9/25/84

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by Hq)
6	TX10979

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 Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

TXD 010794097

A. SITE NAME	B. STREET (or other identifier)		
Union Oil Co. of Califormia-Beaumont	FM366-North side, near SH 347		
C. CITY	D. STATE	E. ZIP CODE	F. COUNTY NAME
Nederland	TX	77627	Jefferson

G. SITE OPERATOR INFORMATION

1. NAME	2. TELEPHONE NUMBER
Union Oil Co. of CA C.O. Burch, Supt. Environment Services R. A. Campbell, Plant Mgr.	(409) 722-3441

3. STREET	4. CITY	5. STATE	6. ZIP CODE
P. O. Box 237	Nederland	TX	77627

H. REALTY OWNER INFORMATION (if different from operator of site)

1. NAME	2. TELEPHONE NUMBER
Same X-Ref SA Vol #1	

3. CITY	4. STATE	5. ZIP CODE

I. SITE DESCRIPTION

Petroleum Refinery having inactive landfill and sludge weathering pits.

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	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Robert H. Davis, Jr.	(512) 477-9901	6-6-84

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE
Robert H. Davis, Jr.	Staff Engineer

3. ORGANIZATION	4. TELEPHONE NO. (area code & no.)
Engineering-Science, Inc.	(512) 477-9901

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Charles O. Burch	Supt. Environmental Services (409) 722-3441	P.O. Box 237 Nederland, TX 77627
Bill Wilson	Supv. Energy & Related Affairs (409) 722-3441	P.O. Box 237 Nederland, TX 77627
		SUPERFUND FILE
		MAR 05 1992
		REORGANIZED

REVIEWED BY (initials) DATE 11/16/84

Continue On Reverse

194091

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Union Oil Co.	(409)722-3441	PO Box 237 Nederland, TX 77627	See Attachment A

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
Chem. Waste Mgmt.	(409) 736-2821	PO Box 2563 Port Arthur, TX 77640	See Attachment A
Chem. Waste Mgmt.	(409) 724-7648	Rt 5 Box 1550 Orange, TX 77630	Spent Poly catalyst
See Attachment A			

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
Chem. Waste Mgmt	(409) 736-2821	PO Box 2563 Port Arthur, TX 77640 (Hwy 73)
Chem. Waste Mgmt.	(512) 852-8284	PO Box 3654 Corpus Christi, TX 78408 (Greenwood Rd)
See Attachment A		

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
5/30/84	9AM-3:30PM	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe) Clear and 70°F Slight breeze from North.

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.	Engineering-Science Lab 924 Gemini Blvd, Houston, TX 77058	6-21-84
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify)			

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
None		

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [X] a. GROUND [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF: Attached

D. SITE MAPPED?

[X] YES. SPECIFY LOCATION OF MAPS: Attached

E. COORDINATES

1. LATITUDE (deg.-min.-sec.): 30° 00' 00"
2. LONGITUDE (deg.-min.-sec.): 93° 38' 45"

V. SITE INFORMATION

A. SITE STATUS

[X] 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)
[ ] 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, 2865, 2951, 2992

C. AREA OF SITE (in acres): 10

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [X] 2. YES (specify): No bldgs directly over former disposed areas, but process & admin. bldgs are on plant.

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	X	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):		

*Supplemental form for landfill is not included since landfill is now covered by active pond.

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

[ ] 1. LIQUID [X] 2. SOLID [X] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[X] 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.

In-plant estimates; TDWR Part A application

Continue On Reverse

Continued From Front

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 1,020,000	AMOUNT None	AMOUNT None	AMOUNT 3,225,000	AMOUNT 1,090,000	AMOUNT 67,000,000
UNIT OF MEASURE lbs	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE lbs	UNIT OF MEASURE lbs	UNIT OF MEASURE lbs
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	X (2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPAL
X (5) OTHER (specify): Leaded tank bottom sludge (weathered) in 2 closed pits.			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	X (5) OTHER (specify): Plant trash and similar wastes in former landfill. estimate of total amt)
			(6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			X (11) OTHER (specify) spent polycatalyst (H_3PO_4 w/clay)		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X') a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark 'X') a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6. UNIT
Land	X				X				2325*	mg/kg
Phosphoric Acid	X					X			Unknown	
Asbestos	X					X			1,090,000	lbs
*highest concentration encountered in soil phase from 1979 testing of pits										

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.

☐ A. HUMAN HEALTH HAZARDS

 Continue On Page 5

Continued From Page 4

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☒ F. CONTAMINATION OF GROUND WATER

Monitoring wells are in place around former weathering pits and landfill and present sludge disposal ponds. Sampling results did not demonstrate off-site migration of waste components. Underlying strata is largely compacted clay natural to the area. The potential only for groundwater impact exists. The existing lead is potentially mobile because of nearby deposits of acidic catalyst wastes.

☒ G. CONTAMINATION OF SURFACE WATER

Site is adjacent to Neches River. Periodic flooding or emergency releases from the stormwater surge pond are possible. This pond holds contaminated runoff and process sewage during heavy rainfall events until treatment is feasible. There is no recent documentation of surface water contamination resulting from the site.

 Continue On Reverse

Continued From Front

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☐ K. NOTICEABLE ODORS

☒ L. CONTAMINATION OF SOIL

The former weathering pits for leaded tank bottoms and the former landfill are now covered by an active sludge disposal pond. Closure plans for this facility include closing in place with a clay cap and vegetative cover. Underlying soils will probably always be contaminated with heavy metals and persistent organics disposed.

☐ M. PROPERTY DAMAGE

 Continue On Page 7

Continued From Page 6

VIII. HAZARD DESCRIPTION *(continued)*

☐ N. FIRE OR EXPLOSION

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

☐ P. SEWER, STORM DRAIN PROBLEMS

☐ Q. EROSION PROBLEMS

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

 Continue On Reverse

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

☐ U. OTHER (specify):

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	4000	4000	800	< 1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	750	750	20	< 1 mile
3. IN PUBLICLY TRAVELLED AREAS	4200	4200	0	< 1 mile
4. PUBLIC USE AREAS (parks, schools, etc.)	330	330	2	< 1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
3 - 6 feet	Northerly-Northeasterly	Industrial, Stock
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
Unknown	19 mi.	NW

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS ☒ 2. COMMUNITY (specify town): > 15 CONNECTIONS Lower Neches Valley Authority

☒ 3. SURFACE WATER ☐ 4. WELL Intake at Pine Island Bayou

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: Neches River

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Neches River Basin segment #0601 classified as suitable for noncontact recreation and propagation of fish and wildlife.

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)
	1. SAND				
X	2. CLAY fan clay and morey silt loam				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

Morey Silt Loam

☐ 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.) 10^{-5} to 10^{-6} ☐ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☒ 1. YES ☐ 2. NO 3. COMMENTS: Recharge to subsurface, occur through direct infiltration of precipitation on the outcrop area.

