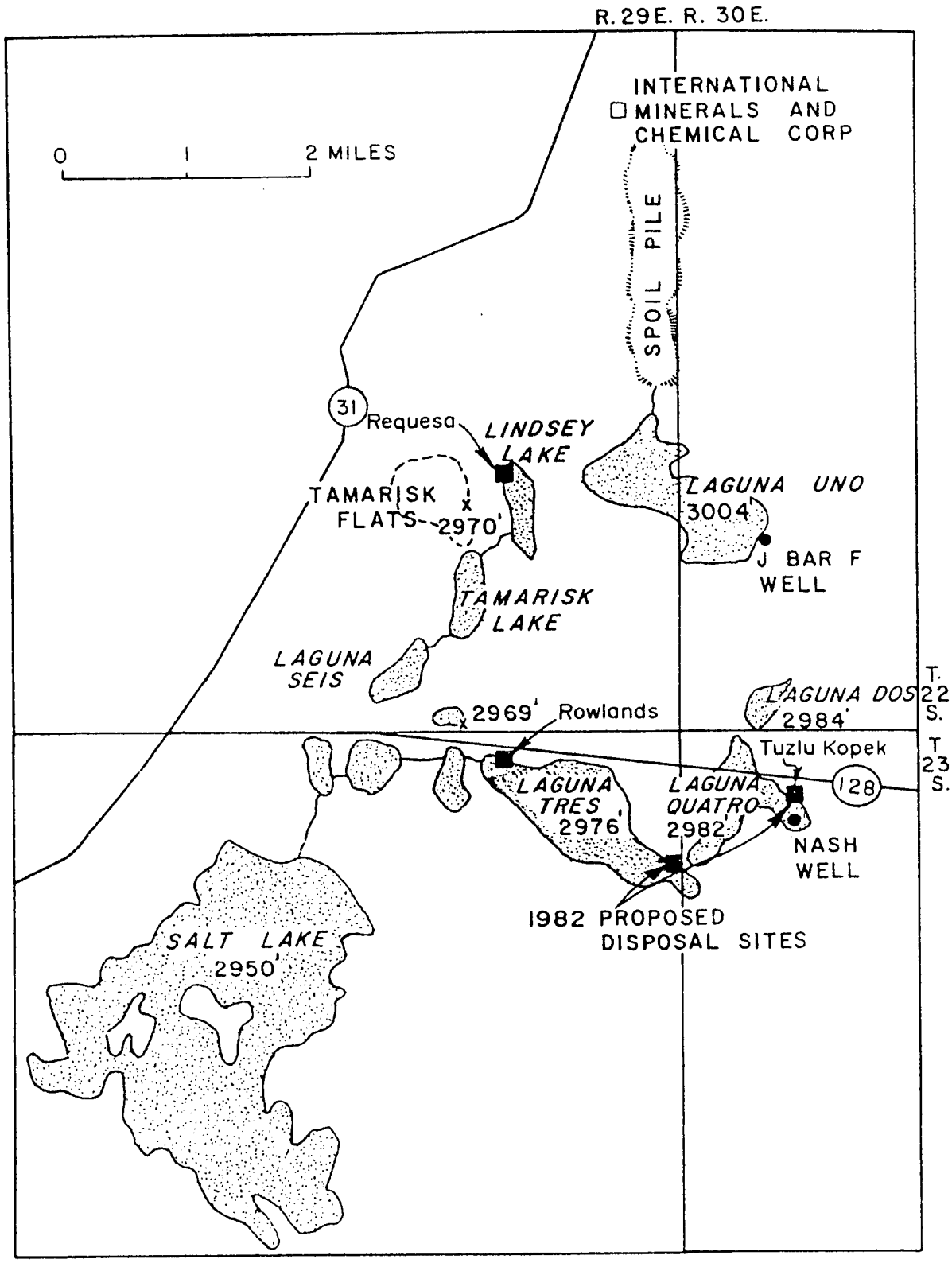

Figure 3.--Distribution of lakes in the vicinity of IMC Refinery and Salt Lake, with selected altitudes. The 1982 proposed sites, Tuzlu Kopek facility, and Rowlands facility are located at Laguna Quatro and Laguna Tres.

Hendrickson and Jones (1952, pl. 3) mapped the water table in Eddy County. East of the Pecos River the ground-water movement is predominately from north to south. Topographic divides exist along the Eddy-Lea County line and Quahada Ridge which tend to divert the regional flow into Nash Draw. The shallow ground water is potable to slightly saline in most areas. Wells outside Nash Draw generally produce adequate quantities of water to meet the stock and domestic requirements of the ranchers. However along the boundaries of Nash Draw, the regional water table intersects the land surface where ground water discharges as a series of seeps and springs (fig. 2). There is no known potable water within Nash Draw itself.

Saline water is present in most of the deeper aquifers. It has been shown that the regional dip of strata in the subsurface is from west to east. The Culebra Dolomite Member of the Rustler crops out along the Pecos River, and a few wells have tapped this strata in the subsurface. Highly mineralized water was produced from wells drilled by AMAX Corporation in T. 19 S., R. 30 E., and by Mississippi Chemical Corporation in T. 21 S., R. 29 E. The AMAX wells most likely were completed in the Culebra, although it is possible that they tap the shallower Magenta Member of the Rustler Formation. The Mississippi Chemical wells are known to tap the Culebra.

The so called "brine aquifer" has been identified by workers at the WIPP site as that zone of solution and collapse between the Salado and the basal Rustler. Although not present everywhere, it may be as much as 60 feet thick near Salt Lake and Laguna Quatro. By the very nature of this zone, all of the water present is highly mineralized and probably is a saturated brine.

In addition to the natural ground-water flow into Nash Draw, there is a considerable amount of refinery waste released annually. Approximately

9.248 acre-feet pre year is discharged as brine by refineries located in Nash Draw (Geohydrology Assoc., 1979, p. 60). In most cases this discharge is a saturated brine containing as much as 30 percent solids in the form of suspended clay.

The rubble zone, which represents the collapsed Rustler Formation in the bottom of Nash Draw, has produced potable water to wells in the past. Nash well (sec. 6, T. 23 S., R. 30 E.) was completed for stock use prior to 1935 (fig. 3). Subsequently the level of Laguna Quatro has risen to the point that this well was completely inundated by 1977. Likewise, the J Bar F well (sec. 20, T. 22 S., R. 30 E.) supplies water for stock at Laguna Uno. According to Hendrickson and Jones (1952, p. 134-135), the water level in this well was 134.0 feet below land surface on March 17, 1948. The water level was at the land surface in 1979--a rise of 134 feet in 31 years. Since both of these wells are down gradient from IMC, it is probable that the rise in water level in the rubble zone can be attributed to discharge by IMC into Laguna Uno. The IMC refinery has been in operation since 1947.

Surface Water

All of the refinery discharge from International Minerals and Chemical Corporation is released into the headwaters of Laguna Uno which is in parts of sections 24 and 25, T. 22 S., R. 29 E., and adjoining sections. Discharge records of brine from the IMC refinery are not available. However, according to the New Mexico State Engineer Office in Roswell, the amount of water imported by IMC during 1977 was 5,233 acre-feet. This is equivalent to 3,244 gpm. Not all of this water enters Laguna Uno due to refining losses and evaporation of water on the spoil pile. Nevertheless, the measured discharge into the lake is nearly equal to the quantity of imported water, thus indicating that the refining and evaporation loss are small.

