GW - 49

GENERAL CORRESPONDENCE

YEAR(S):

1989-1988

STATE OF NEW MEXICO
HEALTH ENVIRONMENT

MEMORANDUM

DATE: 6-13-89

RECEIVED
JUN 15 1989
OIL CONSERVATION DIV.
SANTA FE

TO: Dave Boyer

FROM: Cara Halasan

SUBJECT: EPNG

Here are the gen'l chem results (except for blank + duplicate – still @ SLD) & the TKN analysis for MW-5. Will send you the last remaining 2 when I get them. Duplicate is from MW-8.

ADM 031A Issued 6/78

STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

MEMORANDUM

RECEIVED
JUN - 7 1989
OIL CONSERVATION DIV
SANTA FE

DATE: 6-2-89

TO: Dave Boyer, OCD

FROM: Cora Halasan, EID/Superfund

SUBJECT: Analysis Results from 1989 EPNG, Blanco sampling

Apologies for not returning your call. Have been out of the office for the last month. Have only scanned these results. Seems to have a nitrate problem with well 2; may have to find some other background well. Well 6 definitely has hydrocarbon contaminants; I'll call SLD to see if they can give me any info on what these late elutants might be.

I truly appreciate your keeping in touch.
I'll probably --maybe-- be in the office the next two weeks.

I've gotten your results but haven't sat down to compare them with EID's well by well.

ADM 031A Issued 6/78

6-6-89

Dave -

(A) MW-2 :

NO_4-N 203 mg/l
TKN 0.12 "
(most reduced N)
- so, most in NO_4^+ form
- where came from? Anything coming from flare pits (like, maybe, nitroaromatics)?

(B) MW-6 :

NO_4-N 69.9 mg/l
TKN 1.34 "

- wouldn't think it's a coincidence that both are near flare pits & both have high NO_4

(C) Did not take any N samples from MW-7 (not enough H_2O @ the time, you may recall)

(D) Dupe is from MW-8

(E) No other MW show high NO_4

Aromatic & Halogenated Purgeables
EPNG

Dave -

6/6/89

Well #	Lab Remarks
2	ND; 3-5 unknowns, unsaturated, @ trace - 5 ppb
5	ND; 3-6 unk, unsat, tr. - 5 ppb
6	ND; 10-20 late elutants, unk, unsat, tr. - 10 ppb
7	ND; 3-6 unk, unsat, tr. - 5
8	" ; 3-4 " " , tr. - 3
10	ND; no other remarks

Blank & dupe - see sheets

So: no aromatics detected
no ID, no confirmations

MW6 seems the most/the only troublesome one in terms of contaminants. I'd guess that this one's your show, Dave, since it's next to an active pit.

NVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

p.1 of 2

CHAIN OF CUSTODY RECORD

RECEIVED
JUN 15 1989
OIL CONSERVATION DIV.
SANTA FE

PROJ. NO.: 015
PROJECT NAME: El Paso Natural Gas, Blanco
SAMPLERS: (Signature) Cova Halasan

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	+/-	N-NO3	TKN	Purge. Halocarb. + Arom. (601/602)			REMARKS
	4.26.89				Blank	2	X		X				
W6	4.26.89	1204		✓	EPNG W6	3	X	X	X				
W10	"	1500		✓	" W10	3	X	X	X				
W5	"	1530		✓	" W5	3	X	X	X				
W8	"	1615		✓	" W8	3	X	X	X				
W2	"	1730		✓	" W2	3	X	X	X				
	4.26.89				DUPLICATE	3	X	X	X				
	4.26.89				BLANK	2				X			
	4.26.89			✓	DUPLICATE	2				X			
W6	"	1204		✓	EPNG W6	2				X			
W10	"	1500		✓	" W10	2				X			
W5	"	1530		✓	" W5	2				X			
W8	"	1615		✓	" W8	2				X			
W7	"	1700		✓	" W7	2				X			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

6-01823

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 6
First International Bldg., 1201 Elm St.
Dallas, Texas 75270

RZ
1 of 2

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
015	El Paso Natural Gas, Blanco

SAMPLERS: *(Signature)*
Cora Halasan

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Purge. Halocarb. & Arom. (601/602)						REMARKS
W2	4-26-89	1730		✓	EPNG W2	2	X						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

6-01823

EL PASO NATURAL GAS COMPANY
BLANCO PLANT GROUNDWATER DATA
(all results in ug/l unless otherwise indicated)

Sample ID Screened Interval (ft)	W2 46.3-56.3	W5 8.5-18.5	W5 Duplicate 8.5-18.5	W6 19.0-29.0	W7 9.0-19.0	W8 23.3-33.3	W10 8.8-13.8	TRAVEL BLANK
TOTAL EXTRACTABLE HYDROCARBONS (EPA 8015)								
Acrylamide	<1000	<1000	<1000	<1000	<1000	<1000	<1000	NA(a)
Diethyl Ether	<5	<5	<5	<5	<5	<5	<5	NA
Ethanol	<15	<15	<15	<15	<15	<15	<15	NA
Methylethylketone	<5	<5	<5	<5	<5	<5	<5	NA
Methyle Isobutyl Ketone	<5	<5	<5	<5	<5	<5	<5	NA
Paraldehyde	<200	<200	<200	<200	<200	<200	<200	NA
MAJOR CATIONS AND ANIONS								
Calcium (mg/l)	473	689	606	532	473	409	509	NA
Magnesium (mg/l)	70.3	23.6	20.8	12.3	26.3	56.9	97.5	NA
Potassium (mg/l)	5.7	1.3	1	2.9	3.3	4.2	5.2	NA
Sodium (mg/l)	1680	59.1	57.7	796	672	1180	801	NA
Sulfate (mg/l)	3800	2000	2255	1760	1990	1610	2370	NA
Carbonate (mg/l as CaCO3)	0	0	0	0	0	0	0	NA
Bicarbonate (mg/l as CaCO3)	239	294	295	401	378	229	248	NA
Chloride (mg/l)	46	14	16	56	45	17	73	NA
Nitrate (mg/l-N)	290	0.02	<0.1	51	0.3	<0.1	1	NA
BASIC WATER QUALITY PARAMETERS								
pH	7.87	7.91	7.37	7.32	7.62	7.84	7.5	NA
Total Dissolved Solids (mg/l)	7612	3112	2900	4516	4776	5680	5284	NA

(a) **NA - Not Analyzed**

EL PASO NATURAL GAS COMPANY
BLANCO PLANT GROUNDWATER DATA
(all results in ug/l unless otherwise indicated)

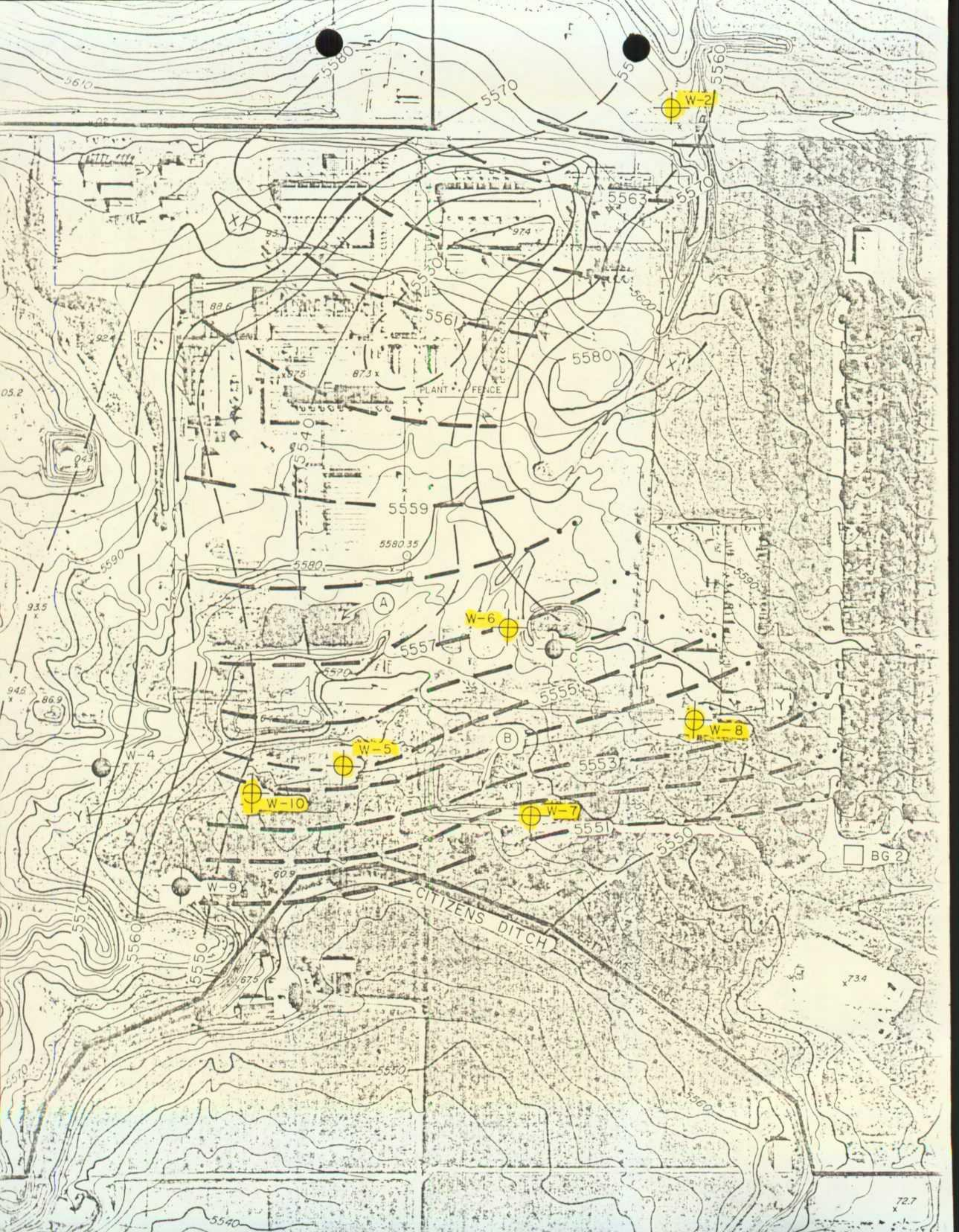
Sample ID Screened Interval (ft)	W2 46.3-56.3	W5 8.5-18.5	W5 Duplicate 8.5-18.5	W6 19.0-29.0	W7 9.0-19.0	W8 23.3-33.3	W10 8.8-13.8	TRAVEL BLANK
VOLATILE HALOGENATED ORGANICS (EPA 601)								
1,1,2,2-Tetrachloroethylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,2-Trichloroethane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichlorobenzene	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
1,2-Dichloropropane	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,3-Dichlorobenzene	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
1,4-Dichlorobenzene	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
1,1,1-Trichloroethane	**1.3**	**0.5**	**0.5**	**0.3**	**0.6**	**1.4**	**1.3**	<0.03
1,1-Dichloroethane	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1,2-Dichloroethane	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1
2-Chloroethyl vinyl ether	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Bromodichloromethane	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzyl Chloride	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroisopropyl)eth.	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chloroform	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	<0.25	**0.3**	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Chloroethane	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52
Chloromethane	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Dibromochloromethane	**0.46**	<0.09	<0.09	<0.09	<0.09	**0.31**	**0.2**	<0.09
Dibromomethane	<2	<2	<2	<2	<2	<2	<2	<2
Trans-1,2-Dichloroethylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-1,3-Dicholoropropylene	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10
1,1,1,2 Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1
1.1-Dichloroethylene	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1
1-Chlorohexane	<1	<1	<1	<1	<1	<1	<1	<1
Chloroacetaldehyde	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethyl methyl ether	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	<1	<1	<1	<1	<1	<1	<1	<1
Dichloromethane	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethylene	**0.4**	**0.3**	**0.3**	<0.12	**0.15**	**0.4**	**0.3**	**0.2**
Tetrachloroethylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	**0.23**	**0.08**

EL PASO NATURAL GAS COMPANY
BLANCO PLANT GROUNDWATER DATA
(all results in ug/l unless otherwise indicated)

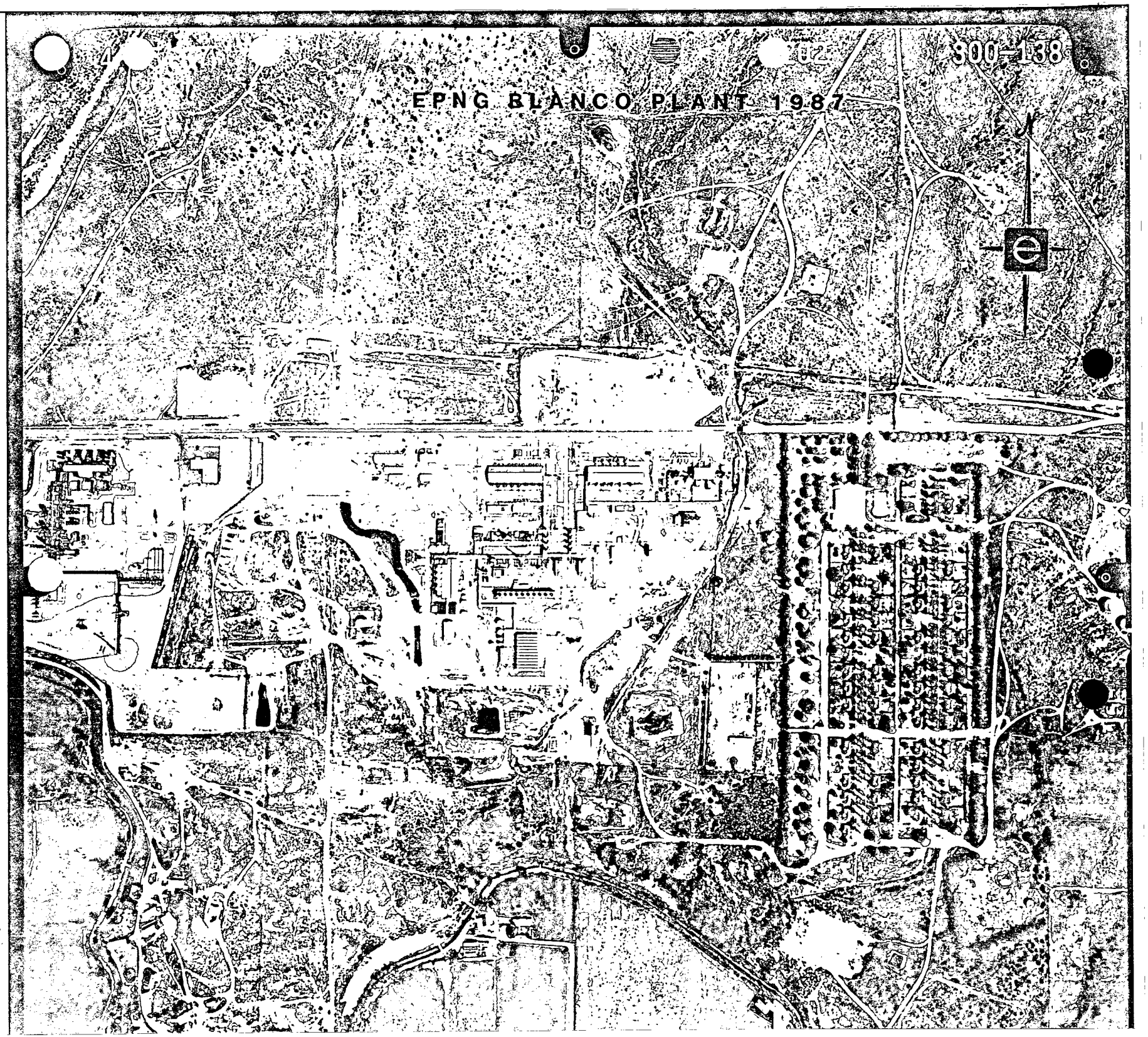
Sample ID Screened Interval (ft)	W2 46.3-56.3	W5 8.5-18.5	W5 Duplicate 8.5-18.5	W6 19.0-29.0	W7 9.0-19.0	W8 23.3-33.3	W10 8.8-13.8	TRAVEL BLANK
VOLATILE AROMATICS (EPA 602)								
Benzene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Ethyl Benzene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	<0.2	<0.2	<0.2	<0.2	<0.2	5	<0.2	<0.2
Xylenes	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
METALS								
Total Iron (mg/l)	4	1.61	1.54	0.7	1.2	0.22	1.03	NA(a)
Total Manganese (mg/l)	1.36	1.54	1.28	4.03	2.21	4.59	3.32	NA
Total Chromium (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Total Arsenic (mg/l)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Hexavalent Chromium (mg/l)	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	NA
Total Cadmium (mg/l)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA
Total Lead (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Total Mercury (mg/l)	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	NA
Zinc (mg/l)	0.3	0.3	0.2	<0.1	0.3	0.2	0.2	NA
Copper (mg/l)	0.03	0.02	<0.01	<0.01	0.02	<0.01	<0.01	NA
VOLATILE ORGANICS (EPA 624) (b)	NA	NA	NA	ND	NA	NA	NA	NA
SEMI-VOLATILE ORGANICS (EPA 625) (b)	NA	NA	NA	ND	ND	NA	NA	NA

(a) NA - Not Analyzed
(b) Only those priority pollutant compounds which were detected are presented in this table. (ND - None Detected)

Send chem results
Loren Bourge
Radiochem. Section SLD.



W-2
W-4
W-5
W-6
W-7
W-8
W-9
W-10
A
B
C
Y
Y'
X'
BG 2
PLANT FENCE
CITIZENS DITCH
5580
5570
5563
5561
5559
5557
5555
5553
5551
5550
5560
5540
5600
5590
5610


300-138
EPNG BLANCO PLANT 1987
e

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

March 6, 1989

CERTIFIED MAIL
RETURN RECEIPT NO. P-106 675 483

Mr. Ken Beasley, Manager
Compliance Engineering
North Region
EL PASO NATURAL GAS COMPANY
P. O. Box 1492
El Paso, Texas 79978

RE: Hydrocarbon Contamination at Compressor "D" Building, Blanco Plant, San Juan County, New Mexico.

Dear Mr. Beasley:

On March 1, 1989, I sent EPNG a letter regarding the pending discharge plan at the Blanco Gas Plant. In that letter, the issue of remedial action at the compressor "D" Building was separated from other discharge plan issues as it is OCD's intention to handle it under a different section (1-203) of the Water Quality Control Commission regulations. This letter provides OCD's comments on the progress of EPNG's investigation to date, and directs EPNG to conduct additional work to determine the extent and seriousness of the problem.

OCD review of the McBride-Ratcliff report of January 7, 1988, and our observation of free product in the seepage collection well during our October 26, 1988, visit to the site show that additional hydrocarbon investigation and recovery efforts need to be undertaken. Specifically, OCD has the following questions and comments regarding the report:

1. The report recommends additional subsurface exploration east and west of the observed seepage area to determine if additional shallow and confined areas of contamination migration exist and their limits. Were such investigations conducted and if so, what were their results?

2. Were water samples collected from the bore-holes (specifically CB-4, 5, 6 and 11) and analyzed for hydrocarbons?

3. If the seepage collection well at the compressor "D" Building pumps fluids from an interception/drain-collector, provide engineering/construction information.

4. Boring CB-3 showed no water to 17.5 feet. All other borings showed water, but they were drilled to depths of 20 feet or more and apparently penetrated water bearing sandstone. It is likely that similar conditions exist deeper at CB-3.

The information provided in the above report, and OCD's October 26 inspection, indicate that a problem continues to exist and needs further investigation. The fact that EID's required ground water quality investigation did not show a problem in other locations at the plant does not alleviate the need to look further at the "D" Building location. Therefore, further work is necessary.

Upon receipt of this letter, please schedule a meeting with OCD to take place within 30 days. At the meeting EPNG should be prepared to discuss what further investigation is proposed and a schedule for such work.

If you have any questions, please contact me at (505) 827-5812.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

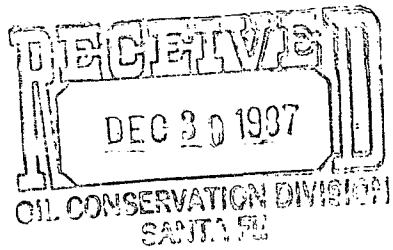
cc: John Bridges, EPNG
Dr. Henry Van, EPNG
Cora Haleson, NMEID Superfund

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978

PHONE: 915-541-2600

December 29, 1987



Mr. David G. Boyer
Hydrogeologist/Environmental Bureau Chief
Energy and Minerals Department
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501-2088

Subject: Leaking Tank at Blanco Plant

Dear Mr. Boyer:

On December 21, K. E. Beasley and I verbally notified you that El Paso had discovered a previously unknown leaking buried tank during excavations for the placement of a new turbine foundation at El Paso's Blanco Field Plant. The presence of a leaking tank was first suspected when a seep of unknown composition was noticed flowing out of the wall at a single point of the newly dug excavation. The seep appeared to be flowing from the material between a sandstone lense and the claystone underneath. The seep initially contained hydrocarbons with a little water and was flowing at a rate of 2.5 gpm; however, the seep is now mostly water and is flowing at <.1 gpm. The seep contents which collected in the excavation were pumped to prevent further subsurface migration.

Upon discovery of the seep, foundation excavation ceased immediately and all efforts were directed toward identifying the source of the hydrocarbons. A buried (5 ft.) 500 gallon tank containing a kerosene-like material (confirmed by analysis) was found approximately 35 feet northwest of the area of the seep. A sample of the seep was collected and analyzed. Analysis confirms that the petroliferous material originated from the tank. No heavy metals were present.

The tank was pumped and has been removed. The tank was installed in 1979 and was used to collect left-over absorption oil samples from a small lab formerly located in the office. The lab was used to field test the absorption oil at the gasoline plant prior to it shutdown in 1985. This would explain why the material in the tank is very similiar to kerosene.

An evaluation was made in an effort to delineate the hydrocarbon plume. Although the geology in the area is very complex, certain information is known. There are numerous sandstone lenses that overlay a continuous claystone located approximately 15 feet deep. Based on initial observations, we theorize that the material that leaked from the tank migrated 30-50 feet from the tank but was dammed by the sandstone lenses. Approximately 1,000 gallons of absorption oil samples may have been placed into the tank during the total time it was in use.

The excavation apparently breached the dam and the hydrocarbons and water began to flow initially at a rather high rate into the open excavation. The flow now is almost non-existant. Because the source of the hydrocarbons has

been removed and any hydraulic head relieved, the hydrocarbons are not migrating. The excavation is thought to be at or near the leading edge of the hydrocarbon plume.

Further evaluations (trenches) are being performed between the foundation trench and the former location of the buried tank to confirm the groundwater gradient and to validate the theory that the sandstone lenses were damming the hydrocarbons until breached by the excavation. Because of the impacts of the seep on the foundation's integrity in the underlying claystone, as well as for environmental reasons, an interceptor well has been installed. This well will be located basically in the same area where the seep was first noticed. The trenching must be conducted very carefully so that the sandstone lenses are not disturbed to such an extent that the groundwater flow is redirected, thereby reducing the effectiveness of the interceptor well.

El Paso has been monitoring EPA's underground storage tank regulations and has determined that this tank is not subject to the EPA regulations. EPA's regulations contain an exclusion for "pipeline facilities" regulated under the Natural Gas Pipeline Safety Act of 1968. This exclusion comes directly from the Resources Conservation and Recovery Act of 1976, as amended, Section 9001(1)(D). The definition of pipeline facility in the Natural Gas Pipeline Safety Act is quite broad. The definition is carried forth faithfully by EPA in the "List of UST Definitions and Exemptions" which were published as a guide to help owners and operators complete registration forms. Essentially, the definition of pipeline facility in the Natural Gas Pipeline Safety Act excludes any facility under DOT jurisdiction. Exclusion of the tank at Blanco Plant is consistent with the probable intent of the exclusion, which is to avoid duplicative regulations of natural gas pipelines and related facilities. Indeed, El Paso's Blanco Plant is a facility under DOT jurisdiction.

As we discussed, there can be little doubt that the discharges of hydrocarbons from the tank are subject to the NM Water Quality Control (WQCC) regulations, however. For this reason the verbal notice was provided to the OCD as a constituent agency of the WQCC.

The evaluation of the shallow geohydrology in which the buried tank was located is continuing. Based on the findings from this evaluation, El Paso is committed to demonstrating that the source of the hydrocarbons has been identified and that further migration of contaminants has ceased. When the report on the geohydrology is completed (early January) we would propose a meeting with you to present our findings and to discuss any necessary further actions.

Very truly yours,

John C. Bridges

John C. Bridges
Manager
Environmental Engineering
Environmental and Safety Affairs

ka

Lab No. 77-521,07-123 ORGANIC ANALYSIS REQUEST FORM F890444

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. ______
DATE REC. ______
PRIORITY ______
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8|9|0|4|2|6|1|7|3|0

LOCATION CODE: (Township-Range-Section-Tracts) [| | | + | | | + | | + | | |] (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: ______

This form accompanies 3 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 (1-5 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: ______

FIELD DATA:

pH= ____; Conductivity= ____ 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.)

EPNG Bloomfield, Well W-2, No odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D H Boyer Method of Shipment to the Lab: State Car

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 owner notified: ______ Phone or Letter? Initials ______

Inter·Mountain
Laboratories, Inc.

2508 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261730	Date Sampled:	04/26/89
Laboratory Number:	F891440	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatic	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/08/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	ND (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	ND (0.2)	ug/l
o-XYLENE	ND (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261730
IML Sample No: F891440
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/01/89

Parameter	Concentration		Units
CHLOROMETHANE	ND	(1.0)	ug/l
BROMOMETHANE	ND	(1.0)	ug/l
DICHLORODIFLUOROMETHANE	ND	(1.0)	ug/l
VINYL CHLORIDE	ND	(1.0)	ug/l
CHLOROETHANE	ND	(1.0)	ug/l
METHYLENE CHLORIDE	ND	(0.1)	ug/l
TRICHLOROFLUOROMETHANE	ND	(1.0)	ug/l
1,1-DICHLOROETHENE	ND	(0.1)	ug/l
1,1-DICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l
CHLOROFORM	ND	(0.1)	ug/l
1,2-DICHLOROETHANE	ND	(0.1)	ug/l
1,1,1-TRICHLOROETHANE	ND	(0.1)	ug/l
CARBON TETRACHLORIDE	ND	(0.1)	ug/l
BROMODICHLOROMETHANE	ND	(0.1)	ug/l
1,2-DICHLOROPROPANE	ND	(0.1)	ug/l
CIS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
TRICHLOROETHENE	ND	(0.1)	ug/l
DIBROMOCHLOROMETHANE	ND	(0.1)	ug/l
1,1,2-TRICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
2-CHLOROETHYLVINYL ETHER	ND	(0.1)	ug/l
BROMOFORM	ND	(0.5)	ug/l
1,1,2,2-TETRACHLOROETHANE	ND	(0.1)	ug/l
TETRACHLOROETHENE	ND	(0.1)	ug/l
CHLOROBENZENE	ND	(0.1)	ug/l
1,2-DICHLOROBENZENE	ND	(0.1)	ug/l
1,3-DICHLOROBENZENE	ND	(0.1)	ug/l
1,4-DICHLOROBENZENE	ND	(0.1)	ug/l
CIS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

570159.5703 Site 15

154 WPU

0R89-0554-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR

DATE REC. 04-27-89

PRIORITY ______

PHONE(S): 827-2892

USER CODE: | 5 | 3 | 4 | 0 | 0 | 0 |

SUBMITTER: Corazon Halasan

CODE: | | | | |

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) | 8 | 9 | 0 | 4 | 2 | 6 | 1 | 7 | 3 | 0 | | | |

SAMPLE TYPE: WATER [x], SOIL [ ], FOOD [ ], OTHER: ______ CODE: | | | | |

COUNTY: SAN JUAN ; CITY: Bloomfield CODE: | | 0 | 1 | 5 |

LOCATION CODE: (Township-Range-Section-Tracts) | 2 | 9 | N + | 1 | 1 | W + ~~2 2 1 4~~ 14 2 0 0 | (10N06E24342)

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 Purgeables (1-3 Carbons)
- [x] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] ______
- [ ] ______
- [ ] ______
- [ ] ______
- [ ] ______

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (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

RECEIVED MAY 30 1989 HAZARDOUS WASTE BUREAU

Remarks: EPNG, Blanco monitor well # 2 (supposed background well but downgradient of North flare pit)

FIELD DATA:

pH=______; Conductivity=______ 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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): ______ Method of Shipment to the Lab: ______

This form accompanies ______ Septum Vials, ______ Glass Jugs, and/or ______ ______

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [ ] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD / Albq on 4/27/89 - 13:51 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [x] No [ ]

Signatures Michael J. Owen Donald Hanrahan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0554

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 17:30 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Chloroform	0.50		0.50	ppb

See Laboratory Remarks for Additional Information

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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: MJ Owen Date: 4-28-89

Laboratory Remarks: Blanco MW-2
Three to five unknown unsaturated compounds at trace to 5ppb were detected.

Analyst: MJ Owen — 4-28-89 — Reviewed By: R Meyerhein

Michael J. Owen
Analyst, Organic Chemistry

Analysis Date

Richard F. Meyerhein 05/11/89
Supervisor, Organic Chemistry Section

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud N
Albuquerque, NM 87106 — (505) 841-2555

WPF 854

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 | 27 | 89	LAB NO WC 1301	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400	
Collection DATE 4 | 26 | 89	SITE INFORM-ATION ►	Sample location	
Collection TIME 1730		Collection site description	El Paso Natural Gas, Blanco Plant MW # 2
Collected by — Person/Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED
MAY 2 1989

Station/well code 570159.5703, Site 015
Owner HAZARDOUS WASTE BUREAU

SAMPLING CONDITIONS

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400)	Conductivity (Uncorrected) µmho	Water Temp. (00010) °C	Conductivity at 25°C (00094) µmho

Field comments "background" - downgradient from No. Flare Pit

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ **NF:** Whole sample (Non-filtered) ☑ **F:** Filtered in field with 0.45 µm membrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☒ Nitrate-N +, Nitrate-N dissolved (00631)	203	mg/l	5/9
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5 | 16 | 89	

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1307	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400	
Collection DATE 4 26 89	SITE INFORM-ATION ►	Sample location	
Collection TIME 1730		Collection site description	El Paso Natural Gas, Blanco Plant M.W. # 2
Collected by — Person/Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED
APR 27 10
HAZARDOUS WASTE BUREAU

Station/well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400)	Conductivity (Uncorrected) µmho	Water Temp. (00010) °C	Conductivity at 25°C (00094) µmho

Field comments "background" well

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☒ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☒ Total Kjeldahl-N ( )	0.12	mg/l	5/16
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5/16/89	

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WNF 859

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1294	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1730		Collection site description	El Paso Natural Gas, Blanco Plant MW # 2
Collected by — Person/Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED JUN 4 1989 HAZARDOUS WASTE BUREAU

Station/well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: Groundwater
pH (00400)	Conductivity (Uncorrected) µmho	Water Temp. (00010) °C	Conductivity at 25°C (00094) µmho
Field comments: "background" — but downgradient from North flare pit			

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA		Units	Date analyzed
☐ Calcium (00915)	440	mg/l	5/5
☐ Magnesium (00925)	103	mg/l	5/5
☐ Sodium (00930)	2672	mg/l	5/1
☐ Potassium (00935)	7	mg/l	5/1
☐ Bicarbonate (00440)	430	mg/l	5/8
☐ Chloride (00940)	73.4	mg/l	5/26
☐ Sulfate (00945)	6470	mg/l	5/26
☐ Total filterable residue (dissolved) (70300)	10,898	mg/l	5-3
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N + , Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

RECEIVED JUN 15 1989 OIL CONSERVATION DIV. SANTA FE

F, A-H_2SO_4			
☐ Nitrate-N + , Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	6 7 89	

Laboratory remarks: PLEASE CHECK DESIRED ANALYSES

99

102

Lab No. 77-521,07-123 ORGANIC ANALYSIS REQUEST FORM F89164

REPORT TO: DAVID BOYER — Sample No. ______
N.M. OIL CONSERVATION DIVISION — DATE REC. ______
P.O. Box 2088 — PRIORITY ______
Santa Fe, NM 87504-2088 — PHONE(S): 827-5812

COLLECTION CITY: Bloomfield; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8904261530

LOCATION CODE: (Township-Range-Section-Tracts) |__|__|__+__|__|__+__|__+__|__|__|(10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: ______

This form accompanies 3 Septum Vials, ____ Glass Jugs, and/or ____ ______

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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: ______

FIELD DATA:

pH= 7; Conductivity= 2000 umho/cm at 14 °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.)

EPNG Blanco, Well W-5 No HC odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.G. Boyer Method of Shipment to the Lab: Hote Car

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 owner notified: ______ Phone or Letter? Initials ______

Inter·Mountain
Laboratories, Inc.

2508 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261530	Date Sampled:	04/26/89
Laboratory Number:	F891640	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/04/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	ND (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	ND (0.2)	ug/l
o-XYLENE	ND (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261530
IML Sample No: F891640
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/04/89

Parameter	Concentration	Units
CHLOROMETHANE	ND (1.0)	ug/l
BROMOMETHANE	ND (1.0)	ug/l
DICHLORODIFLUOROMETHANE	ND (1.0)	ug/l
VINYL CHLORIDE	ND (1.0)	ug/l
CHLOROETHANE	ND (1.0)	ug/l
METHYLENE CHLORIDE	ND (0.1)	ug/l
TRICHLOROFLUOROMETHANE	ND (1.0)	ug/l
1,1-DICHLOROETHENE	ND (0.1)	ug/l
1,1-DICHLOROETHANE	ND (0.1)	ug/l
TRANS-1,2-DICHLOROETHENE	ND (0.1)	ug/l
CHLOROFORM	ND (0.1)	ug/l
1,2-DICHLOROETHANE	ND (0.1)	ug/l
1,1,1-TRICHLOROETHANE	ND (0.1)	ug/l
CARBON TETRACHLORIDE	ND (0.1)	ug/l
BROMODICHLOROMETHANE	ND (0.1)	ug/l
1,2-DICHLOROPROPANE	ND (0.1)	ug/l
CIS-1,3-DICHLOROPROPENE	ND (0.1)	ug/l
TRICHLOROETHENE	ND (0.1)	ug/l
DIBROMOCHLOROMETHANE	ND (0.1)	ug/l
1,1,2-TRICHLOROETHANE	ND (0.1)	ug/l
TRANS-1,3-DICHLOROPROPENE	ND (0.1)	ug/l
2-CHLOROETHYLVINYL ETHER	ND (0.1)	ug/l
BROMOFORM	ND (0.5)	ug/l
1,1,2,2-TETRACHLOROETHANE	ND (0.1)	ug/l
TETRACHLOROETHENE	ND (0.1)	ug/l
CHLOROBENZENE	ND (0.1)	ug/l
1,2-DICHLOROBENZENE	ND (0.1)	ug/l
1,3-DICHLOROBENZENE	ND (0.1)	ug/l
1,4-DICHLOROBENZENE	ND (0.1)	ug/l
CIS-1,2-DICHLOROETHENE	ND (0.1)	ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

570159.5703 Site 15 754 WPU

OR89-0557-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 4-27-89

PRIORITY

RECEIVED
APR 30 1989
HAZARDOUS WASTE BUREAU

PHONE(S): 827-2892

USER CODE: 5 3 4 4 0 0

SUBMITTER: Corazon Halasan CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 1 5

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER: CODE:

COUNTY: SAN JUAN; CITY: Bloomfield CODE: 0 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2 + 1 4~~ 14 2 0 0 (10N06E24342)

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 Purgeables (1-3 Carbons)
- ☑ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (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: EPNG, Blanco monitor well # 5

FIELD DATA:

pH=_____; Conductivity=_____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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector):_____ Method of Shipment to the Lab:_____

This form accompanies _____ Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD/Albq on 4/27/89 - 13:57 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures _____ Donald Hanrahan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0557

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 15:30 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Halogenated Purgeables (33)	0.00	N	1.00	ppb

See Laboratory Remarks for Additional Information

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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: M.J. Owen Date: 4-28-87

Laboratory Remarks: Blanco MW-5
Three to six unknown unsaturated compounds at trace to 5ppb were detected.

Analyst: M.J. Owen 4-28-89
Michael J. Owen — *Analyst, Organic Chemistry*
Analysis Date

Reviewed By: R. Meyerhein
Richard F. Meyerhein 05/11/89
Supervisor, Organic Chemistry Section

New Mexico Health & Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO WC 1305	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORM-ATION ►	Sample location	
Collection TIME 1530		Collection site description	El Paso Natural Gas, Blanco Plant MW #5
Collected by — Person: Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED
MAY 10
HAZARDOUS WASTE BUREAU

Station/well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 9890 µmho	Water Temp. (00010) 16.5 °C	Conductivity at 25°C (00094) µmho

Field comments Standard

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted			
	☒ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 µ membrane filter	☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☒ Total Kjeldahl-N ( )	0.65	mg/l	5/16
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

RECEIVED
JUN 15 1989
OIL CONSERVATION DIV.
SANTA FE

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5/16/89	

Laboratory remarks

SLD 726 (12/84) DISTRIBUTION: WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud N.E.
Albuquerque, NM 87106 — (505) 841-2555

WNF 859

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	4 | 27 | 89	LAB NO.	WC 1292
Collection DATE	4 | 26 | 89	Collection TIME	1530
Collected by — Person/Agency	Cora Halasan EID/HED		

USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400

SITE INFORMATION ►

Sample location

Collection site description: El Paso Natural Gas, Bianco Plant MW # 5

RECEIVED JUN 9 1989 HAZARDOUS WASTE BUREAU

Station/well code

Owner

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: Groundwater
pH (00400): 7	Conductivity (Uncorrected): 9800 µmho	Water Temp. (00010): 16.5 °C	Conductivity at 25°C (00094): µmho

Field comments: turbid

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ **NF:** Whole sample (Non-filtered) ☑ **F:** Filtered in field with 0.45 µ membrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	592	mg/l	5/5
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	56.1	mg/l	5/5
☐ Other:			☐ Sodium (00930)	71	mg/l	5/
☐ Other:			☐ Potassium (00935)	2	mg/l	5/
☐ Other:			☐ Bicarbonate (00440)	335	mg/l	5/8
			☐ Chloride (00940)	6.2	mg/l	5/26
			☐ Sulfate (00945)	1510	mg/l	5/26
			☐ Total filterable residue (dissolved) (70300)	2558	mg/l	5/3
			☐ Other:			

NF, A-H_2SO_4	Units	Date analyzed	F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

RECEIVED JUN 15 1989 OIL CONSERVATION DIV. SANTA FE

Analyst	Date Reported	Reviewed by
	6 | 7 | 89	

Laboratory remarks: PLEASE CHECK APPROPRIATE BOX

100

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

Lab No. 77-521.07-123

ORGANIC ANALYSIS REQUEST FORM

F89146

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 0 4 2 6 1 2 0 4

LOCATION CODE: (Township-Range-Section-Tracts) _ _ | _ _ + _ _ | _ + _ | _ _ (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 3 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice: Sample stored in an ice bath (Not Frozen).
- ☐ P-AA: Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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, Triasines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= 7 ; Conductivity= 4250 umho/cm at 18.5 °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.)

EPNG Blanco Well W-6. Bailed 3 casing Volts, presence of hydrocarbons.

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. Boyer Method of Shipment to the Lab: State Car

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 owner notified: _____ Phone or Letter? Initials _____

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261204	Date Sampled:	04/26/89
Laboratory Number:	F891460	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/05/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	0.49 (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	0.41 (0.2)	ug/l
o-XYLENE	0.23 (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904271204
IML Sample No: F891460
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/27/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/03/89

Parameter	Concentration			Units
CHLOROMETHANE	ND	(1.0)		ug/l
BROMOMETHANE	ND	(1.0)		ug/l
DICHLORODIFLUOROMETHANE	ND	(1.0)		ug/l
VINYL CHLORIDE	ND	(1.0)		ug/l
CHLOROETHANE	ND	(1.0)		ug/l
METHYLENE CHLORIDE	ND	(10.0)	*	ug/l
TRICHLOROFLUOROMETHANE	ND	(1.0)		ug/l
1,1-DICHLOROETHENE	ND	(0.1)		ug/l
1,1-DICHLOROETHANE	ND	(0.1)		ug/l
TRANS-1,2-DICHLOROETHENE	ND	(0.1)		ug/l
CHLOROFORM	ND	(0.1)		ug/l
1,2-DICHLOROETHANE	ND	(0.1)		ug/l
1,1,1-TRICHLOROETHANE	ND	(0.1)		ug/l
CARBON TETRACHLORIDE	ND	(0.1)		ug/l
BROMODICHLOROMETHANE	ND	(0.1)		ug/l
1,2-DICHLOROPROPANE	ND	(0.1)		ug/l
CIS-1,3-DICHLOROPROPENE	ND	(0.1)		ug/l
TRICHLOROETHENE	ND	(0.1)		ug/l
DIBROMOCHLOROMETHANE	ND	(0.1)		ug/l
1,1,2-TRICHLOROETHANE	ND	(0.1)		ug/l
TRANS-1,3-DICHLOROPROPENE	ND	(0.1)		ug/l
2-CHLOROETHYLVINYL ETHER	ND	(0.1)		ug/l
BROMOFORM	ND	(0.5)		ug/l
1,1,2,2-TETRACHLOROETHANE	ND	(0.1)		ug/l
TETRACHLOROETHENE	ND	(0.1)		ug/l
CHLOROBENZENE	ND	(0.1)		ug/l
1,2-DICHLOROBENZENE	ND	(0.1)		ug/l
1,3-DICHLOROBENZENE	ND	(0.1)		ug/l
1,4-DICHLOROBENZENE	ND	(0.1)		ug/l
CIS-1,2-DICHLOROETHENE	ND	(0.1)		ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* High background in laboratory on this day.

Jack M. Morgan
Senior Organic Chemist

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

** Quality Assurance Report
Matrix Duplicate Analysis

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904271204
IML Sample No: F891460
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/27/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/03/89

Parameter	Concentration			Units
CHLOROMETHANE	ND	(1.0)		ug/l
BROMOMETHANE	ND	(1.0)		ug/l
DICHLORODIFLUOROMETHANE	ND	(1.0)		ug/l
VINYL CHLORIDE	ND	(1.0)		ug/l
CHLOROETHANE	ND	(1.0)		ug/l
METHYLENE CHLORIDE	ND	(10.0)	*	ug/l
TRICHLOROFLUOROMETHANE	ND	(1.0)		ug/l
1,1-DICHLOROETHENE	ND	(0.1)		ug/l
1,1-DICHLOROETHANE	ND	(0.1)		ug/l
TRANS-1,2-DICHLOROETHENE	ND	(0.1)		ug/l
CHLOROFORM	ND	(0.1)		ug/l
1,2-DICHLOROETHANE	ND	(0.1)		ug/l
1,1,1-TRICHLOROETHANE	ND	(0.1)		ug/l
CARBON TETRACHLORIDE	ND	(0.1)		ug/l
BROMODICHLOROMETHANE	ND	(0.1)		ug/l
1,2-DICHLOROPROPANE	ND	(0.1)		ug/l
CIS-1,3-DICHLOROPROPENE	ND	(0.1)		ug/l
TRICHLOROETHENE	ND	(0.1)		ug/l
DIBROMOCHLOROMETHANE	ND	(0.1)		ug/l
1,1,2-TRICHLOROETHANE	ND	(0.1)		ug/l
TRANS-1,3-DICHLOROPROPENE	ND	(0.1)		ug/l
2-CHLOROETHYLVINYL ETHER	ND	(0.1)		ug/l
BROMOFORM	ND	(0.5)		ug/l
1,1,2,2-TETRACHLOROETHANE	ND	(0.1)		ug/l
TETRACHLOROETHENE	ND	(0.1)		ug/l
CHLOROBENZENE	ND	(0.1)		ug/l
1,2-DICHLOROBENZENE	ND	(0.1)		ug/l
1,3-DICHLOROBENZENE	ND	(0.1)		ug/l
1,4-DICHLOROBENZENE	ND	(0.1)		ug/l
CIS-1,2-DICHLOROETHENE	ND	(0.1)		ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* High background in laboratory on this day.