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 0-1%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: Slightly slope towards north in pond area

J. OTHER GEOLOGICAL DATA

The site geology was estimated from geologic and hydrologic maps (TDWR Report 133). The site is located on top of the Holocene and Pleistocene Series of the Quaternary System. The stratigraphic units of Pleistocene Series are tilted towards Gulf Coast during major stages of (See Attachment A)

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
Solid Waste	TDWR	SW30001	4-26-76	--	X		
Wastewater	TDWR	WQ00316	8-26-68	9-6-88			X
NPDES	EPA	TX0002909	App. dated	12-29-73			X
RCRA	EPA	TXD010794097	8-18-80	Interim St	X		
Army Corps of Engineers		14111	Applicants	Dated 3/14/74			X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☒ YES (summarize in this space)

Solid waste compliance inspections have been conducted by TDWR District personnel, resulting in citations for not registering the stormwater pond as a hazardous waste facility and for inadequate RCRA plans. The facility responded satisfactorily in every item of noncompliance. In 1971 Union Oil was cited for dumping plant trash in an area with insufficient underlining. The groundwater monitoring system was subject to an EPA inspection in July 1982 resulting in system approval for interim status. Wastewater permit violations have apparently been minimal since 1968 with little file information available. The plant was cited for an unauthorized discharge from the stormwater impoundment in September 1975.

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.

RCRA 3012 SITE INSPECTION COMMENTS
UNION OIL OF CALIFORNIA
BEAUMONT, TEXAS
TX 10979

INTRODUCTION

On May 30, 1984 Robert H. Davis, Jr. of Engineering-Science conducted a RCRA 3012 site inspection of the Union Oil Refinery near Beaumont Texas. The inspection lasted approximately six hours and consisted of an interview with Union Oil environmental staff personnel Charles Burch and Bill Wilson, followed by a review of records, site surveillance, and sampling activities.

BACKGROUND

Union Oil began refinery operations at the subject facility in 1923. The plant currently employs approximately 800 workers and produces fuels, non-halogenated solvents, naphthas, asphalt, lubes, and greases from crude.

The existing wastewater treatment utilizes two API separators, an equalization basin, a 37-acre detention pond for dry flow (also used as stormwater surge pond), an aeration basin and clarifier, and aerobic digesters. A 31-acre sludge disposal area is used for on-site management of solid wastes. Liquid overflow from the sludge disposal area is discharged by gravity to the 37-acre detention pond. In this way it enters the normal biological treatment system.

The facility had notified under CERCLA in 1981 regarding the past disposal of asbestos and spent polycatalyst (H_3PO_4/clay) into an on-site landfill and leaded tank bottoms into two on-site weathering pits. All three facilities are now covered by the 31-acre sludge disposal area which is divided into two sections of 26 and 5 acres. The total area was formerly used as a spoils area and was first diked in 1951. Through the interview it was learned that the landfill had encompased most of the #1 area (see sketch), had ceased being used in 1969, and had been covered with dredged river and storm basin material in 1973 and 1975. The weathering pits were used primarily in the late 1960's for spreading and stabilizing leaded tank bottom material from

in and around plant storage vessels. This practice was stopped in 1973, and the pits were similarly covered with dredged spoil in 1975. At that time the 31-acre tract was divided into sludge Disposal Ponds No. 1 (26.3 acres) and No. 2 (5.1 acres). The No. 1 pond is active and has received the following types of solid wastes:

- API Separator Bottoms, Class IH (K051)
- Cooling Tower Sludge, Class INH
- Water Trmt Sludge, Class III
- Spent Clays, Class INH
- Digested Biological Sludge, Class INH
- Unleaded Tank Bottoms, Not listed on SWR
- Sludge from Firewater System, Not listed on SWR
- Slop Oil Emmulsion Solids, One time disposal (1982), Class IH (K049)

Pond No. 2 has not begun to accept significant amounts of waste material.

Union Oil has submitted (May 1983) a petition to TDWR for delisting their K049, K051, and disposal pond sludge wastes, but at the time of the inspection had not received the requested exceptions. Extensive sampling and analysis of parent wastes and the disposal pond sediment had been performed by consultants of Union Oil and demonstrate relatively low leachable levels of lead and chromium. A study conducted in 1980 by Environmental Research and Technology (ERT) for Union Oil focused heavily on contamination levels within the former leaded sludge weathering pits. Concentrations in the range of 229 to 2325 mg/kg of lead were found at depths of 6.5 and 9.5 feet. Soils encountered were soft black clay underlain by hand brown-red clay. Leachable lead concentrations (EP Extraction) were not determined on samples collected directly from the weathering pits, but samples collected nearby exhibited negligible extractable lead levels (.02 mg/l) concurrent with elevated total lead levels (1288 mg/kg). Closure plans for the sludge disposal ponds include closing in place with a clay cap and vegetative cover around the year 2083.

Groundwater monitoring wells were constructed in 1981 around the active disposal pond under RCRA guidelines, and as of September 1982 no parameters except turbidity had exceeded drinking water standards. However, the wells are screened through two or three water bearing strata, allowing for the possibility of dilution of contaminants present in the uppermost aquifer.

TDWR and EPA have approved the GW monitoring system based on the belief that statistical differences in quality between new and background data will be detected even with dilution.

All wells at the site once used for drinking have been capped and the plant is being supplied potable water by LNVA.

Since 1973 the facility has utilized Chemical Waste Management in Port Arthur for off-site disposal of spent polycatalyst, leaded tank bottoms, and several other hazardous wastes. Shipping tickets were observed and appeared to be properly completed and maintained.

SITE SURVEILLANCE NOTES

Mr. and Mrs. Burch and Wilson led the inspector on a driving and walking tour of the wastewater treatment system. Photos were taken and are attached to this report. Portions of the 31-acre sludge disposal area were vegetated and portions were under shallow water; some birds were noted in and around this disposal facility. Diking around the sludge disposal area appeared to be intact and protected from erosion by an asphaltic spray. No areas of discharge or seepage from the dike embankments were noted and the general surface soil type was tan clay. Several feet of freeboard were observed at both the active sludge disposal pond (Pond No. 1) and the stormwater impoundment basin. Freeboard is maintained at Pond No. 1 by a grated drain which conveys overflow to the adjacent 37-acre stormwater and dry flow impoundment. Mr. Burch pointed out the approximate locations of the closed weathering pits, now covered by the sludge disposal pond, and photos were taken.

Groundwater monitoring well samples were collected at U-1, D-2, and D-3. The facility personnel aided in the sampling by pumping out 2-3 void volumes at each well prior to the collection of samples. Duplicate samples were taken and split with the facility representatives. All well samples showed negligible or undetectable levels of Pb, Zn, Cr, Cd, and selected purgeable organics.