The amount of water loss from Laguna Uno is difficult to determine. The size of the lake prevents the sediment-laden refinery discharge from spreading evenly across the lake. As a result, most of the sediment is deposited at the upper end of the lake, and the southeast end of Laguna Uno is characterized by relatively clear, sediment-free water. Thus there is no sealing effect at the south boundary of the lake.

Studies at the lake determined that the summer evaporate rate at Laguna Uno was 6.69 gpm (gallons per minute) per acre and the winter evaporation rate was 0.369 gpm per acre (Geohydrology Assoc., 1979, p. 71). Inasmuch as the area of the lake is 710 acres, the summer loss would be about 4,750 gpm and the winter loss would be about 260 gpm. Therefore it is likely that virtually all of the refinery inflow during the summer is lost by evaporation from the lake. During the winter months the evaporation is only about 10 percent of the inflow rate. This surplus waste water then enters the hydrologic system which includes Laguna Dos, Laguna Tres, Laguna Quatro, and Salt Lake (fig. 3).

Lindsey Lake, Tamarisk Lake, and Laguna Seis also are topographically lower than Laguna Uno. Although there is no surface connection between Laguna Uno and this chain of lakes, it is likely that a subsurface connection exists.

In November 1985 a field reconnaissance was made of the area to assess the hydrologic connection between the IMC discharge point and Salt Lake. It was found that there is no surface connection between Laguna Uno and Laguna Dos; likewise there is no surface connection between Laguna Dos and Laguna Quatro. Laguna Quatro drains into Laguna Tres through a culvert and ditch system recently completed by the State Highway Department. At the culvert beneath Eddy County Road 793 which separates Laguna Quatro and Laguna Tres, the discharge was measured as 1.05 cfs (cubic feet per second) or 470 gpm

on November 18, 1985.

Recent work by the Highway Department has provided a surface connection between Laguna Tres and several unnamed ponds south of Highway 128. The trenching has connected these lakes and ponds with Salt Lake. The total surface area of these surface-water bodies exceeds 1,200 acres. This would provide a summer evaporation capacity of 8,028 gpm and a winter capacity of 443 gpm in the chain of lakes and ponds above the Salt Lake. The capacity of Salt Lake would more than double the evaporation potential of the surface-water system in the area to more than 16,000 gpm during the summer and 880 gpm during the winter.

WATER QUALITY

A number of water samples were collected by B&E, Inc., from springs and lakes in the vicinity of the proposed discharge point. The distribution of these samples and the total dissolved solids are shown in Figure 3. Virtually all of the water exceeds 200,000 mg/l (milligrams per liter) dissolved solids. This level of mineralization is very similar to that in oilfield samples that are likely to be discharged at the proposed site (Appendix A).

EXISTING DISPOSAL FACILITIES

Three earlier studies by Geohydrology Associates, Inc. (1982,-a,-b) have evaluated proposed oil-field brine disposal sites in the vicinity of Salt Lake. The first proposal was submitted by Requesa, Inc., to discharge a maximum of about 88 gpm into Lindsey Lake (fig. 3). Unichem International, Inc., proposed a facility now operated by Rowlands oil-field services at the west end of Laguna Tres. This facility has a capacity of 2,000 barrels per day, or a continuous discharge of about 58.3 gpm. Both of these facilities have been approved by the Oil Conservation Commission; however to date the Requesa facility has not been constructed.

B&E's Tuzlu Kopek facility is located at the east end of Laguna Quatro in the northeast quarter of Section 6, T. 23 S., R. 30 E. In 1982 this facility was approved by the Commission for the processing and discharge of 7,500 barrels per day, or a continuous discharge of 218 gpm. This facility went on line in September 1982. The greatest production to date has been 151,987 barrels in October 1985, or an average of 4,903 barrels per day (Table 1). The cumulative production for the period of operation is 2,573,029 barrels; the average daily discharge is 2,285 barrels for the same period.

There has been no appreciable effect on the hydrologic system as a result of the brine disposal operations. In November 1985 the static water level in Salt Lake was 0.83 feet lower than that in August 1982. Also, the flow through the culvert connecting Laguna Quatro with Laguna Tres was estimated to be 500 gpm in May 1982 and was measured at 470 gpm in November 1985 following three years of discharge from Tuzlu Kopek.

The lack of change in the hydrologic system during this three-year time frame can be attributed to at least three factors. These factors include

Table 1.--Monthly and cumulative production figures for the Tuzlu Kopek facility operated by B&E, Inc., at Laguna Quatro since operation began in September 1982.

Tuzlu Kopek facility
Start-up September 1982.
Holding capacity is 5,050 barrels.

Date	Monthly Discharge	Cumulative Total (in Bbls)
September 1982	5,250	5,250
October	29,394	34,644
November	62,896	97,540
December	56,245	153,785
January 1983	64,887	218,672
February	42,220	260,892
March	43,338	304,230
April	46,684	350,914
May	51,406	402,320
June	26,986	429,306
July	29,647	458,953
August	33,584	492,537
September	41,374	533,911
October	38,706	572,617
November	37,532	610,149
December	42,651	652,800
January 1984	69,269	722,069
February	63,327	785,396
March	66,556	851,952
April	54,723	906,675
May	62,584	969,259
June	63,754	1,033,013
July	74,291	1,107,304
August	87,022	1,194,326
September	93,165	1,287,491
October	81,704	1,369,195
November	69,947	1,439,142
December	78,261	1,517,403
January 1985	72,823	1,590,226
February	70,521	1,660,747
March	72,168	1,732,915
April	72,313	1,805,228
May	113,285	1,918,513
June	116,159	2,034,672
July	120,830	2,155,502
August	120,235	2,275,737
September	145,305	2,421,042
October	151,987	2,573,029

(1) There has been a significant decline in potash production and refining during the past three years. This has reduced the amount of refinery waste (brine) that is entering the hydrologic system and migrating toward Salt Lake.
(2) There may be a greater summer evaporation rate than was reported by Geohydrology Associates, Inc. (1979, p. 71) and therefore the brine loss from Laguna Quatro is greater than estimated.
(3) The aeration system used at Tuzlo Kopek probably reduces the total amount of discharge to the lake.

DISCHARGE PROPOSAL

B&E, Incorporated, has requested that the size of the Tuzlu Kopek facility be expanded to double its present rated capacity from 7,500 to 15,000 barrels per day. This would represent a daily discharge of about 630,000 gallons, or a continuous discharge of 436 gpm (gallons per minute).

The brine will be processed through an expanded processing facility which will remove all hydrocarbons and solids. Only the oil-field brine will then be released to the hydrologic system in Laguna Quatro. If it is assumed that both Rowlands (Unichem) and Tuzlu Kopek are operating at full capacity simultaneously during the winter months, there would be a discharge of 494 gpm, or approximately 97 percent of the total evaporation potential for Laguna Tres, Laguna Quatro, and connected unnamed lakes and ponds (fig. 4). The total combined discharge would be only six percent of the summer evaporation potential.