Jack M. Morgan
Senior Organic Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO — HEALTH — ENVIRONMENT

570159.5703, Site 15 154 WPU

OR89-0559-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 4-27-89

PRIORITY

PHONE(S): 827-2892

USER CODE: 5 3 4 0 0

SUBMITTER: Corazon Halasan

CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 1 2 0 4

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER: CODE:

COUNTY: San Juan; CITY: Bloomfield CODE: 0 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2 + 1 4~~ 14 2 0 0 (10N06E24342)

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 Purgeables (1-3 Carbons)
- ☑ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (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: EPNG, Blanco monitor well # 6 (Water had sheen & hydrocarbon odor; well next to ~~North~~ South flare pit)

RECEIVED
MAY 10 1989
HAZARDOUS WASTE BUREAU

FIELD DATA:

pH= 7; Conductivity= 4250 umho/cm at 18.5 °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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Method of Shipment to the Lab:

This form accompanies Septum Vials, Glass Jugs, and/or

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD/Albq. on 4/27/89 - 13:57 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Michael Owen Cora Halasan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 23, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0559

Distribution
(■) Submitter
(※) SLD Files

To: Ground Water Bureau
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 12:04 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Halogenated Purgeables (33)	0.00	N	0.50	ppb

See Laboratory Remarks for Additional Information

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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: M J. Owen Date: 4-28-89

Laboratory Remarks: Blanco MW-6
Ten to twenty late eluting unknown unsaturated compounds at trace to 10ppb were detected.

Analyst: M J. Owen 4-28-89 **Reviewed By:** R Meyerhein

Michael J. Owen — *Analyst, Organic Chemistry*
Analysis Date
Richard F. Meyerhein 05/11/89 — *Supervisor, Organic Chemistry Section*

Lab No. 77-521.07-123 ORGANIC ANALYSIS REQUEST FORM F891147

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 0 4 2 6 1 2 0 1 4

LOCATION CODE: (Township-Range-Section-Tracts) _ _ + _ _ + _ _ + _ _ (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies _____ Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☐ 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 (1-5 Carbons)
- ☐ (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: _____

FIELD DATA:

pH= 7 ; Conductivity= 4250 umho/cm at 18.5 °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.)

EPNG Blanco, Well W-6, odor of hydrocarbons

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D J Boyer Method of Shipment to the Lab: State Car

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 owner notified: _____ Phone or Letter? Initials _____

Inter·Mountain
Laboratories, Inc.

2508 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Date: 05/24/89

Client: NMOCD
OCD Sample No: 8904261204
Sample Site:
IML Sample No: F89147 O
Analysis Requested: Phenols
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: 05/03/89
Date Analyzed: 05/22/89

Parameter	Concentration	Units
2-Chlorophenol	ND (250)	ug/l
2-Nitrophenol	ND (250)	ug/l
Phenol	ND (250)	ug/l
2,4-Dimethylphenol	ND (250)	ug/l
2,4-Dichlorophenol	ND (250)	ug/l
2,4,6-Trichlorophenol	ND (250)	ug/l
4-Chloro-3-methylphenol	ND (250)	ug/l
2,4-Dinitrophenol	ND (250)	ug/l
2-Methyl-4,6-dinitrophenol	ND (250)	ug/l
Pentachlorophenol	ND (250)	ug/l
4-Nitrophenol	ND (250)	ug/l

Method: 604 Phenols, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

C. Neal Schaeffer
Senior Organic Chemist

Inter·Mountain
Laboratories, Inc.

2509 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Date: 05/24/89

Client: NMOCD
OCD Sample No: 8904261204
Sample Site:
IML Sample No: F89147 O
Analysis Requested: Polynuclear hydrocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: 05/03/89
Date Analyzed: 05/22/89

Parameter	Concentration	Units
Acetnaphthene	ND (10)	ug/l
Acenaphthylene	ND (10)	ug/l
Anthracene	ND (10)	ug/l
Benzo(a)Anthracene	ND (10)	ug/l
Benzo(a)pyrene	ND (10)	ug/l
Benzo(b)fluoranthene	ND (10)	ug/l
Benzo(g,h,i)perylene	ND (10)	ug/l
Benzo(k)fluoranthene	ND (10)	ug/l
Chrysene	ND (10)	ug/l
Dibenzo(a,h)anthracene	ND (10)	ug/l
Fluoranthene	ND (10)	ug/l
Fluorene	ND (10)	ug/l
Indeno(1,2,3-cd)pyrene	ND (10)	ug/l
Naphthalene	ND (10)	ug/l
Phenanthrene	ND (10)	ug/l
Pyrene	ND (10)	ug/l
1-Methylnaphthalene	ND (10)	ug/l

Method: 8100 Polynuclear Aromatic Hydrocarbons, SW-846, USEPA (1986)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

C. Neal Schaeffer
Senior Organic Chemist

WPF 854

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1297	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1204		Collection site description	El Paso Natural Gas, Bianco Plant MW #6
Collected by — Person, Agency: Cora Halasan EID/HED			

RECEIVED
MAY 09 1989
HAZARDOUS WASTE BUREAU

Station well code

Owner

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

570159.5703, Site 015

SAMPLING CONDITIONS

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: Groundwater
pH (00400): 7	Conductivity (Uncorrected): ~~4250~~ µmho	Water Temp. (00010): 18.5 °C	Conductivity at 25°C (00094), µmho

Field comments: near South Jeare pit — MW#6

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ **NF:** Whole sample (Non-filtered) ☑ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☒ Nitrate-N +, Nitrate-N dissolved (00631) 69.9	mg/l	5/9
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst

Date Reported: 5 16 89

Reviewed by:

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO ALC 1303	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1204		Collection site description	El Paso Natural Gas, Bianco Plant MW #6
Collected by — Person, Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED
HAZARDOUS WASTE BUREAU

Station/well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 4250 ~~4400~~ µmho	Water Temp (00010) 19.5 °C	Conductivity at 25°C (00094) µmho
Field comments near No. flare pit & South			

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted				
	☑ NF: Whole sample (Non-filtered)	☐ F: Filtered in field with 0.45 µmembrane filter	☐ A: 2 ml H_2SO_4/L added	

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4

☐ Nitrate-N + , Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☒ Total Kjeldahl-N ( )	1.34	mg/l	5/16
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4

☐ Nitrate-N + , Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5/16/89	

Laboratory remarks

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WMF 859

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1290	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1204		Collection site description	El Paso Natural Gas, Bianco Plant MW # 6
Collected by — Person/Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

Station/well code
Owner

570159.5703, Site 015

SAMPLING CONDITIONS

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 4250 ~~4400~~ µmho	Water Temp. (00010) 18.5 °C	Conductivity at 25°C (00094) µmho
Field comments Near ~~North~~ South flare pit			

RECEIVED JUN 9 12:09 HAZARDOUS WASTE BUREAU

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted	☐ NF: Whole sample (Non-filtered)	☑ F: Filtered in field with 0.45 µmembrane filter	☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA		Units	Date analyzed
☐ Calcium (00915)	540	mg/l	5/5
☐ Magnesium (00925)	39.0	mg/l	5/5
☐ Sodium (00930)	833	mg/l	5/1
☐ Potassium (00935)	4	mg/l	5/1
☐ Bicarbonate (00440)	457	mg/l	5/6
☐ Chloride (00940)	50	mg/l	5/26
☐ Sulfate (00945)	2800	mg/l	5/26
☐ Total filterable residue (dissolved) (70300)	4794	mg/l	5-3
☐ Other:			

NF, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

RECEIVED JUN 15 1989 OIL CONSERVATION DIV. SANTA FE

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	6 7 89	

99

Laboratory remarks PLEASE CHECK THE BOX of the ANALYSES DESIRED

69

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

Lab No. 27-521,07-153 ORGANIC ANALYSIS REQUEST FORM F89166

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) |9|1|0|4|2|6|1|7|1|0|

LOCATION CODE: (Township-Range-Section-Tracts) | | | + | | + | + | | | (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 3 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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

- ☐ (781) 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: _____

FIELD DATA:

pH= 7 ; Conductivity= 3800 umho/cm at 15 °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.)

EPNG Blanco, Well W-7
No odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.A. Boyer Method of Shipment to the Lab: State Car

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 owner notified: _____ Phone or Letter? Initials ____

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261700	Date Sampled:	04/26/89
Laboratory Number:	F891660	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/08/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	ND (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	ND (0.2)	ug/l
o-XYLENE	ND (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261700
IML Sample No: F891660
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/02/89

Parameter	Concentration		Units
CHLOROMETHANE	ND	(1.0)	ug/l
BROMOMETHANE	ND	(1.0)	ug/l
DICHLORODIFLUOROMETHANE	ND	(1.0)	ug/l
VINYL CHLORIDE	ND	(1.0)	ug/l
CHLOROETHANE	ND	(1.0)	ug/l
METHYLENE CHLORIDE	ND	(0.1)	ug/l
TRICHLOROFLUOROMETHANE	ND	(1.0)	ug/l
1,1-DICHLOROETHENE	ND	(0.1)	ug/l
1,1-DICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l
CHLOROFORM	ND	(0.1)	ug/l
1,2-DICHLOROETHANE	ND	(0.1)	ug/l
1,1,1-TRICHLOROETHANE	ND	(0.1)	ug/l
CARBON TETRACHLORIDE	ND	(0.1)	ug/l
BROMODICHLOROMETHANE	ND	(0.1)	ug/l
1,2-DICHLOROPROPANE	ND	(0.1)	ug/l
CIS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
TRICHLOROETHENE	ND	(0.1)	ug/l
DIBROMOCHLOROMETHANE	ND	(0.1)	ug/l
1,1,2-TRICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
2-CHLOROETHYLVINYL ETHER	ND	(0.1)	ug/l
BROMOFORM	ND	(0.5)	ug/l
1,1,2,2-TETRACHLOROETHANE	ND	(0.1)	ug/l
TETRACHLOROETHENE	ND	(0.1)	ug/l
CHLOROBENZENE	ND	(0.1)	ug/l
1,2-DICHLOROBENZENE	ND	(0.1)	ug/l
1,3-DICHLOROBENZENE	ND	(0.1)	ug/l
1,4-DICHLOROBENZENE	ND	(0.1)	ug/l
CIS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH & ENVIRONMENT — STATE OF NEW MEXICO

570159.5703 Site 15 — 154 WPU

OR89-0555-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 04-27-89

PRIORITY

RECEIVED
APR 30 1989
HAZARDOUS WASTE BUREAU

PHONE(S): 827-2892

USER CODE: 5 3 4 0 1 0

SUBMITTER: Corazon Halasan

CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 1 1 7 0

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER: _____ CODE:

COUNTY: SAN JUAN ; CITY: Bloomfield CODE: 0 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2 + 1 4~~ 1 4 2 0 0 (10N06E24342)

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 Purgeables (1-3 Carbons)
- ☑ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (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: EPNG, Blanco monitor well #7; very turbid water

FIELD DATA:

pH= 7 ; Conductivity= 3800 umho/cm at 15 °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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): _____ Method of Shipment to the Lab: _____

This form accompanies _____ Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD/Alby on 4/27/89 - 13:57 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☑ No ☐

Signatures Michael J. Owen Donald Halasan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0555

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 17:00 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Halogenated Purgeables (33)	0.00	N	0.50	ppb

See Laboratory Remarks for Additional Information

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.
Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: MJ Owen Date: 4-28-89

Laboratory Remarks: Blanco MW-7
Three to six unknown unsaturated compounds at trace to 5ppb were detected.

Analyst: MJ Owen 4-28-89 **Reviewed By:** R Meyerhein
Michael J. Owen — Analysis Date — Richard F. Meyerhein 05/11/89
Analyst, Organic Chemistry — *Supervisor, Organic Chemistry Section*

Lab No. 77-52,07-123

ORGANIC ANALYSIS REQUEST FORM

F89165

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 0 4 2 6 1 6 0 0

LOCATION CODE: (Township-Range-Section-Tracts) | | | + | | + | | + | | | (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 3 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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: _____

FIELD DATA:

pH= 7 ; Conductivity= 6500 umho/cm at 15 °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.)

EPNG Blanco Well W-8
No odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. F. Boyer Method of Shipment to the Lab: State Car

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 owner notified: _____ Phone or Letter? Initials _____

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261600	Date Sampled:	04/26/89
Laboratory Number:	F891650	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/08/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	ND (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	ND (0.2)	ug/l
o-XYLENE	ND (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter-Mountain Laboratories, Inc.

2508 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

** Quality Assurance Report
Spike Analysis

Report Date: 05/15/89

Client: New Mexico OCD

Sample ID: 8904261600
Laboratory Number: F891650
Analysis Requested: Purgeable Aromatic
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: NA
Date Analyzed: 05/05/89

Parameter	Spike Added(ug/l)	Recovered (ug/l)	Percent Recovery
BENZENE	10	9.86	98.6
TOLUENE	10	9.32	93.2
ETHYLBENZENE	10	10.29	103

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261600
IML Sample No: F891650
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/01/89

Parameter	Concentration	Units
CHLOROMETHANE	ND (1.0)	ug/l
BROMOMETHANE	ND (1.0)	ug/l
DICHLORODIFLUOROMETHANE	ND (1.0)	ug/l
VINYL CHLORIDE	ND (1.0)	ug/l
CHLOROETHANE	ND (1.0)	ug/l
METHYLENE CHLORIDE	ND (0.1)	ug/l
TRICHLOROFLUOROMETHANE	ND (1.0)	ug/l
1,1-DICHLOROETHENE	ND (0.1)	ug/l
1,1-DICHLOROETHANE	ND (0.1)	ug/l
TRANS-1,2-DICHLOROETHENE	ND (0.1)	ug/l
CHLOROFORM	1.3 (0.1)	ug/l
1,2-DICHLOROETHANE	ND (0.1)	ug/l
1,1,1-TRICHLOROETHANE	ND (0.1)	ug/l
CARBON TETRACHLORIDE	ND (0.1)	ug/l
BROMODICHLOROMETHANE	ND (0.1)	ug/l
1,2-DICHLOROPROPANE	ND (0.1)	ug/l
CIS-1,3-DICHLOROPROPENE	ND (0.1)	ug/l
TRICHLOROETHENE	ND (0.1)	ug/l
DIBROMOCHLOROMETHANE	ND (0.1)	ug/l
1,1,2-TRICHLOROETHANE	ND (0.1)	ug/l
TRANS-1,3-DICHLOROPROPENE	ND (0.1)	ug/l
2-CHLOROETHYLVINYL ETHER	ND (0.1)	ug/l
BROMOFORM	ND (0.5)	ug/l
1,1,2,2-TETRACHLOROETHANE	ND (0.1)	ug/l
TETRACHLOROETHENE	ND (0.1)	ug/l
CHLOROBENZENE	ND (0.1)	ug/l
1,2-DICHLOROBENZENE	ND (0.1)	ug/l
1,3-DICHLOROBENZENE	ND (0.1)	ug/l
1,4-DICHLOROBENZENE	ND (0.1)	ug/l
CIS-1,2-DICHLOROETHENE	ND (0.1)	ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter·Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

** Quality Assurance Report
Spike Analysis

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261600
IML Sample No: F891650
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/01/89

Parameter	Spike Added (ug/l)	Concentration (ug/l)	Recovery (%)
1,1-DICHLOROETHANE	10	8.4 (0.1)	84.0
1,2-DICHLOROETHANE	10	9.3 (0.1)	93.0
TETRACHLOROETHENE	10	9.06 (0.1)	90.6
1,2-DICHLOROBENZENE	10	8.76 (0.1)	87.6

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

570159.5703 Site 15

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

754 wpu

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

OR89-0556-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-___

DATE REC. 4-27-89

PRIORITY

RECEIVED MAY 30 1989 HAZARDOUS WASTE BUREAU

PHONE(S): 827-2892

USER CODE: 5 | 8 | 4 | 0 | 9

SUBMITTER: Corazon Halasan

CODE: ___

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 / 1 6 / 1 5

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER:______ CODE: ___

COUNTY: SAN JUAN ; CITY: Bloomfield CODE: 0 1 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2 + 1 4~~ 1 4 2 0 0 (10N06E24342)

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 Purgeables (1-3 Carbons)
- ☑ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ ______
- ☐ ______
- ☐ ______
- ☐ ______
- ☐ ______

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (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: EPNG, Blanco monitor well #8 - very turbid GW

FIELD DATA:

pH=____; Conductivity=____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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector):____________ Method of Shipment to the Lab:________

This form accompanies ____ Septum Vials, ____ Glass Jugs, and/or ____ ________

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Dver at (location) SLD / Albq on 4/27/89 - 13:51 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures [signature] [signature: Donald ...]

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0556

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 16:15 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Acetone	35.00		1.00	ppb
Chloroform	2.50		0.50	ppb

See Laboratory Remarks for Additional Information

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.
Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☑ & Broken By: M J. Owen Date: 4-28-89

Laboratory Remarks: Blanco MW-8
Three to four unknown unsaturated compounds at trace to 3ppb were detected.

Analyst: M J. Owen 4-28-89
Michael J. Owen — Analysis Date
Analyst, Organic Chemistry

Reviewed By: R Meyerhein
Richard F. Meyerhein 05/11/89
Supervisor, Organic Chemistry Section

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

570159.5703 Site 15

754 wpll

0R89-0560-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 4-27-89

PRIORITY

PHONE(S): 827-2892

USER CODE: 5 3 4 0 0 0

SUBMITTER: Corazon Halasan

CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: ______ CODE:

COUNTY: SAN JUAN ; CITY: BLOOMFIELD CODE: 0 1 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2~~ + 1 4 (10N06E24342)
14 200

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 Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (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: EPNG, Blanco / ~~FIELD BLANK~~ DUPLICATE
(From MW-8 DJB from C.H.)

RECEIVED MAY 30 1989 HAZARDOUS WASTE BUREAU

FIELD DATA:

pH= ____; Conductivity= ____ 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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): ______ Method of Shipment to the Lab: ______

This form accompanies ____ Septum Vials, ____ Glass Jugs, and/or ____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [ ] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD / Albq. on 4 / 27 / 89 - 13:51 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Michael J. Owen [signature]

STATE OF NEW MEXICO ● HEALTH AND ●VIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0560

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 0:00 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Chloroform	4.00		0.50	ppb

See Laboratory Remarks for Additional Information

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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: M J Owen Date: 4-28-89

Laboratory Remarks: Blanco Duplicate
Two unknown unsaturated compounds at trace to 2ppb were detected.

Analyst: M J Owen 4-28-89
Michael J. Owen — Analysis Date
Analyst, Organic Chemistry

Reviewed By: R Meyerhein
Richard F. Meyerhein 05/11/89
Supervisor, Organic Chemistry Section

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO WC 1306	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORM-ATION ►	Sample location	
Collection TIME 1615		Collection site description	El Paso Natural Gas, Bianco Plant MW # 8
Collected by — Person/Agency Cora Halasan EID/HED			

RECEIVED
APR 28 10
HAZARDOUS WASTE BUREAU

Station/well code
Owner

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

SAMPLING CONDITIONS

570159.5703, Site 015

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 6500 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments: very turbid

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☒ **NF:** Whole sample (Non-filtered) ☒ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☒ Total Kjeldahl-N ( )	2.16	mg/l	5/16
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5 16 89	

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORAT DIVISION
700 Camino de Salud N
Albuquerque, NM 87106 — (505) 841-2555

WPF 854

ENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 / 27 / 89	LAB NO. WC 1302	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 53400	
Collection DATE 4 / 26 / 89	SITE INFORMATION ▶	Sample location	
Collection TIME		Collection site description: El Paso Natural Gas, Blanco Plant	
Collected by — Person/Agency: Cora Halasan EID/HED			

MW#4

RECEIVED
HAZARDOUS WASTE BUREAU

Station/well code
Owner

SEND FINAL REPORT TO ▶
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

570/59.5703, Site 015

SAMPLING CONDITIONS

☑ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type: Groundwater
pH (00400)	Conductivity (Uncorrected) µmho	Water Temp. (00010) °C	Conductivity at 25°C (00094) µmho

Field comments: (Dupe. is MW-8 ... from CH)

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted	☐ NF: Whole sample (Non-filtered)	☑ F: Filtered in field with 0.45 µmembrane filter	☐ A: 2 ml H_2SO_4/L added
☐ NA: No acid added ☐ Other-*specify*:			

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed	F, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho		☐ Calcium (00915)		mg/l	
☐ Total non-filterable residue (suspended) (00530)		mg/l		☐ Magnesium (00925)		mg/l	
☐ Other:				☐ Sodium (00930)		mg/l	
☐ Other:				☐ Potassium (00935)		mg/l	
☐ Other:				☐ Bicarbonate (00440)		mg/l	
				☐ Chloride (00940)		mg/l	
				☐ Sulfate (00945)		mg/l	
				☐ Total filterable residue (dissolved) (70300)		mg/l	
				☐ Other:			

NF, A-H_2SO_4		Units	Date analyzed	F, A-H_2SO_4		Units	Date analyzed
☐ Nitrate-N⁺, Nitrate-N total (00630)		mg/l		☒ Nitrate-N⁺, Nitrate-N dissolved (00631)	0.09	mg/l	5/9
☐ Ammonia-N total (00610)		mg/l		☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l		☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l		☐ Other:			
☐ Total organic carbon ( )		mg/l					
☐ Other:							
☐ Other:							

Analyst	Date Reported	Reviewed by
	5 / 16 / 89	[signature]

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health & Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO WC 1308	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORM-ATION ►	Sample location	
Collection TIME		Collection site description	El Paso Natural Gas, Bianco Plant
Collected by — Person: Agency Cora Halasan EID/HED			~~WPN 850~~ → Duplicate

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED

Station/ well code
Owner HAZARDOUS WASTE BUREAU

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400)	Conductivity (Uncorrected) μmho	Water Temp (00010) °C	Conductivity at 25°C (00094) μmho

Field comments turbid

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted			
	☑ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 μ membrane filter	☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		μmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☒ Total Kjeldahl-N ( )	1.69	mg/l	5/16
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	5 16 89	

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WNF 859

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1293	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1615		Collection site description	El Paso Natural Gas, Blanco Plant MW # 8
Collected by — Person/Agency Cora Halasan EID/HED			

RECEIVED JUN 9 1989

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

Station/well code
Owner HAZARDOUS WASTE BUREAU

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 6500 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments turbid — very

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ **NF:** Whole sample (Non-filtered) ☑ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	352	mg/l	5/5
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	87.8	mg/l	5/5
☐ Other:			☐ Sodium (00930)	1276	mg/l	5/
☐ Other:			☐ Potassium (00935)	5	mg/l	5/
☐ Other:			☐ Bicarbonate (00440)	275	mg/l	5/8
			☐ Chloride (00940)	11.4	mg/l	5/26
			☐ Sulfate (00945)	3900	mg/l	5/26
			☐ Total filterable residue (dissolved) (70300)	5814	mg/l	5-3
			☐ Other:			

NF, A-H_2SO_4	Units	Date analyzed	F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

RECEIVED JUN 15 1989 OIL CONSERVATION DIV. SANTA FE

Analyst	Date Reported	Reviewed by
	6 7 89	

Laboratory remarks PLEASE CHECK DESIRED Box

93

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

Lab No. 77-521.07-123

ORGANIC ANALYSIS REQUEST FORM

FB9148

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 891041216/1500

LOCATION CODE: (Township-Range-Section-Tracts) | | | + | | + | + | | | (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☐, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 3 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice: Sample stored in an ice bath (Not Frozen).
- ☐ P-AA: Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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: EPNG Blanco, Well W-10 No odor

FIELD DATA:

pH= 7 ; Conductivity= 4090 umho/cm at 12.5 °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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): N.K. Boyer Method of Shipment to the Lab: Hole Car

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 owner notified: _____ Phone or Letter? Initials _____

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/15/89

Client:	New Mexico OCD		
Sample ID:	8904261500	Date Sampled:	04/26/89
Laboratory Number:	F891480	Date Received:	04/28/89
Analysis Requested:	Purgeable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	05/04/89

Parameter	Concentration	Units
BENZENE	ND (0.2)	ug/l
TOLUENE	ND (0.2)	ug/l
ETHYLBENZENE	ND (0.2)	ug/l
m,p-XYLENE	ND (0.2)	ug/l
o-XYLENE	ND (0.2)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

Inter-Mountain Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Report Date: 05/09/89

Client: New Mexico OCD
Sample ID: 8904261500
IML Sample No: F891480
Analysis Requested: Purgeable Halocarbons
Sample Matrix: Water

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: N/A
Date Analyzed: 05/04/89

Parameter	Concentration		Units
CHLOROMETHANE	ND	(1.0)	ug/l
BROMOMETHANE	ND	(1.0)	ug/l
DICHLORODIFLUOROMETHANE	ND	(1.0)	ug/l
VINYL CHLORIDE	ND	(1.0)	ug/l
CHLOROETHANE	ND	(1.0)	ug/l
METHYLENE CHLORIDE	ND	(0.1)	ug/l
TRICHLOROFLUOROMETHANE	ND	(1.0)	ug/l
1,1-DICHLOROETHENE	ND	(0.1)	ug/l
1,1-DICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l
CHLOROFORM	ND	(0.1)	ug/l
1,2-DICHLOROETHANE	ND	(0.1)	ug/l
1,1,1-TRICHLOROETHANE	ND	(0.1)	ug/l
CARBON TETRACHLORIDE	ND	(0.1)	ug/l
BROMODICHLOROMETHANE	ND	(0.1)	ug/l
1,2-DICHLOROPROPANE	ND	(0.1)	ug/l
CIS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
TRICHLOROETHENE	ND	(0.1)	ug/l
DIBROMOCHLOROMETHANE	ND	(0.1)	ug/l
1,1,2-TRICHLOROETHANE	ND	(0.1)	ug/l
TRANS-1,3-DICHLOROPROPENE	ND	(0.1)	ug/l
2-CHLOROETHYLVINYL ETHER	ND	(0.1)	ug/l
BROMOFORM	ND	(0.5)	ug/l
1,1,2,2-TETRACHLOROETHANE	ND	(0.1)	ug/l
TETRACHLOROETHENE	ND	(0.1)	ug/l
CHLOROBENZENE	ND	(0.1)	ug/l
1,2-DICHLOROBENZENE	ND	(0.1)	ug/l
1,3-DICHLOROBENZENE	ND	(0.1)	ug/l
1,4-DICHLOROBENZENE	ND	(0.1)	ug/l
CIS-1,2-DICHLOROETHENE	ND	(0.1)	ug/l

Method: 601 Purgeable Halocarbons, 40 CFR Part 136, USEPA (1984).

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Jack M. Morgan
Senior Organic Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH & ENVIRONMENT — STATE OF NEW MEXICO

570159.5703 Site 15 — 154 Well

OR89-0558-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 4-27-89

PRIORITY

PHONE(S): 827-2892

USER CODE: 5 3 4 0 0

SUBMITTER: Corazon Halasan CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 1 5 0 0

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER: CODE:

COUNTY: SAN JUAN ; CITY: Bloomfield CODE: 0 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 1 W + ~~2 2 + 1 4~~ 4 2 0 0 (10N06E24342)

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 Purgeables (1-3 Carbons)
- ☑ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (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: EPNG, Blanco monitor well # 10

RECEIVED
MAY 30 1989
HAZARDOUS WASTE BUREAU

FIELD DATA:

pH= 7 ; Conductivity= 4090 umho/cm at 12.5 °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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Method of Shipment to the Lab:

This form accompanies ____ Septum Vials, ____ Glass Jugs, and/or ____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Dora Halasan to Michael Owen

at (location) SLD/Albq on 4/27/89 - 13:51 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Michael J. Owen Don Hanrahan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0558

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 15:00 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Halogenated Purgeables (33)	0.00	N	0.50	ppb
Aromatic Purgeables (6)	0.00	N	1.00	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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: M J Owen Date: 4-28-89

Laboratory Remarks: Blanco MW-10

Analyst: M J Owen 4-28-89 **Reviewed By:** R Meyerhein
Michael J. Owen — Analysis Date — Richard F. Meyerhein 05/11/89
Analyst, Organic Chemistry — *Supervisor, Organic Chemistry Section*

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPF 854

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO. WC 1298	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1500		Collection site description: El Paso Natural Gas, Bianco Plant	
Collected by — Person/Agency: Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED
HAZARDOUS WASTE BUREAU

Station well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: Groundwater
pH (00400)	Conductivity (Uncorrected) μmho	Water Temp. (00010) °C	Conductivity at 25°C (00094) μmho

Field comments: Turbid

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted | ☐ NF: Whole sample (Non-filtered) | ☑ F: Filtered in field with 0.45 μ membrane filter | ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		μmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☒ Nitrate-N +, Nitrate-N dissolved (00631)	0.90	mg/l	5/9
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 5/16/89 | Reviewed by

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

New Mexico Health & Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WPN 850

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO LC 1304	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 20 89	SITE INFORMATION ►	Sample location	
Collection TIME 1500		Collection site description	El Paso Natural Gas, Bianco Plant MW #10
Collected by — Person/Agency Cora Halasan EID/HED			

RECEIVED

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

Station/well code HAZARDOUS WASTE BUREAU
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☑ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type Groundwater
pH (00400) 7	Conductivity (Uncorrected) 4090 µmho	Water Temp. (00010) 12.5 °C	Conductivity at 25°C (00094) µmho

Field comments turbid

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted			
	☑ NF: Whole sample (Non-filtered)	☐ F: Filtered in field with 0.45 µ membrane filter	☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☒ Total Kjeldahl-N ( ) 1.35	mg/l	5 16
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	5 16 89	

Laboratory remarks

SLD 726 (12/84) *DISTRIBUTION:* WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

WNF 859

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 4 27 89	LAB NO WC 1291	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER 53400	
Collection DATE 4 26 89	SITE INFORMATION ►	Sample location	
Collection TIME 1500		Collection site description	El Paso Natural Gas, Blanco Plant MW # 10
Collected by — Person/Agency Cora Halasan EID/HED			

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
1190 St. Francis Drive
Santa Fe, NM 87503
Attn: Corazon Halasan, Superfund Section
Phone: 827-2892

RECEIVED JUN 6 1989 HAZARDOUS WASTE BUREAU

Station/well code
Owner

SAMPLING CONDITIONS

570159.5703, Site 015

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Subbasin Water
pH (00400) 7	Conductivity (Uncorrected) 4090 µmho	Water Temp. (00010) 12.5 °C	Conductivity at 25°C (00094) µmho

Field comments: turbid — very

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ **NF:** Whole sample (Non-filtered) ☒ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☐ **NA:** No acid added ☐ Other-*specify:*

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	468	mg/l	5/5
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	117	mg/l	5/5
☐ Other:			☐ Sodium (00930)	880	mg/l	5/1
☐ Other:			☐ Potassium (00935)	9	mg/l	5/1
☐ Other:			☐ Bicarbonate (00440)	366	mg/l	5/6
			☐ Chloride (00940)	457	mg/l	5/26
			☐ Sulfate (00945)	3160	mg/l	5/26
			☐ Total filterable residue (dissolved) (70300)	5086	mg/l	5-3
			☐ Other:			

NF, A-H_2SO_4	Units	Date analyzed	F, A-H_2SO_4		Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:			
☐ Total organic carbon ( )	mg/l					
☐ Other:						
☐ Other:						

RECEIVED JUN 15 1989 OIL CONSERVATION DIV. SANTA FE

Analyst	Date Reported	Reviewed by
	6 7 89	

Laboratory remarks: PLEASE CHECK APPROPRIATE BOX

98

73

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

Lab No. 77-521-07-123

ORGANIC ANALYSIS REQUEST FORM

F991145

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. _____
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 1 0 1 4 1 2 1 6 1 1 8 1 0 1 0

LOCATION CODE: (Township-Range-Section-Tracts) | | | + | | + | + | | | (10N06E24342)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☐, SOIL ☒, FOOD ☐, OTHER: _____

This form accompanies _____ Septum Vials, _____ Glass Jugs, and/or 1 Plastic jug Samples were preserved as follows:

- ☒ NP: No Preservation; Sample stored at room temperature.
- ☐ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☐ 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 (1-5 Carbons)
- ☐ (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, Triasines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☒ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH=_____; Conductivity=_____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.) Blucks, sandy, Strong odor. EPNG Blanco - North Flare pit. Sample cored and composited from 0-4 feet deep

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. L. Boyer Method of Shipment to the Lab: State Car.

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 owner notified:_____ Phone or Letter? Initials_____

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

Date: 05/24/89

Client: NMOCD
OCD Sample No: 8904261800
Sample Site:
IML Sample No: F89145 O
Analysis Requested: Polynuclear hydrocarbons
Sample Matrix: Soil

Date Sampled: 04/26/89
Date Received: 04/28/89
Date Extracted: 05/03/89
Date Analyzed: 05/22/89

Parameter	Concentration	Units
Acetnaphthene	ND (75)	ug/g
Acenaphthylene	ND (75)	ug/g
Anthracene	ND (75)	ug/g
Benzo(a)Anthracene	ND (75)	ug/g
Benzo(a)pyrene	ND (75)	ug/g
Benzo(b)fluoranthene	ND (75)	ug/g
Benzo(g,h,i)perylene	ND (75)	ug/g
Benzo(k)fluoranthene	ND (75)	ug/g
Chrysene	ND (75)	ug/g
Dibenzo(a,h)anthracene	ND (75)	ug/g
Fluoranthene	ND (75)	ug/g
Fluorene	ND (75)	ug/g
Indeno(1,2,3-cd)pyrene	ND (75)	ug/g
Naphthalene	ND (75)	ug/g
Phenanthrene	ND (75)	ug/g
Pyrene	ND (75)	ug/g
1-Methylnaphthalene	ND (75)	ug/g

Method: 8100 Polynuclear Aromatic Hydrocarbons, SW-846, USEPA (1986)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

Comments: Sample required extensive cleanup. Increased detection limits reflect increased baseline perturbation as well as sample loss due to cleanup.

C. Neal Schaeffer
Senior Organic Chemist

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
RADIOCHEMISTRY SECTION [505]-841-2574

June 9, 1989

ANALYTICAL REPORT
SLD Accession No. RC-89-0169

Distribution
(■) Submitter
(※) SLD Files

To: NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

From: Radiochemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: **A soil sample submitted to this laboratory on May 2, 1989**

User:
EID - Ground Water Bureau
Attn: Dennis McQuillan
1190 St. Francis Dr.
Santa Fe, NM 87503

DEMOGRAPHIC DATA

COLLECTION
On: 26-Apr-89 *By:* Boy . . .
At: 18:00 hrs. *In/Near:* none given

LOCATION
N. Flare Pit

ANALYTICAL RESULTS

Analysis	Value	Sigma	D. Lmt.	Units	Analyst
G-Alpha w/ Am-241 ref.	8.20	1.30	1.10	pCi/Gram	Bay
G-Alpha w/ U -nat ref.	13.30	2.50	1.80	pCi/Gram	Bay
G-Beta w/ Cs-137 ref.	31.90	2.40	1.60	pCi/Gram	Bay
G-Beta w/ Sr/Y90 ref.	30.20	2.10	1.50	pCi/Gram	Bay
Ra-226, non-SDWA Mth'd	0.49	0.03	0.02	pCi/Gram	Cress
Ra-228, non-SDWA Mth'd	0.60	0.30	0.60	pCi/Gram	Bay
U -238, non-SDWA Mth'd	0.59	0.04		pCi/Gram	Lusk
U -234, non-SDWA Mth'd	0.52	0.04		pCi/Gram	Lusk
Th-230, non-SDWA Mth'd	0.41	0.04		pCi/Gram	Lusk
Pb-210, non-SDWA Mth'd	3.60	0.40		pCi/Gram	Bay
Th-232, non-SDWA Mth'd	0.75	0.05		pCi/Gram	Bay

Notations & Comments:

Uncertainties, sigmas, are expressed as +- one standard deviation, i.e. one standard error.

Small negative or positive values which are less than two(2) standard deviations should be interpreted as: including 'zero'; as 'not detected'; as 'less than the detection limit (<D. Lmt.)' when reported; or 'less than twice the standard deviation'.

Laboratory Remarks:

Your soil sample was prepared for analysis as follows:

1. Was dried at ~110 C for ~48 hours and an additional 24 hours

(Continued on page 2.)

Solids T29N, R11W, Sec 11.43

at 160 C.
The wet wt. was 484.8 G
The dry wt. was 419.3 G
Therefore 65.5 G (13.5 %) of moisture was removed.

2. This dried sample was rough milled (paint shaker w/ ball bearings), to break-up non-hard-rock material, for ~half-hour.

3. The 419.3 G of milled material was fine power to be analyzed by our routine procedures, which, when appropriate, begins with a pyrosulfate fusion to totally dissolve the fine powdery material.

Reviewed By: Loren A. Berge
Loren A. Berge, Ph.D 06/09/89
Supervisor, Radiochemistry Section

LAB NUMBER RC-90169
DATE RECEIVED 05-02-89
DATE REPORTED _____

REPORT TO: Energy, Minerals and Natural Resource Dept.
Oil Conservation Division
P. O. Box 2088
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504

User Code 59300

Attention: David G. Boyer

( ) Water ( ) Soil (X) Sediment ( ) Vegetation ( ) Air Filter ( )

Sample Location EPNG Blanco, North Flare Pit Sample # _____

Purpose _____

Date Collected 890426 Time 1300 Name _____

Remarks by Collector Composite from Auger hole in bottom of pit, Depth ~~Feet~~ surface to four (4) feet

Sample Preparation None

( ) Filtered ( ) Non Filtered ( ) HNO_3 ( ) H_2SO_4 ( ) _____

pH _____ Temp. _____

Conductivity _____ umho Conductivity at 25°C _____ umho

ANALYSES REQUESTED

		Units ±	Counting Error	Date Analysed
(X)	Gross Alpha (Rel to U 238)			
(X)	Gross Alpha (Rel to Am 241)			
(X)	Gross Beta			
( )	Uranium 238			
( )	Uranium 235			
( )	Uranium 234			
( )	Thorium 232			
( )	Thorium 230			
( )	Thorium 228			
(X)	Radium 226			
(X)	Radium 228			
( )	Lead 210			
( )	Polonium 210			
( )	Radon 222			
( )	Gamma Spectroscopy			
( )	Other			

REMARKS BY ANALYST _____

570159.5703, Site 15

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

754 wpll

0R89-0561-C

REPORT TO: Corazon Halasan
NM EID, SUPERFUND SECTION
1190 ST. FRANCIS DR., RM N2300
SANTA FE, NM 87503

S.L.D. No. OR-

DATE REC. 4-27-89

PRIORITY

PHONE(S): 827-2892 USER CODE: 5 3 4 0 0 0

SUBMITTER: Corazon Halasan CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 9 0 4 2 6 0 0 0 0

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: ______ CODE:

COUNTY: SAN JUAN ; CITY: BLOOMFIELD CODE: 0 / 5

LOCATION CODE: (Township-Range-Section-Tracts) 29N + 11W + ~~22~~ + 4 (10N06E24342) 14 200

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 Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] ______
- [ ] ______
- [ ] ______
- [ ] ______
- [ ] ______

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (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: EPNG, Blanco / FIELD BLANK

RECEIVED MAY 30 1989 HAZARDOUS WASTE BUREAU

FIELD DATA:

pH= 7 ; Conductivity=______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.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector):______ Method of Shipment to the Lab:______

This form accompanies ______ Septum Vials, ______ Glass Jugs, and/or ______

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [ ] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Cora Halasan to Michael Owen at (location) SLD / Albq on 4 / 27 / 89 - 13 : 51 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Michael J. Owen Don Hanrahan

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

May 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0561

Distribution
(■) Submitter
(※) SLD Files

To: Superfund Section
Environmental Improvement Division
1190 St. Francis Dr.
Santa Fe, 87503

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 April 27, 1989**

User:
EID GROUND WATER, S.C.
P. O. Box 968
Santa Fe, NM 87504-0968

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Apr-89	*By:* Hal . . .	*Township:* 29N	*Section:* 14
At: 0:00 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 200

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Halogenated Purgeables (33)	0.00	N	0.50	ppb

See Laboratory Remarks for Additional Information

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.

Evidentiary Seals: Not Sealed☐; Intact: No☐, Yes☒ & Broken By: MJ Owen Date: 4-28-89

Laboratory Remarks: Blanco Field Blank
Two to three late eluting unknown unsaturated compounds at trace to 3ppb were detected.