ASSESSMENT

Sampling results from the groundwater monitoring wells did not reveal any off-site migration of waste components. However, a low degree of hazard

has been assigned to the site for the following reasons. A significant quantity of weathered leaded tank bottoms is contained within the disposal pit areas, now overlain by several feet of sludge, sediment, and water in an active sludge disposal lagoon. The lead-containing wastes were concurrently disposed in the general vicinity of acidic wastes (phospheric acid/clay catalyst material) which may have a mobilizing effect upon any metals if subsurface mingling of waste components has or ever should occur. In addition, while analytical data has been presented by Union Oil which showed that insignificant amounts of lead were leached (EP Toxicity Extraction) from sediment borings taken from near the former weathering pits, similar data is not available on samples obtained from within the weathering pits themselves. Finally, consideration was given to the relatively shallow water table and the proximity of the Neches River.

Union Oil has demonstrated a responsible attitude toward regulatory issues and environmental problems resulting from their Beaumont plant. The site continues to be subject to annual solid waste compliance inspections with respect to its active facilities. The groundwater monitoring system is installed around the area where both active and inactive disposal facilities are located; thus, any future migration of waste components from these facilities should be discernable, and no further action is recommended under the RCRA 3012 Program.

S JGE DISPOSAL POND OVERLYING 2 ı .CTIVE PITS & LANDFILL

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT *(Supplemental Report)*	INSTRUCTION Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT

31 acre sludge disposal pond. Vegetation sporadic.

2. STABILITY/CONDITION OF EMBANKMENTS

good; asphalt sprayed

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*

☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE

☐ YES ☒ NO

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

7. IMPOUNDMENT HAS LINER SYSTEM

☐ YES ☒ NO Natural clays

7a. INTEGRITY OF LINER SYSTEM CHECKED

☐ YES ☒ NO

7b. FINDINGS

N/A

8. SOIL STRUCTURE AND SUBSTRUCTURE

Drillers logs indicated massive clay bed to 30'

9. MONITORING WELLS

☒ YES ☐ NO

10. LENGTH, WIDTH, AND DEPTH

LENGTH Irregular shape WIDTH DEPTH 5 1/2' by 31 acres

11. CALCULATED VOLUMETRIC CAPACITY

275,000 cn. yds. (55.6 MG)

12. PERCENT OF CAPACITY REMAINING

16 yrs remaining, according to facility personnel

13. ESTIMATE FREEBOARD

3' consistant level with one overflow drain connecting pond to stormwater impoundment basin.

14. SOLIDS DEPOSITION

☒ YES ☐ NO

15. DREDGING DISPOSAL METHOD

None

16. OTHER EQUIPMENT

- 1 drain structure (see item B above)
- 2 sludge intake ports

EPA Form T2070-3C (10-79)

STORMWATER SURGE POND

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT *(Supplemental Report)*	INSTRUCTION Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT
Holding pond for normal process flow, contaminated runoff, stormwater flow*, sludge pond overflow prior to biological treatment.

2. STABILITY/CONDITION OF EMBANKMENTS
Asphalt sprayed

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*
☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE
☒ YES ☐ NO Oil film

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

7. IMPOUNDMENT HAS LINER SYSTEM
☐ YES ☒ NO

7a. INTEGRITY OF LINER SYSTEM CHECKED
☐ YES ☒ NO

7b. FINDINGS

8. SOIL STRUCTURE AND SUBSTRUCTURE
Natural clay deposits to 30' of depth

9. MONITORING WELLS
☒ YES ☐ NO

10. LENGTH, WIDTH, AND DEPTH Irregular shape
LENGTH WIDTH DEPTH 37 acres by 6' of depth

11. CALCULATED VOLUMETRIC CAPACITY
72.3 million gallons

12. PERCENT OF CAPACITY REMAINING
N/A (Effluent receives treatment)

13. ESTIMATE FREEBOARD
3-4

14. SOLIDS DEPOSITION
☒ YES ☐ NO At one time clay contaminated with H_3PO_4 (Poly catalyst)

15. DREDGING DISPOSAL METHOD
None

16. OTHER EQUIPMENT

- Boom for oil film retention
- Oil skimmers and adjacent oil holding tanks
- Emergency bypass valve directly to Neches River
- Normal pond effluent goes to API Sep. #2 and biological treatment system

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
III. D.	GENERATOR INFORMATION

Class IH wastes generated on-site and their disposition are as follows:

	Disposal	
	Past	Present
Spent catalyst D002 (H_3PO_4/clay)	Landfill, storm pond	off-site
Spent treating clay D001	Sludge disposal pond	off-site
Leaded tank Bottoms K052	Weathering pits	off-site
MEA Reclaimer Bottoms D002	Unknown	off-site
Paint Wastes D001	Unknown	off-site
Sodium Hydroxide Sol'n D002	Unknown	off-site
Slop Oil Emmulsion Solids K049	Sludge disposal pond	not disposed
Heat Exchanger Sludge K050	Treatment System	Trmt System
API Separator Sludge K051	Sludge Disposal Pond	Sludge Pond
Hg-Contam. Waste D009	Unknown	off-site
Laboratory Wastes D000	Trmt System	Trmt System
PCB Material (INH)	Unknown	off-site

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
III. E.	TRANSPORTER/HAULER INFORMATION Chem. Waste Mgmt, has transported the following Union Oil generated wastes to their Port Arthur disposal facility: • Leaded tank bottoms K052 • Spent Poly catalyst (H_3PO_4/clay) D002 • Spent treating clay D001 • MEA Reclainer Bottoms D002 • Misc. organic sludges D000 • Paint wastes D001 • Slop Oil Emmulsion Solids K049 • PCB wastes • Mercury containing wastes D001 Other transporters have included: (3) Service Transport Company, PO Box 3654, Corpus Christi, TX 78408, (512) 289-6464 — Spent Sodium Hydroxide Liquid (Bulk in truck) (4) American Electric Company, 523 S. Ellis Rd., Jacksonville, Fla 32205, (904) 786-1126 — Capacitors Containing PCB's (5) National Electric, Inc., 21400 Hamburg Ave., Lakeville, Minn. 55044, (612) 469-3475 — Trnasformers containing PCB's

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
III. F.	DISPOSER INFORMATION, (cont.) (3) American Electric Company 523 S. Ellis Rd. Jacksonville, Fla. 32205 (904) 786-1126 (4) National Electric, Inc. 21400 Hamburg Ave. Lakeville, Minn. 55044 (612) 469-3475
XIII. J.	continental glaciations. The amount of dip was higher in oldest formations than the youngest formations due to the rate of overburden national. The rock types are mainly clay, shaley sand and fine sand with lesser amount of gravel. Regionally the Evangeline and Chicot aquifers are well exposed. The thickness of these aquifers range from 1400 to 1600 feet. Both aquifers are hydraulically potential sources of groundwater in the county. See Attachment B for geological and hydrological tables and maps.

GROUNDWATER MONITORING SYSTEM SUPPLEMENTAL FORM

1. FACILITY NAME and LOCATION:

   Union Oil Co. of California - Beaumont

   FM 366 - North side, near Slt 347

   Jefferson County, Texas

2. SKETCH SHOWING WELL LOCATIONS — ATTACHMENT NO. Report Sketch

3.