At the present time most of the brine being processed at the Tuzlu Kopek facility is produced from oil wells tapping the Bone Springs and the Morrow Formations. Chemical quality within these formations does not vary

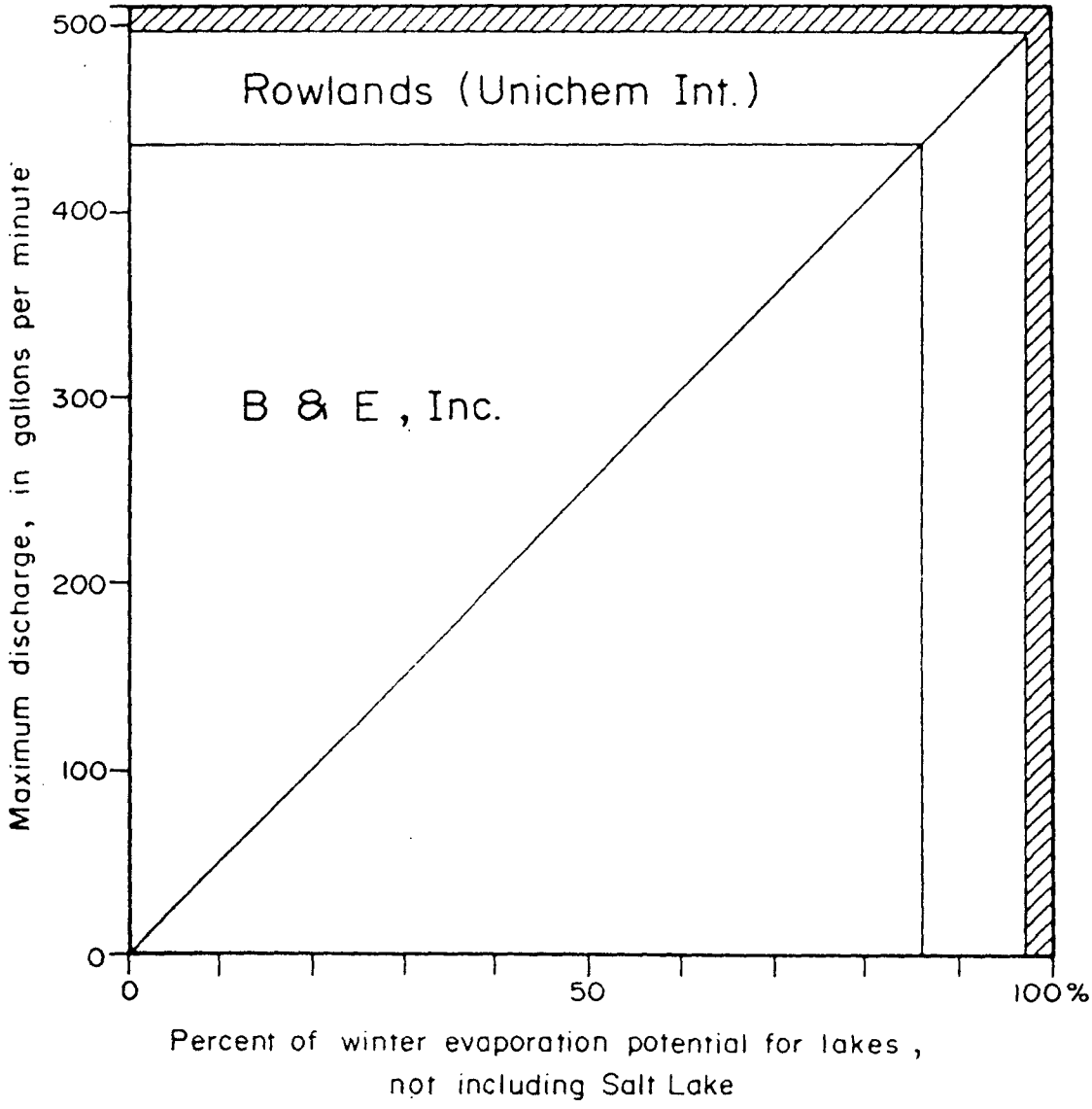

Figure 4.--Relationship of approved and proposed discharge of brine to the evaporation potential in the Laguna Quatro area. Cross-hached area shows unappropriated potential during winter period. This represents a "worst-case" condition.

significantly, and it is believed that the analyses given in the Appendix are representative of these two zones. Expanding the Tuzlu Kopek site will enable B&E to accept brine from the Delaware Formation. This brine will be slightly less mineralized than that from the Bone Springs and Morrow; slightly higher hydrogen sulfide will be dissipated during the processing operation.

CONCLUSIONS

1. The discharge system proposed by B&E, Inc., will not adversely impact the existing hydrologic system in the vicinity of Laguna Quatro and Laguna Tres.

2. The surface area of the lakes between Laguna Tres and Salt Lake are adequate to totally consume the total discharge proposed for the system.

3. The continued natural discharge of ground water into this lake system will provide sufficient brine to mask any quality change that might originate from the oil-field brine.

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APPENDIX

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 482226
SAMPLE RECEIVED 4-9-82
RESULTS REPORTED 4-22-82

TO: Mr. Gene Green
P.O.Box 756, Carlsbad,NM

COMPANY B & E Transport LEASE

FIELD OR POOL

SECTION BLOCK SURVEY COUNTY STATE

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Lake #1. 4-8-82
NO. 2 Lake #2. 4-8-82
NO. 3 Spring #1. 4-8-82
NO. 4 Spring #2. 4-8-82

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1996	1.2363	1.1784	1.2352
pH When Sampled				
pH When Received	7.48	7.47	6.99	7.50
Bicarbonate as HCO_3	234	312	210	307
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	27,500	45,750	25,000	44,500
Calcium as Ca	590	390	620	390
Magnesium as Mg	6,324	10,880	5,698	10,577
Sodium and/or Potassium	111,428	125,222	100,599	123,801
Sulfate as SO_4	22,313	23,375	20,400	22,100
Chloride as Cl	174,707	208,086	157,662	205,955
Iron as Fe	0.16	0.16	0.23	0.08
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	315,596	368,265	285,189	363,130
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.044	0.039	0.047	0.040
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	6.0	6.0	6.0	6.5
Nitrate, as NO_3	5.0	0.0	0.0	0.0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks:				
Arsenic, as As	0.009	0.006	0.006	0.009
Cadmium, as Cd	0.00	0.00	0.00	0.00
Cyanide, as CN	0.00	0.00	0.00	0 0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

Waylan C. Martin, M. A.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 58240
SAMPLE RECEIVED 5-4-82
RESULTS REPORTED 5-7-82

TO: Mr. Gene Green
P. O. Box 756, Carlsbad, NM 88220

COMPANY B & E Inc. LEASE As listed

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Brantley. 5-3-82 Yates
NO. 2 Produced water - taken from Huber State. 5-3-82 Bone Spring
NO. 3 Produced water - taken from SCB #4. 5-3-82 Yates
NO. 4 Produced water - taken from Southland State. 5-3-82 Bone Spring

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0904	1.1760	1.1369	1.1720
pH When Sampled				
pH When Received	6.46	5.86	6.83	5.91
Bicarbonate as HCO_3	1,488	561	1,708	744
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	13,600	67,000	2,300	43,000
Calcium as Ca	3,440	21,200	564	14,100
Magnesium as Mg	1,215	3,402	216	1,883
Sodium and/or Potassium	52,034	80,055	87,956	90,318
Sulfate as SO_4	312	234	1,775	391
Chloride as Cl	88,774	170,466	134,936	169,025
Iron as Fe	441	155	48.3	169
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	147,263	275,898	227,153	276,461
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.071	0.048	0.053	0.048
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	0.3	0.0	0.0	0.0
Nitrate, as NO_3	0.0	0.0	0.0	0.0
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Arsenic, as As	0.000	0.000	0.000	0.000
Cadmium, as Cd	0.20	0.20	0.80	0.20
Cyanide, as CN	0.00	0.00	0.00	0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

Waylan C. Martin, M. A.