Analyst: MJ Owen 4-28-89 **Reviewed By:** R Meyerhein
Michael J. Owen — Analysis Date
Analyst, Organic Chemistry
Richard F. Meyerhein 05/11/89
Supervisor, Organic Chemistry Section

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

754 WP4

88-1844-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. 11/3/88
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 88/10/21/6/14/30

LOCATION CODE: (Township-Range-Section-Tracts) 29N+11W+14+124 (10N06E24342)

USER CODE: 82235 SUBMITTER: David Boyer CODE: 260

SAMPLE TYPE: WATER [✓], SOIL [ ], FOOD [ ], OTHER:

This form accompanies 8 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [X] 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 (1-5 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: EPNG Blanco Wash pad separator

FIELD DATA:

pH=_____; Conductivity=12 umho/cm at 39° °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:

RECEIVED
APR 20 1989
OIL CONSERVATION DIV.
SANTA FE

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

Blanco line from crude tank

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Jamie Bailey Method of Shipment to the Lab: Hand delivered

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 owner notified:_____ Phone or Letter? Initials_____

ANALYSES PERFORMED LAB. No.: OR-

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☐ (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

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
* DETECTION LIMIT * *		+ DETECTION LIMIT + +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☐ No ☐. Seal(s) broken by: _____ date: _____

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

Date(s) of analysis: _____. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

March 27, 1989

ANALYTICAL REPORT
SLD Accession No. OR-88-1844

Distribution
(■) User
(▩) SLD Files

To: OIL CONSERVATION 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 November 3, 1988**

Submitter:
NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Oct-88	*By:* Boy . . .	*Township:* 29N	*Section:* 14
At: 14:30 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 124

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Benzene	240.00		0.50	ppb
Toluene	569.00		0.50	ppb
Ethylbenzene	43.00		0.50	ppb
p- & m-Xylene	284.00		0.50	ppb
1,2-Dimethylbenzene	92.00		0.50	ppb
PID compounds not identified	13.00		1.00	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: Steamer Line

Analyst: J. Richardson-Hill 1-27-89 **Reviewed By:** Richard F. Meyerhein 01/11/89

Analyst, Organic Chemistry — Analysis Date — *Supervisor, Organic Chemistry Section*

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 WNW

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 3 88	LAB NO. WC-4556	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 10 26 88	SITE INFORM-ATION ►	Sample location EPNG Blanco	
Collection TIME 1430		Collection site description Wash Pad Separator Steamer line from crude tanks	
Collected by — Person/Agency Anderson /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
DEC 23 1988
OIL CONSERVATION DIVISION

Station/ well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☐ Pump ☒ Dipped ☐ Tap	Water level	Discharge SAMPLE	Sample type
pH (00400)	Conductivity (Uncorrected) 12 µmho	Water Temp. (00010) 39 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☒ **NF:** Whole sample (Non-filtered) ☐ **F:** Filtered in field with 0.45 µm membrane filter ☐ **A:** 2 ml H_2SO_4/L added

☒ **NA:** No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	6	µmho	11/10
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: Lab pH	5.96		12/5
☐ Other:			
☐ Other:			

A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

From NF, NA Sample:

			Date Analyzed
☒ Calcium	8.0	mg/l	11/10
☒ Potassium	1	mg/l	12/9
☒ Magnesium	0	mg/l	11/10
☒ Sodium	1	mg/l	12/5
☒ Bicarbonate	<3	mg/l	12/5
☒ Chloride	<5	mg/l	12/8
☒ Sulfate	<5	mg/l	12/8
☒ Total Solids	<3	mg/l	12/6
☒ CO_3	0		12/5
☐			
☒ Cation/Anion Balance	To be balanced		

Analyst	Date Reported	Reviewed by
	12/16/88	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

Date Received	11/3/88	Lab No ICAP595	User Code	☐ 82235	☐ Other:

COLLECTION DATE & TIME: yy 88 | mm 10 | dd 26 | hh 14 | mm 30

COLLECTED BY: Anderson

TO:

RECEIVED
JAN 06 1989
OIL CONSERVATION DIVISION
SANTA FE

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: D. Boyer
TELEPHONE: 827-5812

COLLECTION SITE DESCRIPTION
EPNG Blanco Plant
Wash Pad Separator
Steam line from crude tanks
OWNER:

SITE LOCATION:
County: San Juan

Township, Range, Section, Tract: (10N06E24342)
T 29 N + R 11 W + S 14 + Tr 24

STATION/ WELL CODE:

LATITUDE, LONGITUDE: -

SAMPLING CONDITIONS:

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water Level:	Discharge:	Sample Type:

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
	12 µmho	39 °C	µmho

FIELD COMMENTS:

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ **WPN:** Water Preserved w/HNO_3 Non-Filtered	☐ **WPF:** Water Preserved w/HNO_3 Filtered	☒ **ICAP Scan** Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE
Aluminum	<0.1		
Barium	<0.1		
Beryllium	<0.1		
Boron	<0.1		
Cadmium	<0.1	☐	
Calcium	0.5		
Chromium	<0.1	☒	<0.005
Cobalt	<0.05		
Copper	<0.1		
Iron	0.3		
Lead	<0.1	☐	
Magnesium	<0.1		
Manganese	<0.05		
Molybdenum	<0.1		
Nickel	<0.1		

ELEMENT	ICAP VALUE		AA VALUE
Silicon	<0.1		
Silver	<0.1	☐	
Strontium	<0.1		
Tin	0.1		
Vanadium	<0.1		
Zinc	<0.1		
Arsenic		☐	
Selenium		☐	
Mercury		☐	
		☐	
		☐	
		☐	
		☐	
		☐	
		☐	

LAB COMMENTS: Negative.

For OCD Use:
Date Owner Notified:
Phone or Letter?
Initials:

ICAP Analyst JA **Reviewer** Jim Kelly
Date Analyzed 12/14/88 **Date Received** 12/29/88

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

754 WP4

88-1846-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. 11/3/88
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) |8|8|/|1|0|0|6|/|5|0|0|

LOCATION CODE: (Township-Range-Section-Tracts) |2|9|N+|1|1|W+|1|4+|1|4|2| (10N06E24342)

USER CODE: |8|2|2|3|5| SUBMITTER: David Boyer CODE: |2|6|0|

SAMPLE TYPE: WATER |☑|, 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.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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: EPNG Blanco Plant

RECEIVED

APR 20 1989

OIL CONSERVATION DIV. SANTA FE

FIELD DATA:

pH=_____; Conductivity=290 umho/cm at 21 °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.)

SPCC pond, receives leakage from cooling pond

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Jonnie Barley Method of Shipment to the Lab: Hand delivered

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 owner notified:_____ Phone or Letter? Initials_____

ANALYSES PERFORMED

LAB No.: OR-

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☐ (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

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
* DETECTION LIMIT * *		+ DETECTION LIMIT + +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☐ No ☐. Seal(s) broken by: _____ date: _____

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

Date(s) of analysis: _____. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

January 23, 1989

ANALYTICAL REPORT
SLD Accession No. OR-88-1846

Distribution
(■) Submitter
(▩) 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 November 3, 1988**

User:
OIL CONSERVATION DIV
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Oct-88	*By:* Boy . . .	*Township:* 29N	*Section:* 14
At: 15:00 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 142

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Chloroform	2.00		0.50	ppb
Benzene	7.00		0.50	ppb
p- & m-Xylene	0.60		0.50	ppb
Toluene	6.00		0.50	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: SPCC Pond

Analyst: _____ 11-22-88 **Reviewed By:** _____
J. Richardson-Hill — Analysis Date — *Analyst, Organic Chemistry*
Richard F. Meyerhein 01/11/89 — *Supervisor, Organic Chemistry Section*

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 WNW

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 3 88	LAB NO. WC-4559	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 10 26 88	SITE INFORMATION ►	Sample location EPNG Blanco Plant	
Collection TIME 1500		Collection site description SPCC pond	
Collected by — Person/Agency Anderson /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
~~FEB 21 1989~~
Dec 21 1988
OIL CONSERVATION DIVISION
SANTA FE

Station/ well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☐ Pump ☒ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 290 µmho	Water Temp. (00010) 21 °C	Conductivity at 25°C (00094) µmho

Field comments: Receives leakage from cooling pond

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☒ **NF:** Whole sample (Non-filtered) ☐ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☒ **NA:** No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	358	µmho	11/10
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: Lab pH	7.64		12/5
☐ Other:			
☐ Other:			

A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

From NF, NA Sample:

			Date Analyzed
☒ Calcium	50	mg/l	11/10
☒ Potassium	4	mg/l	11/22
☒ Magnesium	6.7	mg/l	11/10
☒ Sodium	20	mg/l	11/22
☒ Bicarbonate	107	mg/l	12/5
☒ Chloride	10	mg/l	12/8
☒ Sulfate	78.3	mg/l	12/8
☒ Total Solids	248	mg/l	12/6
☒ CO_3	0		12/5
☒ Rx	0.69		12/06
☒ Cation/Anion Balance			

Analyst	Date Reported	Reviewed by
	12 12 88	

Laboratory remarks

10

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

CATIONS				ANIONS			
ANALYTE	MEQ.	PPM	DET. LIMIT	ANALYTE	MEQ.	PPM	DET. LIMIT
Ca	2.50	50.00	<3.0	HC03	1.75	107.00	<1.0
Mg	0.55	6.70	<0.3	SO4	1.63	78.30	<10.0
Na	0.87	20.00	<10.0	CL	0.28	10.00	<5.0
K	0.10	4.00	<0.3				
Mn	0.00	0.00		NO3	0.00	0.00	< 0.
Fe	0.00	0.00		C03	0.00	0.00	< 1.
				NH3	0.00	0.00	< 0.
				PO4	0.00	0.00	< 0.
SUMS	4.02	80.70			3.67	195.30	

Total Dissolved Solids= 248
Ion Balance = 109.56%

WC No. = 8804457
Date out/By CO 12/12

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

Date Received	11/3/88	Lab No. ICAP-593	User Code	☒ 82235	☐ Other:

COLLECTION DATE & TIME: yy 88 | mm 10 | dd 26 | hh 15 | mm 00

COLLECTION SITE DESCRIPTION: EPNG BLANCO PLANT SPCC POND

COLLECTED BY:

TO:

RECEIVED
FEB 21 1989
OIL CONSERVATION DIVISION SANTA FE

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: D. Boyer
TELEPHONE: 827-5812

OWNER:

SITE LOCATION:
County: SAN JUAN

Township, Range, Section, Tract: (10N06E24342)
29 N+ 11 W+ 14+ 14 2

STATION/ WELL CODE:

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water Level:	Discharge:	Sample Type:

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
	290 µmho	21 °C	µmho

FIELD COMMENTS: Receives leakage from cooling pond

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ **WPN:** Water Preserved w/HNO_3 Non-Filtered	☐ **WPF:** Water Preserved w/HNO_3 Filtered	☒ **ICAP Scan** Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE
Aluminum	0.4		
Barium	<0.1		
Beryllium	<0.1		
Boron	<0.1		
Cadmium	<0.1	☐	
Calcium	41.		
Chromium	<0.1	☒	0.005
Cobalt	<0.05		
Copper	<0.1		
Iron	0.5		
Lead	<0.1	☒	<0.005
Magnesium	5.5		
Manganese	<0.05		
Molybdenum	<0.1		
Nickel	<0.1		

ELEMENT	ICAP VALUE		AA VALUE
Silicon	4.5		
Silver	<0.1	☐	
Strontium	0.4		
Tin	0.1		
Vanadium	<0.1		
Zinc	<0.1		
Arsenic		☐	
Selenium		☐	
Mercury		☐	

LAB COMMENTS: 11/16/88 Digest.

For OCD Use:
Date Owner Notified:
Phone or Letter?
Initials:

ICAP Analyst JMA **Reviewer** John L. Mayer
Date Analyzed 12/14/88 **Date Reveived** 2/9/89

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

754 WP4

88-1843-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. 11/3/88
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) | 8 | 8 | 1 | 0 | 2 | 6 | 1 | 5 | 2 | 5 |

LOCATION CODE: (Township-Range-Section-Tracts) | 2 | 9 | N + | 1 | 1 | W + | 1 | 4 + | 1 | 2 | 4 | (10N06E24342)

USER CODE: | 8 | 2 | 2 | 3 | 5 | SUBMITTER: David Boyer CODE: | 2 | 6 | 0 |

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER:

This form accompanies _____ 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 (1-5 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: EPNG Blanco Plant

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SANTA FE

FIELD DATA:

pH=_____; Conductivity=1800 umho/cm at 17.5 °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.)

Cooling Tower B

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Joni Bailey Method of Shipment to the Lab: Hand delivered

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 owner notified:_____ Phone or Letter? Initials_____

ANALYSES PERFORMED LAB. No.: OR-

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☐ (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

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
* DETECTION LIMIT * ✱		+ DETECTION LIMIT + +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☐ No ☐. Seal(s) broken by: _____ date: _____

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

Date(s) of analysis: _____. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

April 3, 1989

ANALYTICAL REPORT
SLD Accession No. OR-88-1843

Distribution
(■) User
(▩) SLD Files

To: OIL CONSERVATION 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 November 3, 1988**

Submitter:
NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Oct-88	*By:* Boy . . .	*Township:* 29N	*Section:* 14
At: 15:25 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 124

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Chloroform	2.00		0.50	ppb
PID compounds not identified	1.00		60.00	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: Cooling Tower B

Analyst: J. Richardson-Hill — *Analyst, Organic Chemistry*
1-22-89 — Analysis Date

Reviewed By: Richard F. Meyerhein 01/11/89 — *Supervisor, Organic Chemistry Section*

859
WNW

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 3 88	LAB NO. WC-4854	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 10 26 88	WC-4554 SITE INFORMATION ►	Sample location EPNG Blanco Plant	
Collection TIME 1525		Collection site description Cooling Tower B	
Collected by — Person/Agency Anderson / OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
DEC 21 1988
OIL CONSERVATION DIVISION
SANTA FE

Station/ well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1800 µmho	Water Temp. (00010) 17.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☒ **NF:** Whole sample (Non-filtered) ☐ **F:** Filtered in field with 0.45 µmembrane filter ☐ **A:** 2 ml H_2SO_4/L added

☒ **NA:** No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	2439	µmho	11/10
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: lab pH	6.58		12/5
☐ Other:			
☐ Other:			

A-H_2SO_4			
☐ Nitrate-N + , Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

From NF, NA Sample:

			Date Analyzed
☒ Calcium	312	mg/l	11/10
☒ Potassium	84	mg/l	11/22
☒ Magnesium	75.0	mg/l	11/10
☒ Sodium	162	mg/l	11/22
☒ Bicarbonate	55.1	mg/l	12/5
☒ Chloride	22.1	mg/l	12/8
☒ Sulfate	1300	mg/l	12/8
☒ Total Solids	2302	mg/l	12/2
☒ CO_3	0		12/5
☐			
☒ Cation/Anion Balance			

Analyst	Date Reported	Reviewed by
	12 12 88	C Anderson

Laboratory remarks

49

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

CATIONS				ANIONS			
ANALYTE	MEQ.	PPM	DET. LIMIT	ANALYTE	MEQ.	PPM	DET. LIMIT
Ca	15.57	312.00	<3.0	HC03	0.90	55.00	<1.0
Mg	6.16	75.00	<0.3	SO4	27.08	1300.00	<10.0
Na	7.05	162.00	<10.0	CL	0.62	22.00	<5.0
K	2.15	84.00	<0.3				
Mn	0.00	0.00		NO3	0.00	0.00	< 0.
Fe	0.00	0.00		C03	0.00	0.00	< 1.
				NH3	0.00	0.00	< 0.
				PO4	0.00	0.00	< 0.
SUMS	30.92	633.00			28.61	1377.00	

Total Dissolved Solids= 2302
Ion Balance = 108.11%

WC No. = 8804554
Date out/By Glenn 12/12

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

Date Received	11 3 88	Lab No ICAP-592	User Code	☒ 82235	☐ Other:

COLLECTION DATE & TIME: yy 88 | mm 10 | dd 26 | hh 15 | mm 25

COLLECTED BY: Anderson / Daly

COLLECTION SITE DESCRIPTION: EPNG BLANCO PLANT / COOLING TOWER B

OWNER:

RECEIVED
FEB 21 1989
OIL CONSERVATION DIVISION
SANTA FE

TO:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: D. Boyer
TELEPHONE: 827-5812

SITE LOCATION:
County: San Juan

Township, Range, Section, Tract: (10N06E24342)
29 W + 11 W + 14 + 24

STATION/ WELL CODE:

LATITUDE, LONGITUDE: -

SAMPLING CONDITIONS:

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water Level:	Discharge:	Sample Type:

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
	1800 µmho	17.5 °C	µmho

FIELD COMMENTS:

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ **WPN:** Water Preserved w/HNO_3 Non-Filtered	☐ **WPF:** Water Preserved w/HNO_3 Filtered	☒ **ICAP Scan** Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE	ELEMENT	ICAP VALUE		AA VALUE
Aluminum	0.2			Silicon	42.		
Barium	0.3			Silver	<0.1	☐	
Beryllium	<0.1			Strontium	2.4		
Boron	0.1			Tin	0.2		
Cadmium	<0.1	☐		Vanadium	<0.1		
Calcium	300.			Zinc	0.3		
Chromium	<0.1	☒	0.016	Arsenic		☐	
Cobalt	<0.05			Selenium		☐	
Copper	<0.1			Mercury		☐	
Iron	0.3					☐	
Lead	<0.1	☐				☐	
Magnesium	60.					☐	
Manganese	0.07					☐	
Molybdenum	<0.1					☐	
Nickel	<0.1					☐	

LAB COMMENTS: 11/16/88 Weight.

For OCD Use:
Date Owner Notified:
Phone or Letter?
Initials:

ICAP Analyst JAA
Date Analyzed 12/14/88

Reviewer [signature]
Date Reveived 2/9/89

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

754
wp4

88-1845-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. 11/3/88
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Bloomfield ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) |8|8|1|0|2|6|1|5|3|5|

LOCATION CODE: (Township-Range-Section-Tracts) |2|9|N|+|1|1|W|+|1|4|+|1|2|2| (10N06E24342)

USER CODE: |8|2|2|3|5| SUBMITTER: David Boyer CODE: |2|6|0|

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.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- ☒ 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 (1-5 Carbons)
- ☒ (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: EPNG Blanco Plant

RECEIVED
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OIL CONSERVATION DIV.
SANTA FE

FIELD DATA:

pH=_____; Conductivity=1950 umho/cm at 21 °C; Chlorine Residual=_____ mg/l

Dissolved Oxygen=_____ mg/l; Alkalinity=_____ mg/l; Flow Rate_____ ____/____

Depth to water 10-12 ft.; Depth of well 15-16 ft.; Perforation Interval _____-_____ ft.; Casing:_____

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

"D" Building Well Product floating on surface

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Jamie Bailey Method of Shipment to the Lab: Hand delivered

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 owner notified:_____ Phone or Letter? Initials_____

ANALYSES PERFORMED

LAB. No.: OR-

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☐ (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

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
* DETECTION LIMIT * ✱		+ DETECTION LIMIT + †	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

_____

_____

_____

_____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☐ No ☐. Seal(s) broken by: _____ date: _____

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

Date(s) of analysis: _____. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

January 11, 1989

ANALYTICAL REPORT
SLD Accession No. OR-88-1845

Distribution
(※) User
(■) SLD Files

To: Organic Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: **A purgeable water sample submitted to this laboratory on November 3, 1988**

User:
OIL CONSERVATION DIV
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

Submitter:
NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

DEMOGRAPHIC DATA

COLLECTION		*LOCATION*	
On: 26-Oct-88	*By:* Boy . . .	*Township:* 29N	*Section:* 14
At: 15:35 hrs.	*In/Near:* Bloomfield	*Range:* 11W	*Tract:* 122

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Benzene	14.00		0.50	ppb
Toluene	3.00		0.50	ppb
PID compounds not identified	20.00		0.50	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: "D" Biulding Well

Analyst: J. Richardson-Hill
Analyst, Organic Chemistry

11-22-88
Analysis Date

Reviewed By: Richard F. Meyerhein 01/11/89
Supervisor, Organic Chemistry Section

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 WNW

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 3 88	LAB NO. WC-4553	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 10 26 88	SITE INFORM-ATION ►	Sample location EPNG Blanco Plant	
Collection TIME 1535		Collection site description "D" Building Well	
Collected by — Person/Agency Anderson /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, P.O. Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
DEC 21 1988
OIL CONSERVATION DIVISION
SANTA FE

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1950 µmho	Water Temp. (00010) 21 °C	Conductivity at 25°C (00094) µmho

Field comments: Product floating on surface.

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☒ NF: Whole sample (Non-filtered) ☐ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	2267	µmho	11/10
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: Lab pH	7.91		12/5
☐ Other:			
☐ Other:			

A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

From NF, NA Sample:

			Date Analyzed
☒ Calcium	160	mg/l	11/10
☒ Potassium	5	mg/l	11/22
☒ Magnesium	38.4	mg/l	11/10
☒ Sodium	399	mg/l	11/22
☒ Bicarbonate	559	mg/l	12/5
☒ Chloride	16.5	mg/l	12/8
☒ Sulfate	777	mg/l	12/8
☒ Total Solids	1764	mg/l	12/2
☒ CO_3	0		12/5
☐			
☒ Cation/Anion Balance			

Analyst	Date Reported	Reviewed by
	12 12 88	

Laboratory remarks

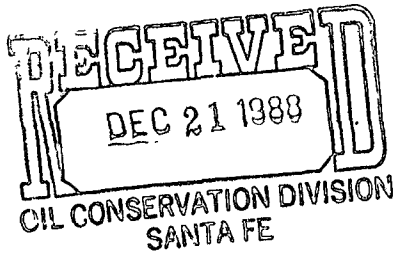
pH

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

CATIONS				ANIONS			
ANALYTE	MEQ.	PPM	DET. LIMIT	ANALYTE	MEQ.	PPM	DET. LIMIT
Ca	27.35	548.00	<3.0	HC03	4.70	287.00	<1.0
Mg	6.87	83.60	<0.3	SO4	16.21	778.00	<10.0
Na	11.66	268.00	<10.0	CL	18.79	666.00	<5.0
K	0.31	12.00	<0.3				
Mn	0.00	0.00		NO3	0.00	0.00	< 0.
Fe	0.00	0.00		C03	0.00	0.00	< 1.
				NH3	0.00	0.00	< 0.
				PO4	0.00	0.00	< 0.
SUMS	46.18	911.60			39.70	1731.00	

Total Dissolved Solids= 1764
Ion Balance = 116.32%

WC No. = 8804553
Date out/By Glenn 12/12/88



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

Date Received	11/3/88	Lab No	ICAP-591	User Code	☐ 82235	☐ Other:

COLLECTION DATE & TIME: yy 88 | mm 10 | dd 26 | hh 15 | mm 35

COLLECTED BY: Anderson

COLLECTION SITE DESCRIPTION: EPNG BLANCO PLANT

BUILDING "D" WELL

OWNER:

RECEIVED
JAN 06 1989
OIL CONSERVATION DIVISION
SANTA FE

TO:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: D. Boyer
TELEPHONE: 827-5812

SITE LOCATION:
County: San Juan

Township, Range, Section, Tract: (10N06E24342)
29 W+ 11 W+ 14+ 12 24

STATION/ WELL CODE:

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water Level: 10-12'	Discharge:	Sample Type:

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
	1950 µmho	21 °C	µmho

FIELD COMMENTS: Product floating on surface

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ WPN: Water Preserved w/HNO_3 Non-Filtered	☐ WPF: Water Preserved w/HNO_3 Filtered	☒ ICAP Scan Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE	ELEMENT	ICAP VALUE		AA VALUE
Aluminum	0.1			Silicon	8.6		
Barium	<0.1			Silver	<0.1	☐	
Beryllium	<0.1			Strontium	4.1		
Boron	1.0			Tin	0.2		
Cadmium	<0.1	☐		Vanadium	<0.1		
Calcium	180.			Zinc	<0.1		
Chromium	<0.1	☒	0.007	Arsenic		☐	
Cobalt	<0.05			Selenium		☐	
Copper	<0.1			Mercury		☐	
Iron	1.7					☐	
Lead	<0.1	☐				☐	
Magnesium	36.					☐	
Manganese	0.58					☐	
Molybdenum	<0.1					☐	
Nickel	<0.1					☐	

LAB COMMENTS: Digest

For OCD Use:
Date Owner Notified:
Phone or Letter?
Initials:

ICAP Analyst JA Reviewer

Date Analyzed 12/14/88 Date Received 12/29/88

New Mexico Health and Environment Department

August 31. 1989

Mark Satterwhite, 6H-SS
USEPA, Region VI
1445 Ross Ave, Suite 1200
Dallas, Texas 75202-2733

RE: SI and ROC for the Red River Mining District
LSI for El Paso Natural Gas, Blanco Plant

Dear Mark:

Enclosed is the final Site Inspection(SI) report for the Red River Mining District as prepared by Ms. Dale Doremus, and the final Listing Site Inspection(LSI) report for the El Paso Natural Gas, Blanco Plant, as prepared by Cora Halasan. As a separate document is provided the Record of Communication(ROC) between Presley Hatcher and William Taylor of EPA and Ms. Dale Doremus of the NMEID concerning the Red River Mining District. This ROC reflects the sentiment that no additional Superfund resources will be expended at the Red River Mining District.

The EID also recommends that no further resources be utilized to investigate the El Paso Natural Gas, Blanco Plant site. The minimal environmental hazards from past operations and lack of targets for both the ground water and surface water pathways have led to relatively low preliminary and projected HRS scores.

These reports and the ROC are submitted in partial fulfillment of the FY 1988 MSCA commitments.

Any questions that arise on these reports should be directed to Ms. Dale Doremus at (505)827-2892 or Cora Halasan at (505)827-2907.

Sincerely,

Steven J. Cary, Program Manager
Superfund Section
Hazardous Waste Bureau

enc.

— ENVIRONMENTAL IMPROVEMENT DIVISION —
Harold Runnels Building
1190 St. Francis Dr.
Santa Fe, New Mexico 87503

STATE OF NEW MEXICO
ENVIRONMENT Department

MEMORANDUM

RECEIVED
AUG 28 1989
OIL CONSERVATION DIV.
SANTA FE

DATE: 8/24/89

TO: Dave Boyer

FROM: Cova Halasan

SUBJECT: EPNG: discharge plan, letters of 1/23/89 & 8/14/89.

Dave,

I wanted to get this to you quickly, before I bury it under my desk clutter. Except for comments on MW-2 & ponds, informal non-Superfund comments & questions. Thank you for keeping me in touch.

1) 8/14, requirement 4: "EPNG will investigate high N levels in MW-2." Any commitment beyond investigation? Any specifics (verbal or otherwise) on closure/clean up of north flare pit? Commitment, locations, schedules on additional well(s) upgradient of pit &/or for determining horizontal extent of NO_3-N contamination? By the way, did you get EPNG's results on split soil sample from pit?

2) I would much appreciate a copy of modification plan (8/14) when OCD receives it. Didn't find the "wastetho mod. project outlined in discharge plan." that 8/14 letter referred to except very brief discussion in Section 4.3 of DP. Will completion schedule be part of mod. plan? for closure of pits & ponds

3) I agree with OCD comments in Question 8, 1/23 — re: remaining soils will be left in place & disked to enhance biodegradation. OCD states that this may not be adequate in all cases because of shallowness of GW + proximity of Citizen's Ditch. I'm especially concerned with ponds + pit @ south end of plant (cooling, abandoned evap., condensate - 3 of them). According to Bechtel's investigation,

GW is 9.2' to 24.6' below surface (MW-5 to MW-10), depth to bedrock/sandstone is 8' to 35' and soils (↳ of Nacimiento) moderately permeable (as you know) in the south area. Also, bio-deg. in such dry soils (without addition of moisture & maybe enhancing the type of bacteria that feed on their substrate(s)) may not go so well or 'fast' enough.

4) 8/14, Requirement 7: re drawn lines testing. EPNG requests lines testing be delayed until new facilities are designed +/or old gasoline plant demolished. Sounds reasonable, to a point. When will the design or dismantlement be done — 2 yrs, 5 yrs, 20 yrs from now?

5) 8/14, Requirement 9: re landfill.

- will EPNG determine composition / chemical characterization of compressor used oil filters? (My concern, besides organics: heavy metals)? No answer to OCD question "are classifier solids & used oil filters drained... before disposal". Wonder how much total trash they generate / how much hazardous wastes they generate per year.
- Where is their solid waste disposal area (SDWA)? At one point, it sounds as if it is (will be?) located in the same canyon as Blanco compressor facility, & at another point, it seems it's located in another canyon. Several statements are unsubstantiated — or, at least some of the reasoning (& conclusions) seem spurious in light of the data (& lack of data) they offer as reference. Examples (a) "the SDWA elevation is high enough above center of alluvial filled canyon", and (b) "its location westward enough of canyon center that" (c) "no water table aquifer in the alluvium is expected to extend beneath the SDWA." A and B does not lead to C. & No data is given to determine/indicate location (A & B). The alluvial aquifer limits / boundaries may be

STATE OF NEW MEXICO
ENVIRONMENT Department

MEMORANDUM

DATE:

RECEIVED
AUG 28 1989
OIL CONSERVATION DIV.
SANTA FE

TO:

FROM:

SUBJECT:

(p3)

at the edges (ie, perhaps discontinuity @ the Nacimiento ??) of this canyon, but to infer C, especially without data on this canyon, is stretching it. I do not disagree with using data & work from their 1988 GW Investigation Report (Superfund-related, you may recall). I just don't think it's justifiable to infer beyond lithology (in general) & estimates of depth to GW (within same order of magnitude, anyway).

Other flaws in reasoning:

- Estimated depth to Bedrock (probably the Nacimiento Formation; clay-/mud-/sandstones) beneath SDWA is 20-30'. Estimated depth to GW is 30-50'. Given these estimates, GW is not in alluvium but in Nacimiento. Difficult to believe no H_2O in alluvium.
- Above estimates seem to lead to inference that the bottom of the fill/trenches will NOT be >50' above GW (as required by new NM Solid Waste Regs, 04/89).

Now that I've written a novel, let me try to soft-pedal it by saying I'm glad that OCD/you all are out there doing this job. I appreciate y'all's hard work!

Thanks,

Cara

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

Richard Mitzelfelt
Director

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

February 10, 1989

Dr. Henry Van
Senior Environmental Engineer
El Paso Natural Gas Company
PO Box 1492
El Paso, TX 79978

Dear Dr. Van:

My name is Cora Halasan and I will be working with Ron Conrad on the El Paso Natural Gas, Blanco plant site. Thank you for sending us EPNG results of the split samples taken in September 1988 as well as the accompanying report. We have enclosed a copy of the EID data set for your review.

I have reviewed the EPNG report and there are similarities between some of EID and EPNG results I would like to share with you. First, let me discuss common EID and EPNG groundwater findings in terms of state and federal water quality standards. Chromium --total, dissolved, and hexavalent-- did not exceed NM and EPA levels even when detected. Iron, manganese, and sulfate concentrations exceed NM groundwater standards in both upgradient (background) and downgradient wells. These constituents at these levels are often found naturally in groundwater. Finally, EPNG nitrate-N levels significantly exceed both state (10 mg/l) and federal (10 mg/l) limits in W-2 and W-6; this is of some concern to the EID. EID analysis of W-2 (background well) yielded less than 1 mg/l NO_3-N.

Both sets of results show that no New Mexico Water Quality Control Commission (NM WQCC) limits or EPA Maximum Contaminant Levels (MCL) have been exceeded for those organic compounds tested. However, five trihalomethane (THM) compounds were detected in EPNG samples and travel blank. Two trihalomethane compounds, different from those found in EPNG samples, were detected in EID samples and travel blank. While none were found at levels that warrant immediate concern, their presence does raise questions. According to the EPNG report, industrial wastewater and domestic waste were discharged to now-inactive ponds; these waste products are possible sources of organics. Therefore, my questions are about where the halogenated hydrocarbons might be from. As you know, THM compounds can form when wastewater (or water containing organic material) is chlorinated. It is very unusual to find such organics naturally

in groundwater although very low levels may form under specific conditions. The first thing that comes to mind regarding these THMs, and raised by you in your report, is that container or sampling device contamination has occurred. If these containers or the sampler were lab-supplied, and/or if contamination occurred during sampling, analysis or lab routing, then an inquiry into lab QA procedures may help to clarify the current data and enable EPNG to avoid future cross-contamination. The same could be said for the EID data. But, if the THMs in the samples are not due to cross-contamination, how might these THMs reach groundwater at the Blanco plant site? A third series of questions have to do with past practices at Blanco. Were halogenated solvents and/or compounds ever used at the facility for degreasing or any other purpose? Were any such compounds ever discharged to the now-inactive ponds or at any other place at the plant? Until these questions are resolved, the significance of these findings is unclear.

EID did not take soil samples in this sampling run; thus, I can only discuss EPNG data. Copper, zinc, manganese, cadmium, and lead levels at 20 sample points were higher than background sample levels. As your report states, these may be within normal variations in soil. Without the aid of statistical tests or, more importantly, much more data about and previous experience at this site, it is difficult to categorically state that all are not significant.

Based on the sampling data gathered to date, it does not appear that a serious environmental problem resulting from past practices at EPNG, Blanco exists. However, as you are aware, one data set, especially taken on water samples from new wells, can lead to erroneous conclusions. Therefore, EID would like to see some additional sampling at the Blanco plant. The soil and other sediment analytical results indicate that further organic or heavy metal analyses on sediments is not warranted. There were three indications of the presence of organic compounds, however. One was the "moderate hydrocarbon odor" noted by the geologist in sediments from the 20 - 25 foot depth of W-6. Yet, the W-6 sediment sample, which yielded no detectable organic compounds, was taken from the 28 - 29 foot depth. Groundwater was found at 19.2 feet in W-6, but no unsubstituted purgeable and extractable organics were found in the groundwater sample from this well. However, soil sample C-1, taken less than 200' southeast of W-6 and immediately next to the flare pit, showed low concentrations of aliphatic organic compounds. "Hydrocarbon odor" was also noted in boring C-1 at the 13 - 19 foot depth. These points imply that: 1) there is some impact from either from the burn pit or the oil water separator, both sources of organic compounds and both located close to W-6; 2) the organics noted by the geologist at 20 - 25 feet of W-6 may have little tendency to dissolve in groundwater; and/or 3) the more soluble organics associated with sediments may have already migrated away from the source(s). In light of this, all the wells should be resampled later in the spring and tested for

purgeable aromatics and halogenated hydrocarbons by EPA methods 601 and 602.

The elevated NO_3-N levels in W-6 and W-2 warrant a re-testing of these two wells for NO_3-N. The EID did not find significant NO_3-N in W-2 while EPNG reported 290 mg/l. The same sample could be utilized to test for total Kjeldahl nitrogen (reduced nitrogen) in W-6 to ascertain whether organic-N is a precursor for the NO_3-N. It will not be necessary to analyze TKN in W-2. The EID would like to be present for this sampling for the purpose of taking split samples, and suggest an April or May 1989 sampling date.

Thank you for supplying information on the types of discharges that were made to the currently inactive wastewater ponds. However, I again request a description of the process used at the old gasoline plant and a chemical (qualitative) characterization of the waste streams from this process. Characterization of waste streams dumped to the old ponds or flare pit during upset should also be included.

Thank you again for your cooperation.

Sincerely,

Cora M. Halasan

Cora M. Halasan
Environmental Scientist
Superfund Program

cc: Dave Boyer, Oil Conservation Division, Santa Fe

Enclosures

EL PASO NATURAL GAS COMPANY
BLANCO PLANT GROUNDWATER DATA
(all results in ug/l unless otherwise indicated)

Sample ID Screened Interval (ft)	W2 46.3-56.3		W5 8.5-18.5		W5 Duplicate 8.5-18.5	W6 19.0-29.0		W7 9.0-19.0		W8 23.3-33.3		W10 8.8-13.8		TRAVEL BLANK
TOTAL EXTRACTABLE HYDROCARBONS (EPA 8015)														
Acrylamide		<1000		<1000	<1000		<1000		<1000		<1000		<1000	NA(a)
Diethyl Ether		<5		<5	<5		<5		<5		<5		<5	NA
Ethanol		<15		<15	<15		<15		<15		<15		<15	NA
Methylethylketone		<5		<5	<5		<5		<5		<5		<5	NA
Methyle Isobutyl Ketone		<5		<5	<5		<5		<5		<5		<5	NA
Paraldehyde		<200		<200	<200		<200		<200		<200		<200	NA
MAJOR CATIONS AND ANIONS (1)	EID		EID			EID		EID		EID		EID		
Calcium (mg/l)	432.	473	628.	689	606	540.	532	532.	473	466.	409	546.	509	NA
Magnesium (mg/l)	115.	70.3	32.	23.6	20.8	37.	12.3	39.	26.3	71.	56.9	118.	97.5	NA
Potassium (mg/l)	5	5.7	2.	1.3	1	3.	2.9	5.	3.3	4.	4.2	4.	5.2	NA
Sodium (mg/l)	1666	1680	48.	59.1	57.7	938.	796	876.	672	1575	1180	1033.	801	NA
Sulfate (mg/l)	4450.	3800	1445.	2000	2255	2420.	1760	2550.	1990	3899.	1610	5100.	2370	NA
Carbonate (mg/l as CaCO3)		0		0	0		0		0		0		0	NA
Bicarbonate (mg/l as CaCO3) (2)	301.	239	389.	294	295	443.	401	422.	378	221	229	305.	248	NA
Chloride (mg/l)	39.	46	10.	14	16	44.	56	32.	45	16.	17	56.	73	NA
Nitrate (mg/l-N)	117	290	0.17	0.02	.18 <0.1	56.8	51	.19	0.3	.78	<0.1	1.1	1	NA
BASIC WATER QUALITY PARAMETERS														
pH		7.87		7.91	7.37		7.32		7.62		7.84		7.5	NA
Total Dissolved Solids (mg/l)	7128.	7612	3496	3112	2900	4606.	4516	4266.	4776	5782	5680	5096	5284	NA
(3)	7008	6600	2424	3091		4482.	3611.	4454	3587	6002.	3506	5166	4177	

(a) NA - Not Analyzed

(1) EID general chemistry results handwritten in.
(2) EID bicarbonate reported as bicarbonate (approximately equal to bicarbonate concentration X 1.22).
(3) TDS calculated from cation & anion results.

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

November 4, 1988

Ron Conrad, Ph.D.
Environmental Supervisor
Superfund Section, Hazardous Waste Bureau
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: **El Paso Natural Gas Blanco Plant**

Dear Dr. Conrad:

We received your letter dated October 4, 1988, in which you request information regarding the following:

1. dates that disposal was made to the inactive and now reclaimed wastewater ponds at Blanco site,

2. types of discharges made to these ponds besides cooling tower blow-down,

3. a description of the process utilized at the gasoline plant, including wastestreams from this process.

The above information is being prepared and our engineering personnel has informed me that the information will be sent to our office by November 9. As soon as this information is received, I will transmit it to you.

Also, I would like to inform you that due to delays with the contract laboratory we did not receive the analytical data on time. The laboratory had problems due to an overload of work orders, thus delaying the delivery of the data by two weeks. However, the laboratory has informed us that these data will be sent to our consulting company by November 4. We expect to send the following information to you next week, as you requested: (1) laboratory reports, (2) a stratigraphy, (3) monitoring wells construction details and (4) groundwater level map.

We are sorry for this delay; however, due to the laboratory's not delivering the lab reports on time, we also were not able to send you the information you requested.

If you have questions, please contact me at 915/541-2832 or Mr. K. E. Beasley at 915/541-2146.

Very truly yours,

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

cc: K. E. Beasley
D. Boyer - NMOCD

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

ENVIRONMENTAL IMPROVEMENT DIVISION

Richard Mitzelfelt
Director

GARREY CARRUTHERS
Governor

Carla Muth
Secretary

Michael J. Burkhart
Deputy Secretary

October 4, 1988

Dr. Henry Van
El Paso Natural Gas
P.O. Box 1492
El Paso, TX 79978

RE: EPNG BLANCO PLANT

Dear Dr. Van:

My thanks to you and Ken Beasley for cooperating so fully on the recent sampling accomplished at the Blanco plant.

I appreciate EPNG's forward approach in investigating potential environmental problems that result from past waste disposal practices. In the long term this positive approach on the part of the company will pay dividends in terms of minimizing impacts on the environment and reducing ultimate costs to the company should cleanups prove necessary.

I would appreciate it if you could provide to me as soon as possible answers to the following questions.

1) Dates that disposal was made to the inactive and now reclaimed wastewater ponds at the Blanco site.

2) Types of discharges made to these ponds besides cooling tower blowdown.

3) A description of the process utilized at the "gasoline" plant, including waste streams from this process.

I am enclosing information on EPA's proposed Superfund deferral policy, as I discussed with you, Henry, when we met last week.

Thank you again for your assistance.

Sincerely,

Ron Conrad

Ron Conrad, Environmental Supervisor
Superfund Section
Hazardous Waste Bureau

RC:dlr

cc: Dave Boyer, OCD
Ken Beasley, EPNG

State Superfund Actions

[illegible]

EPA MAY ALLOW STATES TO DEFER NPL LISTING

EPA is considering a [illegible] that would provide states with the opportunity to [illegible] listing on the national priorities list [illegible] the federal authority [illegible] (see *related story*) that would allow EPA to defer placing sites on the NPL when other federal or state authorities and [illegible] implementing programs can address problems at those sites.

In a draft "red border" national contingency plan, under final review at the Office of Management and Budget, EPA says that the increased state involvement in the federal Superfund program would give states the authority to select the deferred sites and their long-term remedial activity. This deferral of [illegible] according to the draft plan, it would also allow the agency to direct [illegible] cleanups not be addressed. The draft indicates, however, that CERCLA funds would not [illegible] otherwise would their "new" authority, and when necessary, EPA could retain its enforcement [illegible] authority at those sites.

EPA offered two options for implementing deferral to states in the draft: 1) deferral based upon a state petition to EPA requesting deferral; and 2) deferral based upon a state's certification of its commitment and ability to address the site according to certain CERCLA standards.

Under the first option, EPA would have no requirements or obligations for oversight and EPA [illegible] sites from listing on the NPL in cases when the state petitioned EPA for deferral. Under this approach, EPA could consider listing the site provided that the state explains to the public and the agency the schedule for corrective action. The agency would retain its flexibility to achieve corrective action at sites deferred from listing, if necessary.

Under the second option, individual sites would be deferred from listing on the NPL in cases where the state provides detailed certification of its ability and commits to perform corrective action under certain portions of CERCLA. This option would increase state involvement in corrective action and would require greater EPA oversight than would the first option. EPA would still retain its enforcement power to apply CERCLA authority at the deferred sites.

These approaches expand an existing policy of deferring responsibility for non-federal RCRA sites to states that are authorized to carry out the RCRA subtitle C corrective action (*June 10, 1986, 51 FR 21066*). Currently, EPA does not defer its authority to state's even if they can achieve some corrective action at the contaminated sites. EPA has claimed in the past to have listed the sites in order to ensure consistency among site cleanups — having similar sites remediated to similar levels.

EPA's current limited state deferral to state RCRA authorities will remain in effect until the NCP is issued as final.

The agency's reason for increased state involvement is that it recognizes that more sites need to be addressed than present CERCLA resources can accommodate. By deferring some of the problem sites to states, EPA believes quicker

[illegible]all response actions can be accomplished, allowing EPA to direct its resources to sites that otherwise would not be addressed. "This would allow the states to fully utilize corrective action authorities under their own programs at contaminated sites," according to the draft.

EPA CONSIDERS BROADER AUTHORITY FOR FEDERAL AGENCIES IN NPL SITE DEFERRAL

EPA is considering a policy that would expand EPA's deferred listing approach for placing hazardous waste sites on the national priorities list for Superfund cleanup to other federal authorities — making what EPA calls "consistency in the NPL among sites where response action is appropriate under CERCLA."

The plan would expand EPA's current deferral policy, which is limited to sites that can be addressed by the corrective action authorities of subtitle C regulation under the Resource Conservation & Recovery Act or that are subject to regulation by the Nuclear Regulatory Commission. The new policy would expand EPA deferral to include RCRA subtitle D (municipal waste) landfills that have become hazardous waste sites. The broadened authority resolves EPA's longstanding concern over whether it was appropriate under CERCLA for the agency to oversee the work of other federal agencies and state authorities. The plan would also expand delegation of the deferral approach to the states (*see related story*).

This broadened deferral approach is highlighted in a "red border" draft national contingency plan obtained by *Superfund Report*. The plan is under final review at the Office of Management & Budget. The expansion of authority to other agencies would better enable EPA to meet objectives posed under CERCLA, according to the draft.

The deferral policy would be extended to cover RCRA subtitle D hazardous waste sites, but they would continue to be listed on the NPL to ensure cleanup because RCRA corrective action requirements do not exist for these landfills. The agency is preparing regulations that would require corrective action at new and existing municipal waste landfills — expected to be implemented by the states through the use of permit programs. Under the plan, EPA would defer to other federal authorities the listing of sites in cases where states elect to remediate using state programs or state-share monies from the Abandoned Mine Land Reclamation Fund — a fund designed to address reclamation and restoration of land and water resources adversely affected by past coal mining. The fund also allows states to use the money for non-coal sites if it is deemed necessary for protecting public health or safety. EPA would continue to add mining sites to the NPL in cases where states could not take action under the mining fund, according to the draft policy.