Monitoring Well ID	Well Depth	Static Water Depth	Casing Depth	Type of Casing	Screening Depth
U-1	104'	11.9'	0-65'	40 PVC	69-104'
D-1	101'	3.2'	0-34'	40 PVC	38-101'
D-2	100'	1.6'	0-29'	40 PVC	32-100'
D-3	92'	3.9'	0-27'	40 PVC	30-92'

* Data from July 1982 measurements

4. OBTAIN COPY OF WELL CONSTRUCTION DESIGN - ATTACHMENT NO. C

5. OBTAIN COPIES OF COMPANY's PERTINENT SELF MONITORING DATA ATTACHMENT NO. D

6. COMMENTS

Self monitoring data have not included metals since September 1982; thus surveys were collected during the RCRA 3012 site inspection. Results failed to show significant levels of Pb, Zz, Cr, Cd or selected organics.

ATTACHMENT B

1. Geologic Stratigraphy
2. Geologic Map (Jefferson County)
3. Soil Survey Map Features
4. Hydrologic Section (Jefferson County)

Table 1.--Geologic and Hydrologic Units Used in This Report and in Recent Reports in Nearby Areas

		HARDER (1960)		ROGERS AND CALANDRO (1965)		RECENT TEXAS REPORTS		BAKER (1964)	WESSELMAN (1965)	WOOD AND GABRYSCH (1965)	1/	THIS REPORT	
SYSTEM	SERIES	FORMATION	HYDROLOGIC UNIT	GROUP OR FORMATION	HYDROLOGIC UNIT	FORMATION		HYDROLOGIC UNIT	HYDROLOGIC UNIT	HYDROLOGIC UNIT	HYDROLOGIC UNIT	HYDROLOGIC UNIT	
Quaternary	Holocene	Alluvium		Alluvium	Alluvium	Alluvium 2/		GULF COAST AQUIFER		Beaumont		Upper	Chicot aquifer
	Pleistocene	Prairie Formation	Chicot shallow	Stream terrace and upland deposits	Stream terrace and upland deposits	Beaumont Clay			Upper aquifer		Chicot aquifer	Chicot	
		Montgomery Formation	"200 foot"			Lissie Formation 3/	Montgomery Formation		Middle aquifer	Alta Loma Sand of Rose (1943)			
		Bentley Formation	"500 foot"				Bentley Formation					Lower Chicot	
		Willianna Formation	"700 foot"			Willis Sand 4/							
Tertiary	Pliocene	Foley Formation	Evangeline aquifer	Fleming Formation	Blounts Creek Member	Goliad Sand			Lower aquifer	Heavily pumped layer	Evangeline aquifer	Evangeline aquifer	
				? of Kennedy (1892)	? of Fisk (1940)								
	?	Fleming Formation of Fisk (1940)	?		Castor Creek Member of Fisk (1940)	Fleming Formation 5/							
	Miocene									Zone 2	Burkeville aquiclude	Burkeville aquiclude	

1/ Wesselman (1967), Tarver (1968a and 1968b), Anders and others (1968), Sandeen (1968), and Wilson (1967).
2/ Floodplain and terrace deposits in Baker (1964).
3/ Lissie Formation in Baker (1964), Wesselman (1965 and 1967), Sandeen (1968), and Anders and others (1968); and Bentley and Montgomery Formations in Wilson (1967) and Tarver (1968a and 1968b).
4/ Pliocene (?).
5/ Shown as the Lagarto Clay of Miocene (?) age in Baker (1964) and Wesselman (1967).