Martin Water Laboratories, Inc.

P. O. BOX 1468
IONAHANS, TEXAS 79756
943-3234 OR 563-1040

WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

To: Mr. Gene Green
P.O.Box 756
Carlsbad, NM

Laboratory No. 482226-A
Sample received 4-9-82
Results reported 5-11-82

Company: B & E Transport

Subject: To determine the radioactivity (radium 226 and 228) and uranium content of submitted water samples. Samples taken 4-8-82.

Source of sample	Radium 226 pico curie/liter	Radium 228 pico curie/liter	Uranium mg/l
1. Lake #1	less than 0.6	less than 1.0	0.099
2. Lake #2	9 (+or-1)	less than 1.0	0.051
3. Spring #1	less than 0.6	less than 1.0	0.081
4. Spring #2	9 (+or-1)	less than 1.0	0.051

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waylan C. Martin, M. A.

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MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

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COMPANY B & E Inc. LEASE As listed
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SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM
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pH When Received	6.46	5.86	6.83	5.91
Bicarbonate as HCO_3	1,488	561	1,708	744
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	13,600	67,000	2,300	43,000
Calcium as Ca	3,440	21,200	564	14,100
Magnesium as Mg	1,215	3,402	216	1,883
Sodium and/or Potassium	52,034	80,055	87,956	90,318
Sulfate as SO_4	312	234	1,775	391
Chloride as Cl	88,774	170,446	134,936	169,025
Iron as Fe	441	155	48.3	169
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt.				
Total Solids, Calculated	147,263	275,898	227,153	276,461
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.071	0.048	0.053	0.048
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	0.3	0.0	0.0	0.0
Nitrate, as NO_3	0.0	0.0	0.0	0.0
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Arsenic, as As	0.000	0.000	0.000	0.000
Cadmium, as Cd	0.20	0.20	0.80	0.20
Cyanide, as CN	0.00	0.00	0.00	0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

Form No. 3

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By Waylan C. Martin, M. A.

Martin Water Laboratories, Inc.

O. BOX 1468
IANS, TEXAS 79756
3-3234 OR 563-1040

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4. Spring #2	9 (+or-1)	less than 1.0	0.051

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waylan C. Martin, M. A.

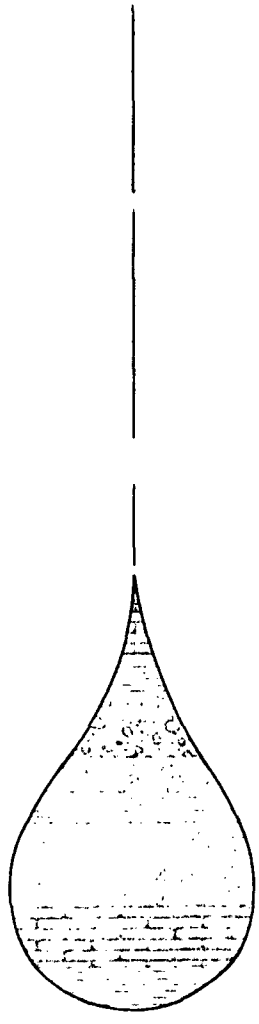
HYDROLOGIC ASSESSMENT, LAGUNA TRES AREA

EDDY COUNTY, NEW MEXICO

by

Geohydrology Associates, Inc.

4015 Carlisle, N.E. • Suite A • (505) 884-0580
Albuquerque, New Mexico 87107



May 1982

HYDROLOGIC ASSESSMENT, LAGUNA TRES AREA

EDDY COUNTY, NEW MEXICO

by

Geohydrology Associates, Inc.
Albuquerque, New Mexico

May 1982

CONTENTS

INTRODUCTION

I. STATEMENT OF APPLICATION

B & E, Inc., a New Mexico corporation, requests permission of the New Mexico Oil Conservation Commission to establish a surface disposal system of saltwater waste. The saltwater waste is generated from oil field product waste. The proposed system would provide a badly needed approved dumping station in Eddy County sufficient to take care of Eddy County and West Lea County's needs and hopefully eliminate unauthorized dumping in the area.

II. PLANT

The proposed plant will use the batch treatment method and will have a quality control safety system designed to prevent the discharge of unsuitable water into the environment.

III. LOCATION

B & E, Inc., proposes two alternate locations for the plant. The primary location is located on BLM land in the NE/4 of Section 12, Township 23 South, Range 29 East. BLM has advised B & E, Inc., that its application for B & E, Inc., land use will be considered upon approval of the New Mexico Oil Conservation Commission. The alternate location is on private property in the NE/4 of Section 6, Township 23 South, Range 30 East. Both locations are covered by this application.

IV. HYDROLOGY

B & E, Inc., proposes to dispose of the saltwater in a natural salt lake. The oil field brine being released into the lake is very similar to the saltwater in the lake and will not adversely affect the ecology of the lake.

ILLUSTRATIONS

HYDROLOGIC ASSESSMENT, LAGUNA TRES AREA

EDDY COUNTY, NEW MEXICO

by

Geohydrology Associates, Inc.

In May 1982, B & E, Incorporated, of Carlsbad, New Mexico, requested that a hydrologic study be conducted in the vicinity of Laguna Tres in Eddy County, New Mexico. This area is located approximately 18 miles east of Carlsbad in Towship 23 South, Ranges 29 and 30 East. The study was made by representatives of Geohydrology Associates, Inc., of Albuquerque. T. E. Kelly was project leader.

The purpose of the hydrologic investigation was to determine the effects that might result from discharge of oil-field brines into existing brine lakes.

The regional pattern of ground-water flow had been described by earlier studies. However this northeast to southwest flow pattern has been changed locally by various factors, including the potash refineries, and various natural and man-made factors. Presently the State Highway Department is channelizing the local flow system near the proposed site.

Many of the earlier studies were devoted to the regional characteristics of the ground-water system. According to Robinson and Lang (1938), most of lower Nash Draw drains into the large, natural Laguna de la Sala Grande, commonly called Salt Lake. They also concluded that brine from the lake is not discharging into the Pecos River. Other investigations were made by Thomas (1963) and Mower and others (1964). However most of this work was completed before the major impacts of the potash refineries were exerted on the area.

Gilkey and Stotelmyer (1965) made one of the earliest detailed water-supply studies of the Nash Draw area. They concluded that brine-disposal ponds at the potash refineries contribute to the hydrologic system by leakage. A detailed study by Geohydrology Associates, Inc. (1979) identified significant quantities of brine entering the ground-water system, although much of this is confined to the Clayton Basin area which is north of Nash Draw and the project area. All of these factors have a bearing on the suitability of Laguna Tres as a brine-disposal site.

The study authorized by B & E, Inc., was based on a thorough literature and file search of existing data; it also drew heavily from the earlier reports by Geohydrology Assoc., Inc. which were prepared under contract with the Bureau of Land Management. A field reconnaissance was made which included a visual inspection of the area between Laguna Uno and Salt Lake, including Laguna Tres. An analysis of the data and the resulting conclusions are presented in this report.

DESCRIPTION OF THE PROJECT AREA

Geology

Owing to the mineral development of the region, a number of studies of the geology have been made. These include the work by King (1942), Hendrickson and Jones (1952), Vine (1963), Brokaw and others (1972) and Geohydrology Associates, Inc. (1978, 1978a, 1979). The reader is referred to these studies for more detailed information than is warranted in this report.