Now, RCRA subtitle C sites are placed on the NPL only if corrective action under CERCLA is unlikely to be conducted. The draft plan identifies three instances where cleanup is unlikely: 1) facilities [illegible] bankrupt, 2) facilities that have lost interim status under RCRA and show indications that the owner or operator would be unwilling to undertake corrective action, and 3) facilities whose owners or operators have shown unwillingness to undertake corrective action.

In the case of deferring authority to the Nuclear Regulatory Commission, the commission has full authority and expertise to require corrective action of the unique waste types subject to its jurisdiction, according to the draft. In the case of sites deferred for action under RCRA subtitle C, the corrective action provisions are equivalent to those required under CERCLA — EPA believes it is not necessary to require compliance with CERCLA corrective action standards as a condition of the [illegible].

[illegible] impression that every [illegible] awaiting CERCLA [illegible] or attention," according to the plan. "Listing only those sites that appear [illegible] funding under CERCLA will also serve to make the NPL [illegible] [priority setting] [illegible] for EPA," the draft states.

Contracts

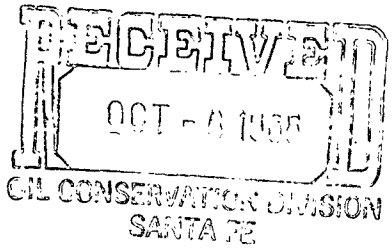
SUPERFUND CONTRACTING OVERHAUL LEGISLATION WOULD SLOW CLEANUPS, EPA CHARGES

High-level EPA officials have stated their opposition to a bill that would [illegible] for employing contractors, charging it would slow down the Superfund cleanup program. The legislation, introduced July 19 by Sen. David Pryor (D-AR), would require public disclosure of all EPA contractor projects and agency evaluation [illegible] services. Pryor, who chairs the Governmental Affairs subcommittee for federal services, post office & civil services, reportedly is concerned that private contractors with potential "[illegible]," rather than EPA staff, are carrying out the bulk of EPA Superfund mandates. (continued on page 20)

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

FEDERAL EXPRESS



September 27, 1988

Dr. Ron Conrad, Environmental Supervisor
Superfund Section, Hazardous Waste Bureau
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: Groudwater Quality Program - Blanco Plant

Dear Dr. Conrad:

Enclosed are two copies of the final referenced Work Plan for the Blanco Plant which incorporates your comments. This plan is presently being implemented in the field.

To date, El Paso Natural Gas Company has transmitted final versions of the Discharge Plan and of the Groundwater Quality Program Work Plan to you. We will now focus our efforts on the preparation of the Groundwater Quality Program Report.

If you have questions, please contact me at 915/541-2832 or Mr. K. E. Beasley at 915/541-2146.

Very truly yours,

Henry Van /cds

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosures

cc: K. E. Beasley, w/ encl.
D. Boyer - NMOCD, w/ encl.

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

September 16, 1988

Dr. R. Conrad, Environmental Supervisor
Superfund Section Hazardous Waste Bureau
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: Groundwater Quality Program - Blanco Plant

Dear Dr. Conrad:

This is to confirm our telephone conversation of September 14, 1988 during which we agreed to the following:

- Due to previous commitments, the drilling contractor could not begin to drill on September 13 as previously agreed with you. However, the driller has agreed to begin work on September 19.

- The groundwater monitoring will take place on September 27 and 28. In the event that we encounter problems during the drilling, and we estimate that the water wells may not be stable enough to sample, we will notify you of this to re-schedule the sampling activity.

- We will be able to provide you with a piezometric surface map, geologic cross section information (stratigraphgy) and some sampling analytical results by October 7, 1988. Bechtel does not believe this will be a problem.

- The deadline for the final Groundwater Quality Report will be December 1, 1988.

If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph. D., C.E.P.
Senior Environmental Engineer
Environmental & Safety Affairs Department

HV:gb
c: K. E. Beasley D. Boyer -NMOCD

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

September 1, 1988

Dr. Ron Conrad, Environmental Supervisor
Superfund Section, Hazardous Waste Bureau
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: Groundwater Quality Work Plan - Blanco Plant

Dear Dr. Conrad:

We received your letter of August 15, 1988, listing your comments on the referenced Work Plan. We reviewed your comments and prepared the following responses for your consideration. To facilitate the flow of ideas, we have listed your question/remark followed by our response.

APPENDIX A

Question

Pages 2,5. The maximum depth of the wells should not be limited to 70 feet. In particular, the background well(s) may have to be drilled deeper to hit ground water. The goal of drilling is to monitor the nearest ground water and the wells should be installed so that they penetrate 15-20 feet of the nearest ground water. Basically, your proposed drilling program is adequate.

Response

The anticipated maximum depth is 70 feet. We will not limit drilling to 70 feet and the Technical Specification (T.S.) will be changed to reflect this.

Question

Page 5. A geologist should be utilized to log the holes. Also, are you planning on doing any downhole geophysics on the wells?

Response

A Bechtel geologist will log the holes. This was not included in the T.S. as this is written for a contractor and the contractor was not asked to provide a geologist.

Geophysical logging (E-logging) of the monitoring wells was not considered important for the following reasons:

1. The holes are shallow and will be logged by an experienced engineering geologist.

2. Stratigraphy of the site, as defined by other geotechnical exploration programs performed at the site, is simple.

3. Site soils are basically silty sands and sands with little variations that would show up on standard E-logs.

4. Water quality as determined from E-logging is unnecessary as extensive testing will be performed on water samples.

Conclusion: The expense of E-logging would return little in value toward the assessment of groundwater at the site.

Question

Page 9. I'm not familiar with a "California" sampler. Could you send me a description of this device?

Response

A "California" sampler is a drive sampler, with a 2 1/2 inch i.d. The sampler has a removable liner, either 6 inch long brass or stainless sleeves or 1 inch long brass or stainless rings. Maximum sampling length is approximately 18 inches. Figure 1 shows a schematic of the "California" sampler.

Question

Page 14. In developing the wells, every effort should be made to achieve a well that will yield a water sample that will be as free of sediment as possible.

Response

Our goal is to construct a well that will produce water as sediment-free as possible. The T.S. will be modified to state this more clearly.

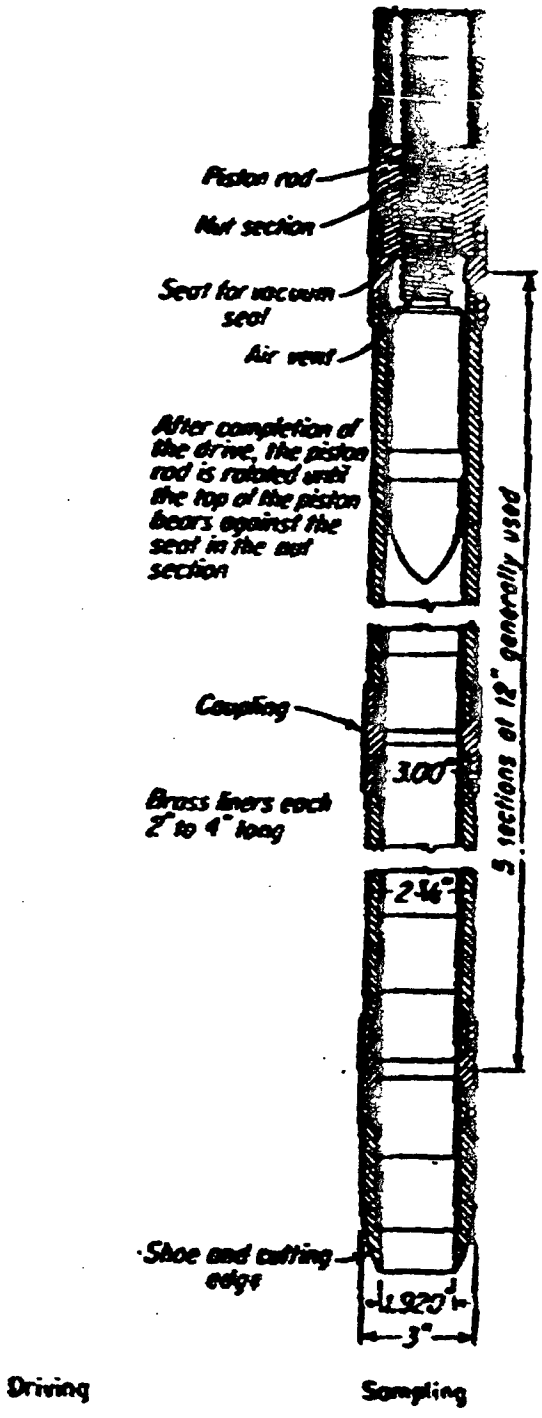


Figure 1. California drive sampler[1]

[1]The Modified California sampler is a thin walled drive sampler fitted with liners. Liners can be brass, plastic or stainless steel. They can also be segmented. During the Blanco Plant groundwater investigation, the modified California samplers will be fitted with three 6-inch brass liners.

Following removal from the sampler, the liners are capped and sent directly to the laboratory for analysis. By eliminating the need for sample transfer to a jar, liners minimize sample handling and seration. The modified California sampler is typically used when collecting samples for volatile compound analyses or when minimal disturbance of the soil sample is desired. The use of liners also minimizes the potential for cross contamination of samples by eliminating soil contact with the sampler.

APPENDIX B

Question

Page 1. I do not agree with all your well locations and submit that the final locations of wells should be as proposed on the accompanying map. Your well locations number 1 and 2 are preferable in location to my #1. I understand that #2 may not be drilled if #1 hits water and is acceptable as a background well. A well located where I proposed my original #2 is mandatory. I call this well #6 on the enclosed map. The area adjacent to new #6 was your primary wastewater disposal site and may be the worst-case well location. This well should be as close to the perimeter of the old ponds as possible. I believe that your #7 should be moved 200 feet northwest and closer to the southernmost ponds and away from the immediate influence of Citizens Ditch (this would then correlate to my #4). I would still like to see a well such as my original #3. Although it is surmised that the ground water gradient now is toward the southwest, this assertion is to date unproven. Additionally, at the time when the ponds were active, mounding could have forced ground water to the southeast. For this reason, a well should be located where I have proposed my original #3 (#8 on new map). EPNG #5 is acceptable but I prefer a location 150 feet to the east. EPNG #3 and #4 are acceptable as they are close to the western inactive ponds. Finally, you never provided to the EID information on what the "operation" was located SE of the ponds, in the area where I proposed well #8 on my April 27, 1988 map. A well may ultimately be required at this location. I have enclosed a map with the monitor well locations that EID prefers.

Response

We will locate the groundwater monitoring wells according to your map. However, if we find structures (surface and underground) at the proposed location, we will move from the proposed location to another close by. Also, if the rig cannot pass to the proposed location, an alternate location will be selected. In either case, the alternate locations will be selected as close to the original location as is practically possible.

To date we have not been able to find anyone knowledgeable about the nature of the operation southeast of the ponds. However, we will continue to inquire about it.

Question

Page 2 Ground water analyses. Field pH and conductivity should be run on the ground water samples. The EID Scientific Laboratory states that the ICP scan is not sensitive enough to measure, Cd, Cr, Co, and Pb down to NM state ground water standards and AA is the preferred method for <u>water</u> samples for these constituents. Also, I understand that redox potentials of ground water samples are useful only if they are done down hole or with equipment which will effectively exclude molecular oxygen.

Does EPNG propose to do redox potential of ground water by these special techniques? Finally, total dissolved solids should be added to major anions and cations (Na, K, Ca, Mg, SO4, C1, HCO3 or CO3).

Response

As indicated in Appendix B, Section 10.2 of the Work Plan, temperature, pH, and electrical conductivity will be measured in the field during purging and when water samples are collected.

Soil and groundwater samples will now be analyzed for cadmium, copper, and lead using AA methodology specified in the 7000 series of EPA's Test Methods for Evaluating of Solid Waste SW-846, 3rd Edition. The specific method numbers by which each of these analyses will be conducted will be chosen by the laboratory at their discretion. The remaining metals and chromium will be analyzed according to the methods specified in the Work Plan.

It is true that the oxidation/reduction (redox) potential of soil/groundwater systems is best measured in the absence of molecular oxygen. However, because sampling methodology was specifically developed to minimize aeration of groundwater samples and because the reaction between reducing agents and molecular oxygen is not instantaneous, we believe that measurement of the redox potential of groundwater samples immediately after removal from the well is acceptable.

Immediately upon removal from the well, and prior to measurement for redox potential, the groundwater sample will be sparged with nitrogen for approximately 5 minutes to remove oxygen present in the sample and to prevent further aeration.

Question

Page 3 Soil analyses. A hot nitric acid digestion should be done on the soil samples before a ICP scan for total metals. On all sediment samples, results should be reported on a "dry weight" basis. That is, the moisture content (determined separately) of the sediment samples should also be measured. Your proposed method for Cr (VI) is acceptable.

Response

EPNG and Bechtel agree with EID that the ICP Scan is not sensitive enough for several metals. These metals (Cd, Cr, Co, Pb) will be analyzed by AA and not by ICP. The expense of running both analyses is not warranted.

Total metals concentrations in soil samples will be reported on a "dry weight" basis.

Questions

Page 5. I don't know what measuring the redox potential of the soil leachate will tell you in lieu of the fact that the measurement will be done in the air. Could you enlighten me on the rationale for doing this test?

Response

See discussion of redox potential in response to Page 2 comments. Measurement of the redox potential of soil leachate will be conducted in the laboratory and not in the field. Soil samples will be collected in brass liners, the ends of which will be sealed with teflon tape and rubber caps. This method of collection was designed to minimize loss of volatiles from a soil sample and hence is effective in minimizing aeration of the soil sample. The laboratory will receive a separate soil sample for the measurement of redox potential.

Measuring the redox potential of soil leachate made with a deoxygenated leaching solution will indicate if the soil is an oxidizing or reducing system. As recent reports[1] have indicated, a reducing soil system (e.g., one containing ferrous or managenous materials) tends to reduce and precipitate Cr^{6+} thus slowing or stopping its migration. An attempt will be made using a standardized redox instrument, to determine if soil leachate from site boreholes is a reducing system.

[1] Rai, Dhanpat, Zachara J.M., Chromium Reactions in Geologic Materials, Electric Power Research Institute-Research Project 2483-3, January 1988.

Question

Page 8. More than likely purged water (and drill cuttings) can be disposed on site rather than transporting to a licensed disposal facility. Dave Boyer of OCD should be consulted for this aspect of the drilling phase.

Response

EPNG and Bechtel agree with EID that purged water and drill cuttings may be disposed of on site. EPNG will seek concurrence from OCD on this matter.

We hope that the above responses have answered your questions about the Work Plan.

The drilling of the monitoring wells will begin on September 13, 1988. We anticipate completing the wells by September 16. Sampling of the wells will take place on September 27 and 28.

Thank you for your prompt response and cooperation. If you have questions, please contact me or Mr. Kenneth Beasley at (915) 541-2832 or 541-2146, respectively.

Yours very truly,

Henry Van, Ph.D.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

cc: D. Boyer - NMOCD
K. E. Beasley - EPNG

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

ENVIRONMENTAL IMPROVEMENT DIVISION

GARREY CARRUTHERS
Governor

Carla Muth
Secretary

Michael J. Burkhart
Deputy Secretary

August 15, 1988

Dr. Henry Van
El Paso Natural Gas Co.
P.O. Box 1492
El Paso, Texas 79978

RE: GROUND WATER QUALITY WORK PLAN-BLANCO PLANT

Dear Dr. Van:

I received the Ground Water Quality Work Plan (hereafter referred to as the WP) and have briefly reviewed it.

Basically the WP for the Blanco Plant is satisfactory with respect to the scope as I envisioned it, and the proposed tasks as you have laid them out. I do have several preliminary comments regarding the plan and the choice of well locations, and will refer to the page of the WP to reference my remarks.

Appendix A

P.2,5 The maximum depth of the wells should not be limited to 70 feet. In particular, the background well(s) may have to be drilled deeper to hit ground water. The goal of drilling is to monitor the nearest ground water and the wells should be installed so that they penetrate 15-20 feet of the nearest ground water. Basically, your proposed drilling program is adequate.

P.5 A geologist should be utilized to log the holes. Also, are you planning on doing any downhole geophysics on the wells?

P.9 I'm not familiar with a "California" sampler. Could you send me a description of this device?

P.14 In developing the wells, every effort should be made to achieve a well that will yield a water sample that will be as free of sediment as possible.

Appendix B

Page 1. I do not agree with all your well locations and submit that the final locations of wells should be as proposed on the accompanying map. Your well locations number 1 and 2 are preferable in location to my #1. I understand that #2 may not be drilled if #1 hits water and is acceptable as a background well. A well located where I proposed my original #2 is mandatory. I call this well #6 on the enclosed map. The area adjacent to new #6 was your primary wastewater disposal site and may be the worst-case well location. This well should be as close to the perimeter of the old ponds as possible. I believe that your #7 should be moved 200 feet northwest and closer to the southernmost ponds and away from the immediate influence of Citizens Ditch (this would then correlate to my #4). I would still like to see a well such as my original #3. Although it is surmised that the ground water gradient now is toward the southwest, this assertion is to date unproven. Additionally, at the time when the ponds were active, mounding could have forced groundwater to the southeast. For this reason a well should be located where I have proposed my original #3 (#8 on new map). EPNG #5 is acceptable but I prefer a location 150 feet to the east. EPNG #3 and #4 are acceptable as they are close to the western inactive ponds. Finally, you never provided to the EID information on what the "operation" was located SE of the ponds, in the area where I proposed well #8 on my April 27, 1988 map. A well may ultimately be required at this location. I have enclosed a map with the monitor well locations that EID prefers.

Page 2 Ground water analyses. Field pH and conductivity should be run on the ground water samples. The EID Scientific Laboratory states that the ICP scan is not sensitive enough to measure Cd, Cr, Co, and Pb down to NM state ground water standards and AA is the preferred method for <u>water</u> samples for these constituents. Also, I understand that redox potentials of ground water samples are useful only if they are done down hole or with equipment which will effectively exclude molecular oxygen. Does EPNG propose to do redox potential of ground water by these special techniques? Finally, total dissolved solids should be added to major anions and cations (Na, K, Ca, Mg, SO4, Cl, HCO3 or CO3).

Page 3 Soil analyses. A hot nitric acid digestion should be done on the soil samples before a ICP scan for total metals. On all sediment samples, results should be reported out on a "dry weight" basis. That is, the moisture content (determined separately) of the sediment samples should also be measured. Your proposed method for Cr (VI) is acceptable.

Page 5. I don't know what measuring the redox potential of the soil leachate will tell you in lieu of the fact that the measurement will be done in air. Could you enlighten me on the rationale for doing this test?

Page 8. More than likely purged water (and drill cuttings) can be disposed on site rather than transporting to a licensed disposal facility. Dave Boyer of OCD should be consulted for this aspect of the drilling phase.

When I have a little more time to peruse the report, I can comment on it more fully. The preliminary remarks I make above are given to you at this time to assist you in meeting the drilling schedule. I do know that a geologic cross section through a line connecting wells 3, 4, 5, 7, and 8 will be required as part of the final report so a geologist will have to be on-site to log the holes.

Finally, in reference to our conversation on August 12, 1988, I will be expecting to see a proposed drilling and sampling schedule with alternatives from you in the near future. Please contact me as soon as possible on the comments I have made in this letter, especially if you object to any of my changes. My time limitations may preclude me being at the site when final well locations are chosen but I definitely want to split water samples with EPNG and hopefully split some sediment samples as well.

Thank you for your cooperation.

Sincerely,

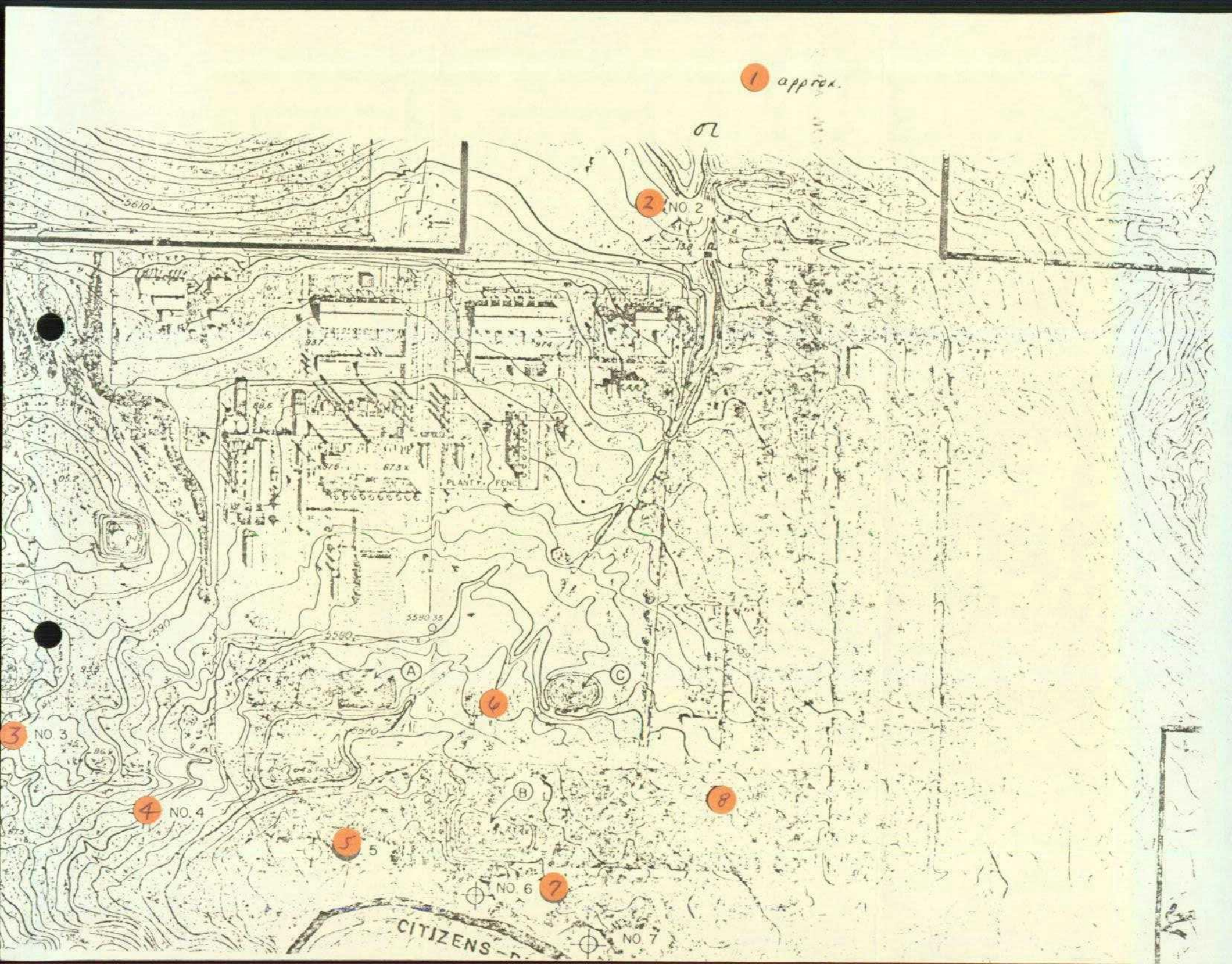
Ron Conrad

Ron Conrad, Environmental Supervisor
Superfund Section
Hazardous Waste Bureau

RC:dlr

Enclosure

cc: Dave Boyer, OCD
Ken Beasley, EPNG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CITIZENS

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

August 4, 1988

FEDERAL EXPRESS

Dr. Ron Conrad, Environmental Supervisor
Superfund Section, Hazardous Waste Bureau
New Mexico Environmental Improvement Div.
P.O. Box 968
Santa Fe, NM 87504-0968

Reference: El Paso Natural Gas Company - Blanco Plant

Dear Dr. Conrad:

Enclosed for your review is the Work Plan for the Groundwater Quality Investigation at the Blanco Plant. The Work Plan provides a background of the situation, the objective of the work and the approach that will be taken in drilling and monitoring the water wells at the referenced plant.

As you know, we have limited time to complete the monitoring wells on schedule; therefore, we would appreciate very much the return of your comments as soon as possible so we can begin to mobilize personnel and equipment to the site.

If you have questions, please contact me at 915/541-2832.

Sincerely yours,

Henry Van, Ph.D.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosure

cc: David Boyer - NMOCD

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

July 29, 1988

Ms. Kitty M. Richards
Env. Scientist, Superfund Section
Environmental Improvement Division
New Mexico Health and Environment Department
P.O. Box 968
Santa Fe, NM 87504-0968

Dear Ms. Richards:

This is to acknowledge receipt of your letter of July 25, 1988 (attached), confirming the extension of the groundwater monitoring work plan deadline from July 21, 1988, to August 5, 1988. The monitoring wells will be completed by September 16, 1988, as agreed.

Upon your review of the work plan, a site visit will be coordinated with you before drilling.

Thank you for your assistance, and if you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D.
Sr. Environmental Engineer
Environmental & Safety Affairs Department

HV:cds

Attachment

cc: Dr. Ron Conrad - EID
Mr. David Boyer - NMOCD

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

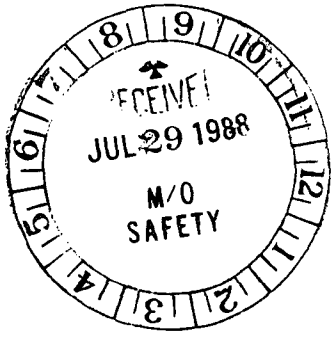
ENVIRONMENTAL IMPROVEMENT DIVISION

Michael J. Burkhart
Director

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary



July 25, 1988

El Paso Natural Gas Company
Henry Van
Sr. Environmental Engineer
Environmental & Safety Affairs Dept.
P. O. Box 1492
El Paso, Texas 79978

Dear Dr. Van:

This letter is in response to your letter of July 18, 1988. We agree to extend the work plan deadline of July 21, 1988 to August 5, 1988, with the understanding that the monitoring wells be completed by September 16, 1988.

I anticipate performing a site visit to review well locations prior to final drilling. I also plan to comment on the work plan when my department receives it.

Please continue to keep me informed of your progress. I look forward to working with you.

Sincerely,

Kitty M. Richards

Kitty M. Richards,
Env. Scientist
Superfund Section

KMR:mlg

cc: Ron Conrad
David Boyer, NMOCD

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

ENVIRONMENTAL IMPROVEMENT DIVISION

Michael J. Burkhart
Director

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

July 25, 1988

El Paso Natural Gas Company
Henry Van
Sr. Environmental Engineer
Environmental & Safety Affairs Dept.
P. O. Box 1492
El Paso, Texas 79978

Dear Dr. Van:

This letter is in response to your letter of July 18, 1988. We agree to extend the work plan deadline of July 21, 1988 to August 5, 1988, with the understanding that the monitoring wells be completed by September 16, 1988.

I anticipate performing a site visit to review well locations prior to final drilling. I also plan to comment on the work plan when my department receives it.

Please continue to keep me informed of your progress. I look forward to working with you.

Sincerely,

Kitty M. Richards

Kitty M. Richards,
Env. Scientist
Superfund Section

KMR:mlg

cc: Ron Conrad
David Boyer, NMOCD

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

July 18, 1988

Dr. Ron Conrad
Environmental Supervisor
Superfund Section
Hazardous Waste Bureau
New Mexico Environmental Improvement
Division
P. O. Box 968
Santa Fe, NM 87504-0968

Reference: El Paso Natural Gas Company - Blanco Plant

Dear Dr. Conrad:

This is to confirm our telephone conversation of July 15, 1988 concerning the delivery date of our Groundwater Monitoring Work Plan which we agreed to submit to you by July 21, 1988. However, it has taken some time to gather the data necessary to begin working on the work plan. Therefore, we requested that you allow us more time to complete it. During our telephone conversation you agreed to change the submittal date to August 5, 1988. Today, I telephoned Mr. David Boyer of the New Mexico Oil Conservation Division and briefed him on our conversation. He agreed as well to the new date of August 5.

You mentioned that you are continuing to require that the monitoring well be completed by September 16, 1988. I spoke with our consultant about this and we do not anticipate any problems in meeting this date.

I will keep you and Mr. Boyer informed about the progress of our work. Thank you for your understanding and cooperation. If you have problems, please contact me at 915/541-2832.

Very truly yours,

Henry Van/gb

Henry Van
Senior Environmental Engineer
Environmental & Safety Affairs
Department

gb

c: Mr. David Boyer - NMOCD

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

ENVIRONMENTAL IMPROVEMENT DIVISION

Michael J. Burkhart
Director

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

May 20, 1988

Dr. Henry Van
El Paso Natural Gas Co.
P.O. Box 1492
El Paso, Texas 79978

RE: EPNG BLANCO PLANT NEAR BLOOMFIELD, NEW MEXICO

Dear Dr. Van:

Thank you for your letter of May 12, 1988. I am happy to hear that the company has agreed to contract with an experienced consultant to conduct the ground water quality assessment study at the Blanco Plant.

I am amenable to a July 21, 1988 work plan submittal if, in fact, the drilling of the monitor wells can be accomplished by September 16, 1988. Your agreement to include the work plan elements I suggested is a positive step in the path toward assessing the potential ground water problem resulting from past disposal practices at Blanco. Please alert me of your drilling schedule 2 weeks prior to initiation of drilling.

I look forward to your continued cooperation.

Sincerely,

Ron Conrad

Ron Conrad, Environmental Supervisor
Superfund Section
Hazardous Waste Bureau

RC:dlr

cc: Dave Boyer, OCD

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

May 12, 1988

Ron Conrad, Ph.D.
Environmental Supervisor
Superfund Section
Hazardous Waste Bureau
New Mexico Environmental
Improvement Division
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Re: El Paso Natural Gas Company's Blanco Plant

Dear Dr. Conrad:

We received your letter of April 29, 1988 recommending that El Paso Natural Gas Company (EPNG) hire a contractor to prepare the discharge plan and conduct a groundwater quality assessment at the Blanco Plant. As we discussed on May 27, El Paso anticipated using the services of just such a consultant for the wastewater discharge plan preparation.

We are currently preparing the request for proposal and will be sending it to several experienced consulting firms. The contractor selected will prepare a work plan for preparing the discharge plan and conducting the groundwater investigation. The suggested work plan elements you provided will be incorporated into the program.

However, it takes considerable time to hire a contractor due to the preparation of scopes of work and other required documentation, review of the proposals and the time commitments of the consulting firms. For this reason it would not be possible to present a completed work plan to you by July 1, 1988. However, we anticipate submitting the work plan to you by July 21. At this time we do not anticipate any problems in meeting the deadline of September 1, 1988 for the installation of the groundwater monitoring wells.

If you have questions, please contact me at (915) 541-2832 or Mr. Kenneth E. Beasley at (505) 325-2841, Ext. 2175.

Very truly yours,

Henry Van, Ph.D.
Sr. Environmental Engineer
Environmental and Safety Affairs

ka
c: Mr. David Boyer - NMOCD

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

ENVIRONMENTAL IMPROVEMENT DIVISION

Michael J. Burkhart
Director

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

April 29, 1988

Dr. Henry Van, PhD
Sr. Environment Engineer
El Paso Natural Gas Company
P.O. Box 1492
El Paso, Texas 79978

RE: EPNG BLANCO PLANT

Dear Dr. Van:

Thanks to you and other EPNG staff members for meeting with EID CERCLA staff on April 27 1988, in Santa Fe regarding the Blanco gasoline plant and EID concerns with potential environmental impacts resulting from former wastewater disposal practices at the Blanco Plant.

During the meeting I presented a map in which I indicated locations I favored for ground water monitor wells to be installed by EPNG. These wells are to be utilized to better interpret the local hydrologic and geochemical characteristics of the area adjacent to the former Blanco wastewater ponds. I believe this coverage is necessary but the specific locations, of course, will depend on contemporary surficial features as well as buried pipelines, drains, and other underground conveyances. The installation of well number 8 may await the findings of the water quality results from the other 8 wells. As discussed in the meeting, I would appreciate the company examining records, photos, and the acutal physical surface, to help describe what operations occurred in the area immediately southwest of the camp where I have proposed well 9.

I recommend that the company immediately hire an experienced and knowledgeable consultant with demonstrated experience in ground water hydrology and chemistry, monitor well installation and ground water sampling. I'm hoping that EPNG can present a work plan for the drilling and monitor well sampling to me by July 1, 1988, and that the monitor well installation can be completed by September 1, 1988. Finally, initial sampling analytical results, piezometric surface map and geologic cross section should be submitted to me by Ocotber 7, 1988.

The elements I would like to see included in the work plan are:

1) Brief description of past plant operations and wastewater disposal practices.

2) Geologic and hydrologic setting of plant and disposal area.

3) Monitor well locations, and installation specifications.

4) Ground water sampling protocol.

5) Proposals for water analyses including TDS, major anions and cations, heavy metals (ICAP scan), chromium (by atomic absorption), nitrate-N and purgeable organics by EPA methods 601 and 602.

6) Selected sediment samples (from drill cuttings) for Cr and purgeable analyses, and on-site investigation of designated down-hole sediments for volatile organics via h-nu meter or alternative technique.

7) Commitments to measure water levels in wells before sampling, and perform field pH and specific conductivity measurements.

8) Provisions for geologic logging of the drill holes so that a geologic cross section from well 7 through well 9 can be developed.

I would appreciate a response to the above by May 13, 1988, and look forward to continued cooperation by EPNG on this project.

Sincerely,

Ron Conrad

Ron Conrad, Environmental Supervisor
Superfund Section
Hazardous Waste Bureau

RC:dlr

cc: Dave Boyer, OCD

6-20-65

EPNG Blanco Plant 6-20-65 photo

1) [illegible]
2) [illegible]
3) [illegible] of F.M.

Name of Company

INTER-OFFICE TRANSMITTAL SLIP

TO Mr. David Boyer

AT NMOCD

FOR ✓

	Approval		Your Information
	Reply Please		Necessary Attention
	See Me Please		Return As Requested
	Your Signature		Investigate And Report
	Note And File		Immediate Action Desired
	Note And Return		Read And Destroy
	Your Comments		Prepare For Me
	More Details		Draft Of Suggested Reply
	Advise Please		Initial And Forward

REMARKS:

Attached are my notes of the meetings we attended on 4/27/88.

DATE 4/28/88 FROM Jerry Dan

Form SS-008 (3-75)

Form 7-1 (Rev. 9-77)

ENGINEERING CALCULATION

Sheet: 1 of
Date: 4/27/88
By: H. Van
File: BLANCO

MEETING W/OCD/EID SFND
BLANCO PLANT

- Send the extra set of photos to D. Boyer.
- Dr. Conrad briefed on the Superfund process. We are in the third phase of the process, but need the groundwater quality data.
  - EID concerned on the impact on the Groundwater system.
  - How receptive EPNG is about installing monitoring wells.

  Concern

  Chromium.
  Hydrocarbons

  - EID sampled George Gobel H20 0.009 Cr which, as compared to a background well, this would be elevated.
  - The private wells sampled are not being used for drinking water.

MW		gals/mol
16.04	C_1	6.4
30.07	C_2	10.12
44.10	C_3	10.42
58.12	iC_4	12.38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15.57
100.21	iC_7	17.2
100.21	C_7	17.46
114.23	C_8	19.39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9.67

MW	MISC.	gals/mol
32.00	O_2	3.37
28.01	CO	4.19
44.01	CO_2	6.38
64.06	SO_2	5.50
34.08	H_2S	5.17
28.01	N_2	4.16
2.02	H_2	3.38

MW		gals/mol
16.04	C_1	6.4
30.07	C_2	10.12
44.10	C_3	10.42
58.12	iC_4	12.38
58.12	nC_4	11.93
72.15	iC_5	13.85
72.15	nC_5	13.71
86.18	iC_6	15.50
86.18	C_6	15.57
100.21	iC_7	17.2
100.21	C_7	17.46
114.23	C_8	19.39
28.05	$C_2^=$	9.64
42.08	$C_3^=$	9.67

MISC. MW		gals/mol
32.00	O_2	3.37
28.01	CO	4.19
44.01	CO_2	6.38
64.06	SO_2	5.50
34.08	H_2S	5.17
28.01	N_2	4.16
2.02	H_2	3.38

- Reason for going to the Bloomfield Wastewater Treatment Plant - the problem w/ local citizens?
- 1 - H Metals
  - $C^+ A^-$
  - Organics

  } one-time
- Is there a right-of-way along the Citizens Ditch we can use. G.W. depth about 12-feet
- Most of the wells will be about 40-feet deep.
- Information channels to OCD → EID.
- EID will copy all the data & correspondence to OCD. This is data is to date.
- EID & OCD will be involved in the site selection of the wells.

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

March 10, 1988

Mr. David G. Boyer
Hydrogeologist/Environmental Bureau Chief
Energy & Minerals Department
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501-2088

Subject: El Paso Natural Gas Company
Blanco Natural Gas Processing Plant

Reference: New Mexico Environmental Improvement Division
Blanco Plant Site Inspection of August 7, 1987

Dear Mr. Boyer:

Enclosed for your information is the letter we received from the referenced Agency. Mr. Kenneth E. Beasley and I would like very much the opportunity to discuss this matter with you as soon as possible. Dr. Conrad has requested that we respond to this letter by March 31, 1988 and it is important to have your comments about this matter.

We will telephone you tomorrow after lunch to begin discussions regarding the above investigation. If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D.
Sr. Environmental Engineer
Environmental and Safety Affairs

ka

Enclosure

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

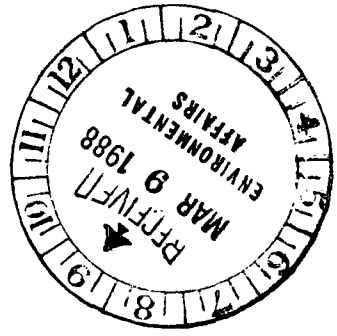
Post Office Box 968
Santa Fe, New Mexico 87504-0968

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

March 7, 1988



Dr. Henry Van, PhD
Sr. Environmental Engineer
Environmental and Safety Affairs Dept.
El Paso Natural Gas
P.O. Box 1492
El Paso, Texas 79978

Dear Dr. Van:

The Environmental Improvement Division accomplished a Site Inspection at your Blanco plant in Bloomfield on August 7, 1987. A Site Inspection is a routine, preliminary part of the process necessary to obtain specific information required to ascertain whether a site is serious enough to get on the Superfund National Priorities List. Enclosed is your copy of our report to EPA, including analyses which our state lab did on water and sediment split samples taken by EID and EPNG at the EPNG Blanco plant on August 7, 1987. Additionally, the EID sampled several private wells and sediments in Citizens Ditch (when it was dry) on December 9, 1987, and this data is also enclosed.

EID will recommend to the EPA that further investigation be undertaken at the Blanco site. My rationale is as follows: 1) massive amounts of waste waters were disposed in the waste ponds during the gasoline plant operation until 1966; 2) Waste waters included chromium (VI) and petroleum wastes; 3) The ground water is very shallow in the area and the soils are quite permeable; 4) The disposal areas are up-gradient and in very close proximity to Citizens Ditch.

The unanswered questions regarding this site are: 1) whether there is significant ground water contamination by chromium and/or organics and 2) whether there is significant contamination on ditch or other near surface sediments resulting from waste water or organics disposal. It would be appropriate and cost-effective for EPNG to install properly located shallow monitor wells at the Blanco plant in order to ascertain whether contamination of ground water exists as a result of past waste water disposal practices.

I would be happy to discuss this option with you at your earliest convenience, but would appreciate it if you could contact me before March 31, 1988, regarding this matter. I can be reached at (505) 827-2905.

Sincerely,

Ron Conrad

Ron Conrad, Environmental Supervisor
Superfund Section

RC:dlr

cc: Ken Beasley

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by HQ)

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME (AKA Citizens Ditch)
El Paso Natural Gas, Blanco Plant

B. STREET (or other identifier) East on US 64, 1 mile from junction of US 64 and NM 44, then 0.6 mi on d r

C. CITY: Bloomfield

D. STATE: NM

E. ZIP CODE: 87413

F. COUNTY NAME: San Juan

G. SITE OPERATOR INFORMATION

1. NAME: El Paso Natural Gas Co.

2. TELEPHONE NUMBER: (915) 541-2600

3. STREET: P.O. Box 1492

4. CITY: El Paso

5. STATE: TX

6. ZIP CODE: 79978

H. REALTY OWNER INFORMATION (if different from operator of site)

1. NAME: NA As above

2. TELEPHONE NUMBER: NA

3. CITY: NA

4. STATE: NA

5. ZIP CODE: NA

I. SITE DESCRIPTION: Old refinery waste water ponds adjacent to Citizens Irrigation ditch. Ponds no longer in use. Site has been reclaimed.

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.):

B. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☒ 2. MEDIUM ☐ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME: Ron Conrad

2. TELEPHONE NUMBER: (505) 827-2905

3. DATE (mo., day, & yr.): 02/26/88

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME: Ron Conrad

2. TITLE: Environmental Supervisor

3. ORGANIZATION: N.M. Environmental Improvement Division

4. TELEPHONE NO. (area code & no.): (505) 827-2905

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
Ron Conrad	NM EID - CERCLA	(505) 827-2905
Albert Dye	NM EID - Ground Water	(505) 827-2893
Kitty Richards	NM EID - CERCLA	(505) 827-2892

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Dr. Henry Van	Sen. Env. Eng. (915) 541-7600	P.O. Box 1492 El Paso, Texas 79978
Kenneth Beasley	Compliance Eng. (505) 325-2841	P.O. Box 4990 Farmington, NM 87499

Continue On Reverse

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
El Paso Natural Gas-Blanco Plant	(505)325-2841	P.O. Box 4990 Farmington, NM 87499	Refinery Waste Waters

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
NA			

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
NA		

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
8/10/87 → 12/9/87	8:30am-3:30pm 12:00-3:00pm	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe)
(8/10/87) Clear and warm (12/9/87) Clear and cool

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER	X	New Mexico State Lab	Enclosed
b. SURFACE WATER	X	New Mexico State Lab	Enclosed
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL	X	New Mexico State Lab	Enclosed
h. VEGETATION			
i. OTHER (specify)			

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
pH, conductivity, temperature	Surface water samples	attached

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [X] a. GROUND [X] b. AERIAL

2. PHOTOS IN CUSTODY OF: EID-CERCLA and EPNG (attached)

D. SITE MAPPED?

[X] YES. SPECIFY LOCATION OF MAPS. EPNG and EID offices -attached

E. COORDINATES

1. LATITUDE (deg.-min.-sec.): 36° 43' 30"

2. LONGITUDE (deg.-min.-sec.): 107° 57' 30"

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

[X] 2. INACTIVE (Those sites which no longer receive wastes.)

[ ] 3. OTHER (specify): _____ (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

[ ] 1. NO [X] 2. YES (specify generator's four-digit SIC Code): 2911 Petroleum Refining

C. AREA OF SITE (in acres): area of ponds 12-15 acres

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [X] 2. YES (specify): Equipment used for natural gas processing now.