SOURCE TDWR REPORT #133

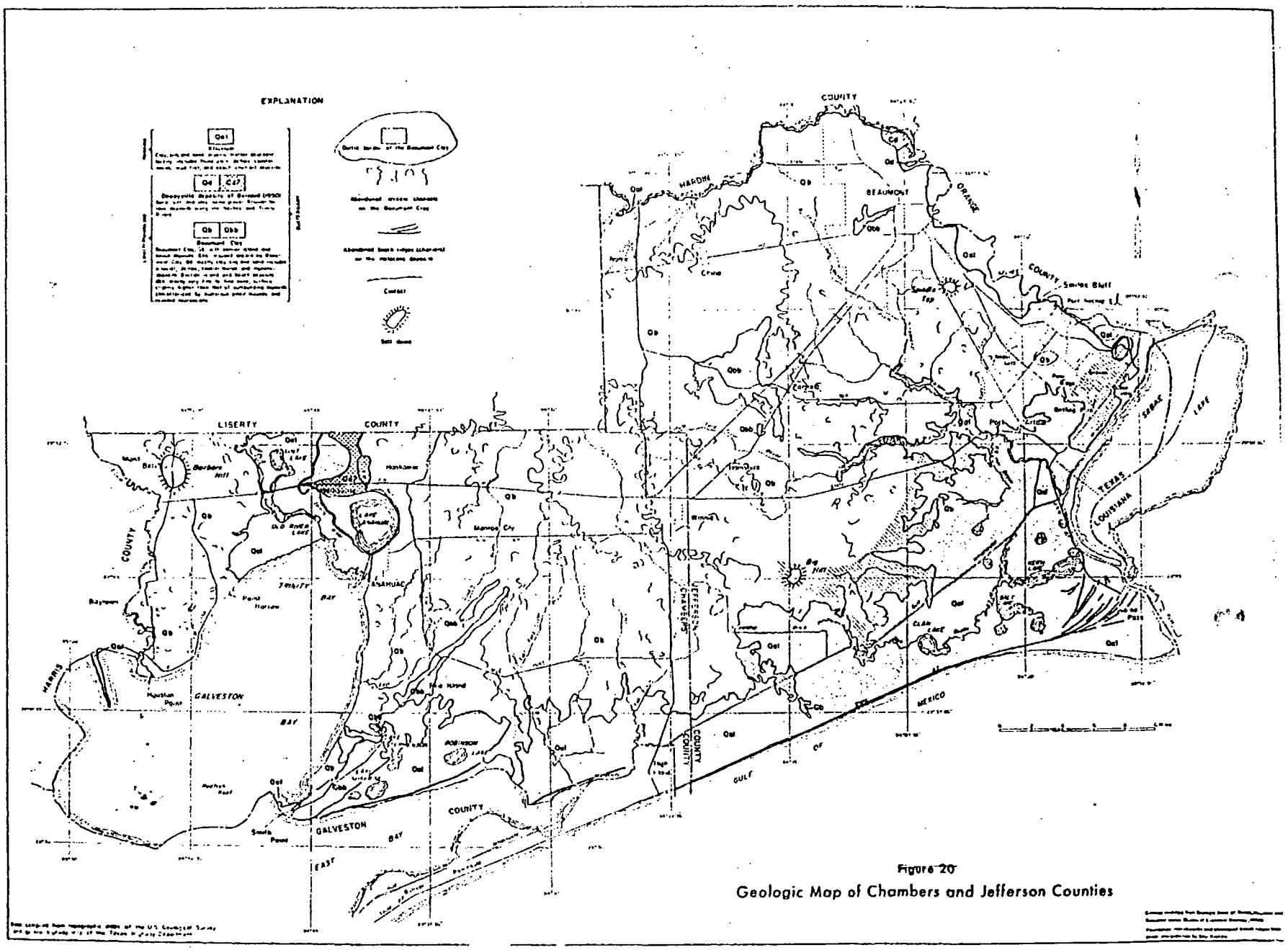


Figure 20

Geologic Map of Chambers and Jefferson Counties

SOURCE : TDWR REPORT #133

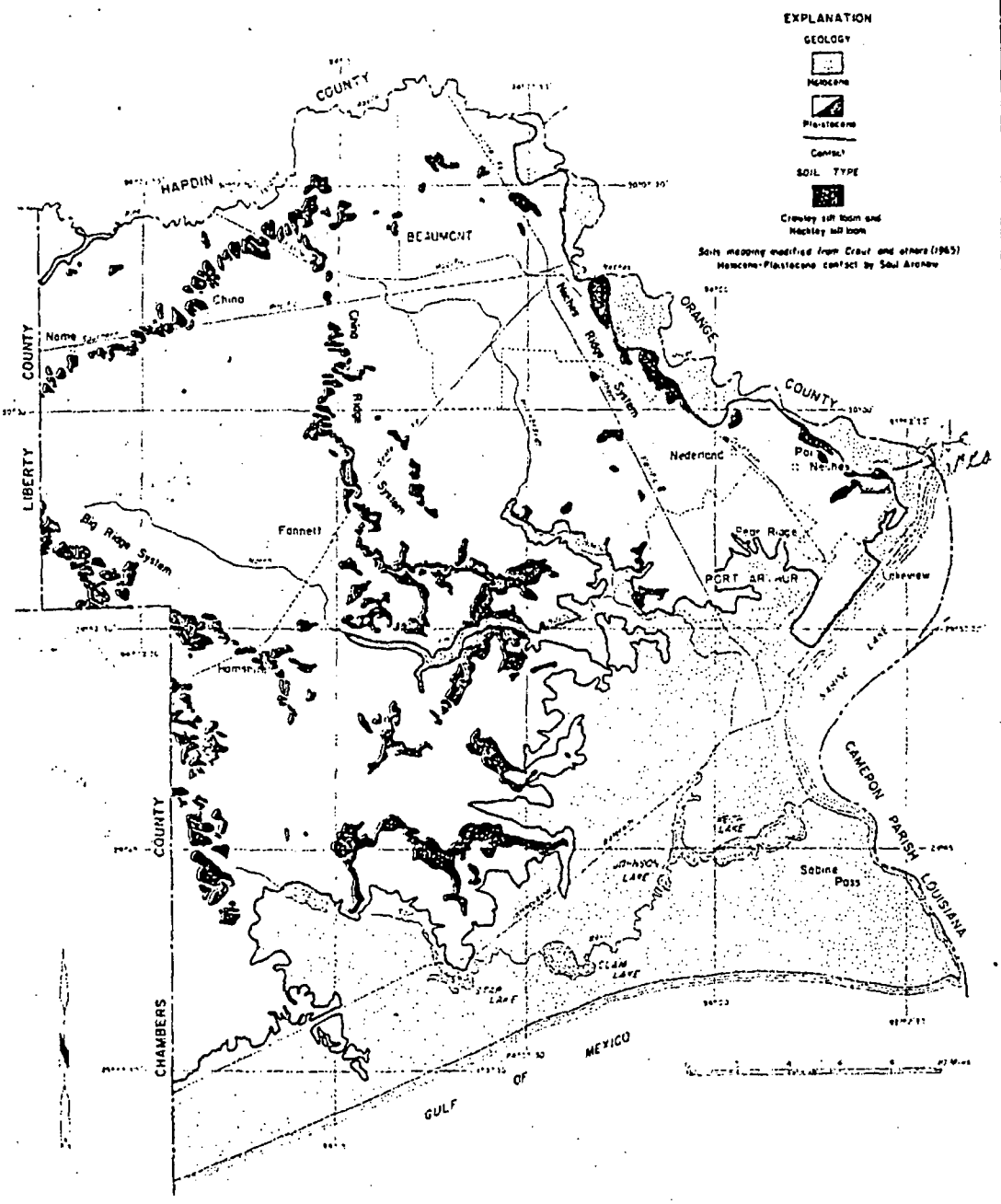


Figure 21

Selected Features From the 1965 Soil-Survey Map of Jefferson County

SOURCE: TDWR REPORT #133

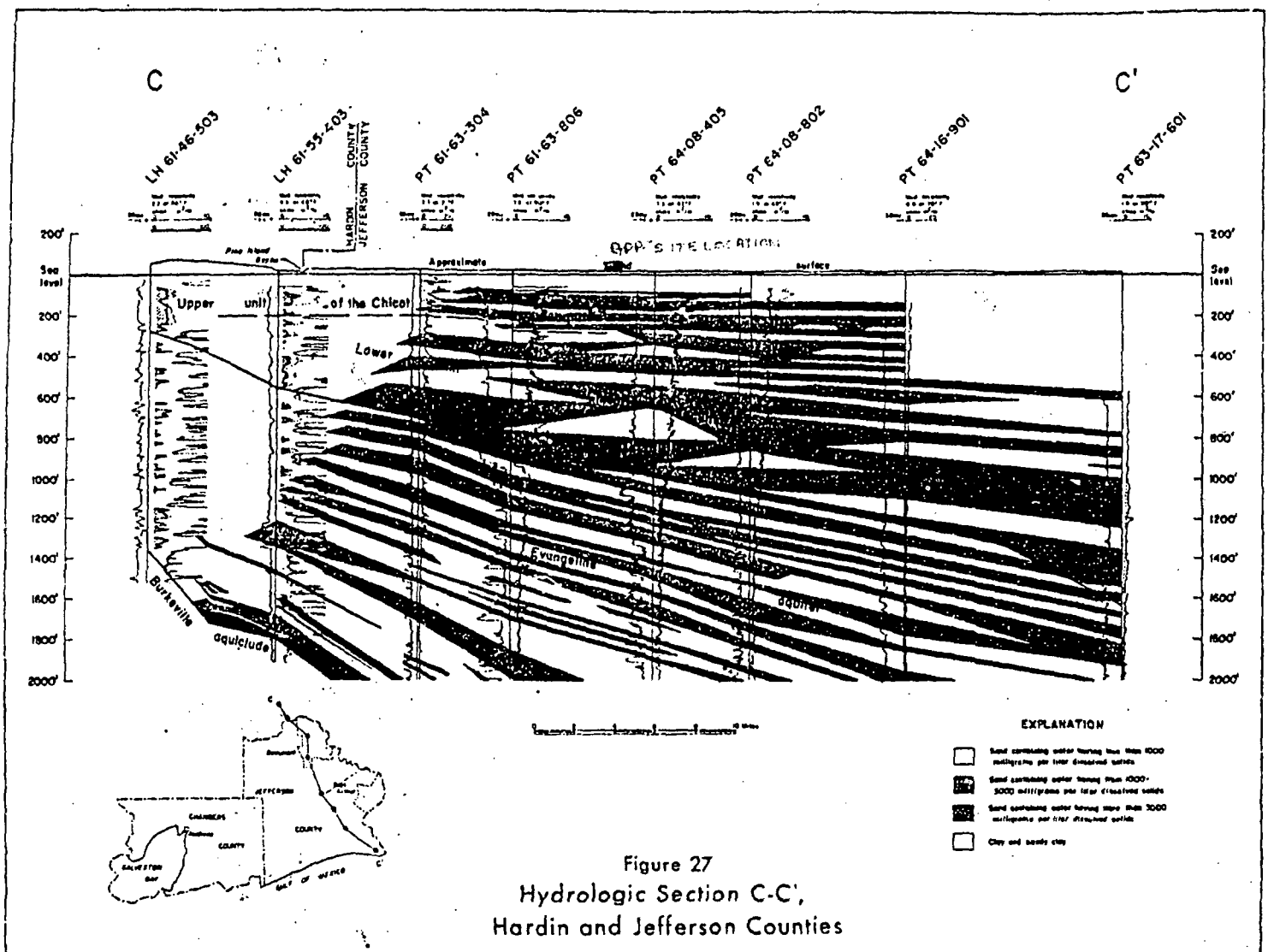


Figure 27
Hydrologic Section C-C',
Hardin and Jefferson Counties

SOURCE: TDWR REPORT #133

ATTACHMENT C

Groundwater Monitoring Well
Construction Design

INFORMATION TABLE B-2

Add 1.322 feet for MSL.

	WELL NO.	U-1[a]	D-1[b]	D-2[b]	D-3[b]		
	GROUND ELEVATION	13.86	4.22	4.00	4.82		
	TOTAL DEPTH	104	101	100	92		
WELL CASING	TYPE MATERIAL	40 PVC	40 PVC	40 PVC	40 PVC		
	DIAMETER (inches)	2.5	2.5	2.5	2.5		
	LENGTH (feet)	69	38	32	30		
	STICK-UP	3.49	3.92	2.46	2.96		
	TOP ELEVATION	17.35	8.14	6.46	7.78		
	BOTTOM ELEVATION	-51.65	-29.86	-25.54	-22.22		
WELL SCREEN	1st screen/last screen DEPTH TOP/BOTTOM	69/104	38/101	32/100	30/92		
	TYPE MATERIAL	PVC	PVC	PVC	PVC		
	DIAMETER	2.5	2.5	2.5	2.5		
	LENGTH	15/15	10/10/10	10/10/10	10/15/10		
	SLOT SIZE	0.010	0.010	0.010	0.010		
	TOP ELEVATION						
	BOTTOM ELEVATION						
OPEN HOLE OR SAND/GRAVEL PACK	DEPTH TOP/BOTTOM						
	DIAMETER						
	LENGTH						
	TOP ELEVATION						
	BOTTOM ELEVATION						

[a] U-1 has two screened intervals -- 69-84 feet and 99-104 feet.

[b] *The downgradient wells (D-1,D-2,D-3) are screened at three intervals.*

BORING LOG

Project Union Oil Co., Beaumont, Tx. Spoil Area 1 Project No. B-056 Boring No. U-1

Drilling Contractor Ted Younger Date Completed 8/19/81 Boring Loc. Imp'd Basin

Gr. Elev. +13.81 MSL Elev. of Water at Completion N/A, 24 hrs After Completion N/A

ERT Field Supervisor H. Cortes Title Field Hydrogeologist Date

Depth in Feet	Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
				Note: Soil Stratification Based on E-Log Interpretation	
10					
20					2½" I.D. PVC Conductor Pipe
30				Massive Clay, with Occasional Silt/Silty Sand Lenses and Pockets	
40					
50					
60					Bentonite Seal 67.0 68.0 69.0
				Silty Sand	Screen 84.0
				Interbedded Clay and Silt	Filter Sand 2½" PVC Pipe
				Silty Sand	Screen 99.0

Union Oil Co., Beaumont, Tx Spoil Area 1 Project No B-056 Boring No. U-1

Drilling Contractor _____ Date Completed _____ Boring Loc. _____