There are only two formations in the project area that are directly concerned by this study (fig. 1). These are the Salado Formation below and the overlying Rustler Formation. The Rustler generally is subdivided into a Lower Member, the Culebra Dolomite, the Tamarisk Member, the Magenta Member, and the uppermost Forty-niner Member.

Salado Formation

This formation is an areally extensive unit which underlies much of Eddy County east of the Pecos River and it extends far beyond the study area. The Salado consists of more than 75 percent salt deposits with minor amounts of clastic rocks, anhydrite, and dolomite. The Salado is the source deposit of the potash which is mined in the region.

The Salado exerts major control over the shallow and surficial structures in the area because it is readily soluble and underlies the entire potash area, including Laguna Tres. Collapse structures, such as Nash Draw, are widespread and control the deposition of eolian and alluvial material in the area.

Structure contours on the top of the Salado Formation show that the Nash Draw depression, in which Laguna Tres is located, reflects a similar trough in the top of the salt (Vine, 1963, pl. 1). These are closed depressions in the top of the salt in the area of Salt Lake and the chain of lakes which drain to the Salt Lake. The depth to the top of the Salado Formation in the vicinity of Laguna Tres is approximately 275 feet.

Rustler Formation

A leached zone approximately 60 feet thick separates the Rustler Formation from the Salado. This insoluble residue is regarded as basal Rustler Formation by some authors (Cooper and Glanzman, 1971) and as uppermost Salado Formation by others (Vine, 1963, p. 7). Regardless of the name used, this zone consists of an insoluble rubble of brecciated clastics and limestone which collapsed following the solution of the underlying evaporite deposits. This rubble represents material from the Lower Member, the Culebra Dolomite, and insoluble deposits from the Tamarisk Member. Because of the brecciated and unconsolidated nature of this material, it is a major zone of ground-water movement.

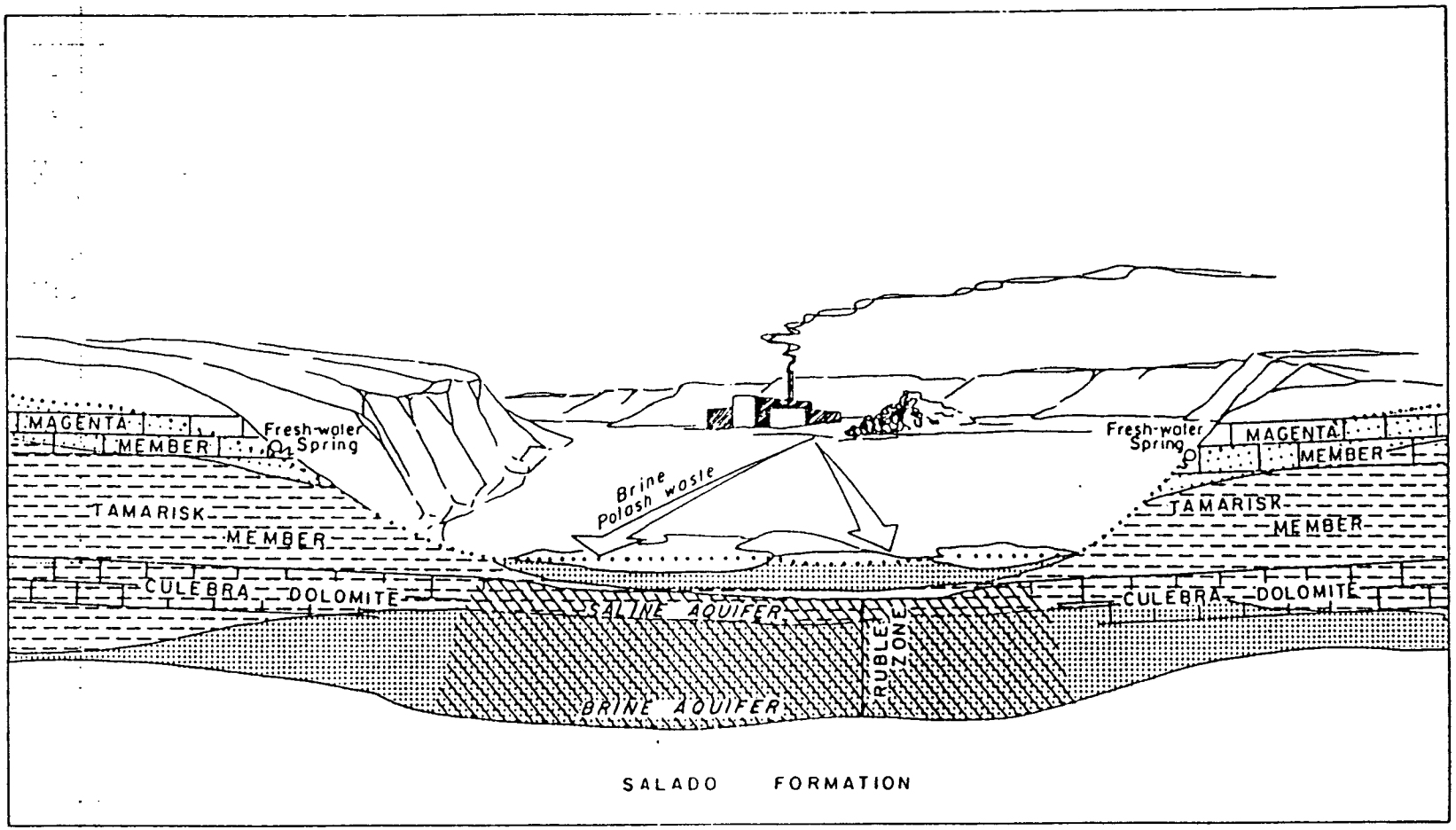


Figure 1. Diagrammatic east-west cross section through Nash Draw, showing stratigraphic units and ground-water relationships.

The Lower Member of the Rustler Formation consists of 60 to 120 feet of siltstone and fine-grained sandstone that locally contains gypsum, anhydrite, and halite (Brokaw and others, 1972, p. 50). It is overlain by the Culebra Dolomite which is a distinctive and persistent marker bed about 30 feet thick. Where tapped by wells, the Culebra produces large quantities of highly mineralized water, as in the vicinity of Mississippi Chemical Corporation in section 11, T. 21 S., R. 29 E.

The Tamarisk Member (Vine, 1963, p. 14) was named for its exposures at Tamarisk Flat about two miles northwest of the proposed disposal site. This member consists of about 115 feet of massive, coarsely crystalline gypsum in the outcrop but is chiefly anhydrite in the subsurface. Throughout most of the area of Nash Draw, the Tamarisk deopsits are blanked by a thin layer of silt and clay that has washed down from the rim of the Draw. However in the vicinity of Laguna Tres, there are massive exposures of deformed gypsum beds and large selenite crystals indicating recrystallization by the movement of ground water.

Brine from the potash refineries in and near Nash Draw is being deposited primarily into disposal ponds excavated in the Tamarisk Member.

The Magenta and Forty-niner Members of the Rustler Formation have been removed by erosion from Nash Draw, although some remnants of these members may be present in the rubble zone in the bottom of the Draw. Nevertheless, these two members generally do not affect the discharge of waste that is proposed by B & E, Inc., at Laguna Tres.