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

	A. TRANSPORTER		B. STORER		C. TREATER		D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [X] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[X] 1. LIQUID [ ] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[X] 5. TOXIC [ ] 6. REACTIVE [ ] 7. INERT [ ] 8. FLAMMABLE

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No. Requested records from company. EPNG said records of wastes not available.

Continue On Reverse

VII. WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT: unknown	AMOUNT	AMOUNT: NA	AMOUNT	AMOUNT
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEAS
	X (1) OILY WASTES				
	X (2) OTHER (specify):				
X (1) PAINT, PIGMENTS		X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORA- PHARMAC
(2) METALS SLUDGES		(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACT
(4) ALUMINUM SLUDGE			(4) PESTICICES	(4) FERROUS SMELT- ING WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (sp
			(6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			X (10) METALS		
			(11) OTHER (specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X')			3. TOXICITY (mark 'X')				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
Chromium - SO_4		X		X				1010 1538	unknown	
Petroleum crudes,	X				X				unknown	
product or by-products										

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

X A. HUMAN HEALTH HAZARDS

unknown

Continue On Page 5

Continued From Page 4

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

NA

☐ C. WORKER INJURY/EXPOSURE

NA

☒ D. CONTAMINATION OF WATER SUPPLY

unknown - not documented. However, several families downstream of EPNG may obtain drinking water directly from Citizens Ditch.

☒ E. CONTAMINATION OF FOOD CHAIN

NA . There is much irrigation of food chain crops utilizing water from Citizens Ditch.

☒ F. CONTAMINATION OF GROUND WATER

unknown - not documented . However, the shallow depth of ground water and permeable soils in area make contamination of ground water a real potential.

☒ G. CONTAMINATION OF SURFACE WATER

unknown - not documented . The close proximity to Citizens Ditch intimates a potential for surface water contamination.

Continued From Front

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA

NA

☐ I. FISH KILL

NA

☐ J. CONTAMINATION OF AIR

NA

☒ K. NOTICEABLE ODORS

unknown

☒ L. CONTAMINATION OF SOIL

see attached analyses and summary

☐ M. PROPERTY DAMAGE

NA

Continue On Page 7

Continued From Page 6

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION

NA

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

NA

☐ P. SEWER, STORM DRAIN PROBLEMS

NA

☐ Q. EROSION PROBLEMS

NA

☐ R. INADEQUATE SECURITY

NA. EPNG site is fenced and marked.

☐ S. INCOMPATIBLE WASTES

NA

Continue On Reverse

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

NA

This is wrong!

☒ U. OTHER (specify): The Blanco site has been converted from a gasoline refinery to a natural gas processing plant. The ponds previously utilized to receive waste waters from the gasoline plant have been taken out of service and the ground surface reclaimed and graded. A new refinery (Conoco) has been built directly to the west of EPNG. Up until the mid 1960's, 200 acre ft of water was wasted at the Blanco plant each year through disposal in 16 impoundments located between the plant and Citizens Ditch. The waste water was comprised of mainly cooling tower blowdown and domestic sewage from both the plant and the "campsite" that housed the EPNG workers and their families. Water from an oil-water separator also reported to these ponds. Complaints by local farmers of a rising water table south of the plant forced EPNG to alter its disposal operations, take its ponds out of services, and pipe its waste water to the Bloomfield waste water treatment plant.

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	900	900	300 houses or trailers	within 1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	250	250	NA	within 1 mile
3. IN PUBLICLY TRAVELLED AREAS	NA	NA	NA	NA
4. PUBLIC USE AREAS (parks, schools, etc.)				

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
12 feet	To south	Irrigation
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
unknown	4 miles Public Systems reservoir	East

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS*

☒ 2. COMMUNITY (specify town): > 15 CONNECTIONS — System utilizes San Juan River Pumped to reservoir and distributed via pipelines to Bloomfield residents

☐ 3. SURFACE WATER

☐ 4. WELL

Continue On Page 9

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
		None		

I. RECEIVING WATER

1. NAME: Citizens Ditch

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

Reports that ground water has seeped into Citizens Ditch from the site reported situations)

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Citizens ditch used for irrigation and drinking water (in 2 downstream of site

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☒ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
X	1. SAND		Nacimiento S.S.		
X	2. CLAY				
X	3. GRAVEL				

XIII. SOIL PERMEABILITY

☐ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☒ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☐ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☒ 1. YES ☐ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☒ 1. YES ☐ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 1%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: slopes to south sparse vegetation

J. OTHER GEOLOGICAL DATA

Reclaimed ponds lie on gentle slope at edge of flood plains of the San Juan River. River is 2 miles due south of area where reclaimed ponds are located. 82 feet to a blue shale.

Continue On Reverse

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X')		
					1. YES	2. NO	3. UNKNOWN
NA							

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

[X] NONE [ ] YES (summarize in this space)

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.

EL PASO NATURAL GAS - BLANCO PLANT

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT

Earthen/no longer in use

2. STABILITY/CONDITION OF EMBANKMENTS

Good (only one still in existence although not in use)

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*

☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE

☒ YES ☐ NO Ignitable - burn pit on site (safety feature of plant)

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT

☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT

☒ YES ☐ NO Location (Historic photos) Impoundments reclaimed except for one.

7. IMPOUNDMENT HAS LINER SYSTEM

☐ YES ☒ NO

7a. INTEGRITY OF LINER SYSTEM CHECKED

☐ YES ☒ NO

7b. FINDINGS

NA

8. SOIL STRUCTURE AND SUBSTRUCTURE

Native soils - no substructure

9. MONITORING WELLS

☐ YES ☒ NO

10. LENGTH, WIDTH, AND DEPTH

LENGTH 200 ft WIDTH 100 ft DEPTH 8 ft (of 1 remaining pond)

11. CALCULATED VOLUMETRIC CAPACITY

approximately 160,00 ft^3

12. PERCENT OF CAPACITY REMAINING

100% - pond is no longer in use

13. ESTIMATE FREEBOARD

6 feet

14. SOLIDS DEPOSITION

☐ YES ☒ NO No surface manifestation

15. DREDGING DISPOSAL METHOD

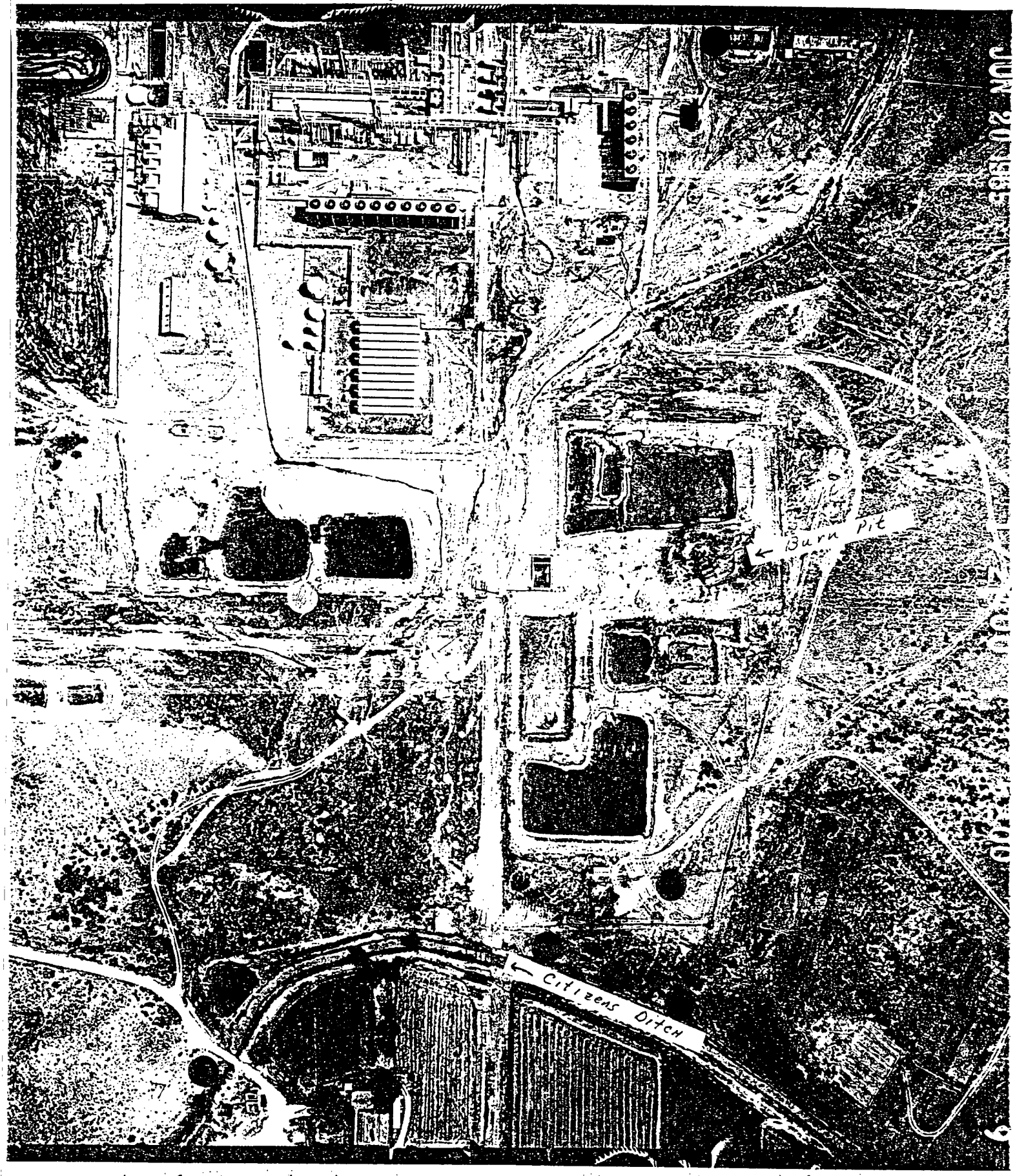
NA

16. OTHER EQUIPMENT

NA

EL PASO NATURAL GAL BLANCO PLANT

Sediment Samples	%sol.	Date	Al	Ba	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Zn
Background 3"down	97.95	8-12-87	7200.	76.	<4.	2000.	4.	3.6	10.	8000.	<4.	2000.	200.	20.
Background 2' down	95.8	8-12-87	5500.	88.	<4.	7700.	4.	4.	<.	6600.	<4.	1500.	160.	10.
SE. corner of unused pond 3" down	97.8	8-12-87	9100.	110.	<5.	3700.	280.	3.	56.	8600.	<5.	2000.	96.	130.
SE corner of unused pond 2 feet down	84.5	8-12-87	12000.	170.	<5.	3600.	40.	7.1	20.	13000.	<5.	3100.	92.	40.
S. of SE corner of unused pond 3" down	96.5	8-12-87	14000.	160.	<5.	8000.	10.	7.	20.	14000.	<5.	3800.	330.	40.
S. outside of SG corner of unused pond. 2 ft down	96.0	8-12-87	6500.	80.	<4.	8300.	<4.	3.6	7.	7200.	<4.	1600.	210.	2.
DITCH BANK SAMPLES														
Background #5	80.2	12-9-87	5200.	130.	<5.	3600.	5.	3.8	9.	6700.	9.	1900.	120.	20.
#1	95.7	12-9-87	4900.	30.	<5.	21700.	<5.	2.2	6.5	4900.	<5.	2000.	170.	10.
#2	74.1	12-9-87	5600.	130.	<5.	3300.	5.	5.	270.	8300.	9.	2300.	120.	40.
#3	71.4	12-9-87	5800.	150.	<5.	3500.	5.	5.	40.	8200.	5.	2100.	140.	30.
#4	75.4	12-9-87	9500.	190.	<5.	4800.	5.	7.1	20.	11900.	10.	3200.	670.	40.
WELL SAMPLES		12-9-87												
Cletus Heron well		12-9-87	<.1	<.1	<.1	390	0.009	<.05	<0.05	7.2	<.1	44.	1.4	<.1
George Goebel well		12-9-87	<.1	<.1	<.1	240.	0.009	<.05	0.2	8.9	<.1	48.	0.8	0.8
Blank		12-9-87	<.1	<.1	<.001	7.	<.005	<.05	<.1	<.1	<.01	2.	<.05	<.1



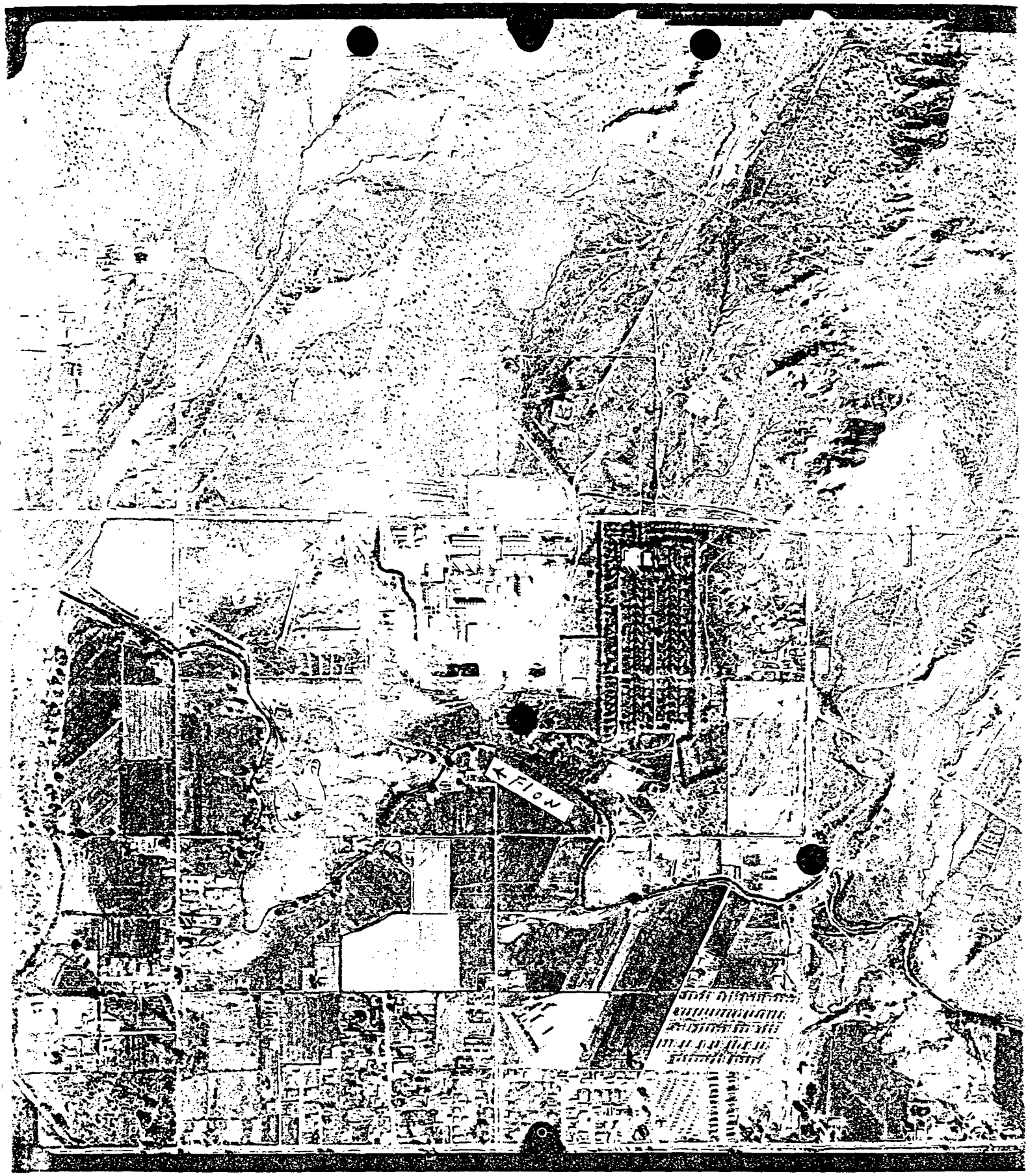
El Paso Natural Gas - Blanco Plant WASTE WATER PONDS

N

1965 photo
Showing ponds utilized at that time

● - Soil or ditch bank samples

◐ - Only ponds still in active use



10-18-82

EPNG Blanco Plant
San Juan County
T 29N
R 11W
Sec 14

N

● Site of EID Soil & Water Samples

● Site of EID Soil & Water Background Samples

— Citizen's Ditch

File Copy

DISCHARGE PLAN FOR

EL PASO NATURAL GAS COMPANY'S

BLANCO PLANT

SAN JUAN COUNTY, NEW MEXICO

El Paso Natural Gas Company

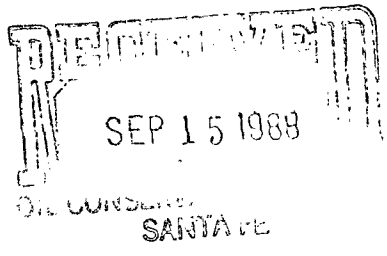
SEPTEMBER 15, 1988

DISCHARGE PLAN APPLICATION
FOR EL PASO NATURAL GAS COMPANY'S
BLANCO PLANT

SEPTEMBER 1988

Submitted to:

NEW MEXICO OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87501



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AFFIRMATION:

"I hereby certify that I am familiar with the information contained in and submitted with this application and that such information is true, accurate and complete to the best of my knowledge and belief."

Alexander H Carameros
Signature

Sept 13, 1988
Date

Alexander H. Carameros

Vice President

7107L:0285L

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2-2 through 2-5	WASTEWATER DISCHARGE PLAN PIPING LAYOUT	IN POCKET
5-1	GROUNDWATER SAMPLING WELLS AND SOIL SAMPLE LOCATIONS	IN POCKET

LIST OF APPENDICES

1.0 EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

El Paso Natural Gas Company (EPNG), P.O. Box 4990, Farmington, New Mexico, 87499 discharges approximately 44,000,000 gallons per year of wastewater. The wastewater is generated at the Blanco Plant which is located in Section 14, T. 29 N., R. 11 W., San Juan County, near Bloomfield, New Mexico. More than 90% of the wastewater is blowdown from the plant's cooling towers, boilers and water treatment facility (non-contact wastewater). Non-contact wastewater has a TDS of less than 2,000 mg/l and contains no toxic hydrocarbon contaminants. Wastewater which comes into contact with hydrocarbons during natural gas processing (contact wastewater) passes through an oil-water separator and then is commingled with non-contact wastewater and discharged to the City of Bloomfield municipal wastewater treatment plant. Separated oil and hydrocarbons are sold. EPNG intends to continue to discharge its Blanco Plant wastewater to the City of Bloomfield municipal wastewater treatment plant.

Groundwater which may be affected by operations at Blanco Plant is at a depth of 14 to 39 feet and is assumed to be a potable water supply. The New Mexico Environmental Division has requested groundwater data at the Blanco Plant. Therefore, a groundwater sampling program will be initiated in mid-September.

EPNG is wholly committed to carrying out sound disposal practices and to this end submits this plan outlining the proposed procedures. Likewise, EPNG is committed to cooperating fully with NMOCD in honoring requests for additional information or providing clarification of existing information related to the Discharge Plan.

2.0 GENERAL INFORMATION

2.0 GENERAL INFORMATION

2.1 NAME OF DISCHARGER/LEGALLY RESPONSIBLE PARTY

All correspondence regarding this discharge plan should be sent to EPNG North Region headquarters at the address below:

Donald N. Bigbie
Vice President
North Region
El Paso Natural Gas Company
P.O. Box 1492
El Paso, Texas 79978
(915) 541-5215

2.2 LOCAL REPRESENTATIVE OR CONTACT

A copy of all correspondence and all questions should be directed to the North Region Manager of Compliance Engineering:

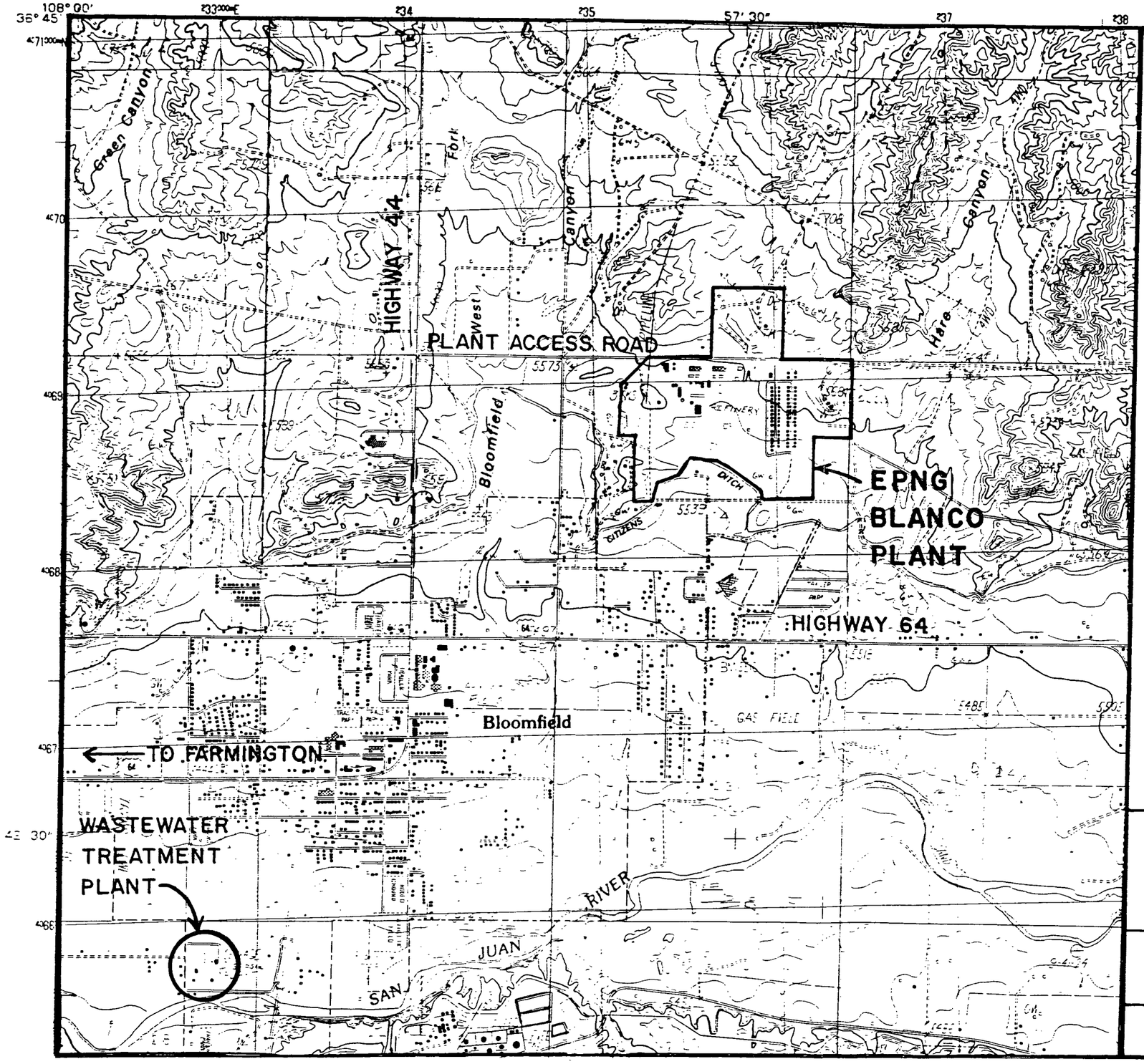
Kenneth E. Beasley
Manager
Compliance Engineering
North Region
El Paso Natural Gas Company
P.O. Box 1492
El Paso, Texas 79978
(915) 541-2600

EPNG requests that copies of correspondence also be sent to:

Environmental & Safety
Affairs Department
P.O. Box 1492
El Paso, Texas 79978
ATTN: Henry Van
(915) 541-2832

2.3 LOCATION OF DISCHARGE

The Blanco Plant is located in Section 14, T. 29 N., R. 11 W., San Juan County, New Mexico, approximately 13 miles east of Farmington, New Mexico and 1-1/2 miles east of Bloomfield, New Mexico (Figure 2-1). An access road from Highway 44 provides access to the plant. An aerial photographic base map of the facility is included as Plate 2-1.



NORTH

0 2000 4000

feet

SCALE

EL PASO NATURAL GAS COMPANY

LOCATION MAP BLANCO PLANT

FIGURE 2-1

2.4 LOCAL LAND USE

The City of Bloomfield is located 1-1/2 miles to the west. Ranching, farming and oil and gas production/transmission are practiced in the vicinity of the Blanco Plant. Property to the north is owned by: the U.S. Bureau of Land Management and Franklin E. Garrett Trustee. Property to the east is owned by: Amoco Production Company, Robert S. Mitchell, Mary Ann Gipson, Robert M. Stalcup, Victor H. Mauldin, and Irene Mauldin. Property to the south is owned by: Loren C. Paris, Jimmy A. Boone, Marvin J. Tucker, Charles Hunnicutt and BBG Investments, Lee Carson, John T. Talamonte, Salmon Martinez, Vincent W. Blume, Marion A. Schane, George C. Goebel, Inez Truby, and Rossebelle Saiz. Property to the west is owned by: Bible Baptist Shepherd Inc., Presciliana Armenta Archuleta, Ruth Marie Cooper, Catholic Church Cemetery, and James H. Wade.

2.5 TYPES OF NATURAL GAS OPERATION

The EPNG Blanco Plant is engaged in the compression of natural gas. The Blanco Plant receives 70.0 MMCF/day dry gas for compression from Northwest Pipeline Company's Ignacio Plant and the Gas Company of New Mexico (GCNM). Then, 500.0 MMCF/day field gas is scrubbed and compressed for Conoco. This natural gas is obtained from three formation fields: Dakota, Mesa Verde, and Picture Cliff. Following compression by EPNG and processing by Conoco, the gas then enters EPNG's pipelines for transmission to market.

2.6 REGULATORY INDEX

Table 2-1 presents the regulatory index. This table provides a cross reference between WQCC Regulations and this discharge plan.

TABLE 2-1

REGULATORY INDEX

WQCC Regulation Required in Discharge Plan	Section in Discharge Plan
1-201	1.0, 2.0
1-203	3.3.4
3-106 C.1	3.2
3-106 C.2	2.3, Figure 5.2, 5.0, 5.5, 5.6
3-106 C.3	5.4.2
3-106 C.4	5.4
3-106 C.5	4.2
3-106 C.6	5.1
3-106 C.7	5.1
3-107	6.0
3-108.B	1.0

3.0 EFFLUENT SOURCES, CHARACTERISTICS AND DISPOSAL

3.0 EFFLUENT SOURCES, CHARACTERISTICS AND DISPOSAL

3.1 PROCESS DESCRIPTION

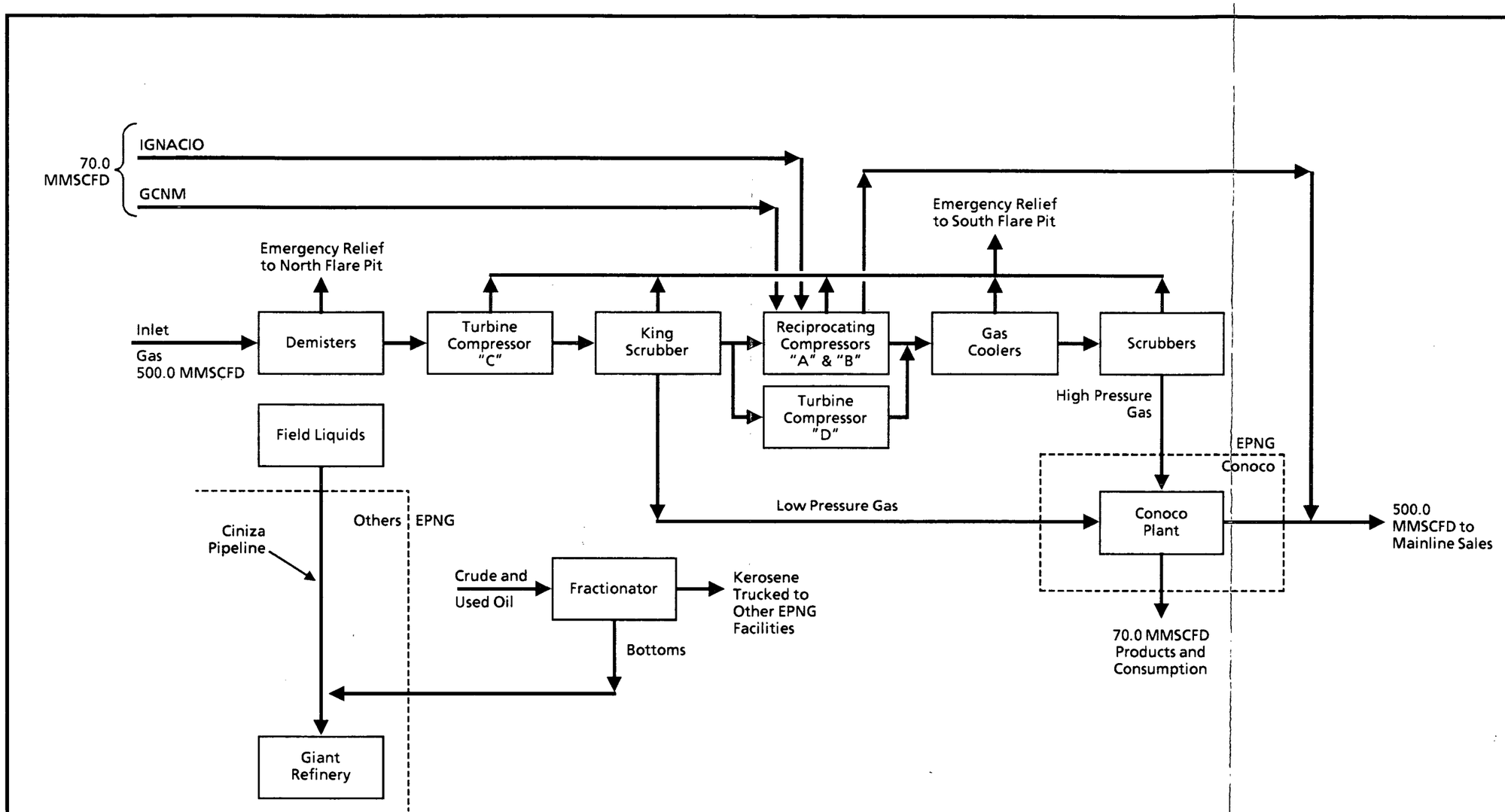
The Blanco Plant receives raw natural gas from the Picture Cliff Formation, Dakota Formation, Mesa Verde Formation Fields. Gas inlet streams are processed to some extent to:

- Remove water
- Add odorant into the natural gas
- Compress the gas for introduction into transmission pipelines

Data from 1987 indicates a total average gas inlet flow of 570.0 MMCF/day of which 70.0 MMCF/day is consumed on-site as fuel, shrinkage, and miscellaneous losses. Figures 3-1 and 3-2 show the process block flow diagram and water balance. Plate 2-1 identifies the location of process and waste-management units. Plates 2-2 through 2-5 show the piping layout at the Blanco Plant.

In the following subsections, unit processes are classified according to wastewater productions. Processes which produce no wastewater are considered "dry" (D).

A plant process which produces wastewater due to contact with hydrocarbons is a "contact" process (C), and those processes which do not contact hydrocarbons are "non-contact" (NC) processes.

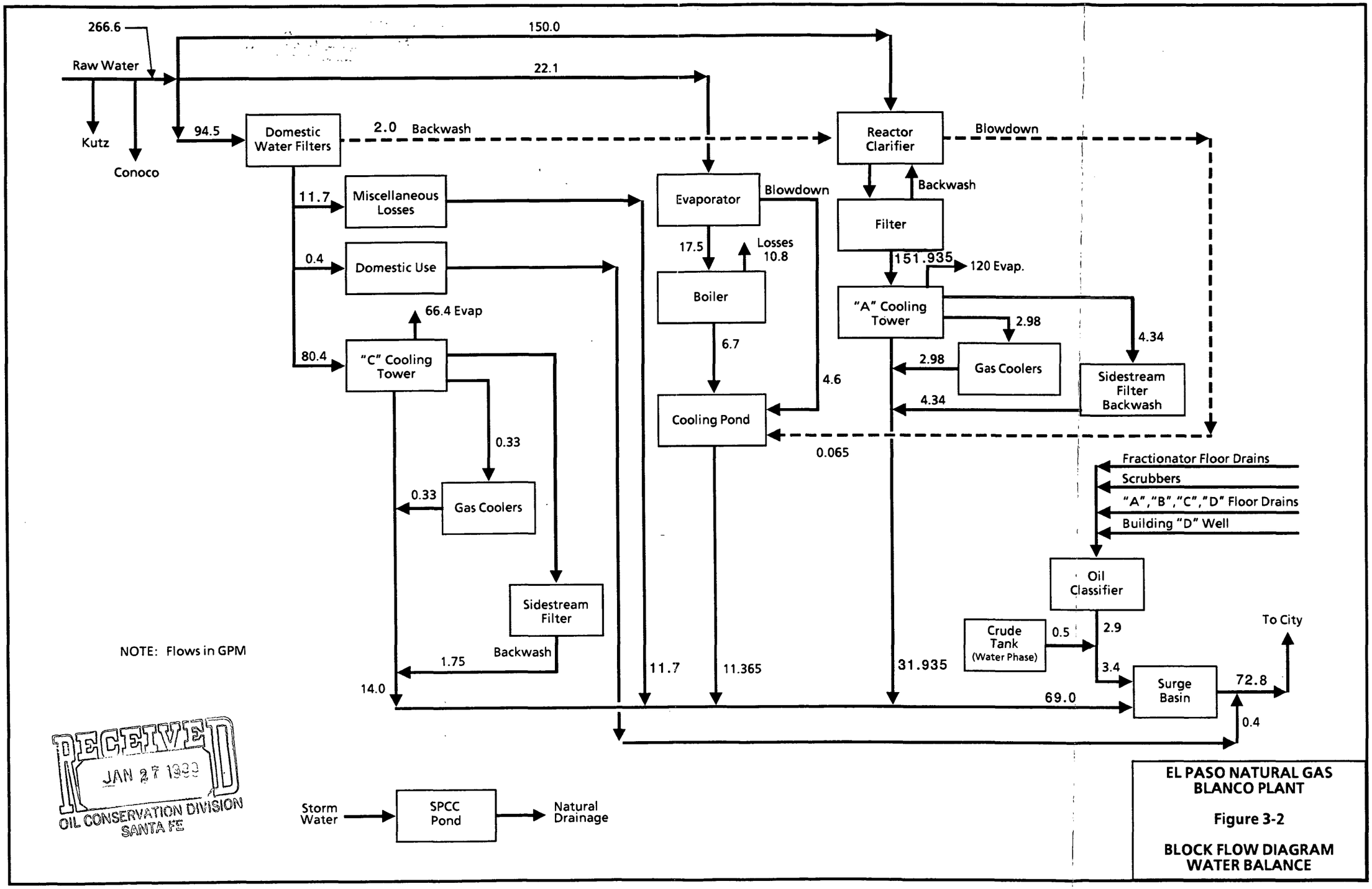


Source: EPNG Production Records

EL PASO NATURAL GAS
BLANCO PLANT

Figure 3-1

BLOCK FLOW DIAGRAM
PROCESS PLANT



EL PASO NATURAL GAS
BLANCO PLANT

Figure 3-2

BLOCK FLOW DIAGRAM
WATER BALANCE

Dry processes include:

PROCESS	SUBSECTION
Compressors (D)	3.1.1
Fractionator (D)	3.1.3

Contact processes are:

PROCESS	SUBSECTION
Scrubber/Separators (C)	3.1.2
Crude Oil Tank (C)	3.1.12

Non-contact wastewater is generated by:

PROCESS	SUBSECTION
Water Treatment (NC)	3.1.4
Boilers (NC)	3.1.5
Cooling Towers (NC)	3.1.6
Domestic Sewage (NC)	3.1.7
Storm Water (NC)	3.1.8

3.1.1 Compressors (D)

Gas is compressed by reciprocating and centrifugal compressors. No wastewater is produced by these units.

3.1.2 Scrubbers/Separators (C)

All inlet gas is passed through one or more scrubber/separator units to remove water produced with the gas. This wastewater may contain some free and dissolved hydrocarbons. Hydrocarbons are removed in an oil classifier and in the surge basin.

3.1.3 Fractionator (D)

The fractionator separates a mixture of hydrocarbons into certain individual components. Crude oil and used oil is fed to the unit for processing. Kerosene is extracted and

distributed to other EPNG facilities by tank truck. The bottoms are sent to Giant Refinery by pipeline.

3.1.4 Water Treatment (NC)

Makeup water from the San Juan River by way of the Citizens Irrigation Ditch is treated (Figure 3-2) by flocculation, filtration and evaporation to produce boiler feedwater and cooling tower makeup. Wastewater is produced by reactor-clarifier blowdown, filter backwash, and evaporator blowdown. Filter blowdown is discharged to the reactor-clarifier. The reactor-clarifier blowdown and evaporator blowdown discharge to the Cooling Pond, to the surge basin, and then to the City of Bloomfield wastewater treatment plant.

3.1.5 Boilers (NC)

The boilers produce an average of 64,000 lbs/hr of steam. The main boiler plant produces steam for onsite power generation and general process heating. In order to maintain proper boiler operation, a certain quantity of boiler water is "blown down" and replaced with purified makeup water. This prevents an increase in the total dissolved solids (TDS) of the boiler water, which could lead to scale formation and/or corrosion. Approximately 9,648 gpd of blowdown water is discharged to the cooling pond. Boiler makeup is 25,200 gpd; subtracting the blowdown leaves 15,552 gpd which are lost through deaeration, stripping process, and other plant losses. Eighty-six percent of the steam is recycled as condensate. Boiler blowdown is discharged to the cooling pond for cooling and then to the surge basin. From the surge basin the boiler

blowdown is routed to the sewer pipe which discharges to the City of Bloomfield wastewater treatment plant.

3.1.6 Cooling Towers (NC)

Evaporative cooling tower waters from "A" and "C" cooling towers are used to cool compressed gases and for other general cooling of process units. Cooling towers recycle much of their water, but some is "blown down" and replaced to prevent TDS buildup. The cooling tower blowdown is discharged to the Surge Basin and then to the City of Bloomfield municipal wastewater treatment plant.

3.1.7 Domestic Sewage (NC)

Domestic sewage is generated by a plant work force of 31 people. Sewage is treated in four septic tanks and the discharge from these is routed to the sewer discharging to the City of Bloomfield wastewater treatment plant.

3.1.8 Storm Water (NC)

Located in an alluvial region, the Blanco Plant has good natural drainage (Plate 2-1). Storm water from the process area is collected in concrete-lined ditches which drain to natural, unlined channels. These channels then drain to the SPCC pond. This pond is used to capture and monitor the quality of stormwater leaving the processing area. In addition it serves to capture major spills emanating from the process area. The pond is earthen diked (about 3 to 1 slope) on two sides and has two discharge sluice valves. The dike lengths are about 120 feet by about 210 feet and it is capable of

capturing 2 feet of water at the deep end. The water usually evaporates or is discharged to natural drainage channels.

3.1.9 Cooling Pond (NC)

The Cooling Pond is an earthen diked, unlined pond used for cooling of boiler and evaporator blowdowns and receipt of reactor-clarifier blowdown prior to discharge to the Surge Basin. The pond is about 85 feet long by 80 feet wide and 3 feet deep, containing about 152,000 gallons. Dike walls have a slope of about 3 to 1.

3.1.10 Flare Pits (C)

The North and South Flare Pits receive emergency releases of gas, which contain small amounts of liquids, for flaring. The North Flare Pit is about 75 feet wide by 110 feet long by 8 feet deep. This pit is not part of the in-plant operations. The pit is used during pipeline district pigging operations if venting is required for safety reasons. The South Flare Pit is about 100 feet wide by 140 feet long by 8 feet deep. This pit is part of in-plant operations and is used infrequently for safety reasons to prevent overpressuring of process piping and facilities. A small amount of pipeline liquids enter these flare pits. There is no discharge from these pits.

3.1.11 Condensate Pond (C)

There are three ponds but only one is used. The one used Condensate Pond receives a small amount of water drawn from the pipeline Drips Tanks. This water

contains traces of hydrocarbons. The pond normally has a few inches of liquid in it at any time. There is no discharge from this pond. These ponds are about 80 feet wide by 160 feet long by 6 feet deep. The unused ponds are overgrown with vegetation.

3.1.12 Crude Oil Tank

The Crude Oil Tank (5,000 bbl) receives crude and used oil which is later fed to the fractionator for kerosene extraction. The water drain is discharged to a oil/water separator at the truck steam cleaning pad. Effluent from the separator flows to the Surge Basin which is a final oil/water separator.

3.1.13 Produced Water Evaporation Pond

This evaporation pond receives produced water, tank water draws, and miscellaneous pigging liquids. This pond is not part of in-plant operations. It is used for field operations. It is a double-lined pond utilizing synthetic liners. There is no discharge. The pond is about 120 feet wide by 120 feet long by 2 feet deep.

3.1.14 Building "D" Well

During the construction of Compressor "D" building, a shallow water well was installed to extract groundwater recharge away from the foundation. This well operates infrequently on level control and discharges to the sewer system to the Surge Basin.

3.2 WASTE QUANTITY AND FLOW CHARACTERISTICS

The Blanco Plant produces an estimated 104,800 gpd of process wastewater. Process wastewater is discharged to the City of Bloomfield municipal wastewater treatment facility. A material balance of the plant intake water and estimated plant water losses are shown in Figure 3-2. EPNG is currently conducting a flow monitoring program to accurately determine wastewater production at the Blanco Plant; however, the above estimate of discharge is reasonable.

Table 3-1 summarizes plant raw water inlet and wastewater discharge characteristics to the City of Bloomfield wastewater treatment facilities. Wastewater being discharged to the city was collected at the metered manhole over a 24-hour period, a grab sample every 4 hours, from 9 a.m., 8-4-88 through 5 a.m. 8-5-88. Collecting the samples in this manner represents an average 24-hour operation of the Blanco Plant. For inorganic analyses, a 24-hour sample was composited. For volatile organic compounds, individual samples containing no headspace were analyzed. The Cooling Pond grab sample was collected at 4:15 p.m. 8-4-88. The raw water analysis was taken from EPNG historical records, being collected on 7-7-88.

The Blanco Plant's wastewater discharged to the city is generally of good quality, having an organic content lower than most municipal sewages (for comparison), and is not known to have caused an operating problem at the city's treatment plant. The constituents found are typical of boiler and cooling tower additives and trace organics found in pipeline liquids. None of the parameters are believed to be present in high enough concentration to be potentially harmful to a well acclimated and well operated wastewater treatment system. Indeed, the treatability characteristics of the volatile organic compounds found (in microgram per liter quantities) is very good (Engineering-Science, Inc.).