Gr. Elev. _____ Elev. of Water at Completion _____, 24 hrs After Completion _____

ERT Field Supervisor _____ Title _____ Date _____

Depth in Feet	Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
				Silty Sand	Screen → Filter Sand →
10				Massive Clay	
20					
30				Boring Terminated	

BORING LOG

ct Union Oil Co. Beaumont, Tx Spoil Area 1 Project No. .056 Boring No. D-1

rilling Contractor Ted Younger Date Completed 8/20/81 Boring Loc. —

Gr. Elev. + 4.22 MSL Elev. of Water at Completion N/A, 24 hrs After Completion N/A

ERT Field Supervisor H. Cortes Title Field Hydrogeologist Date —

Depth in Feet	Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
				Note: Soil Stratification Based on E-Log Interpretation	
				Massive Clay	2½" I.D. PVC Conductor Pipe
				Interbedded Clay, Silt and Silty Sand (Transition Zone)	Bentonite Seal; 36.0; 37.0; 38.0
				Fine Silty Sand	Screen; 48.0
				Clay With Silt Laminations	2½" PVC Pipe
				Silty Sand	63.0; Screen; 73.0; Filter Sand
				Clay	2½" PVC Pipe
				Silty Sand	91.0; Screen; 101.0

BORING LOG

Project Union Oil Co. Beaumon Tx. Spoil Area 1 Project No. 3-056 Boring No. D-1

Drilling Contractor _____ Date Completed _____ Boring Loc. _____

Gr. Elev. _____ Elev. of Water at Completion _____, 24 hrs After Completion _____

ERT Field Supervisor _____ Title _____ Date _____

Depth in Feet	Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
				Silty Sand	
0				Interbedded Silty Sand and Clay (Transition Zone)	
0				Massive Clay	
0				Boring Terminated	

BORING LOG

Project Union Oil Co. Beaumont, Tx Spoil Area 1 Project No. 3-056 Boring No. D-2

Drilling Contractor Ted Younger Date Completed 8/22/81 Boring Loc. —

Gr. Elev. +4.00 MSL Elev. of Water at Completion N/A, 24 hrs After Completion N/A

ERT Field Supervisor H. Cortes Title Field Hydrogeologist Date —

Depth in Feet	Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
				Note: Soil Stratification Based on E-Log Interpretation	
10				Massive Clay	2½" I.D. PVC Conductor Pipe
0					
					Bentonite Seal
0				Silty Sand	30.0 31.0 32.0 Screen
0					42.0
				Clay	Filter Sand
0				Silty Sand	2½" PVC Pipe
					55.0
				Clay	Screen
				Silty Sand	65.0
				Sandy Silt	2½" PVC Pipe
					90.0
					Screen
				Clay	100.0