Topographic Setting

Nash Draw is the principal surface feature in the potash mining area of Eddy County. According to Vine (1963, p. B38), this feature is an undrained depression which resulted from regional differential solution of evaporite deposits in the upper Salado and/or lower Rustler Formations. The solution of these deposits resulted in large-scale collapse of the Lower Member, Culebra Dolomite, and the Tamarisk Members. Evidence for solution within the Rustler can be found almost everywhere that the formation is exposed at the surface.

Contour lines drawn on top of the massive salt in the Salado Formation show a high degree of similarity between the topography of Nash Draw and the top of the salt. The Salt Lake overlies a closed depression on top of the Salado. Likewise, there is a large closed depression northeast of Salt Lake which is ringed by a series of surface lakes, including Laguna Tres (fig. 2) which is the proposed disposal site.

Although the regional dip of the beds is toward the east, the rocks exposed along the margins of Nash Draw dip toward the depression. This also is true in Clayton Basin farther north. In addition, hydration of anhydrite to gypsum causes localized doming. Sinkholes and omes influence the direction of ground-water movement, which in turn controls the development of collapse structures through which ground water readily migrates.

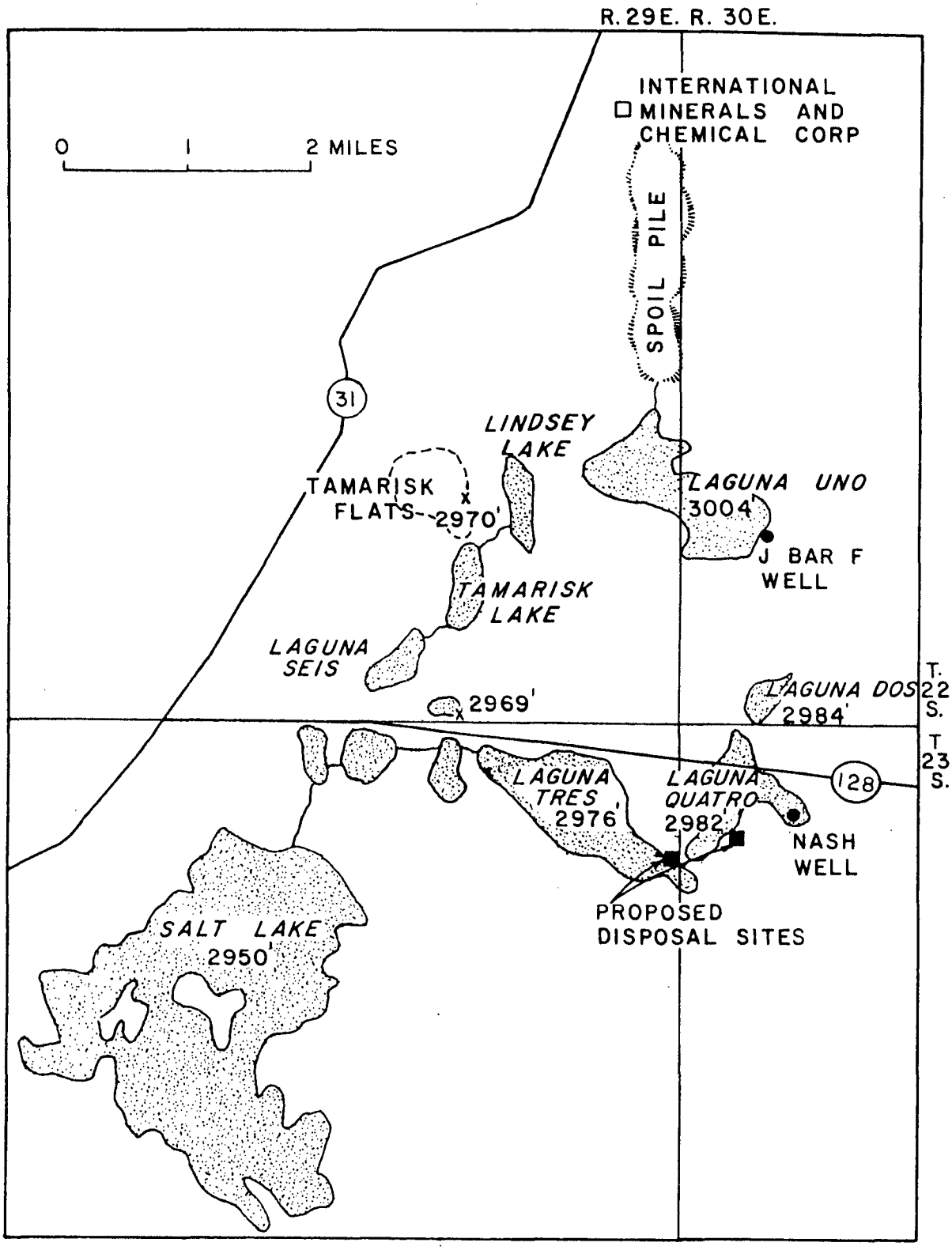


Figure 2. Distribution of lakes in the vicinity of IMC refinery and Salt Lake, with selected altitudes.

Hydrology

Ground Water

Two comprehensive studies of the hydrology of the potash area have been made by Brokaw and others (1972) and Geohydrology Associates, Inc. (1979). These studies have shown that the normal hydrologic system has been modified by collapse of Nash Draw and Clayton Basin. This has been further complicated by discharge from the various potash refineries in the area.

Hendrickson and Jones (1952, pl. 3) mapped the water table in Eddy County. East of the Pecos River the ground-water movement is predominately from north to south. Topographic divides exist along the Eddy-Lea County line and Quahada Ridge which tend to divert the regional flow into Nash Draw. The shallow ground water is potable to slightly saline in most areas. Wells outside Nash Draw generally produce adequate quantities of water to meet the stock and domestic requirements of the ranchers. However along the boundaries of Nash Draw, the regional water table intersects the land surface where ground water discharges as a series of seeps and springs (fig. 1). There is no known potable water within Nash Draw itself.

Saline water is present in most of the deeper aquifers. It has been shown that the regional dip of strata in the subsurface is from west to east. The Culebra Dolomite Member of the Rustler crops out along the Pecos River, and a few wells have tapped this strata in the subsurface. Highly mineralized water was produced from wells drilled by AMAX Corporation in T. 19 S., R. 30 E., and by Mississippi Chemical Corporation in T. 21 S., R. 29 E. The AMAX wells most likely were completed in the Culebra, although it is possible that they tap the shallower Magenta Member of the Rustler Formation. The Mississippi Chemical wells are known to tap the Culebra.

The so called "brine aquifer" has been identified by workers at the WIPP site as that zone of solution and collapse between the Salado and the basal Rustler. Although not present everywhere, it may be as much as 60 feet thick near Salt Lake and Laguna Tres. By the very nature of this zone, all of the water present is highly mineralized and probably is a saturated brine.

In addition to the natural ground-water flow into Nash Draw, there is a considerable amount of refinery waste released annually. Approximately 9,248 acre-feet per year is discharged as brine by refineries located in Nash Draw (Geohydrology Assoc., Inc., 1979, p. 60). In most cases this discharge is a saturated brine containing as much as 30 percent solids in the form of suspended clay.

The rubble zone, which represents the collapsed Rustler Formation in the bottom of Nash Draw, has produced potable water to wells in the past. Nash well (sec. 6, T. 23 S., R. 30 E.) was completed for stock use prior to 1935 (fig. 2). Subsequently the level of Laguna Quatro has risen to the point that this well was completely inundated by 1977. Likewise, the J Bar F well (sec. 20, T. 22 S., R. 30 E.) supplies water for stock at Laguna Uno.