TABLE 3-1

BLANCO PLANT WASTEWATER ANALYSES
(ALL ANALYSES IN MG/L)

Analyses	Raw Water	Cooling Pond Grab Sample	Effluent to City of Bloomfield 24 Hr. Comp. 8-4-88 to 8-5-88
COD	3.0	NA	238
Nitrate-N	0.1	NA	0.3
Oil and Grease	NA	NA	LT 0.1
TOC	2.8	NA	52
O-Phosphate	0.3	NA	0.25
Cyanide	NA	NA	0.6
Phenolics	NA	NA	0.013
Arsenic	NA	NA	LT 0.01
Barium	NA	NA	0.2
Cadmium	NA	NA	LT 0.001
Calcium	38.0	NA	135
Chromium, Total	NA	NA	LT 0.01
Chromium, VI	NA	NA	0.11
Hardness (as $CaCO_3$)	124.9	NA	494
Lead	NA	NA	LT 0.001
Magnesium	7.3	NA	33.1
Mercury	NA	NA	LT 0.0004
Potassium	1.6	NA	16.0
Selenium	NA	NA	LT 0.01
Silver	NA	NA	LT 0.01
Sodium	15.2	NA	84.6
Zinc	NA	NA	0.4
Alkalinity (total) (as $CaCO_3$)	90	NA	27
Alkalinity (Bicarbonate) (as $CaCO_3$)	90	NA	27
Chloride	NA	NA	29
Fluoride	0.16	NA	0.56
TDS	180	292	1010
Sulfate	58	NA	536
Iron	0.07	NA	NA
Iron (dissolved)	0.01	NA	NA
Manganese (dissolved)	0.01	NA	NA
pH	7.43	NA	NA
Specific Conductance (umhos/cm)	293	NA	NA
Total Suspended Solids	9	NA	NA
Nitrogen, Ammonia (as N)	0.1	NA	0.3
Nitrogen, Nitrite (as N)	0.1	NA	0.3
Silica	12.6	NA	NA
Silica (dissolved)	7.4	NA	NA
CO_2 (Free)	18	NA	NA
Oxygen, Dissolved	3.0	NA	NA

NA - Not analyzed
ND - Not detected
LT - Less than

7105L:0285L

TABLE 3-1 (Continued)

BLANCO PLANT WASTEWATER ANALYSES
(ALL ANALYSES IN UG/L)

Analyses	Raw Water	Effluent to City of Bloomfield 8-4-88 0900	8-4-88 1300	8-4-88 1700
Carbon Tetrachloride	LT 2.8	LT 0.12	LT 0.12	LT 0.12
PCE (Hexachloroethane)	NA	NA	NA	NA
1,1,2-Trichloroethane	LT 5.0	LT 0.02	LT 0.02	LT 0.02
PCB's	NA	LT 1.0	LT 1.0	LT 1.0
Benzene	LT 4.4	30.7	24.6	44.6
Toluene	LT 6.0	22.4	62.7	46.8
EDC	LT 5.4	LT 0.07	LT 0.07	LT 0.07
DCE (Dichloroethane)	LT 7.5	LT 0.03	LT 0.03	LT 0.03
Ethylbenzene	LT 7.2	2.6	2.6	1.4
Xylenes	NA	28.9	20.8	54.0
Methylene Chloride	LT 2.8	NA	NA	NA
Trichloromethane	LT 1.6	NA	NA	NA
Trichlorofluoromethane	LT 5.0	NA	NA	NA
Bromodichloromethane	LT 2.2	NA	NA	NA
1,1,2,2-Tetrachloroethane	LT 6.9	NA	NA	NA
1,2 Dichloropropane	LT 6.0	NA	NA	NA
Trans-1, 3-dichloropropene	LT 5.0	NA	NA	NA
Trichloroethene	LT 1.9	NA	NA	NA
Dibromochloromethane	LT 3.1	NA	NA	NA
Tetrachloroethene	LT 4.1	NA	NA	NA
Tribromomethane	LT 4.7	NA	NA	NA
Chlorobenzene	LT 6.0	NA	NA	NA
Chloromethane	ND	NA	NA	NA
Bromomethane	ND	NA	NA	NA
Vinyl Chloride	ND	NA	NA	NA
Chloroethane	ND	NA	NA	NA
cis-1,3-Dichloropropene	ND	NA	NA	NA
2-Chloroethylvinylether	ND	NA	NA	NA
1,2-Dichlorobenzene	ND	NA	NA	NA
1,3-Dichlorobenzene	ND	NA	NA	NA
1,4-Dichlorobenzene	ND	NA	NA	NA

NA - Not analyzed
ND - Not detected
LT - Less than

TABLE 3-1 (Continued)

BLANCO PLANT WASTEWATER ANALYSES
(ALL ANALYSES IN UG/L)

Analyses	Raw Water	Effluent to City of Bloomfield 8-4-88 2100	8-5-88 0100	8-5-88 0500
Carbon Tetrachloride	LT 2.8	LT 0.12	LT 0.12	LT 0.12
PCE (Hexachloroethane)	NA	NA	NA	NA
1,1,2-Trichloroethane	LT 5.0	LT 0.02	LT 0.02	LT 0.02
PCB's	NA	LT 1.0	LT 1.0	LT 1.0
Benzene	LT 4.4	34.3	22.6	31.5
Toluene	LT 6.0	35.9	20.7	28.6
EDC	LT 5.4	LT 0.03	LT 0.07	LT 0.07
DCE (Dichloroethane)	LT 7.5	LT 0.07	LT 0.03	LT 0.03
Ethylbenzene	LT 7.2	3.4	3.0	3.0
Xylenes	NA	38.3	38.7	32.1
Methylene Chloride	LT 2.8	NA	NA	NA
Trichloromethane	LT 1.6	NA	NA	NA
Trichlorofluoromethane	LT 5.0	NA	NA	NA
Bromodichloromethane	LT 2.2	NA	NA	NA
1,1,2,2-Tetrachloroethane	LT 6.9	NA	NA	NA
1,2 Dichloropropane	LT 6.0	NA	NA	NA
Trans-1, 3-dichloropropene	LT 5.0	NA	NA	NA
Trichloroethene	LT 1.9	NA	NA	NA
Dibromochloromethane	LT 3.1	NA	NA	NA
Tetrachloroethene	LT 4.1	NA	NA	NA
Tribromomethane	LT 4.7	NA	NA	NA
Chlorobenzene	LT 6.0	NA	NA	NA
Chloromethane	ND	NA	NA	NA
Bromomethane	ND	NA	NA	NA
Vinyl Chloride	ND	NA	NA	NA
Chloroethane	ND	NA	NA	NA
cis-1,3-Dichloropropene	ND	NA	NA	NA
2-Chloroethylvinylether	ND	NA	NA	NA
1,2-Dichlorobenzene	ND	NA	NA	NA
1,3-Dichlorobenzene	ND	NA	NA	NA
1,4-Dichlorobenzene	ND	NA	NA	NA

NA - Not analyzed
ND - Not detected
LT - Less than

3.2.1 Boiler Blowdown (NC)

Boiler blowdown produces 9,648 gpd and is discharged to the Cooling Pond and then to the Surge Basin. This blowdown is cooled due to temperature limitations imposed by the City of Bloomfield wastewater treatment plant. The blowdown as discharged to the Cooling Pond typically has a total dissolved solids in the range of approximately 350 to 800 mg/l according to EPNG historical data. A sample collected from the Cooling Pond on August 4, 1988 reflected a total dissolved solids of 292 mg/l.

3.2.2 Cooling Tower Blowdown (NC)

Of the 334,562 gpd of makeup water, 66,146 gpd are "blowdown" to the surge basin and 268,416 gpd are lost to evaporation. The TDS concentration is approximately 2,000 mg/l.

3.2.3 Water Treatment (Reactor-Clarifier, Evaporator Blowdown and Domestic Filter Blowdown) (NC)

Treatment of water for domestic and process use produces 6,718 gpd of wastewater. Domestic filter blowdown is discharged to the reactor-clarifier. Evaporator blowdown and reactor-clarifier blowdown discharge via an underground sewer to the Cooling Pond and then to the surge basin.

3.2.4 Scrubbers (C)

Condensed water from scrubbing of gas typically contains some free hydrocarbons. This stream flows to the surge basin and totals about 3,888 gpd.

3.2.5 Domestic Sewage (NC)

Sanitary sewage of 620 gpd is discharged to the City of Bloomfield based on a population of 31 people.

3.2.6 Cooling Pond (NC)

Boiler blowdown, having a TDS concentration of about 350 to 800 mg/l, and evaporator blowdown, is cooled in this pond and passes to the Surge Basin at an average rate of about 16,272 gpd. In addition, this pond receives reactor-clarifier blowdown at about 93.6 gpd.

3.2.7 Crude Oil Tank (C)

The water draw from this tank is estimated to be 720 gpd, and after oil/water separation contains only a small amount of hydrocarbons.

3.2.8 Chemicals, Additives and Preservatives

The type and known quantities of chemicals and additives used in both contact and non-contact processes at the Blanco Plant are summarized in Table 3-2. Appendix C contains Material Safety Data Sheets for all products and chemicals used.

3.2.9 Possible Variation in Wastewater Chemistry and Quantity

Boiler and cooling tower blowdowns are responsible for a significant portion of the wastewater. Variations in steam production rates (and therefore boiler blowdown) and in cooling tower blowdown produce minor variations in wastewater production due to net cancelling effects of each in winter and summer.

TABLE 3-2

CHEMICALS USED AT BLANCO PLANT (ANNUAL AMOUNTS)

		WATER TREATING	
1.	Chlorine	(Gas - Domestic Use)	1,650 Lbs.
2.	Cat Floc T	(Domestic Filters)	1,350 Lbs.
3.	Copper Sulfate	(Algacide)	50 Lbs.
		COOLING TOWERS	
4.	Unichem Alpha 512		90 Gal.
5.	Unichem Alpha 570		182 Gal.
6.	Unichem Alpha 581	("A" Cooling Tower Shock Treatment Biocide)	20 Gal.
7.	Unichem 1300	(Corrison Inhibitor)	1,200 Lbs.
8.	Unichem 1700	(Dispersant)	110 Gal.
9.	Unichem Biosphere	(Dispersant)	110 Gal.
10.	Unichem De-oiling	(Surfactant)	55 Gal.
11.	HTH	(Biocide)	400 Lbs.
12.	Sulfuric Acid (98%)	(pH control)	3400 Gal.
		BOILER FEED CHEMICALS	
13.	Unichem HIB 530	(Scale Prevention)	165 Gal.
14.	Unichem HIB 430	(Neutralizing Amine)	75 Gal.
15.	Unichem HIB 341	(Oxygen Scavenger)	100 Gal.
16.	Unichem HIB 340	(Oxygen Scavenger)	100 Gal.
17.	Caustic Soda	(pH Adjustment)	400 Lbs.
18.	Unichem HIB 440	(Corrosion Inhibitor)	55 Gal.
19.	Unichem HIB 435	(Neutralizing Amine)	55 Gal.
		CLOSED JACKET AND OIL COOLING WATER SYSTEMS	
20.	Unichem KE-TONE BN	(Sodium Nitrite)	110 Gal.
21.	Unichem	(Phosphate)	100 Gal.
		LUBE OIL	
22.	Mobil 797	(Turbine Oil)	220 Gal.
23.	Shell	(Turbine Oil)	2,545 Gal.
24.	Tribol 890	(Synthetic/Compressor)	890 Gal.
25.	Mobil 490		1,000 Gal.
		LUBE OIL	
26.	Varsol 1	(General Degreaser)	700 Gal.
		DRYING AGENTS	
27.	Activated Alumina Beads	(Air Dryer for Boiler)	500 Lbs.

3.3 SPILL/LEAK PREVENTION AND HOUSEKEEPING PRACTICES

3.3.1 Operating and Maintenance Procedures

The Blanco Plant is operated in a manner to prevent and mitigate any unplanned releases to the environment. Plant process and storage units are regularly observed by a number of personnel during normal operations, and any evidence or sign of spills/leaks are routinely reported to supervisory personnel so that repairs or cleanup can be promptly effected. Routine maintenance procedures conducted at the Blanco Plant also help to assure that equipment remains functional and that the possibility of spills/leaks is minimized.

The majority of process and storage units at the Blanco Plant are bermed or curbed and have underdrains or natural diversions which will direct any unplanned spills or releases to existing waste management areas.

3.3.2 Chemical and Environmental Hazards

A number of process and non-process chemicals or additives (Table 3-2) used at the Blanco Plant could present a threat to the environment only in the event of a major spill or release. The majority of the chemicals are used in small quantities (55 gallons to 2,500 gallons per year) and any spills or leaks would be very small in volume and easily contained in the immediate area.

Major spills could result from the release of lubricating oils. A spill of wastewater could also result from possible dike failure of the cooling pond.

3.3.3 Cleanup Procedures

Cleanup procedures would obviously vary with the nature and extent of any unplanned release. Spills of bases are relatively easy to control and general procedures would include neutralization of the material in-place before a final evaluation is made on its ultimate disposal. Once neutralization is confirmed by sampling, it is quite probable that no further actions will be required to ensure protection of human health and the environment.

Spills or leaks of hydrocarbon could potentially occur from the lube oil storage tanks and the used oil storage tanks. Lube oils are stored in two 8,000 gallon tanks located south of compressor building B and in storage containers at points of usage. Any releases would be collected in a concrete lined storm water ditch, dammed with soil, and transported to the Crude Oil Tank for disposal. Any spills not contained as described above would be captured in the SPCC Pond. Used oils are stored in an on-site storage tank and reclaimed in the fractionator.

If an oil spill occurs, general cleanup procedures would involve minor earthwork to prevent migration, and recovery of as much free liquid as possible. Recovered oil would then be transported off-site for reclamation. Any material which may have soaked in the soil will be left in place and will be disked periodically to enhance biodegradation.

Spills of other organic materials which might occur at the drum storage area will be small in nature and easily contained. If a spill occurs, any free liquids will be contained by earthwork, recovered if possible and held in storage pending a decision on final disposal. Based on existing literature, analysis, and regulatory guidelines, any contaminated soil will either be left in place, transferred to other existing waste-management areas (if no incompatibilities exist), or transported off-site for proper disposal.

Potential releases could result from dike failure of the boiler blowdown cooling pond. Should a potential or actual release occur, several types of earth moving equipment are available to promptly repair damage to any dikes. Any liquids which have been released will be collected, where practical, and reintroduced into the wastewater treatment system as is practical.

3.3.4 Reporting

Should a release of materials occur, EPNG will provide oral notification to NMOCD as soon as possible after discovery as required by WQCC Regulation 1-203.

3.3.5 General Housekeeping Procedures

EPNG strives to reduce the potential for spills and leaks in all non-process areas. Records from 1972 to present indicate that no liquid spills are documented at the Blanco Plant. Interviews with plant personnel have also indicated that no liquid spills occurred between the 1950's and 1972.

Non-process chemicals are used in relatively small quantities at the plant and are managed in a manner to prevent discharges to the environment. Any chemical spills which might occur would be immediately contained and disposed of according to proper guidelines.

Chemicals such as cleaning solvents are collected and recycled. EPNG currently uses a non-halogenated solvent, Varsol, for degreasing operations. The spent solvent which contains various aromatic compounds is combined with other hydrocarbon fractions and is recycled on site.

4.0 EFFLUENT DISPOSAL

4.0 EFFLUENT DISPOSAL

4.1 EXISTING OPERATIONS

Since 1964, EPNG's Blanco Plant has discharged most (greater than 98%) of its processed contact and all non-contact wastewater to the City of Bloomfield's wastewater treatment plant (see Appendix B). The only continuous waste discharge which is held on-site for any time is boiler and evaporator blowdown which flows through the Cooling Pond for temperature reduction, and reactor-clarifier blowdown. This stream has a low TDS, ranging from 350 to 800 mg/1, according to EPNG historical analyses. The two flare pits receive only very intermittent emergency relief venting of gas which contains a small amount of pipeline liquids. The Condensate Pond receives only intermittent and small amounts of water drawn from the drip storage tanks on the western portion of the plant site. The water depth in the pond is only several inches. The Produced Water Evaporation Pond (double-lined) receives small quantities of miscellaneous sources of water containing small amounts of hydrocarbon. Domestic Sewage is treated in four septic tanks with ultimate flow to the City of Bloomfield. Used oil is recovered by treatment in the fractionator.

In order to assess the potential for groundwater contamination by past waste disposal practices EPNG plans to perform a groundwater quality investigation of the Blanco Plant in mid-September. The groundwater quality investigation work plan is attached and is considered an integral part of this discharge plan.

4.2 OFF-SITE DISPOSAL

The City of Bloomfield treats EPNG's Blanco Plant wastewater discharge in a 650,000 gallon per day activated sludge treatment plant. EPNG's discharge is approximately 104,800 gpd. This flow is a reasonable estimate. Flow meters will be calibrated shortly. The flowmeter is a Palmer-Bowlus type with a Badger 7-day recording chart and totalizer. Wastewater is conveyed in a vitrified clay 8-inch line. EPNG intends to continue to discharge its Blanco Plant wastewater to the City of Bloomfield municipal wastewater treatment plant.

4.3 PROPOSED MODIFICATIONS: CLOSURE OF UNLINED PITS AND PONDS

EPNG proposes to close the following unlined pits and ponds which currently or historically contained contact wastewater, namely: North Flare Pit, South Flare Pit, Condensate Ponds, Cooling Pond and the Abandoned Evaporation Pond. The Abandoned Evaporation Pond was used to evaporate the plant effluent, that which now flows to the City of Bloomfield. It has not been used since 1964. This structure is about 100 feet by 200 feet long by 4 feet deep with earthen dike (about 3 to 1 slope). The pond is dry and overgrown with vegetation.

In keeping with sound environmental practices, EPNG proposes to provide engineered waste management units to replace the above named pits and ponds. In addition, the pits and ponds will be closed in accordance with current environmental standards and guidelines. The residues in the ponds and pits will be analyzed for characteristics of hazardous waste in accordance with 40 CFR 261 and will be compared to "listed" wastes as well. If material from the ponds and pits is shown to be hazardous, this material will be disposed of in accordance with EPA guidelines. The excavated material will be replaced with clean soil.

Research has shown that petroleum residues can be degraded in a soil environment (Cresswell, 1977). The process usually involves the mixing of contaminated soil with fresh soil and harrowing to improve aeration, addition of fertilization to facilitate bacterial breakdown of the residue and the establishment of vegetation (Gudin and Syratt, 1975). Cresswell (1977) reports that healthy crops of wheat were grown on test plots in Oklahoma containing four to eight percent of oil in the upper six inches of soil. It was found that the oil, including oily waste from the bottoms of wastewater treatment ponds, was held in the shallow soil zone in which it was originally applied and did not move vertically or horizontally in the soil. Such reclamation steps would improve the closure process and will be utilized where time allows or necessity dictates.

The general approach to pond closure will entail covering the pond with dirt fill and then mounding the fill dirt over the former pond areas to preclude the possibility of producing a hydraulic head by ponding water.

5.0 SITE CHARACTERISTICS

5.0 SITE CHARACTERISTICS

The plant is located within the west-central part of the San Juan Basin (Figure 5-1), a large, asymetric structural depression that contains up to 15,000 feet of Paleozoic and Mesozoic sediments (Fassett and Hinds, 1971). Maximum topographic relief within 1 mile of the site is about 480 feet with elevations ranging from 5460 to 5937 feet above sea level (Plate 5-1). The area is characterized by bedrock hillsides and mesas and Plio-Pleistocene gravel terraces of the San Juan and Animas Rivers. All these features are cut by steep-walled arroyos. Drainage is to the south into the westerly-flowing San Juan River. Average annual precipitation in the area is 8.5 inches per year. Vegetation is typically desert brush that covers approximately 15% of the surface.

EPNG is conducting an investigation of the site hydrogeology. Seven monitoring wells will be constructed on the site. Selected soil samples taken during construction of the wells and water samples taken from the completed wells will be analyzed. Additional soil samples will be taken at three locations that could potentially be sources of ground water contamination. The well and sampling locations are shown on Plate 5-1. The results of this investigation will be presented as an appendix to this report at a later date. The appendix will include, but not be limited to, the following:

- Updated site stratigraphy including cross sections through the site and lithologic logs for each monitoring well
- Site specific ground water characterization including maps of ground water levels and specific conductivity
- Water well survey results with map showing locations of any wells within a radius of one mile of the plant site
- Results and discussion of results of ground water sample analyses

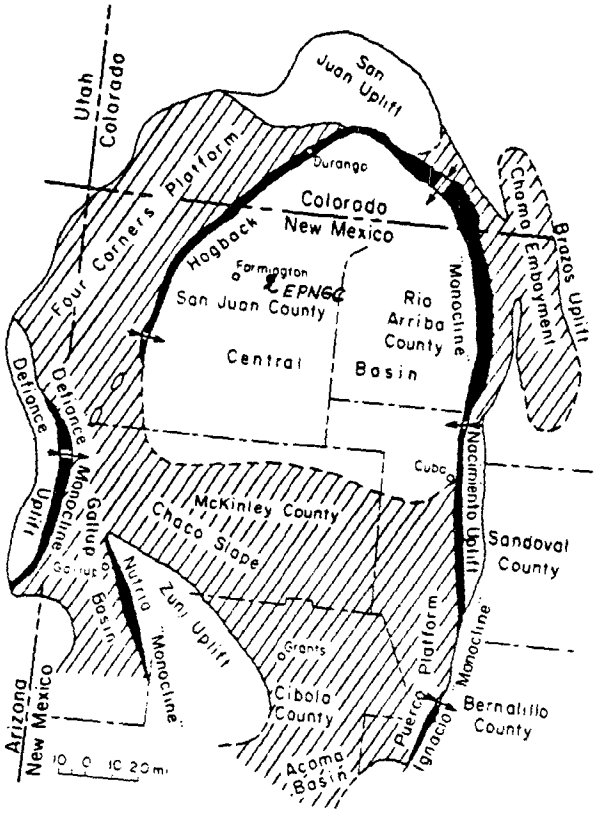


Diagram of the San Juan Basin Showing Structural Components and Location of Blanco Plant (Stone and Others, 1983).

FIGURE 5-1

5.2 GEOMORPHOLOGY AND SOILS

The plant site is located on alluvial valley fill sloping gently to the south. There are no major drainages crossing the site. Three major soil associations are identified on the plant site; Stumble-Fruitland, Gypsiorthids-Bodland-Stumble, and Fruitland sandy loam (C. W. Keetch. 1980). Most of the plant facilities are located on the Stumble-Fruitland association which developed in alluvium derived dominantly from sandstone and shale. Permeability is moderate (2.0-6.0 in/hour) in Fruitland soils to very rapid (6.0-20.0 in/hour) in Stumble soils (C. W. Keetch, 1980). For this association runoff is very slow to slow and water erosion potential is low (C. W. Keetch, 1980).

A few of the old evaporation ponds on the western part of the site were constructed in soils of the Stumble portion of the Gypsiorthids-Badlands-Stumble association. Characteristics of the Stumble are discussed in the previous paragraph.

No plant facilities are constructed on the Fruitland sandy loam. It can be found on the southeast part of the plant site. Permeability is moderate (2.0-6.0 in/hr). runoff is slow, and water erosion potential is low to moderate (C. W. Keetch, 1980).

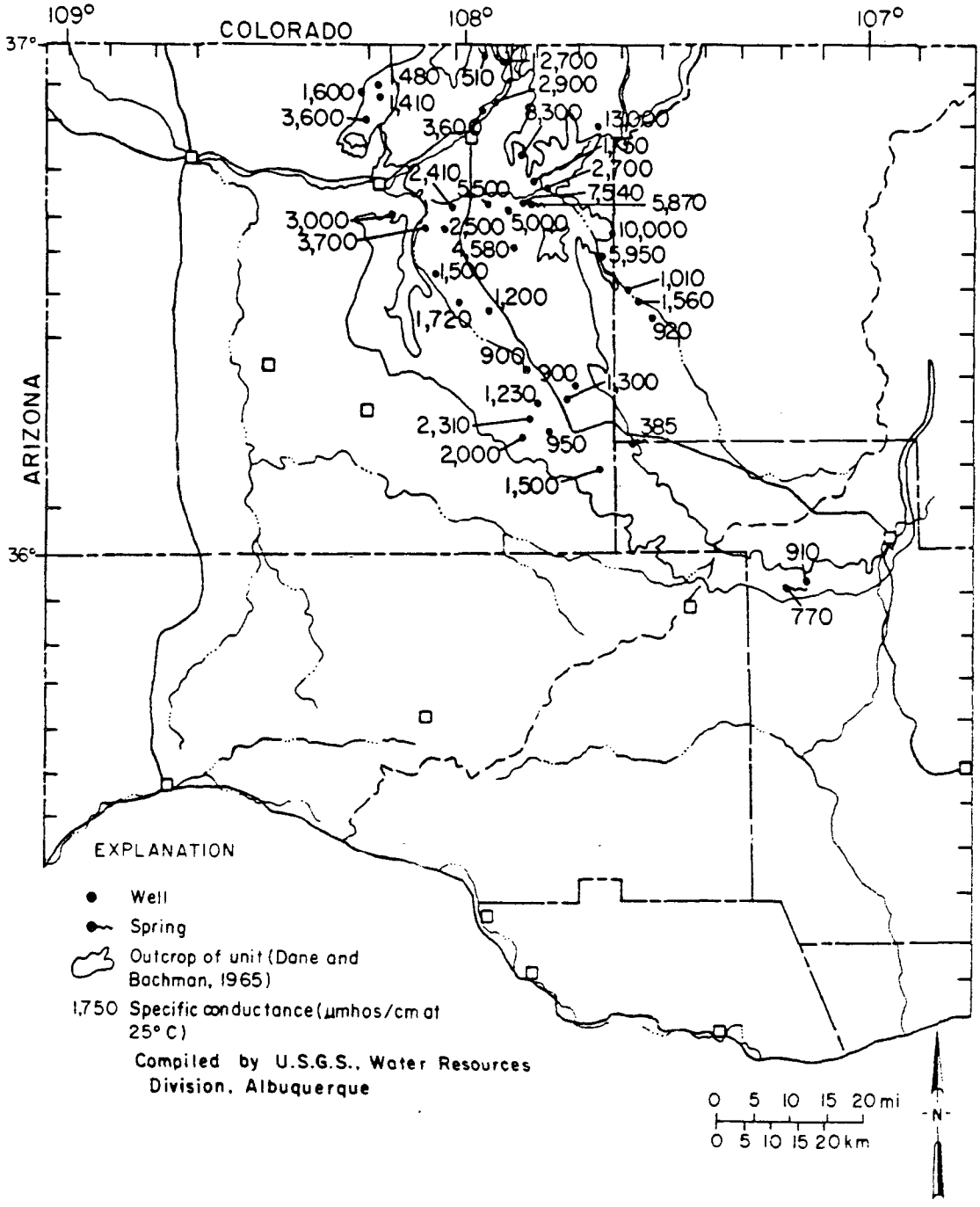
5.3 SITE GEOLOGY

The plant site is located on alluvium, which fills a canyon cut into the Nacimiento Formation. The alluvium consists of fine to coarse sands, clays, and varying combinations of the two. These were deposited by stream and wind action. The soils tend to be weak, compressible, and moderately permeable. At the plant site thickness of the alluvium ranges from less than 3 feet to 75 feet. The alluvium is deposited on the Nacimiento Formation. A generalized geologic cross section of the plant site is shown on Figure 5-3.

The two Tertiary aquifers occurring beneath the site are the Nacimiento Formation and the Ojo Alamo sandstone. Neither are used as a direct source of water near the plant site. Seepage from the Nacimiento is probably a small source of recharge for the overlying alluvium aquifer.

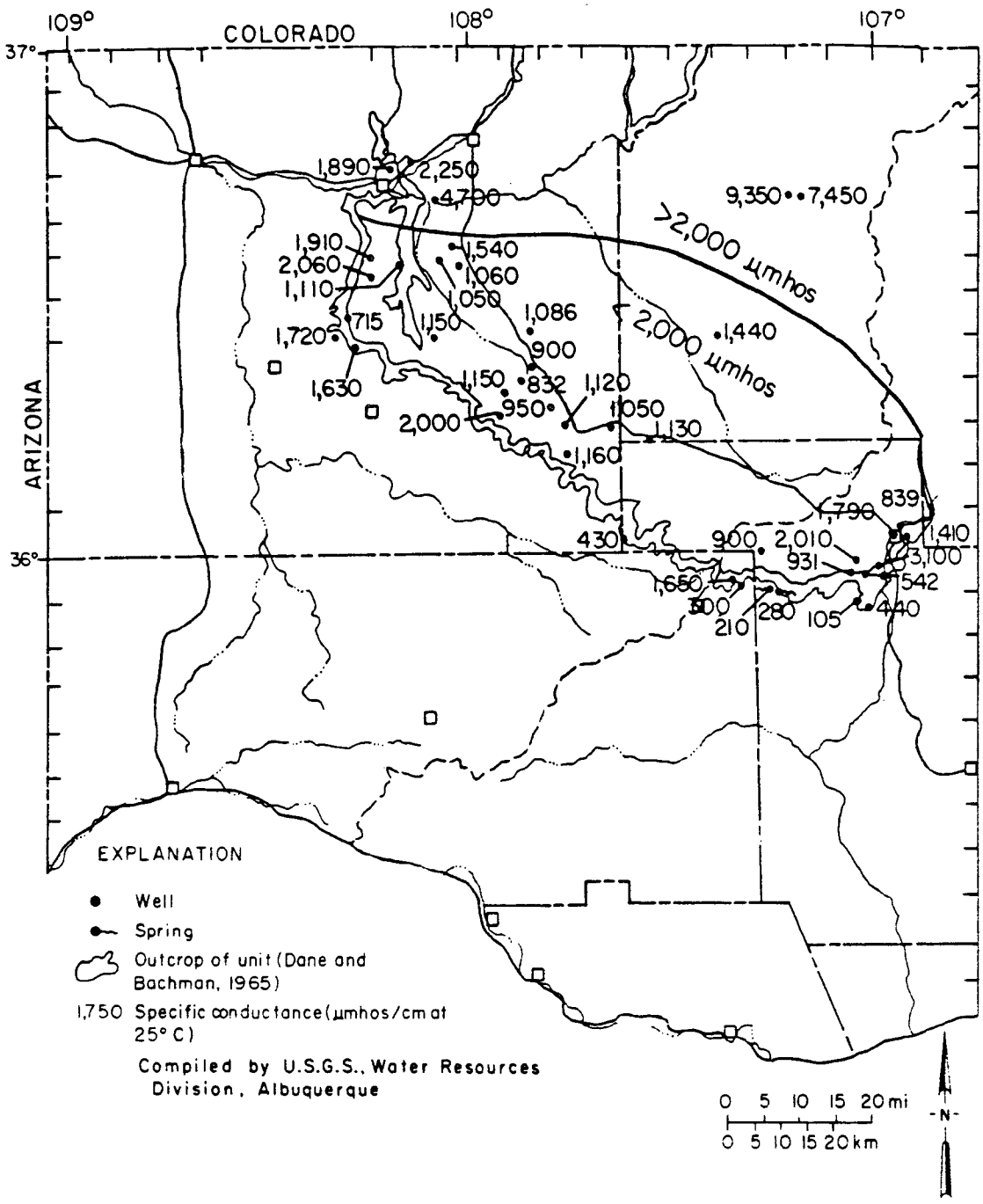
Transmissivities for the Nacimiento Formation are estimated to be as high as 100 ft^2/day for the coarser and more continuous sandstones. Transmissivities for the Ojo Alamo sandstone range from 0.5 ft^2/day to 250 ft^2/day (Stone and others, 1983).

Water quality as indicated by specific conductance is shown on Figure 5-4 for the Nacimiento Formation and on Figure 5-5 for the Ojo Alamo Sandstone. Measurements of specific conductance in micromhos (umhos) is used as an indicator of salinity. A general classification can be used as follows: 700 umhos = fresh; 700-2000 umhos = slightly saline; 2000-7000 umhos = saline: 7000-24,000 umhos = very saline; 24,000 umhos = brine. Specific conductance for the sandstones of the Nacimiento Formation ranges from less than 1,500 umhos to greater than 2000 umhos in the finer grained portions of the unit (Stone and other, 1983). Water in the Nacimiento along the San Juan River often exceeds 4000 umhos (Stone and others, 1983). Specific conductance for the Ojo Alamo Sandstone ranges from less than 1000 umhos to greater than 9000 umhos (Stone and others, 1983).



Specific Conductance from Selected Wells and Springs in Nacimiento/Animas Formations (Stone & Others, 1983)

FIGURE 5-4



Specific Conductance From Selected Wells and Springs in Ojo Alamo Sandstone (Stone & Others, 1983)

FIGURE 5-5

5.4.2 Quaternary Aquifers

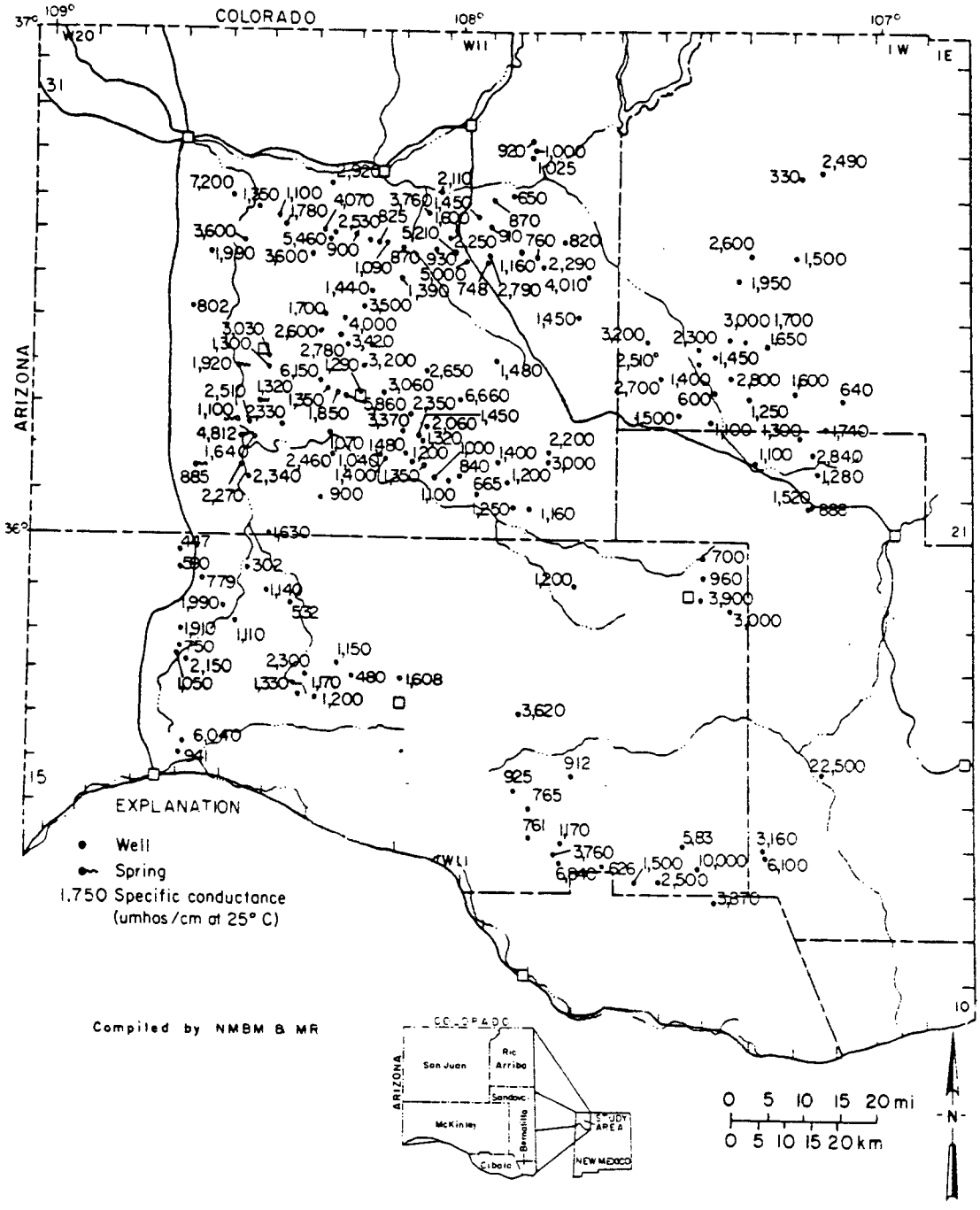
Quaternary-sediment aquifers occur primarily as valley fill in the major river valleys and consist of gravel, sand, silt and clay. Ground-water recharge results from drainage from irrigated lands, infiltration of surface runoff and leakage from bedrock aquifers. Flow directions are concurrent with topographic slope and river-flow directions, and hydraulic conductivity can be extremely high. Transmissivities range from less than 1000 ft^2/day to more than 40,000 ft^2/day (Stone and others, 1983).

As Figure 5-6 shows, the quality of ground water (in terms of specific conductance) in Quaternary River Valley alluvium is highly variable and specific conductance may range from less than 1,500 to 6,000 umhos (Stone and others, 1983). Water from this source is used for stock, irrigation and domestic purposes. In arroyos and tributaries of the major rivers the ground water quality is also highly variable and specific conductance can be significantly higher than 6,000 umhos.

5.5 LOCAL GROUND WATER HYDROLOGY

Two ground-water regimes exist at the Blanco Plant site:

1. Unconfined sandstone aquifer in the Nacimiento Formation.
2. Unconfined aquifer in the canyon-filling alluvium beneath the plant site.



Specific Conductance from Selected Wells and Springs in Valley Fill Deposits (Stone and Others, 1983)

FIGURE 5-6

No wells are completed in the Nacimiento Formation near the plant site. Discussion for this aquifer is limited to that presented in the section on Regional Ground Water Hydrology, Tertiary Sandstone Aquifers.

The Blanco Plant is constructed on the alluvium filling the canyon beneath the plant site. This alluvium is an unconfined aquifer limited laterally by edges of the canyon it fills. Based on the topography, ground water should flow from north-northeast to south-southwest beneath the plant site following the general trend of the canyon. The main source of recharge is by rainfall. The recharge area is limited north of the plant site topography and the edges of the buried canyon. A small amount of recharge may occur from water seeping from the sandstone beds of the Nacimiento Formation. South of the plant site recharge is supplemented by irrigation. Depth to water near the south border of the plant site is between 10 and 15 feet below the ground surface. Under the plant facilities, water depths have been reported over the last 25 years to range between 14.4 feet and 39 feet. Average transmissivity for the alluvium is estimated to be less than 1,000 ft^2/day. Several wells have been completed in this aquifer south of the plant site.

5.6 SURFACE WATER HYDROLOGY AND FLOODING POTENTIAL

The Blanco Plant is situated at the mouth of an unnamed canyon located between Bloomfield and Hare Canyons, northeast of the town of Bloomfield, at an altitude of about 5,600 feet. The major hydrologic feature of this area is the San Juan River which drains in an east-west direction, some 1-1/2 miles due south of the plant. Flooding from the San Juan River would not affect the plant because the plant is located some 160 feet above the river and is outside of the 100-year flood plain.

The local drainage that could have a potential flooding impact on the plant site is the unnamed canyon. Storm runoff from this canyon drains in a northeast to southwest direction, through the plant site area, and continues to the Citizen Ditch which divert the flows to the Bloomfield and Hare Canyons' watershed.

At the plant site area, this unnamed canyon drains an area of about 0.9 square miles. It is ephemeral with little vegetation cover. The length of this canyon is about 1-1/2 miles with an average slope of about 3%. The time of concentration for this canyon was estimated to be 0.6 hours. The soils in the canyon according to the soil survey published by the U.S. Soil Conservation Service (C.W. Keetch, 1980) is silty sand and belongs to the Hydrologic Soil Group B.

The rainfall frequency data were obtained from NOAA Atlas 2 Precipitation - Frequency Atlas of the Western United States Volume IV, New Mexico. The 10-year, 25-year, 50-year and 100-year, 24-hour rainfall amounts were estimated to be 1.7, 2.0, 2.4 and 2.6 inches, respectively. Flood peak discharges from these storms were also derived using the U.S. Army Corps of Engineers dimensionless computer program, HEC-1 Flood Hydrograph Package. The dimensionless unit hydrograph suggested by the U.S. Soil Conservation Service was used and a curve number of 80 was assumed for an antecedent moisture condition II. The flood peak discharges and flood volumes for a 24-hour storm for the various recurrence intervals are given in Table 5-1.

At present, storm runoff from this canyon is intercepted just to the north of the plant and is channelled into two drainage ditches in the east and west side of the plant site, respectively, with the east ditch carrying the majority of the storm runoff. Both of these drainage ditches have very limited capacities and would not be able to accommodate runoff from a severe storm event. Some local flooding in the vicinity of the ditches would be expected. The flood waters could also enter the low depression area south of the Cooling Pond as well as the Old Abandoned Evaporation Pond.

TABLE 5-1
FLOOD DATA - UNNAMED CANYON
BLANCO PLANT

Recurrence Interval	10-Year	25-Year	50-Year	100-Year
24-Hour Rainfall (inches)	1.7	2.0	2.4	2.6
Flood Peak Discharges (cfs)	240	320	490	610
Flood Volume (AF)	22	30	43	50

6.0 MONITORING AND REPORTING

6.0 MONITORING AND REPORTING

Samples of wastewater discharged to the City of Bloomfield will be obtained annually and analyzed for all WQCC 3-103 parameters except radioactive species. Any records related to waste characterization will be retained by El Paso for at least five years.

Any changes, anticipated or otherwise, to the disposal system will be reported to NMOCD. The NMOCD is hereby notified of EPNG's intent to close various pits and ponds (Section 4.3).

7.0 BASIS FOR APPROVAL

7.0 BASIS FOR APPROVAL

The existing site conditions at the Blanco Plant ensure that there should be no present or future danger to ground water having foreseeable future use as the result of current discharge practices. No present or foreseeable future users of ground water in the Blanco Plant area are expected to be affected for the following reasons:

- 98% of contact wastewaters undergo hydrocarbon separation prior to complete treatment by the City of Bloomfield (Section 3.1.2)
- 96% of all wastewaters are derived from non-contact processes and are of relatively good quality (Section 3.2)
- EPNG proposes to close 5 unlined pits and ponds to further improve environmental quality (Section 4.3)
- There is no significant potential for wastewater release due to flooding by a 100-year storm (Section 5.6)
- EPNG is wholly committed to carrying out sound disposal practices and to this end submits the plan outlining the proposed procedures. Likewise, EPNG is committed to cooperating fully with NMOCD in honoring requests for additional information or clarification of existing information related to the Discharge Plan.

8.0 SUMMARY OF DISCHARGE PLAN REQUIREMENTS

8.0 SUMMARY OF DISCHARGE PLAN REQUIREMENTS

1) Annual analysis of samples taken from the discharge to the City of Bloomfield.

2) Reporting of all significant leaks or spills to NMOCD within 10 days, and notification within 30 days of any corrective action taken.

3) Maintain records of wastewater characterization for at least five years.