Union Oil Co., Beaumo., Tx. Spoil Area 1 Project No. -056 Boring No. D-2

Drilling Contractor _____ Date Completed _____ Boring Loc. _____

Gr. Elev. _____ Elev. of Water at Completion _____, 24 hrs After Completion _____

CRT Field Supervisor _____ Title _____ Date _____

Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
			Clay	
			Silty Sand	
			Boring Terminated	

BORING LOG

Union Oil Co. Beaumont Spoil Area 1 Project No. .056 Boring No. D-3

Drilling Contractor Ted Younger Date Completed 8/21/81 Boring Loc. —

Gr. Elev. + 4.82 MSL Elev. of Water at Completion N/A, 24 hrs After Completion N/A

RT Field Supervisor H. Cortes Title Field Hydrogeologist Date —

Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
			Note: Soil Stratification Based on E-Log Interpretation	
			Massive Clay, with Occasional Silt Pockets	2½" I.D. PVC Conductor Pipe; Bentonite Seal 28.0–29.0–30.0
			Silty Sand	Screen 40.0
			Silty Sandy Clay, with Silty Sand Bed 47.0 To 49.0	Filter Sand; 2½" PVC Pipe 52.0
			Silty Sand	Screen 72.0
			Clay	2½" PVC Pipe 82.0
			Silty Sand	Screen 92.0
			Massive Clay, With Silt Pockets	

BORING LOG

Union Oil Co. Beaumont, Tx. Spoil Area 1 Project No. 056 Boring No. D-3

Drilling Contractor _____ Date Completed _____ Boring Loc. _____

Gr. Elev. _____ Elev. of Water at Completion _____, 24 hrs After Completion _____

ERT Field Supervisor _____ Title _____ Date _____

Sample No. and Type	Recovery (%)	Soil Class.	SAMPLE DESCRIPTION	Piezometer/Well Installation
			Massive Clay, With Occasional Silt Pockets	
			Boring Terminated	

ATTACHMENT D

Self Monitoring Data for GWM Wells
Union Oil of California - Beaumont

GROUNDWATER WELL MONITORING - INITIAL BACKGROUND CONCENTRATIONS

SAMPLED OCTOBER 28, 1981

Contaminants		Drinking Water Maximum	Upgradient U-1	Downgradient D-1	D-2	D-3
Arsenic	mg/l	.05	<.01	<.01	<.01	<.01
Barium	mg/l	1.0	<.05	<.05	<.05	<.05
Cadmium	mg/l	.01	<.001	<.001	<.001	<.001
Chromium	mg/l	.05	<.05	<.05	<.05	<.05
Fluoride	mg/l	1.4-2.4	.33	.37	.25	.40
Lead	mg/l	.05	<.05	<.05	<.05	<.05
Mercury	mg/l	.002	<.002	<.002	<.002	<.002
Nitrate (or N)	mg/l	10.	1.1	2.6	1.70	1.4
Selenium	mg/l	.01	<.01	<.01	<.01	<.01
Silver	mg/l	.05	<.05	<.05	<.05	<.05
Endriu	mg/l	.0002	None	None	None	None
Lindane	mg/l	.004	None	None	None	None
Methoxychlor	mg/l	.1	None	None	None	None
Toxaphene	mg/l	.005	None	None	None	None
2,4-D	mg/l	.1	None	None	None	None
2,4,5-TP Silver	mg/l	.01	None	None	None	None
Radium	pCi/l	5.	1.6 ± 1.1	<.6	2.9 ± 1.8	<.6
Gross Alpha	pCi/l	15.	<2	<2	<2	<.2
Gross Beta	Millirem/Yr.	4.	*	*	*	*
Turbidity	/TU	1	60	17	53	38
Coliform Bacteria	/100 ml	1	<1	<1	<1	<1

* We do not believe that the 4 millirem/year standard for gross beta is applicable for these nonflowing wells. Our testing laboratory reports gross beta in pCi/l units for the four wells as follows:

U-1 = 3 ± 2
D-1 = 5 ± 2
D-2 = 5 ± 2
D-3 = 5 ± 2

ATTACHMENT 12-9-81

TEXAS DEPARTMENT OF WATER RESOURCES
Shipping Control & Effluent Reports Unit
Enforcement and Operations
P. O. Box 13087, Capitol Station
Austin, Texas 78711

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 0 0 1

EPA TSD Fac. No. or Gen. No. T X D 0 1 0 7 9 4 0 9 7

Company Well Number U 1

Gradient Up [X] Down [ ]

Report for: 1 2 19 8 2

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

To be completed by the owner/operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste. (See reverse side for instructions.)

Company Name: Union Oil Company of California Phone: (713) 722-3441

Business Address: P. O. Box 237, Nederland, Texas Zip: 77627

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Occurrence	pH Standard Grab	Conductivity µmhos mg/l Grab	Total Organic Carbon mg/l Grab	Total Organic Halogen mg/l Grab	Chloride mg/l Grab	Iron mg/l Grab	Manganese mg/l Grab	Phenols mg/l Grab	Sodium mg/l Grab	Sulfate mg/l Grab
Date											
**First Year (initial) Background arithmatic mean		7.3 ± 0.1**	3796±195308**	1.7±3.3**	.17 ± .02**						
3-4-82	+ 3.21	6.8 ± 0.0	4000±12917	3.7±7.2	.15 ±.000	1,905	0.4	0.13	0.12	309	0
6-1-82	+ 3.10	7.3 ± 0.0	4000± 0	<.05±0.0	.18 ±.002	1,929	1.4	0.11	0.00	388	0
9-14-82	+ 3.65	7.5 ± 0.0	4019± 156	1.5±0.2	.36 ±.002	1,940	0.5	0.10	0.00	529	0

TABLE 2

Parameter Units Sample Type	Arsenic mg/l Grab	Barium mg/l Grab	Cadmium mg/l Grab	Chromium mg/l Grab	Fluoride mg/l Grab	Lead mg/l Grab	Mercury mg/l Grab	Nitrate mg/l Grab	Selenium mg/l Grab	Silver mg/l Grab
Date										
3-4-82	<.01	0.8	<.005	<.03	0.5	<.05	<.0002	<0.1	<.01	<.02
6-1-82	<.01	0.7	<.005	<.03	0.5	<.05	<.0002	<0.1	<.01	<.02
9-14-82	<.01	0.8	<.005	<.03	0.6	<.05	<.0002	<0.1	<.01	<.02

Parameter Units Sample Type	Endrin mg/l Grab	Lindane mg/l Grab	Methoxychlor mg/l Grab	Toxaphene mg/l Grab	2,4-D mg/l Grab	2,4,5-TP Silvex mg/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta [illegible] Grab	Coliform Bacteria U100 ml Grab
Date									pCi/l	
3-4-82	<.0002	<.004	<.100	<.005	<.100	<.010	1.65 ± .61	< 2	3 ± 2	0
6-1-82	<.0002	<.004	<.100	<.005	<.100	<.010	<2	< 2	5 ± 2	0
9-14-82	<.0002	<.004	<.100	<.005	<.100	<.010	<2	< 2	4	<1

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete.