According to Hendrickson and Jones (1952, p. 134-135), the water level in this well was 134.0 feet below land surface on March 17, 1948. The water level was at the land surface in 1979--a rise of 134 feet in 31 years. Since both of these wells are down gradient from IMC, it is probable that the rise in water level in the rubble zone can be attributed to discharge by IMC into Laguna Uno. The IMC refinery has been in operation since 1947.

Surface Water

All of the refinery discharge from International Minerals and Chemical Corporation is released into the headwaters of Laguna Uno which is in parts of sections 24 and 25, T. 22 S., R. 29 E., and adjoining sections. Discharge records of brine from the IMC refinery are not available. However, according to the New Mexico State Engineer Office in Roswell, the amount of water imported by IMC during 1977 was 5,233 acre-feet. This is equivalent to 3,244 gpm. Not all of this water enters Laguna Uno due to refining losses and evporation of water on the spoil pile. Nevertheless, the measured discharge into the lake is nearly equal to the quantity of imported water, thus indicating that the refining and evaporation loss are small.

The amount of water loss from Laguna Uno is difficult to determine. The size of the lake prevents the sediment-laden refinery discharge from spreading evenly across the lake. As as result, most of the sediment is deposited at the upper end of the lake, and the southeast end of Laguna Uno is characterized by relatively clear, sediment-free water. Thus there is no sealing effect at the fringes of the lake.

Studies at the lake determined that the summer evaporation rate at Laguna Uno was 6.69 gpm (gallons per minute) per acre and the winter evaporation rate was 0.369 gpm per acre (Geohydrology Assoc., 1979, p. 71). Inasmuch as the area of the lake is 710 acres, the summer loss would be about 4,750 gpm and the winter loss would be about 260 gpm. Therefore it is likely that virtually all of the refinery inflow during the summer is lost by evaporation from the lake. During the winter months the evaporation is only about 10 percent of the inflow rate. This surplus waste water then enters the lake chain which includes Laguna Dos, Laguna Tres, Laguna Quatro, and Salt Lake (fig. 2).

Lindsey Lake, Tamarisk Lake, and Laguna Seis also are topographically lower than Laguna Uno. Although there is no surface connection between Laguna Uno and this chain, it is likely that a subsurface connection exists.

In May 1982, a field reconnaissance was made of the area to assess the hydrologic connection between the IMC discharge point and Salt Lake. It was found that there is no surface connection between Laguna Uno and Laguna Dos; likewise there is no surface connection between Laguna Dos and Laguna Quatro. Laguna Quatro drains into Laguna Tres through a culvert and ditch system recently completed by the State Highway Department. At the culvert beneath Eddy County Road 793 which separates Laguna Quatro and Laguna Tres, the discharge is estimated to be about 500 gpm. With no surface inflow to the lake, this quantity of discharge can only originate from ground-water discharge.

Recent work by the Highway Department has provided a surface connection between Laguna Tres and several unnamed ponds south of Highway 128. The trenching has connected these lakes and ponds with Salt Lake. The total surface area of these surface-water bodies exceeds 1,200 acres. This would provide a summer evaporation capacity of 8,028 gpm and a winter capacity of 443 gpm.

WATER QUALITY

A number of water samples were collected by B & E, Inc., from springs and lakes in the vicinity of the proposed discharge point. The distribution of these samples and the total dissolved solids are shown in Figure 2. Virtually all of the water exceeds 200,000 mg/l (milligrams per liter) dissolved solids. This level of mineralization is very similar to that in oil-field samples that are likely to be discharged at the proposed site. (Appendix A.)

DISCHARGE PROPOSAL

B & E, Incorporated, estimates that the discharge facility will have the capacity to process approximately 50 loads of oil-field brine per day. Each load would be approximately 150 barrels. This represents a daily discharge of about 315,000 gallons, or a continuous discharge of 218 gpm.

The brine will be processed through a processing facility which will remove all hydrocarbons and solids. Only the oil-field brine will then be released to the hydrologic system. This facility will be located in the northeast quarter of section 12, T. 23 S., R. 29 E. This would be the upper end of Laguna Tres which presently has a natural inflow of about 500 gpm. The alternate site would be located near the center of section 6, T. 23 S., R. 30 E., along the south edge of Laguna Quatro.

Most of the oil production in the vicinity of the proposed facility produces from the Bone Springs and the Morrow Formations. Chemical quality within these formations does not vary significantly, and it is believed that the analyses given in the Appendix are representative of these two zones.

CONCLUSIONS

1. The discharge system proposed by B & E, Inc., will not adversely impact the existing hydrologic system in the vicinity of Laguna Quatro and Laguna Tres.

2. The surface area of the lakes between Laguna Tres and Salt Lake are adequate to totally consume the total discharge proposed for the system.

3. The continued natural discharge of ground water into this lake system will provide sufficient brine to mask any quality change that might originate from the oil-field brine.

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APPENDIX

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 482226
SAMPLE RECEIVED 4-9-82
RESULTS REPORTED 4-22-82

TO: Mr. Gene Green
P.O.Box 756, Carlsbad,NM

COMPANY B & E Transport LEASE

FIELD OR POOL

SECTION BLOCK SURVEY COUNTY STATE

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Lake #1. 4-8-82
NO. 2 Lake #2. 4-8-82
NO. 3 Spring #1. 4-8-82
NO. 4 Spring #2. 4-8-82

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1996	1.2363	1.1784	1.2352
pH When Sampled				
pH When Received	7.48	7.47	6.99	7.50
Bicarbonate as HCO_3	234	312	210	307
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	27,500	45,750	25,000	44,500
Calcium as Ca	590	390	620	390
Magnesium as Mg	6,324	10,880	5,698	10,577
Sodium and/or Potassium	111,428	125,222	100,599	123,801
Sulfate as SO_4	22,313	23,375	20,400	22,100
Chloride as Cl	174,707	208,086	157,662	205,955
Iron as Fe	0.16	0.16	0.23	0.08
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	315,596	368,265	285,189	363,130
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.044	0.039	0.047	0.040
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	6.0	6.0	6.0	6.5
Nitrate, as NO_3	5.0	0.0	0.0	0.0
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Arsenic, as As	0.009	0.006	0.006	0.009
Cadmium, as Cd	0.00	0.00	0.00	0.00
Cyanide, as CN	0.00	0.00	0.00	0 0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

Waylan C. Martin, M. A.

Locations from which foregoing samples were taken:

Lake #1: Quatro

Lake #2: Great Salt Lake

Spring #1: Upper end of Lake

Spring #2: Upper Great Salt Lake

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 58240

TO: Mr. Gene Green
P. O.Box 756, Carlsbad, NM 88220

SAMPLE RECEIVED 5-4-82

RESULTS REPORTED 5-7-82

COMPANY B & E Inc. LEASE As listed

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Brantley. 5-3-82 Mack

NO. 2 Produced water - taken from Huber State. 5-3-82 Bone Springs

NO. 3 Produced water - taken from SCB #4. 5-3-82 Mack

NO. 4 Produced water - taken from Southland State. 5-3-82 Bone Springs

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0904	1.1760	1.1369	1.1720
pH When Sampled				
pH When Received	6.46	5.86	6.83	5.91
Bicarbonate as HCO_3	1,488	561	1,708	744
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	13,600	67,000	2,300	43,000
Calcium as Ca	3,440	21,200	564	14,100
Magnesium as Mg	1,215	3,402	216	1,883
Sodium and/or Potassium	52,034	80,055	87,956	90,318
Sulfate as SO_4	312	234	1,775	391
Chloride as Cl	88,774	170,446	134,936	169,025
Iron as Fe	441	155	48.3	169
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	147,263	275,898	227,155	276,461
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.071	0.048	0.053	0.048
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	0	0	0
Fluoride, as F	0.3	0.0	0.0	0.0
Nitrate, as NO_3	0.0	0.0	0.0	0.0
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Arsenic, as As	0.000	0.000	0.000	0.000
Cadmium, as Cd	0.20	0.20	0.80	0.20
Cyanide, as CN	0.00	0.00	0.00	0.00
Lead, as Pb	0.00	0.00	0.00	0.00
Total Mercury, as Hg	0.000	0.000	0.000	0.000
Selenium, as Se	0.00	0.00	0.00	0.00
Silver, as Ag	0.00	0.00	0.00	0.00

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By ___

Waylan C. Martin, M. A.