9.0 REFERENCES CITED

9.0 REFERENCES CITED

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APPENDIX A

CHEMICAL ANALYSES OF WATER AND WASTEWATER

P.O. BOX 5351 • Santa Fe, New Mexico 87502

OUT OF STATE 800/545-2188

REPORT OF ANALYSIS

LAB # 88-07-137

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Chaco P. Total Plant Inlet	07/07/88	Calcium	38	
		Iron	0.07	
(The water source for Blanco, Kutz and Chaco is the same)		Potassium	1.6	
		Magnesium	7.3	
		Manganese	0.03	
		Sodium	~~152~~ 15.2	
		Iron (dissolved)	0.01	
		Manganese (dissolved)	<0.01	
		Chloride	2	
		Carbonate (as CaCO3)	0	
		Fluoride	0.16	
		Bicarbonate (as CaCO3)	90	
		pH	7.43	(units)
		Phosphate	<0.3	
		Sulfate	58	
		Specific Conductance	293	(umhos/cm)
		Solids, Total Dissolved	180	
		Total Suspended Solids	9	
		Nitrogen, Ammonia (as N)	<0.1	
		Nitrogen, Nitrite (as N)	<0.1	
		Nitrogen, Nitrate (as N)	<0.1	
		Silica	7.4	
		Silica (dissolved)	12.6	
		CO2 (Free)	18	
		Total Organic Carbon	2.8	
		Volatile Organics		()
		Chemical Oxygen Demand	3	
		Oxygen, Dissolved	3.0	
		Base Neutrals	*	(ug/liter)

CEP Consultants for Environmental Protection
P.O. BOX 5251 • Santa Fe, New Mexico 87502

CEP, Inc. REPORT

LAB # 88-07-137

RECEIVED: 07/08/88

Results by Sample

SAMPLE ID Chaco P. Total Plant Inlet FRACTION 01H TEST CODE VOA NAME Volatile Organics EPA-624

(The water source for Blanco, Kutz and Chaco is the same)

Date & Time Collected 07/07/88 Category WATER

CAS #	Compound name	Result
74-87-3	Chloromethane	ND
74-83-9	Bromomethane	ND
75-01-4	Vinyl Chloride	ND
75-00-3	Chloroethane	ND
75-09-2	Methylene Chloride	<2.8
75-35-4	1,1-Dichloroethene	<2.8
75-34-3	1,1-Dichlorethane	<4.7
156-60-5	Trans-1,2-Dichloroethene	<1.6
67-66-3	Chloroform	<1.6
107-06-2	1,2-Dichloroethane	<2.8
75-69-4	Trichlorofluoromethane	<5.0
71-55-6	1,1,1-Trichloroethane	<3.8
56-23-5	Carbon Tetrachloride	<2.8
75-27-4	Bromodichloromethane	<2.2
79-34-5	1,1,2,2-Tetrachloroethane	<6.9
78-87-5	1,2-Dichloropropane	<6.0
10061-02-6	Trans-1,3-dichloropropene	<5.0
79-01-6	Trichloroethene	<1.9
124-48-1	Dibromochloromethane	<3.1
75-00-5	1,1,2-Trichloroethane	<5.0
127-18-4	Tetrachloroethene	<4.1
10061-01-5	cis-1,3-Dichloropropene	ND
110-75-8	2-Chloroethylvinylether	ND
75-25-2	Bromoform	<4.7
71-43-2	Benzene	<4.4
95-50-1	1,2-Dichlorobenzene	ND
108-90-7	Chlorobenzene	<6.0
541-73-1	1,3-Dichlorobenzene	ND
106-46-7	1,4-Dichlorobenzene	ND
108-88-3	Toluene	<6.0
100-41-4	Ethylbenzene	<7.2

CEP Controls for Environment
P.O. BOX 5351 • Santa Fe, New Mexico 87502
OUT OF STATE 800/545-2188

SAMPLE ID Chaco P. Total Plant Inlet FRACTION 01H TEST CODE VOA NAME Volatile Organics EPA-624
Date & Time Collected 07/07/88 Category WATER

NOTES AND DEFINITIONS FOR THIS REPORT

All results reported in ug/liter unless otherwise specified.

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

CEP, Inc. REPORT

LAB # 88-08-123

RECEIVED: 08/08/88

08/22/88 16:09:36

REPORT TO: El Paso Natural Gas Company
P. O. Box 4990
Farmington, NM 87401

ATTEN: Don Vacker

CLIENT: EL PASO NM SAMPLES: 7
COMPANY: El Paso Natural Gas Company
FACILITY: Blanco PLT Metered Manhole

WORK ID: Water Quality
TAKEN: 08/04 to 08/05/88
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 001235

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.

* Samples were composited.

SAMPLE IDENTIFICATION

01	Blanco PLT Metered Manhole
02	Blanco PLT Metered Manhole
03	Blanco PLT Metered Manhole
04	Blanco PLT Metered Manhole
05	Blanco PLT Metered Manhole
06	Blanco PLT Metered Manhole
07	Blanco PLT Metered Manhole

CEP, Inc. TEST CODES and NAMES used on this report

AG 1	Silver
ALK T1	Alkalinity, Total(as CaCO3)
AS 1	Arsenic
BA 1	Barium
CA 1	Calcium
CD 1	Cadmium
CL 1	Chloride
CN TOT	Cyanide, Total
COD 1	Chemical Oxygen Demand
CR 6 1	Chromium, Hexavalent (6+)
CR T 1	Chromium (total)
F 1	Fluoride
HARD 1	Hardness (as CaCO3)
HCO3 W	Bicarbonate (as CaCO3)
HG 1	Mercury
K 1	Potassium
MG 1	Magnesium
NA 1	Sodium
NO3 1	Nitrate, Nitrogen (as N)
O G 1	Oil and Grease
O PO4W	Phosphate, Ortho (as P)
PB 1	Lead
PHEN W	Phenol
SE 1	Selenium
SO4 W	Sulfate
TDS 1	Total Dissolved Solids
ZN 1	Zinc

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Blanco PLT Metered Manhole	08/04/88 09:00	Silver	<0.01	
		Arsenic	<0.01	
		Barium	0.2	
		Calcium	136	
		Cadmium	<0.001	
		Chromium (total)	<0.01	
		Mercury	<0.0004	
		Potassium	16.0	
		Magnesium	33.1	
		Sodium	84.6	
		Lead	<0.001	
		Selenium	<0.01	
		Zinc	0.4	
		Nitrogen, Nitrate (as N)	0.3	
		Phosphate, Ortho (as P)	0.25	
		Alkalinity, Total(as CaCO3)	27	
		Chloride	29	
		Chromium, Hexavalent	0.11	
		Fluoride	0.56	
		Hardness	494	
		Bicarbonate (as CaCO3)	27	
		Phenol	13	(ug/liter)
		Sulfate	536	
		Solids, Total Dissolved	1010	
		Cyanide, Total	0.6	
		Oil and Grease	<0.1	
		Chemical Oxygen Demand	238	

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Blanco PLT Metered Manhole	08/04/88 13:00	Silver	*	
		Arsenic	*	
		Barium	*	
		Calcium	*	
		Cadmium	*	
		Chromium (total)	*	
		Mercury	*	
		Potassium	*	
		Magnesium	*	
		Sodium	*	
		Lead	*	
		Selenium	*	
		Zinc	*	
		Nitrogen, Nitrate (as N)	*	
		Phosphate, Ortho (as P)	*	
		Alkalinity, Total(as CaCO3)	*	
		Chloride	*	
		Chromium, Hexavalent	*	
		Fluoride	*	
		Hardness	*	
		Bicarbonate (as CaCO3)	*	
		Phenol	*	(ug/liter)
		Sulfate	*	
		Solids, Total Dissolved	*	
		Cyanide, Total	*	
		Oil and Grease	*	
		Chemical Oxygen Demand	*	

Controls for Environmental Pollution, Inc.
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IN STATE 505/982-9841
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REPORT OF ANALYSIS

LAB # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Blanco PLT Metered Manhole	08/04/88 17:00	Silver	*	
		Arsenic	*	
		Barium	*	
		Calcium	*	
		Cadmium	*	
		Chromium (total)	*	
		Mercury	*	
		Potassium	*	
		Magnesium	*	
		Sodium	*	
		Lead	*	
		Selenium	*	
		Zinc	*	
		Nitrogen, Nitrate (as N)	*	
		Phosphate, Ortho (as P)	*	
		Alkalinity, Total(as CaCO3)	*	
		Chloride	*	
		Chromium, Hexavalent	*	
		Fluoride	*	
		Hardness	*	
		Bicarborate (as CaCO3)	*	
		Phenol	*	(ug/liter)
		Sulfate	*	
		Solids, Total Dissolved	*	
		Cyanide, Total	*	
		Oil and Grease	*	
		Chemical Oxygen Demand	*	

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter
Blanco PLT Metered Manhole	08/04/88 21:00	Silver	*
		Arsenic	*
		Barium	*
		Calcium	*
		Cadmium	*
		Chromium (total)	*
		Mercury	*
		Potassium	*
		Magnesium	*
		Sodium	*
		Lead	*
		Selenium	*
		Zinc	*
		Nitrogen, Nitrate (as N)	*
		Phosphate, Ortho (as P)	*
		Alkalinity, Total(as CaCO3)	*
		Chloride	*
		Chromium, Hexavalent	*
		Fluoride	*
		Hardness	*
		Bicarbonate (as CaCO3)	*
		Phenol	* (ug/liter)
		Sulfate	*
		Solids, Total Dissolved	*
		Cyanide, Total	*
		Oil and Grease	*
		Chemical Oxygen Demand	*

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Blanco PLT Metered Manhole	08/05/88 05:00	Silver	*	
		Arsenic	*	
		Barium	*	
		Calcium	*	
		Cadmium	*	
		Chromium (total)	*	
		Mercury	*	
		Potassium	*	
		Magnesium	*	
		Sodium	*	
		Lead	*	
		Selenium	*	
		Zinc	*	
		Nitrogen, Nitrate (as N)	*	
		Phosphate, Ortho (as P)	*	
		Alkalinity, Total(as CaCO3)	*	
		Chloride	*	
		Chromium, Hexavalent	*	
		Fluoride	*	
		Hardness	*	
		Bicarbonate (as CaCO3)	*	
		Phenol	*	(ug/liter)
		Sulfate	*	
		Solids, Total Dissolved	*	
		Cyanide, Total	*	
		Oil and Grease	*	
		Chemical Oxygen Demand	*	

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter
Blanco PLT Metered Manhole	08/05/88 13:00	Silver	*
		Arsenic	*
		Barium	*
		Calcium	*
		Cadmium	*
		Chromium (total)	*
		Mercury	*
		Potassium	*
		Magnesium	*
		Sodium	*
		Lead	*
		Selenium	*
		Zinc	*
		Nitrogen, Nitrate (as N)	*
		Phosphate, Ortho (as P)	*
		Alkalinity, Total(as CaCO3)	*
		Chloride	*
		Chromium, Hexavalent	*
		Fluoride	*
		Hardness	*
		Bicarbonate (as CaCO3)	*
		Phenol	* (ug/liter)
		Sulfate	*
		Solids, Total Dissolved	*
		Cyanide, Total	*
		Oil and Grease	*
		Chemical Oxygen Demand	*

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 # 88-08-123

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter
Blanco PLT Metered Manhole	08/04/88 16:15	Solids, Total Dissolved	292

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

PAGE 1 CEP, Inc. REPORT LAB # 88-08-124

RECEIVED: 08/08/88 08/22/88 16:01:11

REPORT TO: El Paso Natural Gas Company
P. O. Box 4990
Farmington, NM 87401

ATTEN: Don Vacker

CLIENT: EL PASO NM SAMPLES: 6
COMPANY: El Paso Natural Gas Company
FACILITY: Blanco PLT Metered Manhole

WORK ID: Organics
TAKEN: 08/04 to 08/05/88
TRANS: Federal Express
TYPE: Water
P. O. #:
INV. #: 429257

PREPARED BY: Controls for Environmental Pollution, Inc.
1925 Rosina Street
Santa Fe, NM 87502

ATTEN:
PHONE: (505) 982-9841

CERTIFIED BY

CONTACT GAIL 001235

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.

Duplicate of report of 08/19/88.

SAMPLE IDENTIFICATION

01	Blanco PLT Metered Manhole
02	Blanco PLT Metered Manhole
03	Blanco PLT Metered Manhole
04	Blanco PLT Metered Manhole
05	Blanco PLT Metered Manhole
06	Blanco PLT Metered Manhole

CEP, Inc. TEST CODES and NAMES used on this report

112TCE	1,1,2-Trichloroethane
1 1 D1	1,1-Dichloroethene
1 2 D1	1,2-Dichloroethane
BENZ 1	Benzene
CTET 1	Carbon Tetrachloride
ETBENZ	Ethyl benzene
HCLBEN	Hexaclorobenzene
PCB 1	Polychlorinated Biphenyls
TOC 1	Total Organic Carbon
TOL 1	Toluene
XYLENE	Xylenes

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 # 88-08-124

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	mg/liter	
Blanco PLT Metered Manhole	08/04/88 09:00	Total Organic Carbon	52.0	
Blanco PLT Metered Manhole	08/04/88 09:00	1,1,2-Trichloroethane	<0.02	(ug/liter)
		1,1-Dichloroethene	<0.07	(ug/liter)
		1,2-Dichloroethane	<0.03	(ug/liter)
		Benzene	30.7	(ug/liter)
		Carbon Tetrachloride	<0.12	(ug/liter)
		Ethyl benzene	2.6	(ug/liter)
		Hexaclorobenzene	<0.05	(ug/liter)
		Polychlorinated Biphenyls	<1.0	
		Toluene	22.4	(ug/liter)
		Xylenes	28.9	(ug/liter)
Blanco PLT Metered Manhole	08/04/88 13:00	Total Organic Carbon	90.0	
Blanco PLT Metered Manhole	08/04/88 13:00	1,1,2-Trichloroethane	<0.02	(ug/liter)
		1,1-Dichloroethene	<0.07	(ug/liter)
		1,2-Dichloroethane	<0.03	(ug/liter)
		Benzene	24.6	(ug/liter)
		Carbon Tetrachloride	<0.12	(ug/liter)
		Ethyl benzene	2.3	(ug/liter)
		Hexaclorobenzene	<0.05	(ug/liter)
		Polychlorinated Biphenyls	<1.0	
		Toluene	62.7	(ug/liter)
		Xylenes	20.8	(ug/liter)
Blanco PLT Metered Manhole	08/04/88 17:00	Total Organic Carbon	65.0	
Blanco PLT Metered Manhole	08/04/88 17:00	1,1,2-Trichloroethane	<0.02	(ug/liter)
		1,1-Dichloroethene	<0.07	(ug/liter)
		1,2-Dichloroethane	<0.03	(ug/liter)
		Benzene	44.6	(ug/liter)
		Carbon Tetrachloride	<0.12	(ug/liter)
		Ethyl benzene	1.4	(ug/liter)
		Hexaclorobenzene	<0.05	(ug/liter)
		Polychlorinated Biphenyls	<1.0	
		Toluene	46.8	(ug/liter)
		Xylenes	54.0	(ug/liter)
Blanco PLT Metered Manhole	08/04/88 21:00	Total Organic Carbon	53.5	
Blanco PLT Metered Manhole	08/04/88 21:00	1,1,2-Trichloroethane	<0.02	(ug/liter)
		1,1-Dichloroethene	<0.03	(ug/liter)

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 # 88-08-124

SAMPLE IDENTIFICATION	DATE COLLECTED	TYPE OF ANALYSIS	ug/liter	
Blanco PLT Metered Manhole	(Con't)	1,2-Dichloroethane	<0.07	
		Benzene	34.3	
		Carbon Tetrachloride	<0.12	
		Ethyl benzene	3.4	
		Hexaclorobenzene	<0.05	
		Polychlorinated Biphenyls	<1.0	(mg/liter)
		Toluene	35.9	
		Xylenes	38.3	
Blanco PLT Metered Manhole	08/05/88 05:00	Total Organic Carbon	51.0	(mg/liter)
Blanco PLT Metered Manhole	08/05/88 05:00	1,1,2-Trichloroethane	<0.02	
		1,1-Dichloroethene	<0.07	
		1,2-Dichloroethane	<0.03	
		Benzene	31.5	
		Carbon Tetrachloride	<0.12	
		Ethyl benzene	3.0	
		Hexaclorobenzene	<0.05	
		Polychlorinated Biphenyls	<1.0	
		Toluene	28.6	
		Xylenes	32.1	
Blanco PLT Metered Manhole	08/05/88 13:00	Total Organic Carbon	50.5	(mg/liter)
Blanco PLT Metered Manhole	08/05/88 13:00	1,1,2-Trichloroethane	<0.02	
		1,1-Dichloroethene	<0.07	
		1,2-Dichloroethane	<0.03	
		Benzene	22.6	
		Carbon Tetrachloride	<0.12	
		Ethyl benzene	3.0	
		Hexaclorobenzene	<0.05	
		Polychlorinated Biphenyls	<1.0	(mg/liter)
		Toluene	20.7	
		Xylenes	38.7	

APPENDIX B

CITY OF BLOOMFIELD WASTEWATER TREATMENT AGREEMENT

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978

PHONE: 915-543-2600

June 27, 1983

City of Bloomfield
104 South Second Street
Bloomfield, New Mexico 87413

Re: Contract No. 1048, dated May 22, 1964, and Thereafter Amended, Between El Paso Natural Gas Company and The Village of Bloomfield

Gentlemen:

This letter, when accepted by you, shall indicate our agreement that, effective as of May 1, 1983, the above-described Contract shall be amended as follows:

1. The name "City of Bloomfield" shall be substituted for "Village of Bloomfield" where it appears in the referenced Contract.

2. In accordance with the provisions of Paragraph 5. of the referenced Contract, the annual service charge for sewer service rendered by the City of Bloomfield shall be changed from $1,500.00 to $5,685.00. It is further agreed that, since the Commodity Index is no longer published, the Nelson Cost Index appearing monthly in The Oil & Gas Journal shall be substituted as the basis for determining changes in the purchasing power of the dollar and the amount of future adjustments, if any, to the annual service charge.

In this regard, a ratio between the 1982 and 1965 Nelson Refinery (Inflation) Index figures has been computed on the following basis:

$$\frac{990.7 \text{ (1982 Index estimate)*}}{261.4 \text{ (1965 Index)}} = \frac{3.79}{1}$$

*Actual 1982 Index has subsequently been determined to be 976.9.

This ratio of 3.79 has been multiplied by the original service charge of $1,500.00 to yield the currently adjusted charge of $5,685.00. Future adjustments, if any, shall continue to be made at five-year intervals, from the effective date of this letter agreement, in accordance with the terms of the referenced Contract and using the Nelson Cost Index (1965 as base year) in the manner described above.

As hereinabove modified, the referenced Contract, as previously amended, shall continue in full force and effect.

If the foregoing correctly states your understanding of our agreement, please indicate your acceptance by having an authorized representative of the City of Bloomfield sign the duplicate originals of this letter agreement in the space provided below, and return one fully executed original to El Paso for our files.

Very truly yours,

EL PASO NATURAL GAS COMPANY

By Billy [illegible]
Vice President

FORM APPROVED
OGC

AGREED TO and ACCEPTED
as of the date hereof:

CITY OF BLOOMFIELD

By Edna Lynch

Title Mayor

APPENDIX C

MATERIALS SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

Phone: (518) 385-4085 DIAL COM'. 8*235-4085

MATERIALS · INFORMATION · SERVICES

No. 53

CHLORINE

Date July 1979

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: CHLORINE
OTHER DESIGNATIONS: Cl_2, CAS # 007 782 505
DESCRIPTION: A gas shipped in steel cylinders as a liquid under its own vapor pressure.
MANUFACTURER: Available from many suppliers.

SECTION II. INGREDIENTS AND HAZARDS	%	HAZARD DATA
Chlorine *Current OSHA ceiling limit. ACGIH TLV (1978) is 1 ppm with a STEL of 3 ppm for up to 15 minutes exposure. NIOSH (1976) proposed a ceiling limit of 0.5 ppm (15 minute sampling time). (Controversy going on whether OSHA standard should include ceiling limit or not.)	> 99	8-hr TWA 1 ppm (C) or 3 mg/m^3 *

SECTION III. PHYSICAL DATA

Boiling point at 1 atm, deg C	-34	Density at 0°C: Gas at 1 atm, g/liter	3.214
Vapor pressure at 20 C, mm Hg	4800	Liquid at 3.65 atm, g/cc	1.47
Vapor density (Air=1)	2.49	Molecular weight	70.91
Water solubility at 20 C, 1 atm, g/l	7.3		

Appearance & Odor: A greenish-yellow gas or clear, amber-colored liquid with a suffocating, pungent, irritating odor. The odor recognition threshold (100% of test panel, unfatigued) is reported at 0.314 ppm. The odor is easily noticed at 1.9-3.5 ppm and has been reported as intolerable at 2.6-41 ppm, depending on the observer.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
Non-flammable				

Use extinguishing media that is appropriate for the surrounding fire. Use water spray to cool intact, fire-exposed containers (one ton tanks and cylinders will release chlorine when a fusible metal safety plug melts at 158-165F.) If possible, have specially trained personnel remove intact cylinders from fire area.

Chlorine will support the burning of most combustible materials, just as oxygen does. Flammable gases and vapors can form explosive mixtures with chlorine.

Firefighters must use self-contained breathing equipment, eye protection, and full protective clothing when fighting fires in which chlorine is involved.

SECTION V. REACTIVITY DATA

Chlorine is stable in steel containers at room temperature when dry. [Intense local heat (above 215°C) on steel walls can cause steel to ignite in chlorine.]

It is a powerful oxidizing agent which reacts violently with reducing agents and combustible materials. Materials such as acetylene, turpentine, other hydrocarbons, ammonia, hydrogen, ether, powdered metals, etc. must be kept away from chlorine.

It reacts with H_2S and H_2O forming HCl; it combines with CO and SO_2 to form phosgene and sulfuryl chloride (toxic and corrosive materials).

Wet chlorine (150 ppm water) corrosively attacks most common metals. Handling chlorine requires special materials technology.

GENERAL ELECTRIC

NO. 53

SECTION VI. HEALTH HAZARD INFORMATION

TLV 1 ppm or 3 mg/m^3 (C)

Chlorine believed to damage the body by local corrosive effects only; no systemic effects. 5-8 ppm in air will be severely irritating to eyes, nose, and respiratory tract of most individuals in a few minutes (10 ppm intolerable for avg. person). Higher level exposures produce coughing, dyspnea, burns of the skin, conjunctivitis, pulmonary edema (may be delayed) and death, depending on concentration and time of exposure (35-51 ppm, lethal in an hour; a few deep breaths fatal at 1000 ppm). Reduced respiratory capacity (especially among smokers) and dental erosion can result from chronic low level exposure. Any contact with liquid chlorine causes burns, blistering and tissue destruction.

FIRST AID: Call physician IMMEDIATELY for any person overexposed to chlorine!

Eye Contact: Flush eyes with water for at least 15 minutes, holding eyelids open. If medical help is not readily available, continue flushing with water.

Skin Contact: (Treat for inhalation exposure first!) Remove contaminated clothing under a safety shower. Wash exposed skin areas thoroughly with water.

Inhalation: Remove to fresh air. Restore breathing when required. Have trained person administer oxygen until victim breathes easily on his own. Keep warm and at rest! In mild cases, give milk to relieve throat irritation.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Establish written emergency plans and special training of personnel where chlorine is used.

Notify safety personnel. Provide ventilation. Exclude from area all except specially trained, assigned personnel with approved self-contained breathing equipment and appropriate protective clothing. Find and stop leak. (Large uncontrollable leaks require environmental consideration and possible evacuation of surrounding area.)

Move leaking container to isolated area. Position to release gas not liquid.

When possible draw off chlorine to process or to disposal system.

DISPOSAL: Bubble through a large volume of 15% aqueous NaOH or other alkali. Suitably dispose of resulting solution. Follow Federal, State and local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation to meet TLV requirements. Provide suitable venting for low lying areas. Use enclosed, isolated processing and handling whenever possible. Full face-piece respirators must be available for non-routine and emergency use: canister gas mask below 5000 ppm in air and self-contained breathing equipment for other conditions.

Workers should be provided with chemical safety goggles and impervious gloves. Full protective clothing must be used when needed to prevent exposure to chlorine, liquid or gas. Daily change of work clothes and showering after work shift are recommended.

Eyewash stations and chemical safety showers must be available in areas of handling and storage of chlorine.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store chlorine containers in well-ventilated areas of low fire potential, away from incompatible materials (see Sec. V) and away from sources of heat and ignition. Protect containers from weather and physical damage; follow standard safety procedures for containers of compressed, corrosive gases. Provide special training to workers handling chlorine. Regularly inspect (and test) piping and containment used for chlorine service. Liquid levels should be less than 85% of tank or cylinder capacity.

Use preplacement and periodic medical exams; preclude from workplace exposure to chlorine those with cardiac, pulmonary or chronic respiratory problems.

Special Ref: "Chlorine and Hydrogen Chloride", Chapter 5, National Academy of Science, Washington, DC (1976).

DATA SOURCE(S) CODE: 2-12, 17, 19, 24, 26

APPROVALS: MIS, CRD

Industrial Hygiene and Safety

MEDICAL REVIEW: 12/79

GENERAL ELECTRIC

PRODUCT NAME **CAT FLOC T**

CALGON CORPORATION
SUBSIDIARY OF MERCK & CO., INC.

SECTION I

MANUFACTURER'S NAME	Calgon Corporation	EMERGENCY TELEPHONE NO.	(412) 777-8000
ADDRESS	P.O. Box 1346, Pittsburgh, PA 15230		
CHEMICAL NAME AND SYNONYMS	Cationic homopolymer	FORMULA	Multi-component Liquid

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENT (S)	%	ORAL LD_{50}	DERMAL LD_{50}	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F)	>212	SPECIFIC GRAVITY (H_2O=1)	1.033
VAPOR PRESSURE (mmHg.)	Similar to Water	PERCENT VOLATILE BY VOLUME (%)	80
VAPOR DENSITY (AIR=1)	Similar to Water	pH	3.0 - 4.0
SOLUBILITY IN WATER	100%		

APPEARANCE AND ODOR: Viscous clear, colorless to pale- yellow liquid

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	Not flammable	FLAMMABLE LIMITS	Lel	Uel

EXTINGUISHING MEDIA: Product is not flammable.

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

Mallinckrodt®

CUPRIC SULFATE

Material Safety Data Sheet

Mallinckrodt Inc.
Science Products Division
P.O. Box M
Paris, Kentucky 40361

Emergency Telephone Number
314-982-5000

Effective Date: 08-05-85

PRODUCT IDENTIFICATION:

Synonyms: Copper (II) Sulfate Pentahydrate (1:1:5); blue vitriol; Sulfuric acid copper (2+) salt (1:1), Pentahydrate

Formula CAS No.: 7758-99-8 (Hydrated)
TSCA CAS No.: 7758-98-7 (Anhydrous)

Molecular Weight: 249.68

Hazardous Ingredients:
Not applicable.

Chemical Formula: $CuSO_4$ $5H_2O$

PRECAUTIONARY MEASURES

WARNING! HARMFUL IF SWALLOWED. CAUSES IRRITATION.

Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.

EMERGENCY/FIRST AID

If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes.
In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: ORM-E

Physical Data — SECTION 1

Appearance: Transparent blue triclinic crystals or crystalline granules or power.

Odor: Odorless.

Solubility: 24.3g/100g H20 @ 30°C (86°F)

Boiling Point: > 400°C (752°F) decomposes

Vapor Density (Air=1): No information found.

Melting Point: Loses water @ 110°C (230°F)

Vapor Pressure (mm Hg): No information found.

Specific Gravity: 2.28

Evaporation Rate: (water=1): slowly efforescent.

Fire and Explosion Information — SECTION 2

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard. Sealed container may rupture during fire condition from pressure water vapor release.

Fire Extinguishing Media: Use any means suitable for extinguishing surroundi fire. Water spray may be used to keep fire expose containers cool.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathi apparatus with full facepiece operated in the pressure demand or other positive pressure mode. When heated above 110°C (230°F) material will melt Avoid using a direct water stream on molten materi as it may causes splattering.

Reactivity Data — SECTION 3

Stability: Stable under ordinary conditions of use and storag

Hazardous Decomposition Products: When heated to decomposition cupric oxide and sulf oxide may form.

Hazardous Polymerization: Will not occur.

Incompatibilities: At temperatures greater than 250°C (482°F) the anhydrous salt will ignite hydroxylamine. Solutions are acidic and can react with magnesium evolve flammable hydrogen gas.

Leak/Spill Disposal Information — SECTION 4

Ventilate area of leak or spill. Clean-up personnel require protective clothing and respiratory protection from dust.

Spills: Pick up and place in a suitable container for reclamation or disposal in a method that does not generate dust.

Disposal: Whatever cannot be saved for reclamation may be disposed in an RCRA approved hazardous waste facility.

Reportable Quantity (RQ) (CWA/CERCLA) : 10 lbs. Anhydrous

Ensure compliance with local, state and federal regulations.

Health Hazard Information — SECTION 5

A. Exposure/Health Effects

Inhalation:
May cause irritation to the upper respiratory tract; symptoms may include coughing, sore throat, and shortness of breath. May also cause symptoms similar to the common cold; including chills and stuffiness of the head.

Ingestion:
Toxic! May cause burning pain in the mouth, esophagus, and stomach. Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste, and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, paralysis and coma. Death may occur from shock or renal failure.

Skin Contact:
May cause irritation and itching.

Eye Contact:
Dust may cause irritation. Contact may cause conjunctivitis, ulceration, or clouding of the cornea.

Chronic Exposure:
Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discoloration of the skin or hair, ulceration and perforation of the nasal septum, runny nose, metallic taste, and atrophic changes and irritation of the mucous membranes.

Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or impaired liver, kidney, or pulmonary function or pre-existing Wilson's disease may be more susceptible to the effects of this material.

B. FIRST AID

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:
If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Exposure:
Remove any contaminated clothing. Wash skin with plenty of water for at least 15 minutes. If irritation develops, get medical attention.

Eye Exposure:
Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA (RTECS, 1982)

Oral rat LD50: 300 mg/kg. Mutation references cited.

Occupational Control Measures — SECTION 6

Airborne Exposure Limits:
OSHA Permissible Exposure Limit (PEL):
1mg(Cu)/m^3 ppm (TWA)
ACGIH Threshold Limit Value (TLV):
1mg(Cu)/m^3 (TWA)
2mg(Cu)/m^3 (STEL).

Ventilation System:
A system of local exhaust is recommended to keep employee exposures below the Airborne Exposure Lim Local exhaust ventilation is generally preferred because it can control the emissions of the dust o vapor at its source, preventing dispersion of it i the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Pesonal Respirators: (NIOSH Approved)
If the TLV is exceeded, a dust/mist respirator wit chemical goggles may be worn, in general, up to te times the TLV. Consult respirator supplier for limitations. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Contact lenses shou not be worn when working with this material.

Maintain eye wash fountain and quick-drench facili in work area.

Storage and Special Information — SECTION 7

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Solutions are corrosive to mild steel.

MATERIAL SAFETY DATA SHEET

UNICHEM INTERNATIONAL

Date Prepared 05/15/87

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name ALPHA 512

Chemical Description Proprietary Microbiocide Blend

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Potassium Dimethyldithiocarbamate CAS# 128-03-0	None Established
Methanol CAS# 000-067-561	200 ppm (Skin) 8 Hour TWA or 260 mg/m^3

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	150°F (Initial)	Freezing Point	-35°F
Specific Gravity (H_2O=1)	1.0 g/ml	Solubility in Water	Complete

Appearance and Odor Brown Clear Liquid; Alcoholic - Sulfur Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 69°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray, or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards Methanol is a moderate explosion hazard and a dangerous fire hazard when exposed to heat, sparks, or flames and can react vigorously with oxidizing agents.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name ALPHA 570

Chemical Description
Proprietary Biocide Blend

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Alkyl Dimethyl Benzylammonium Chloride	Not Established
Alkyl Dimethyl Ethylammonium Bromide	Not Established
Tributyltin Neodecanoate	Not Established

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	208°F	Freezing Point	32°F
Specific Gravity (H_2O=1)	0.998 g/ml	Solubility in Water	Complete

Appearance and Odor Light Straw Color, Slight Musty Odor; Liquid

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 6-8-88

Supersedes Previous Sheet Dated None

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name ALPHA 581

Chemical Description Proprietary Microbiocide Blend

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
2-(Thiocyanomethylthio)benzothiazole CAS#21564-17-0	not established
Methylene bis(thiocyanate) CAS#6317-18-6	not established
Aromatic Solvent	100 ppm

ALPHA 581 is toxic by inhalation and ingestion. ALPHA 581 is corrosive to eyes and skin and is a sensitizer. Neither this product or it's ingredients are listed in any of OSHA Standard Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	>212°F	Freezing Point	10°F
Specific Gravity (H_2O=1)	0.96 g/ml	Solubility in Water	dispersible

Appearance and Odor Amber clear liquid; slight aromatic odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 158°F (TCC)

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards NONE

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated 10/31/85

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 1300

Chemical Description Proprietary Scale and Corrosion Inhibitor Blend

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Potassium Hydroxide CAS# 1310-58-3	2 mg/m³
Proprietary Corrosion Inhibitor	10 mg/m³
Proprietary Corrosion/Scale Inhibitors	Not Established

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	0°F
Specific Gravity (H_2O=1)	1.3 g/ml	Solubility in Water	Complete

Appearance and Odor Amber, Clear Liquid; Slight Sweet Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated 02/26/85

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 882

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 1700

Chemical Description Proprietary Scale Inhibitor and Dispersant

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Scale/Corrosion Inhibitor (Acid, Corrosive)	None Established

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	-10°F
Specific Gravity (H_2O=1)	1.1 g/ml	Solubility in Water	Complete

Appearance and Odor Water White Clear; Slight Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated 03/03/81

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BIOSPERSE 1000

Chemical Description Properitary Dispersant

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Isopropyl Alcohol	400 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	180°F (IPA)	Freezing Point	-20°F
Specific Gravity (H_2O=1)	0.852	Solubility in Water	Soluble

Appearance and Odor Tan to Brown Liquid; Slight Ammonia Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 60°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards Vapors may flow along surfaces to distant ignition sources and flashback. Dangerous fire hazard when exposed to heat, sparks, flames, or oxidizing agents.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name DE-OILING SURFACTANT (DOS)

Chemical Description Proprietary Surfactant in an Aqueous Solution

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Isopropanol CAS# 67-63-0	400 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	180°F (Initial)	Freezing Point	17°F
Specific Gravity (H_2O=1)	0.97 g/ml	Solubility in Water	Complete

Appearance and Odor Light Yellow Clear Liquid; Slight Alcoholic Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 94°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing.

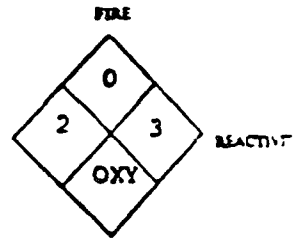
Unusual Fire and Explosion Hazards None

Continental Products of Texas

100 Industrial • P.O. Box 3627 • Odessa, Texas 79760
Telephone No. (915) 337-4681

.HTH TABLETS
QUICK IDENTIFIER

NFPA Designation 704



HAZARD RATING
4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT

Class 3 Oxidizer
(OSHA)

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTITY

Common Name: (used on label)
(Trade Name & Synonyms) HTH Tablets

Chemical Name: Calcium Hypochlorite — Formula: $Ca(OCl)_2$

Chemical Family: Hypochlorite

Cas No.

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Component(s)	%	Threshold Limit Value (units)
Calcium hypochlorite	70	

SECTION 3 - PHYSICIAL & CHEMICAL CHARACTERISTICS (Fire & Explosive Data)

Boiling Point: NA
Specific Gravity (H_2O = 1): NA
Vapor Pressure (mm Hg): NA
Percent Volatile by Volume (%): NA
Vapor Density (Air = 1): NA
Evaporation Rate (_____ = 1): NA
Solubility in Water: Appreciable
Reactivity in Water:
Appearance and Odor: White tablets, slight chlorinous odor
Flash Point: NA
Flammable Limits in Air % by Volume: Lower NA Upper
Extinguisher Media: Water preferable spray
Auto-Ignition Temperature:
Special Fire Fighting Procedures: Drench with water and cool the surrounding drums and area with water.
Unusual Fire and Explosion Hazards: Not a combustible material. Mixing with any foreign material may result in fire and the fire can have great intensity.If drum is closed lid may be blown off or dum may rupture.

SECTION 4 - PHYSICAL HAZARDS

Stability
STABLE [X] UNSTABLE [ ]
CONDITIONS TO AVOID: When heated above 350°F it decomposes rapidly with the evolution of oxygen and heat.

INCOMPATABILITY (MATERIALS TO AVOID): HTH is strong oxydizing agent. It is incompatible with household soap, paint products, solvents, acids, pool chemicals, vinegar, beverages etc.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposes rapidly with chemical fuming during the evolution of oxygen and heat

Hazardous Polymerization
CONDITIONS TO AVOID

MATERIAL SAFETY DATA SHEET

UNICHEM INTERNATIONAL

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BOILERHIB 530

Chemical Description Proprietary Boiler Water Scale and Corrosion Inhibitor

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Chelant	5 mg/m³
Potassium Hydroxide CAS# 1310-58-3 (Corrosive)	2 mg/m³

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	10°F
Specific Gravity (H_2O=1)	1.3 g/ml	Solubility in Water	Complete

Appearance and Odor Light Brown Liquid; No Significant Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BOILERHIB 430

Chemical Description Proprietary Neutralizing Amine

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Neutralizing Amine	10 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	16°F
Specific Gravity (H_2O=1)	0.948	Solubility in Water	Soluble

Appearance and Odor Water White Clear Liquid; Amine Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 140°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BOILERHIB 341

Chemical Description Proprietary Boiler Water Oxygen Scavenger

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Oxygen Scavenger	1 ppm (ACGIH)

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	13°F
Specific Gravity (H_2O=1)	1.2 g/ml	Solubility in Water	Complete

Appearance and Odor Water White Clear Liquid; Slight Musty Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BOILERHIB 340

Chemical Description Proprietary Boiler Water Oxygen Scavenger

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Oxygen Scavenger	1 ppm (ACGIH)

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	13°F
Specific Gravity (H_2O=1)	1.2 g/ml	Solubility in Water	Complete

Appearance and Odor Water White Clear Liquid; Slight Musty Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y.

MATERIALS INFORMATION SERVICES

NO. 3

SODIUM HYDROXIDE

Revision A

Date September 1977

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: SODIUM HYDROXIDE
OTHER DESIGNATIONS: Caustic Soda, Soda Lye, NaOH, GE Material D4B4, ASTM D456,
DESCRIPTION: This material is an anhydrous solid (flake, pellet, etc.) CAS# 001 310 732
MANUFACTURER: Available from many suppliers.

SECTION II. INGREDIENTS AND HAZARDS	%	HAZARD DATA
Typical content:		
Sodium Hydroxide (NaOH)	96	Ceiling Limit 2 mg/m^3
Impurities:		
Sodium Carbonate (Na_2CO_3)	0.5-2.5	
Sodium Chloride (NaCl)	0.01-2.1	
Sodium Sulfate (Na_2SO_4)	0.02-0.1	
Potassium, Calcium and Magnesium	0.1	
Silicon Dioxide (SiO_2)	0.03	
Other metals (total)	0.01	

SECTION III. PHYSICAL DATA

Boiling point, 1 atm, deg C --- 1388
Specific gravity (20/4 C) ----- 2.13
Volatiles ---------- non-volatile at room temperature
Melting point, deg C ---------- 318

Vapor pressure, mm Hg @ 1000 C ---- 42
@ 1200 C ---- 232
Viscosity at 350 C, cps ---------- 4.0
Water solubility, %, @ 0 C ------ 29.6
@ 100 C ------ 77.5

Appearance & odor: White or off-white, hygroscopic solid; no odor.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
None - not combustible	N/A	N/A	N/A	N/A

Although it is not combustible, it can be hazardous if present in a fire area. The following should be known for fire fighting: (1) It can melt and flow when heated (m.p. 318 C). (2) Hot or molten material can react violently with water (splattering). (3) Can react with certain metals, such as aluminum, to generate flammable hydrogen gas. (See also Reactivity Data, Section V)

SECTION V. REACTIVITY DATA

It is a stable material under normal conditions of storage. No self-polymerization. No hazardous decomposition products. Slowly it can pick up moisture from the air and react with carbon dioxide from the air to form sodium carbonate.

Sodium hydroxide can react violently with strong acids and with many organic chemicals, expecially with nitrocarbons and chlorocarbons. (Will react with trichloroethylene to form spontaneously flammable dichloroacetylene.) It generates much heat when it dissolves in water.

Avoid contact with leather and wool and with aluminum, tin, zinc, and alloys which contain these metals.

GENERAL ELECTRIC

SECTION VI. HEALTH HAZARD INFORMATION	TLV (Ceiling Value) 2 mg/m^3

Sodium hydroxide is a strong alkali and is dangerous when improperly handled. It can be destructive to all human tissue it contacts, producing severe burns. Eye contact can produce severe or permanent injury. Dust or mist inhalation can injure the entire respiratory tract.

FIRST AID

Eye contact - Wash eyes immediately with plenty of running water for no less than 15 minutes, including under the eyelids and all surfaces. Speed in rinsing out the eyes with water after contact is extremely important if permanent injury is to be avoided. Contact physician as soon as possible.

Ingestion - Immediately dilute chemical by drinking large amounts of water or milk, then neutralize with dilute vinegar or fruit juice. Vomiting may occur spontaneously, but do not induce it. Contact a physician promptly.

Inhalation - Remove from exposure to mist or dust and get prompt medical help.

Skin contact - Wash contact area promptly with large quantities of water. (Dilute acetic acid, vinegar, can be used to neutralize.) Remove contaminated clothing under the shower. Prolong washing in serious cases until medical help arrives - even for an hour or longer. Physician should see all cases other than minor exposures to small areas of skin.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

When solid sodium hydroxide is spilled in a dry condition, it can be promptly shoveled up for recovery or disposal. (CAUTION! Avoid dusting. Avoid contact with the skin.) Control the disposal of the waste solid. (Delay in clean up may allow absorption of moisture from the atmosphere and may increase the difficulties of clean up.) Flush contaminated surfaces with water and neutralize with dilute acid, preferably acetic acid, to remove final traces. (Sodium bicarbonate may also be used to partially neutralize.) Finally, rinse with water.

Disposal of waste is greatly dependent on local conditions and requirements. Pre-emergency plans should be made to meet legal and technical requirements. Waste caustic should never be deliberately discharged directly into sewers or surface waters. (First, convert to neutral salts and dilute well with water.)

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide adequate ventilation to meet TLV requirements, especially where dusting or misting conditions can exist. Use filter-type respirator for mist and dust protection where needed.

Use chemical safety goggles! A plastic face shield can also be used.

Use rubber gloves, rubber apron or protective clothing, rubber boots where needed to prevent contact with sodium hydroxide, especially when solutions are prepared.

Eye wash fountains and safety showers must be immediately available!

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Workers should not be permitted to handle this material without proper training or to work with it without protective equipment.

Store in well-sealed containers. Avoid handling conditions that may lead to spills and leaks, or to formation of mist or dust.

Wherever this material is stored, unloaded, handled or used abundant water (preferably running water) should be available for emergency use.

Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills and flushings before discharge.

This material is classified as a CORROSIVE by the Department of Transportation.

The pellet form is probably the safest solid form for handling and dispensing.

Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, General Electric Company extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

APPROVALS: MIS, CRD J.M. [signature]

Industrial Hygiene and Safety [signature]

MEDICAL REVIEW:

GENERAL ELECTRIC

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05-22-86

Supersedes Previous Sheet Dated 11-12-85

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 3310 Formerly known as HIB 440

Chemical Description Proprietary Corrosion Inhibitor

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Isopropanol (CAS#67-63-0)	400 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F initial	Freezing Point	9°F
Specific Gravity (H_2O=1)	0.95 g/ml	Solubility in Water	Soluble

Appearance and Odor Amber to Brown liquid; No Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 81°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards Vapors may flow along surfaces to distant ignition sources and flashback. Dangerous fire hazard when exposed to heat, sparks, flames, or oxidizing agents.

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.

V. HEALTH HAZARD DATA

Threshold Limit Value Not Determined

Effects of Overexposure prolonged skin contact will cause dryness and irritation. Ingestion may cause catharsis. Inhalation of mist may cause respiratory irritation. Eye contact will cause irritation.

Emergency and First Aid Procedures EYES: Flush promptly with copious quantities of water for at least fifteen minutes. Seek medical attention. SKIN: Flush area with water. Wash with soap and remove contaminated clothing. INHALATION: Remove to fresh air. Apply artifical respiration if necessary. INGESTION: Call a physician. Do not induce vomiting. Dilute wit water or milk.

VI. REACTIVITY DATA

Stability	**Stable** X	**Conditions to Avoid** None
	Unstable	

Incompatibility (Materials to Avoid) Oxidizers

Hazardous Decomposition of Products Oxides of Carbon and Nitrogen

Hazardous Polymerization	**May Occur**	**Conditions to Avoid** None
	Will Not Occur X	

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled Provide adequate ventilation. Remove sources of ignition. Contain and absorb spill.

Waste Disposal Method Dispose via a licensed waste disposal company. Follow local, state and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Use air-supplied or self-contained breathing apparatus if exposure levels exceed TLV for this product or its ingredients.

Ventilation	**Local Exhaust** As needed to prevent accumulation of	**Special**	None
	Mechanical (General) vapors above TLV	**Other**	None

Protective Gloves Rubber **Eye Protection** Safety glasses, goggles, and/or face shield

Other Protective Equipment Overalls, rubber boots, eyewash stations, safety showers

IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing Store in cool, well-ventilated, low fire-risk area away from ignition sources and incompatible materials. Keep containers closed when not in use. Do not transfer or store in improperly marked containers.

Other Precautions Avoid prolonged or repeated breathing of vapors or contact with skin. Do not ingest.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 5-22-86

Supersedes Previous Sheet Dated Undated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name BOILERHIB 435

Chemical Description Proprietary Neutralizing Amine

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Proprietary Neutralizing Amine	10 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	-38°F
Specific Gravity (H_2O=1)	0.960	Solubility in Water	Soluble

Appearance and Odor Brown Liquid, Ammonia Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) >200°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

 Product BOILERHIB 435

V. HEALTH HAZARD DATA

Threshold Limit Value Not Determined

Effects of Overexposure Contact will cause burns to the skin and severe damage to the eyes. Inhalation of vapors or mists will irritate the entire respiratory tract. Ingestion will cause irritation and burning of the digestive tract.

Emergency and First Aid Procedures Eyes: Flush promptly with copious quantities of water for at least fifteen minutes. Seek medical attention. Skin: Flush area with water. Wash with soap and remove contaminated clothing. Inhalation: Remove to fresh air. Apply artifical respiration if necessary. Ingestion: Call a physician. Do not induce vomiting. Dilute with water or milk.

VI. REACTIVITY DATA

Stability		Conditions to Avoid
	Stable X	None
	Unstable	

Incompatibility (Materials to Avoid) Strongly acidic materials, oxidizers.

Hazardous Decomposition of Products Oxides of Carbon and Nitrogen

Hazardous Polymerization		Conditions to Avoid
	May Occur	
	Will Not Occur X	None

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled Provide adequate ventilation. Remove sources of ignition. Contain and absorb spill.

Waste Disposal Method Dispose via a licensed waste disposal company. Follow local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Use air-supplied or self-contained breathing apparatus if exposure levels exceed TLV for this product or its ingredients.

Ventilation				
	Local Exhaust	As needed to prevent accumulation of vapors above TLV	Special	None
	Mechanical (General)		Other	None

Protective Gloves Rubber **Eye Protection** Safety Glasses, Goggles, and/or Face Shield

Other Protective Equipment Overalls, Rubber Boots, Eyewash Stations, Safety Showers

IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing Store in cool, well-ventilated, fire-risk area away from ignition sources and incompatible materials. Keep containers closed when not in use. Do not transfer or store in improperly marked containers.

Other Precautions Avoid prolonged or repeated breathing of vapors or contact with skin. Do not ingest.

UNICHEM INTERNATIONAL

MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240

EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name KETONE BN

Chemical Description

Proprietary Corrosion Inhibitor Blend

II. HAZARDOUS INGREDIENTS

Material	TLV (Units)
Sodium Nitrite (Oxidizer)	None Established

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	22°F
Specific Gravity (H_2O=1)	1.16 g/ml	Solubility in Water	Complete

Appearance and Odor Light Yellow to Water White Clear Liquid; Slight Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) None

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighers should wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards None

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.

Mobil DTE 797

MOBIL MATERIAL SAFETY DATA BULLETIN

MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.
150 EAST 42ND STREET
NEW YORK, N.Y. 10017 (USA)

********** PRODUCT IDENTIFICATION **********

MOBIL DTE 797 OIL

SUPPLIER:
MOBIL OIL CORP.
CHEMICAL NAMES AND SYNONYMS:
PET. HYDROCARBONS AND ADDITIVES
USE OR DESCRIPTION:
STEAM TURBINE OIL

HEALTH EMERGENCY TELEPHONE:
(212)883-4411
TRANSPORT EMERGENCY TELEPHONE:
(800)424-9300(CHEMTREC)
OTHER DESIGNATION:
(TRN 600114)

********** TYPICAL CHEMICAL AND PHYSICAL PROPERTIES **********

APPEARANCE:
ASTM 0.5 LIQUID
ODOR:
MILD
RELATIVE DENSITY: 15/4 C
0.859
MELTING POINT: F(C)
NA
BOILING POINT: F(C)
>600(316)
VAPOR PRESSURE:MM HG 20C
< .1

VISCOSITY: AT 100 F, SUS 100.0
AT 40 C, CS 30.0
VISCOSITY: AT 210 F, SUS 44.0
AT 100 C, CS 5.3
SOLUBILITY IN WATER: NEGLIGIBLE
PH: NA
POUR POINT: F(C) 20(-7)
FLASH POINT: F(C) (METHOD) 410(210) (ASTM D-92)

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

********** INGREDIENTS **********

	WT PCT (APPROX)	TLV(TWA): MG/M3	PPM
HAZARDOUS INGREDIENTS:			
NONE			
NON-HAZARDOUS INGREDIENTS:			
REFINED MINERAL OILS	> 95		
ADDITIVES AND/OR OTHER INGREDS.	< 5		

NOTE: TLVS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

********** FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT: F(C) (METHOD) FLAMMABLE LIMITS: LEL UEL
410(210) (ASTM D-92) .6 7.0
EXTINGUISHING MEDIA:
CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES:
FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
NONE

********** HEALTH HAZARD DATA **********
THRESHOLD LIMIT VALUE: (IF ESTABLISHED)

EFFECTS OF OVEREXPOSURE:
SLIGHT SKIN IRRITATION.

********** EMERGENCY AND FIRST AID PROCEDURES **********
EYE CONTACT:
FLUSH WITH WATER.

SKIN CONTACT:
WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION:
NOT EXPECTED TO BE A PROBLEM.

INGESTION:
NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE SEEK MEDICAL ASSISTANCE.

********** REACTIVITY DATA **********
STABILITY: (THERMAL, LIGHT, ETC.) CONDITIONS TO AVOID:
STABLE EXTREME HEAT

INCOMPATIBILITY: (MATERIALS TO AVOID)
STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: CONDITIONS TO AVOID:
WILL NOT OCCUR

********** SPILL OR LEAK PROCEDURE **********

ENVIRONMENTAL IMPACT:
REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:
ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT:
DISPOSE OF WASTE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

********** SPECIAL PROTECTION INFORMATION **********

EYE PROTECTION:
NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION:
NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION:
NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION:
NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

OTHER:

********** SPECIAL PRECAUTIONS **********

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

********** TOXICOLOGICAL DATA **********

ACUTE

ORAL TOXICITY: (RATS)
NONTOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS)
NONTOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS)
NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION: (RABBITS)
EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

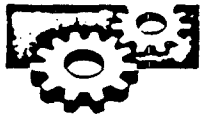
SKIN IRRITATION: (RABBITS)
MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBACUTE AND MUTAGENICITY (SUMMARY)

CHRONIC OR SPECIALIZED (SUMMARY)

OTHER DATA

SHELL TURBO* Oils



Premium-quality turbine and general-purpose rust- and oxidation-inhibited circulating oils.

SHELL TURBO* Oils provide excellent lubrication of precision turbines in industrial and marine service. These oils are also suitable for general plant lubrication and in circulating, hydraulic and gear systems requiring rust- and oxidation-inhibited oils without extreme pressure or anti-wear properties.

SHELL TURBO Oils have achieved a long record of reliable performance because of these features:

- **Good water separation and low foaming properties**—Particularly important to minimize rusting and prevent cavitation in critical areas such as sleeve bearings.
- **Noncorrosive. Protect equipment against rust**—SHELL TURBO Oils inhibit corrosion of bearing housings and governor mechanisms, help increase machine life. These oils help prevent rust, even when salt water is present.
- **Resist oxidation over a long service life**—SHELL TURBO Oils resist thickening and sludging, minimize deposits that could cause malfunction of governor mechanisms and reduce efficiency of oil coolers.

Where to buy SHELL TURBO Oils

Your Shell Jobber is the person to see for supplies of SHELL TURBO Oils. He's listed in the Yellow Pages under "Oils—Lubricating." Call him today. He'll be glad to give you information about other premium-quality Shell lubricants, too.

Shell Oil Company
Manager, Commercial Communications
One Shell Plaza
Houston, Texas 77002

*SHELL TURBO is a trademark and is used as such in this writing.

Typical properties of SHELL TURBO Oils:

	ASTM Test Method	SHELL TURBO Oil Grades								
		32	46	68	78[1]	100	150	220	320	460
Gravity, °API	D 1298	31	30	29	30	29	27	28	27	26
Color	D 1500	1.0	1.0	1.0	0.5	1.0	2.0	4.0	5.0	6.0
Pour point, °F	D 97	15	0	0	10	0	0	10	10	10
Flash point, C.O.C., °F	D 92	400	425	460	460	480	475	480	520	530
Viscosity, cSt at 40°C	D 445	30.1	44.0	63.0	75.0	97.0	147	210	305	420
Viscosity, cSt at 100°C	D 445	5.05	6.5	8.2	9.2	10.7	14	18	23	28
Viscosity index	D 2270	92	95	95	95	94	93	93	93	93
Neutralization No., TAN-C	D 974	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Cu corrosion, 3 hr. at 212°F	D 130	1	1	1	1	1	1	1	1	1
Rust test	D 665B	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Interfacial tension, 77°F, dynes/cm	D 971	20	20	20	—	23	25	—	—	—
Emulsion test, minutes	D 1401	6	9	10	17	10	15	17	17	30
Turbine oil stability test, hours	D 943	2,000+	2,000+	2,000+	—	2,000+	—	—	—	—
Turbine oil stability test, MIL TOST, sludge, mg		14	15	18	20	20	—	—	—	—

[1]Approved under MIL-L-17331G and Amendment 1.

Shell

MATERIAL SAFETY DATA SHEET

MAR 22 198[illegible]

SAN JUAN SAFETY

97002 (REV 1-83)

MSDS NUMBER ▶ 65,000-2

SECTION I	NAME
PRODUCT ▶	Shell 8122 Gas Engine Oil 40
CHEMICAL/ SYNONYMS ▶	Lubricating Oil
CHEMICAL FAMILY ▶	Hydrocarbon
SHELL CODE ▶ 67209	C.A.S. NUMBER ▶ Mixture

24 HOUR EMERGENCY ASSISTANCE

SHELL 713-473-9461
CHEMTREC 800-424-9300

HAZARD RATING

LEAST 0 ▶ SLIGHT 1 ▶ MODERATE 2 ▶ HIGH 3 ▶ EXTREME 4

HEALTH
FIRE
REACTIVITY

SECTION II INGREDIENTS

COMPOSITION	%	TOXICITY DATA
Shell 8122 Gas Engine Oil 40	100	Not Determined
Petroleum Hydrocarbons	96	Oral LD_{50}, rat >5g/kg* Dermal LD_{50}, rabbit >2g/kg*
Polyalkenyl Succinimide	2	
Detergent Inhibitor containing Ba, S, Ca	2	
Organic Zinc Dithiophosphate	<0.5	
		*Values are estimates based upon tests using similar oils.

SECTION III HEALTH INFORMATION

Lubricating oils are generally considered to be of a low order of acute toxicity to humans and experimental animals.

Exposure to vapors or mist of this product may cause pulmonary irritation, dizziness and nausea. Prolonged or repeated contact may cause various skin disorders such as dermatitis, folliculitis or oil acne.

The petroleum hydrocarbons in this product are a complex mixture of paraffinic, naphthenic and aromatic hydrocarbons. As in other petroleum oils, the aromatics contain polycyclic compounds of various concentrations and structures. Some of these polycyclics may be those which have been shown to induce cancer in animals under laboratory conditions. Epidemiologic studies on other petroleum products containing polycyclic aromatics suggested the possibility of skin cancer induction in man after prolonged and repeated contact. Inhalation of mists arising from oils containing these materials may also present a cancer hazard.

This specific product has not been tested in long-term, chronic exposure tests. Therefore, the presence of polycyclic aromatic hydrocarbons requires that handling procedures and safety precautions in this MSDS be followed to minimize employees' exposure.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

Oil Mist, Mineral:
ACGIH-TLV/TWA = 5 mg/m³; ACGIH-TLV/STEL = 10 mg/m³
OSHA-PEL/TWA = 5 mg/m³ (see NIOSH/OSHA Occupational Health Guideline)

SECTION V — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with water for 15 minutes while holding eyelids open. Get medical attention.

SKIN CONTACT: Remove contaminated clothing and wipe excess off. Wash with soap and water or a waterless hand cleaner followed by soap and water. Do not reuse clothing until thoroughly cleaned. If irritation persists, get medical attention.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

INGESTION: Do not induce vomitting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.*

*NOTE TO THE PHYSICIAN: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e. most oils and greases.

SECTION VI — PHYSICAL DATA

BOILING POINT (°F) ▶ N. A.	MELTING POINT (°F) ▶ N. A.	VAPOR PRESSURE (mmHg) ▶ N. A.
SPECIFIC GRAVITY (H_2O=1) ▶ 0.90	% VOLATILE BY VOLUME ▶ N. A.	VAPOR DENSITY (AIR=1) ▶ N. A.
SOLUBILITY IN WATER ▶ Insoluble	EVAPORATION RATE (BUTYL ACETATE=1) ▶ N. A.	N.A. = Not Available

APPEARANCE AND ODOR

Light brown oil. Slight odor.

SECTION VII — FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD USED	FLAMMABLE LIMITS % VOLUME IN AIR ▶ LOWER	UPPER
425°F PMCC	N. A.	N.A.

EXTINGUISHING MEDIA

Use water fog, foam, dry chemical or CO_2. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Do not enter confined fire space without proper protective equipment including a NIOSH approved self-contained breathing apparatus. Cool fire-exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

None Unusual

MATERIAL SAFETY DATA SHEET

Shell

MSDS NUMBER ▶ 65,000-2

SECTION VIII REACTIVITY

STABILITY ▶ [ ] UNSTABLE [X] STABLE

HAZARDOUS POLYMERIZATION ▶ [ ] MAY OCCUR [X] WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

Avoid heat, open flames, oxidizing materials and mist formation.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, sulfur oxides, phosphorus oxides and unidentified organic materials may be formed during combustion.

SECTION IX EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

If exposure may or does exceed occupational exposure limits (Sec.IV.) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulates.

PROTECTIVE CLOTHING

Wear gloves and other protective clothing as required to minimize skin contact. Wear safety glasses or goggles to avoid eye contact.

ADDITIONAL PROTECTIVE MEASURES

--

SECTION X ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

May burn although not readily ignitable. Use cautious judgment when cleaning up large spills.

Large spills: Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly.

Small spills: take up with an absorbent material and dispose of properly.

WASTE DISPOSAL

Place in an appropriate disposal facility in compliance with local regulations.

ENVIRONMENTAL HAZARDS

This product is an "oil" under the Clean Water Act. KEEP OUT OF

MATERIAL SAFETY DATA SHEET

Shell 87005 (REV. 11-84)

MSDS NUMBER ▶ ES,000-2

SECTION XI SPECIAL PRECAUTIONS

Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

SECTION XII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION

☐ FLAMMABLE LIQUID	☐ COMBUSTIBLE LIQUID	☐ OXIDIZING MATERIAL	☐ NON-FLAMMABLE GAS
☐ FLAMMABLE SOLID	☐ POISON, CLASS A	☐ CORROSIVE MATERIAL	☒ NOT HAZARDOUS BY D.O.T. REGULATIONS
☐ FLAMMABLE GAS	☐ POISON, CLASS B	☐ IRRITATING MATERIAL	☐ OTHER–Specify below

D.O.T. PROPER SHIPPING NAME

None

OTHER REQUIREMENTS

Bill of Lading Commodity Description: Petroleum Lubricating Oil

SECTION XIII SUPPLEMENTARY HEALTH/REGULATORY INFORMATION

Section 311 - Clean Water Act (CWA)

This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering (a) surface waters or (b) any watercourses or sewers entering/leading to surface waters that cause a sheen MUST be reported to the National Response Center, 800-424-8802.

RCRA - Resource Conservation and Recovery Act (RCRA)

As produced, this material is a product and not a waste. If discarded or intended to be discarded as is, it exhibits the characteristic of EP toxicity as defined in RCRA (40 CFR 261.24) based upon its barium content. The EPA hazardous waste number is D005.

BE SAFE
READ OUR PRODUCT SAFETY INFORMATION AND PASS IT ON
PRODUCT LIABILITY LAW REQUIRES IT!

John P Lepori
Manager

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
P.O. BOX 4320
HOUSTON, TEXAS 77210
(713) 241-4819

DATE PREPARED

Imperial Oil & Grease Company

MATERIAL SAFETY DATA SHEET

PART ONE

SECTION I

PRODUCT NAME OR NUMBER (as it appears on label)	EMERGENCY TELEPHONE NO.
TRIBOL 890 (LIGHT, MEDIUM, HEAVY)	(213)-679-0271
ADDRESS (Number, Street, City, State and Zip Code)	MANUFACTURER'S D-U-N-S NO.
4801 West 147th St., Hawthorne, California, 90250	07-964-5248

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101)

None - does not apply

ADDITIONAL HAZARD CLASSES (as applicable)

CHEMICAL FAMILY	FORMULA
Mixture	Mixture

SECTION II — INGREDIENTS

CAS REGISTRY NO.	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen by NTP, IARC or OSHA 1910(z) (specify)
			TO THE BEST OF OUR KNOWLEDGE, THIS PRODUCT CONTAINS NO HAZARDOUS INGREDIENTS, AS DEFINED BY 29 CFR 1910.1200.	
			(REFER TO SECTION V ON REVERSE SIDE)	

SECTION III — PHYSICAL DATA

BOILING POINT	SPECIFIC GRAVITY (H$_2$O = 1)	
>600 °F	@ 60°F Typical 0.97	
APPEARANCE AND ODOR	IS MATERIAL: GAS	LIQUID / PASTE / SOLID / POWDER
yellow to dark amber, mild odor		

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	method used	FLAMMABLE LIMITS	LEL	UEL
>460 °F	ASTM D92	not explosive		

EXTINGUISHING MEDIA: CO_2, foam, or dry chemicals

SPECIAL FIRE FIGHTING PROCEDURES: None; fight as petroleum fire

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

Mobil

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED: 10/26/82

********** I. PRODUCT IDENTIFICATION **********

MOBIL PEGASUS 490

SUPPLIER:
MOBIL OIL CORP.

HEALTH EMERGENCY TELEPHONE:
(212) 883-4411

CHEMICAL NAMES AND SYNONYMS:
PET. HYDROCARBONS AND ADDITIVES

TRANSPORT EMERGENCY TELEPHONE:
(800) 424-9300 (CHEMTREC)

USE OR DESCRIPTION:
GAS ENGINE OIL

********** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES **********

APPEARANCE: ASTM 4.0 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 670.0 AT 40 C, CS: 128.0
VISCOSITY AT 210 F, SUS: 72.0 AT 100 C, CS: 13.6
FLASH POINT F(C): >480(249) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 10(-12)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.879 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

********** III. INGREDIENTS **********

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	PPM	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:				
NONE				
OTHER INGREDIENTS:				
REFINED MINERAL OILS	>95			
ADDITIVES AND/OR OTHER INGREDS.	< 5			

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA

NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

********** IV. HEALTH HAZARD DATA **********

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

********** V. EMERGENCY AND FIRST AID PROCEDURES **********

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

********** VI. FIRE AND EXPLOSION HAZARD DATA **********
FLASH POINT F(C): > 480(249) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FOR FIRES IN ENCLOSED AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

********** VII. REACTIVITY DATA **********
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

********** VIII. SPILL OR LEAK PROCEDURE **********
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

********** IX. SPECIAL PROTECTION INFORMATION **********
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

********** X. SPECIAL PRECAUTIONS **********
NO SPECIAL PRECAUTIONS REQUIRED.

********** XI. TOXICOLOGICAL DATA **********

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG 0/10 RATS DIED AT THIS DOSAGE LEVEL. SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG 0/10 RABBITS DIED AT THIS DOSAGE LEVEL. SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. EYE IRRITATION SCORES: 0 AT 24 HOURS, 0 AT 48 HOURS, 0 AT 72 HOURS---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. PRIMARY IRRITATION SCORE: 0/8---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---CHRONIC OR SPECIALIZED (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS. SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

********** XII. REGULATORY INFORMATION **********

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (0.018 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

****

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

****

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

********** APPENDIX **********

FOR MOBIL USE ONLY: (FILL NO: RN612DA201) MHC: 1* 1* NA 0* 0* PPEC: US82-090 APPROVE REVISED: 10/26/82

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

MATERIALS · INFORMATION · SERVICES

No. 1257

VARSOL 1

Date May 1982

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: VARSOL 1
DESCRIPTION: Petroleum solvent or mineral spirits.
OTHER DESIGNATIONS: GE Material D5B8, ASTM D235, ASTM D484, Type 1
MANUFACTURER: Exxon Co.
P.O. Box 2180
Houston, Texas Tel: (713) 656-3424

SECTION II. INGREDIENTS AND HAZARDS	%	HAZARD DATA
Mixture of petroleum hydrocarbons Typical Composition: Vol % Aromatics (C_8 and higher) 18 Olefins 1 Saturates 81 Sulfur content 1 ppm *ACGIH(1982) TLV for Stoddard Solvent. Animal studies by Exxon Corp. medical research has shown that male rats exposed to similar vapors at 100 ppm had kidney damage. Additional studies are being conducted to validate these findings and to determine if a revised TLV should be recommended.	100	8-hr TWA 100 ppm* Rat, Oral LD_{50} >5 g/kg Rabbit, Dermal LD_{50} >2 g/kg

SECTION III. PHYSICAL DATA

Boiling range, 1 atm, deg C ----	155-205	Specific gravity, 15.6/15.6C --	ca 0.79
Vapor pressure, 25C, mmHg ------	<10	Evaporation rate (nBuAc=1) ----	<0.1
Vapor density (Air=1) ----------	ca 4.8	Volatiles, % ----------	100
Solubility in water ----------	Negligible	Molecular weight (avg) --------	ca 140

Appearance & odor: Water-white liquid; mineral spirits odor (no long-lasting odor after evaporation).

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
ca 42C (108F) TCC	254C (ASTM D2155)	% by Volume @ 25C	0.9	6.0

Extinguishing Media: Dry chemical, carbon dioxide, foam, water spray or fog. Water spray can be used to keep fire-exposed containers cool to avoid pressure rupture.
This material is an OSHA Class II Combustible Liquid. It is a dangerous fire hazard if heated or sprayed in air.
Firefighters should wear self-contained breathing apparatus for fighting fires in enclosed areas.

SECTION V. REACTIVITY DATA

This is a stable material in closed containers at room temperature under normal storage and handling conditions. It does not polymerize.
Incompatible with strong oxidizing agents such as chlorine, conc. oxygen, calcium hypochlorite, nitric acid, etc.
Thermal-oxidative degradation may produce carbon monoxide and partially oxidized hydrocarbons.

No. 1257

SECTION VI. HEALTH HAZARD INFORMATION

TLV 100 ppm (See Sect II)

Varsol, like all petroleum distillates, is a central nervous system depressent. Symptoms of overexposure to high vapor conc. range from headache and dizziness to possible convulsions and unconsciousness.

Eye contact with the liquid may cause conjunctivitis. Prolonged or repeated skin contact causes a defatting effect, resulting in irritation, drying, cracking and dermatitis.

FIRST AID:

Eye Contact: Flush thoroughly with running water for 15 min. including under eyelids. Get medical help if irritation persists.

Skin Contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical help if large area contacted or if irritation persists.

Inhalation: Remove to fresh air. Restore and/or support breathing as required. (Administer oxygen if breathing difficult). Contact physician for further treatment, observation and support.

Ingestion: Do not induce vomiting. Contact physician immediately. Aspiration hazard. Give a few ounces of USP mineral oil to drink.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Notify safety personnel of leaks or spills. Remove sources of heat or ignition. Provide explosion-proof ventilation. Clean-up personnel need protection against inhalation and skin contact. Contain spill and recover free liquid if possible. Use absorbent (sand, earth, sawdust, etc) to clean up residue. Do not discharge into sewers or surface waters. (Notify authorities if product enters, or may enter, sewer or waterway.)

DISPOSAL: Waste material may be burned in an approved incinerator. Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide adequate general and local exhaust ventilation to meet TLV requirements. Local exhaust hoods should have at least 60 fpm face velocity. Use explosion-proof electrical equipment and services. Have air-supplied or self-contained respiratory apparatus available for nonroutine or emergency use or when working in a confined or enclosed area. (Canister respirator may be suitable for short time usage.)

Wear impermeable gloves and additional protective clothing to prevent prolonged or repeated skin contact. Use safety goggles and/or faceshield for eye protection where splashing is possible. An eyewash station is desirable where splashing is probable. A safety shower may be desirable where large amounts are used.

Launder contaminated clothing before reuse. thoroughly dry contaminated shoes before reuse.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in closed containers in a cool, well-ventilated area away from sources of heat, flame, ignition and strong oxidizing agents. Protect containers from physical damage. Keep containers closed when not in use. Use safety cans for small amounts.

Handling and storage conditions must be suitable for OSHA Class II Combustible liquid.

Bond and ground containers for transfers to avoid static sparks.

Avoid inhalation of vapors. Avoid prolonged or repeated contact with skin. Prevent eye contact with liquid. Prohibit smoking or flame in use areas. Ventilate area where used. Electrical services to meet code.

DOT Classification: COMBUSTIBLE LIQUID

DATA SOURCE(S) CODE: 1,2, MSDS #334

APPROVALS: MIS CRD J. M. Nielsen

Industrial Hygiene and Safety 5-12-82

MEDICAL REVIEW: 19 May 1982

GENERAL ELECTRIC

DISCOVERY CHEMICALS, INC.

MATERIAL SAFETY DATA SHEET

Emergency Phone 504 389-9945

PRODUCT IDENTIFICATION:

TRADE NAME:	Activated Alumina
CHEMICAL FAMILY:	Aluminum Oxide
CHEMICAL FORMULA:	Al_2O_3
CAS NO.:	1344-28-1

SUMMARY OF HAZARDS:

Mild irritant to the eyes and respiratory system.

CHEMICAL AND PHYSICAL PROPERTIES:

APPEARANCE/ODOR:	White crystalline/no odor.
MELTING POINT:	>3000°F
SOLUBILITY IN WATER:	Insoluble.

FIRE AND EXPLOSION HAZARDS:

FLASH POINT (METHOD):	Nonflammable.
EXTINGUISHING MEDIA:	None required.

HAZARDOUS THERMAL DECOMPOSITION PRODUCTS:
None

SPECIAL FIRE FIGHTING PROCEDURES:
None

UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

REACTIVITY DATA:

STABILITY:	Stable.
CONDITIONS TO AVOID:	None
MATERIALS TO AVOID:	None
HAZARDOUS POLYMERIZATION:	Will not occur.

PLATES

NORTH FLARE PIT

PROD. WATER EVAP. POND

DRIPS STORAGE

PROPERTY LINE & FENCE

To State Highway 44

MKD. ROCK

PROPERTY LINE

CEMETARY

BLANCO PLANT

VALVE BOX

DRIPS STORAGE

CRUDE TANK

OIL CLASSIFIER

CAMP INACTIVE

WATER STORAGE

SOUTH FLARE PIT

COND. POND ACTIVE

COND. PONDS INACTIVE

COOLING POND

INACTIVE POND NOW FILLED

SURGE BASIN

SPCC POND

ABANDONED EVAPORATION POND

CITIZENS IRRIGATION DITCH

BLANCO EFFLUENT TO CITY OF BLOOMFIELD

Contour Lines Have Been Adjusted To Match Rectified Photo Base

ENGINEERING RECORD	
DRAWN BY	Aero-Graphics
TRACED BY	
CHECKED BY	
APPROVED	
DATE	
PHOTO DATE	10-18-82
CONTOUR INTERVAL	2'

200 0 200 400
SCALE IN FEET

El Paso Natural Gas Company
PIPELINE SERVICES DIVISION

BLANCO PLANT
PROCESS AND WASTE MANAGEMENT UNITS

PLATE 2-I

SHEET 1 OF 1 REV.

N14+00 W26+00 W25+00 W24+00

N13+00

N12+00

N11+00

N10+00

N9+00

N8+00

N7+00

N6+00 W32+00

N5+00 MATCH LINE

N4+00

N3+00

N2+00

N1+00

N0+00

N

S

NORTH FLARE PIT

6" FLARE LINE

MATCH LINE N10+00

6" FLARE LINE FOR CONTINUATION SEE INSERT.

PRODUCED WATER EVAPORATION POND (DOUBLE LINED)

8" DRAIN LINE

6" DRAIN LINE

8" DRAIN LINE

STORAGE BATT. #7

MATCH LINE W16+00

8" DRAIN LINE

AT THIS POINT TIES IN TO 30" DRIP LINE

6" DRAIN LINE

PIG SHACK

6" DRAIN LINE

4" SEWER LINE

SCRUBBER

"B" SCRUBBER

"A" SCRUBBER

4" DRAIN

W32+00 W31+00 W30+00 W29+00 W28+00 W27+00 W26+00 W25+00 W24+00 W23+00 W22+00 W21+00 W20+00 W19+00 W18+00 W17+00 W16+00

MATCH LINE 0+00 SEE 2BP-1-P38

LEGEND

DWG. NO.	TITLE

REFERENCE DRAWINGS

NO.	DATE	BY	DESCRIPTION	W. O.	APP.

REVISIONS

PRT. SEP. DATE	TO	W. O.	PRT. SEP. DATE	TO	W. O.

PRINT RECORD

ENG. RECORD		DATE
DRAFTING DESIGN	JC	9/1/83
COMPUTER GRAPHICS	FB	9/6/83
CHECKED		
PROJECT APPROVAL		
DESIGN APPROVAL		
COMPUTER SAVE NAME	BLA135	

El Paso Natural Gas Company

BLANCO PLANT
NORTH AREA PLAN
WASTE WATER DISPOSAL PLAN

SCALE: 1" = 50'
W. O.

PLATE 2-2

REV.

MATCH LINE 0+00 FOR CONTINUATION SEE 2BP-1-P40
MATCH LINE S10+00 FOR CONTINUATION SEE 2BP-1-P41
MATCH LINE W35+00 FOR CONTINUATION SEE 2BP-1-P39
MATCH LINE W19+00
N
S1+00
S2+00
S3+00
S4+00
S5+00
S6+00
S7+00
S8+00
S9+00
W34+00
W33+00
W32+00
W31+00
W30+00
W28+00
W27+00
W26+00
W25+00
W24+00
W23+00
W22+00
W21+00
W20+00
WAREHOUSE
OFFICE, WAREHOUSE AND LAB
OFFICE AREA
4" SEWER LINE
4" SEWER
WELD AND MACHINE SHOP
GARAGE/ELEC. &INSTR SHOP
CHANGE HOUSE
FIRE HOUSE
FIRE CART HOUSE
4" SANITARY SEWER
GAS TO CONOCO
"D" TURBINE BLDG.
DITCH "B"
DITCH NO. 1
FIN-FANS
"A" COMP. BLDG.
"A COMPRESSOR AREA
DITCH NO. 2
3" SEWER LINE
OIL LOADING RACK
FIN-FAN
PUMP HSE.
3"
4" DRAIN
V-9117
2" DRAIN
"B" COMPR. BLDG.
HEAT EXCHANGERS
1/2" DRAIN
6" DRAIN
"B" COMPRESSOR AREA
PUMP HOUSE
AIR TANKS
8" WATER DRAIN
2" DRAIN
CONCRETE DITCH "D"
HEAT RECOVERY BOILER B-6107
"C" COMPR. BLDG.
CONTROL BLDG.
2" H.P. DRAIN
2" L.P. DRAIN
"C" COMPRESSOR AREA
2" GRAVITY DRAIN
6" BACK WASH DRAIN
4" DRAIN
PUMP HOUSE
COOLING TOWER
LAV. BUILDING
4" SEWER
TILE
PUMP HSE.
REGEN. BLDG.
FIRED HEATER
4" SEWER TILE
CONCRETE DITCH NO. "A"
FIN-FAN
V-74
V-6105
CONDENSATE TANKS
E-78
ELECTRIC SUB-STATION
CONCRETE DITCH NO. "B"
FIN-FAN
DITCH NO. 4
ABSORBERS
PROCESS PUMP HSE.
DITCH NO. 5
6"
8"
DEHYDRATORS
V-61B
V-61A
DITCH NO. 6
DITCH NO. "A"
V6101
V6104
V-6103
BOILER AND GENERATOR BUILDING
ELEC. SUB STA.
V6102
V6101B
V-211A
V-210A
V3103
STEAM CONDENSERS
FF6102
FF6101
2"
ELEC. SUB STA.
PUMP HOUSE
3"
4"
6"
A.P.I. SEPARATOR
GASOLINE PLANT
Ditch "C" Concrete
8" DRAIN
10" DRAIN
CONCRETE DITCH "D"
8" DRAIN
4" SEWER TILE
WTR. PURIFICATION BLDG.
8"
4"
4"
6" SANITARY SEWER
DITCH NO. "B"
4"A
6"B
1 1/2"
8"C
V-8119
V-812A
V-812B
STORAGE TANKS
6"B
4"A
V-811BA
V-811BB
V-811BC
V-811BD
V-811BE
V-811BF
V-811A
V-811B
V-811C
V-811D
PUMP HSE.
8"
1 1/2"
8"
OIL SEP.
CONCRETE DITCH NO "A"
ELEC. SUB STA.

ENG. RECORD		DATE
DRAFTING DESIGN	JC	9/1/83
COMPUTER GRAPHICS	FB KS	9/6/83
CHECKED		
PROJECT APPROVAL		
DESIGN APPROVAL		
COMPUTER SAVE NAME		BLA133

El Paso Natural Gas Company

BLANCO PLANT
COMPRESSOR AREA
WASTE WATER DISPOSAL PLAN

SCALE: 1"=50'
W. O.

PLATE 2-3

REV.

LEGEND

DWG. NO.	TITLE
REFERENCE DRAWINGS	

NO.	DATE	BY	DESCRIPTION	W. O.	APP.
REVISIONS					

PRT.	SEP.	DATE	TO	W. O.	PRT.	SEP.	DATE	TO	W. O.
PRINT RECORD									

MATCH LINE S10+00 SEE 2BP-1-P38

GRAVEL ROAD

DITCH NO. A

DITCH NO. B

TANK STEAM CLEANING PAD

API SEPARATOR

STORAGE TANKS

10" DRAIN

SEPTIC TK.#2 SEPTIC TK.#1

WH

BOTH SEPTIC TKS. ABANDON IN PLACE

8" DRAIN

V.G. SEWER

6"
4"
8"

4"

COOLING POND

6"
8"
1 1/2"
8"

SKIMMER TANK

SURGE BASIN

SOUTH FLARE PIT

EXISTING 8" SEWER LINE

SPCC HOLDING POND

TWO SLUICE GATES

PLANT LATERAL SEWER LINE

CAMP LATERAL SEWER LINE

OLD ABANDONED EVAPORATION POND

B.I.D. IRRIGATION CANAL

S10+00
S11+00
S12+00
S13+00
S14+00
S15+00
S16+00
S17+00
S18+00
S19+00
S20+00

W35+00
W34+00
W33+00
W32+00
W31+00
W30+00
W29+00
W28+00
W27+00
W26+00
W25+00
W24+00
W23+00
W22+00
W21+00
W20+00
W19+00

MATCH LINE W35+00

MATCH LINE W19+00

MATCH LINE S20+00

LEGEND

REFERENCE DRAWINGS

DWG. NO.	TITLE

REVISIONS

NO.	DATE	BY	DESCRIPTION	W. O.	APP.

PRINT RECORD

PRT.	SEP.	DATE	TO	W. O.	PRT.	SEP.	DATE	TO	W. O.

ENG. RECORD		DATE
DRAFTING DESIGN	JC	9/1/83
COMPUTER GRAPHICS	FB	9/6/83
CHECKED		
PROJECT APPROVAL		
DESIGN APPROVAL		
COMPUTER SAVE NAME	BLA136	

El Paso Natural Gas Company

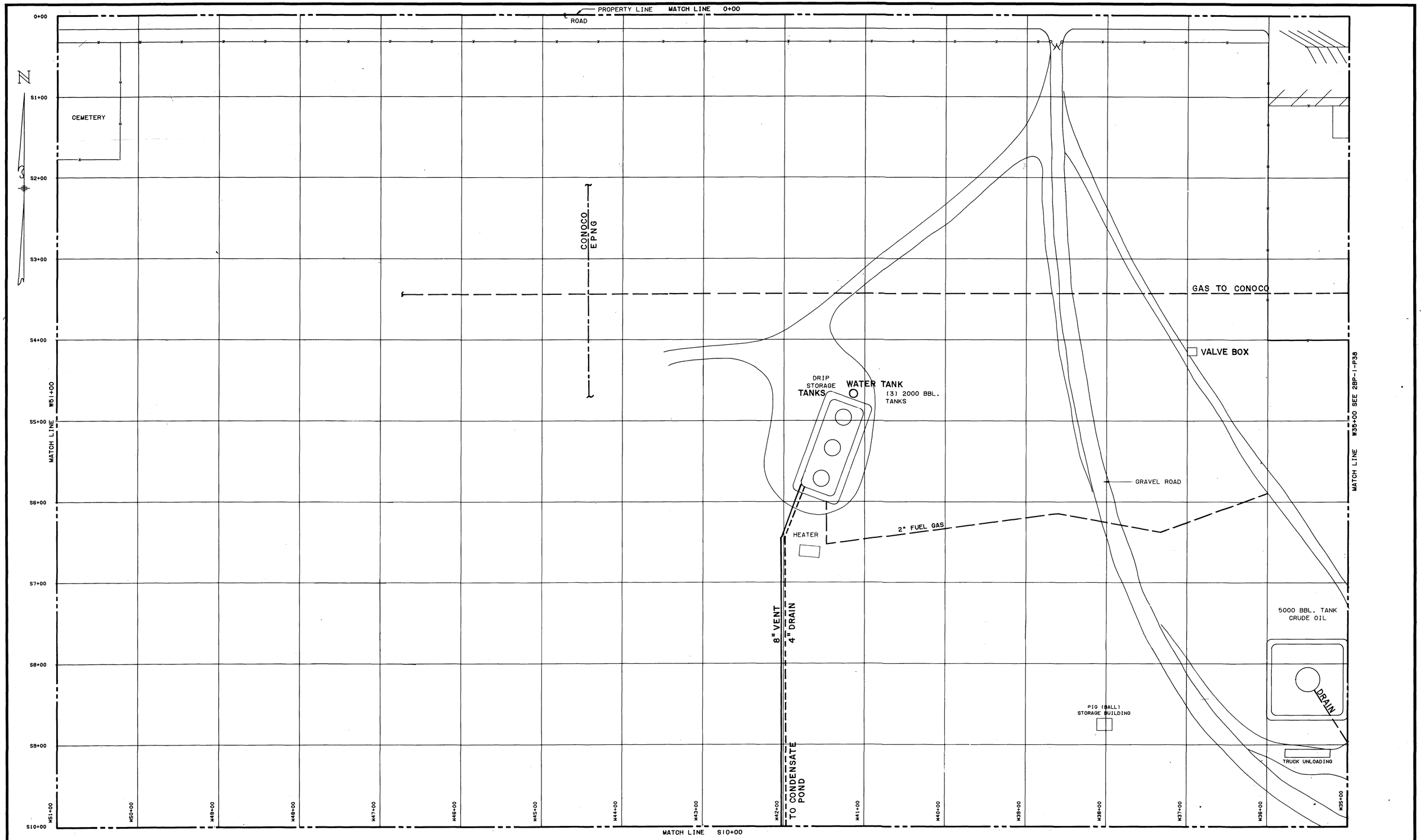
RECEIVED
JAN 27 1984
OIL CONSERVATION DIVISION

BLANCO PLANT - SANTA FE
SOUTH AREA PLAN
WASTE WATER DISPOSAL PLAN

SCALE: 1"=50'
W. O.

PLATE 2-4

REV.



LEGEND

DWG. NO.	TITLE

REFERENCE DRAWINGS

NO.	DATE	BY	DESCRIPTION	W. O.	APP.

REVISIONS

PRI	REP.	DATE	TO	W. O.
PRI	REP.	DATE	TO	W. O.

PRINT RECORD

ENG. RECORD		DATE
DRAFTING DESIGN	JC	9/1/83
COMPUTER GRAPHICS	FB	9/6/83
CHECKED		
PROJECT APPROVAL		
DESIGN APPROVAL		
COMPUTER SAVE NAME	DLA134	

El Paso Natural Gas Company

BLANCO PLANT
WEST AREA PLAN
WASTE WATER DISPOSAL PLAN

SCALE: 1" = 50'
W. O.

PLATE 2-5

REV.

ENGINEERING RECORD	
DRAWN BY	Aero-Graphics
TRACED BY	
CHECKED BY	
APPROVED	
DATE	
PHOTO DATE	10 18-82
CONTOUR INTERVAL	2'

200 0 200 400
SCALE IN FEET

GROUND WATER SAMPLING WELLS & SOIL SAMPLE LOCATIONS

El Paso Natural Gas Company

BLANCO PLANT

SEC. 14, TWS. 29-N, RANGE 11-W
SAN JUAN COUNTY, NEW MEXICO

NO. 1 SAMPLING WELL LOCATION

(A) SOIL SAMPLING AREA

PLATE 5-1 DWG. NO. 1