Martin Water Laboratories, Inc.

P. O. BOX 1468
)NAHANS, TEXAS 79756
943-3234 OR 563-1040

WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

To: Mr. Gene Green
P.O.Box 756
Carlsbad, NM

Laboratory No. 482226-A
Sample received 4-9-82
Results reported 5-11-82

Company: B & B Transport

Subject: To determine the radioactivity (radium 226 and 228) and uranium content of submitted water samples. Samples taken 4-8-82.

Source of sample	Radium 226 pico curie/liter	Radium 228 pico curie/liter	Uranium mg/l
1. Lake #1	less than 0.6	less than 1.0	0.099
2. Lake #2	9 (+or-1)	less than 1.0	0.051
3. Spring #1	less than 0.6	less than 1.0	0.081
4. Spring #2	9 (+or-1)	less than 1.0	0.051

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Waylan C. Martin, M. A.

McCORMICK AND FORBES
ATTORNEYS AT LAW
BUJAC BUILDING
P. O. BOX 1718
CARLSBAD, NEW MEXICO 88220

TELEPHONE 885-4171
AREA CODE 505

DON G. McCORMICK
JAY W. FORBES
THOMAS L. MAREK
ROGER E. YARBRO
JOHN M. CARAWAY
CAS TABOR

26 May 1982

New Mexico State Highway Department
P. O. Box 1457
Roswell, New Mexico 88201

Attn: Mr. Cliff Downey

Re: Proposed Location of Salt Water Disposal System
by B & E, Inc.

Dear Mr. Downey:

It is my understanding that Mr. Gene Green, of B & E, Inc., has discussed with you at some length the proposed locations for their proposed salt water disposal system. Both of these locations are located in Eddy County with the first or primary location being in the NE/4 of Section 12, Township 23 South, Range 29 East, and the secondary location being in the NE/4 of Section 6, Township 23 South, Range 30 East.

It is my understanding that you have reviewed these proposed locations with Mr. Green and on behalf of the State Highway Department, you are willing to state that the locations and the system proposed will not interfere with the use and operation of Highway 128 and the current draining operation, which you have underway along said highway as it leaves the intersection with State Highway 31. In the event the drainage of Highway 128 is interfered with, the salt water disposal system will terminate until arrangements can be made to correct the problem.

If you agree with the terms set forth herein, please return the signed copy of this letter to me for our records and for filing with the New Mexico State Oil Conservation Commission.

Sincerely,

Roger E. Yarbro

REY:lld

APPROVED BY:

Cliff Downey

WATER QUALITY ASSURANCE FACILITY

B and E INCORPORATED
Carlsbad, New Mexico

I INTRODUCTION

In order to make available to industry an approved waste water disposal station, the design herein described and depicted is presented. This facility provides a proven method of removing oily and solid wastes from water of varying quality by the batch treatment method. Water will be hauled to the site in 150-barrel or less loads and discharged into the facility at a rate not exceeding 10 barrels per minute (420 GPM). The goal of the facility is to remove insoluble oils to below maximum concentration of 50 PPM with an average concentration below 15 PPM. Should an oil concentration higher than desired (and approved by the State of New Mexico) occur, an alarm system will close valving to stop the flow of fluid into and out of the facility

II FLUID FLOW

The fluids, a predominantly water with small quantities of oil and solids, enter the facility through an electrically actuated emergency shutdown valve and a key activated turbine flow meter into the first process vessel, a Skim Tank. The Skim Tank is designed to be predominantly filled with water to assure maximum residence time and correspondingly high water quality. A thin layer of oil is maintained near the top of the tank. This oil layer is near the level of the oily influent minimizing the distance this contaminant must travel to be absorbed into the oil blanket. Oil is skimmed off into a holding tank ready for sale to a waste oil reclaimer. Water flows to the Surge Tank, typically 30 percent larger than the Skim Tank. While the internals of the Surge Tank are not as complex as the Skim Tank, the flow and levels are similar. Oily wastes

are captured near the top and drawn off to storage. Water is removed from the bottom and flows to the Aeration Tank for final quality control. A portion of the water in the Aeration Tank is pulled off near bottom and pumped into an aeration nozzle. The aeration of this water has the effect of clarifying it prior to discharging it into the adjacent salt lake.

Each Skim Tank and Surge Tank is designed to process the influent from one transport truck at a time. The initial system will consist of a twin set of these vessels feeding one Aeration Tank as indicated on C-E Natco Drawing No. 75747. Therefore, two transport trucks can unload at the same time into separate process facilities.

III SYSTEM CAPACITY

Each of the twin systems described above will accept a load of waste water from one transport truck at a time. Each transport truck has a capacity of approximately 150 barrels. Trucks are equipped to offload via on-board pumping systems. The truck pumping capacities vary, but do not exceed ten barrels per minute. Therefore, the maximum influent rate is 10 barrels per minute. Each truck must position itself properly, connect to the influent nozzle, activate the key actuated valve/meter assembly, unload, disconnect and proceed out of the unload area. While unloading can occur in as few as 15 minutes, the entire process typically takes a minimum of 25 minutes. And, by the time a second transport is ready to unload, a minimum of 30 minutes has elasped. This equates to surges of 10 barrels per minute (420 GPM) and averaged maximum plant throughput of five barrels per minute (210 GPM) per unloading process train. Since the initial system concept consists of two trains, maximum averaged discharge capacity will be on the order of 10 barrels per minute total or 14,400 barrels per day

The actual discharge volume is anticipated at less than 6,000 barrels per month. This volume will be carried 50 percent by the owner/operator's transports and 50 percent by others.

IV OIL PROCESSING

Waste oil will be collected and sold to a waste oil reclaimer. As the volume of this product justifies, a process addition designed to reclaim oil on-site may be added. This system will include a low pressure boiler and a larger process tank with steam coils for heat input.

VII SOLIDS

Minor amounts of solids will accumulate in the system. These solids will be decanted from the Skim and Surge Tanks via draw-off laterals. Solids will accumulate in the solids storage tank. Water separated from solids will be cycled back into the water process system.

VIII WATER QUALITY CONTROL

The implementation of appropriate design concepts for tank internals will assure a high degree of water quality under normal circumstances. However, to prevent the possibility of an upset, vandalism, or other cause resulting in an oil discharged, a water quality monitor continuously monitors the concentration of oil in water between the Surge Tank and the Aeration Tank. Should the concentration exceed preset limits, the automatic valving switches to the closed position to stop flow through the facility. The automatic valves are fail closed so that any loss of power causes a facility shut down. No manual override will be installed in this system.