W. E. Norris
Prepared By

[signature]

12-8-82

TEXAS DEPARTMENT OF WATER RESOURCES
Shipping Control & Effluent Reports Unit
Enforcement and Operations
P. O. Box 13087, Capitol Station
Austin, Texas 78711

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 0 0 1

EPA TSD Fac. No. or Gen. No. T X D 0 1 0 7 9 4 0 9 7

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Company Well Number D 1

Gradient Up [ ] Down [X]

Report for: 1 2 19 8 2

To be completed by the owner/operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste. (See reverse side for instructions.)

Company Name: Union Oil Company of California Phone: (713) 722-3441

Business Address: P. O. Box 237, Nederland, Texas Zip: 77627

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Occurrence	pH Standard Grab	Conductivity Umhos mg/l Grab	Total Organic Carbon mg/l Grab	Total Organic Halogen mg/l Grab	Chloride mg/l Grab	Iron mg/l Grab	Manganese mg/l Grab	Phenols mg/l Grab	Sodium mg/l Grab	Sulfate mg/l Grab
Date											
**First Year (initial) Background arithmetic mean		± **	± **	± **	± **						
3-4-82	+2.15	6.8	3,500	0.86	.16	1,671	0.5	0.09	0.20	289	0
6-1-82	+2.40	7.0	3,500	0.23	.16	1,601	1.4	0.15	0.00	336	0
9-14-82	+2.98	7.3	3,493	2.4	.28	1,601	0.6	0.13	0.00	497	0

TABLE 2

Parameter Units Sample Type	Arsenic mg/l Grab	Barium mg/l Grab	Cadmium mg/l Grab	Chromium mg/l Grab	Fluoride mg/l Grab	Lead mg/l Grab	Mercury mg/l Grab	Nitrate mg/l Grab	Selenium mg/l Grab	Silver mg/l Grab
Date										
3-4-82	<.01	0.3	<.005	<.03	0.5	<.05	<.0002	<0.1	<.01	<.02
6-1-82	<.01	0.4	<.005	<.03	0.4	<.05	<.0002	<0.1	<.01	<.02
9-14-82	<.01	0.3	<.005	<.03	0.5	<.05	<.0002	<0.1	<.01	<.02

Parameter Units Sample Type	Endrin mg/l Grab	Lindane mg/l Grab	Methoxychlor mg/l Grab	Toxaphene mg/l Grab	2,4-D mg/l Grab	2,4,5-TP Silvex mg/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta ~~millimeter~~ Grab	Coliform Bacteria 1/100 ml Grab
Date									pCi/l	
3-4-82	<.0002	<.004	<.100	<.005	<.100	<.010	1.62±.60	< 2	9 ± 3	0
6-1-82	<.0002	<.004	<.100	<.005	<.100	<.01	5 ± 2	< 2	13 ± 3	0
9-14-82	<.0002	<.004	<.100	<.005	<.100	<.01	< 2	< 2	5	<1

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete.

W. E. Norris
Prepared By

[signature]
Signature of Authorized Agent

12-8-82

TEXAS DEPARTMENT OF WATER RESOURCES
Shipping Control & Effluent Reports Unit
Enforcement and Operations
P. O. Box 13087, Capitol Station
Austin, Texas 78711

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 0 0 1

EPA TSD Fac. No. or Gen. No. T X D 0 1 0 7 9 4 0 9 7

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Company Well Number D 2

Gradient Up [ ] Down [X]

Report for: 1 2 19 8 2

To be completed by the owner/operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste. (See reverse side for instructions.)

Company Name: Union Oil Company of California Phone: (713) 722-3441

Business Address: P. O. Box 237, Nederland, Texas Zip: 77627

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Generator	pH Standard Grab	Conductivity Micros mg/l Grab	Total Organic Carbon mg/l Grab	Total Organic Halogen mg/l Grab	Chloride mg/l Grab	Iron mg/l Grab	Manganese mg/l Grab	Phenols mg/l Grab	Sodium mg/l Grab	Sulfate mg/l Grab
Date											
**First Year (initial) Background arithmetic mean		± **	± **	± **	± **						
3-4-82	+2.52	6.7	4,750	< 0.05	.29	2,326	3.2	0.30	0.05	303	0
6-1-82	+2.57	5.7	4,550	0.13	.19	2,186	1.3	0.24	0.00	432	0
9-14-82	+3.17	7.0	4,800	2.2	.17	2,151	3.0	0.18	0.00	526	53

TABLE 2

Parameter Units Sample Type	Arsenic mg/l Grab	Barium mg/l Grab	Cadmium mg/l Grab	Chromium mg/l Grab	Fluoride mg/l Grab	Lead mg/l Grab	Mercury mg/l Grab	Nitrate mg/l Grab	Selenium mg/l Grab	Silver mg/l Grab
Date										
3-4-82	<.01	0.7	<.005	<.03	0.4	<.05	<.0002	<.1	<.01	<.02
6-1-82	<.01	0.7	<.005	<.03	0.4	<.05	<.0002	<.1	<.01	<.02
9-14-82	<.01	0.6	<.005	<.03	0.4	<.05	<.0002	.2	<.01	<.02

Parameter Units Sample Type	Endrin mg/l Grab	Lindane mg/l Grab	Methoxychlor mg/l Grab	Toxaphene mg/l Grab	2,4-D mg/l Grab	2,4,5-TP Silvex mg/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta [illegible] Grab	California Bacteria 1/100 ml Grab
Date									pCi/l	
3-4-82	<.0002	<.004	<.100	<.005	<.100	<.010	1.25±.55	<2	8 ± 2	0
6-1-82	<.0002	<.004	<.100	<.005	<.100	<.010	2 ± 1	<2	7 ± 2	0
9-14-82	<.0002	<.004	<.100	<.005	<.100	<.010	<2	<2	<3	<1

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete.

W. E. Norris
Prepared By

[signature]
Signature of Authorized Agent

12-8-82
Date

TEXAS DEPARTMENT OF WATER RESOURCES
Shipping Control # Effluent Reports Unit
Enforcement and Operations
P. O. Box 13087, Capitol Station
Austin, Texas 78711

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 0 0 1

EPA TSD Fac. No. or Gen. No. T X D C 1 0 7 9 4 0 9 7

Company Well Number D 3

Gradient Up [ ] Down [X]

Report for: 1 2 19 8 2

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

To be completed by the owner/operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste. (See reverse side for instructions.)

Company Name: Union Oil Company of California Phone: (713) 722-3441

Business Address: P. O. Box 237, Nederland, Texas Zip: 77627

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft Sample Overview	pH Standard Grab	Conductivity Jandrive mg/l Grab	Total Organic Carbon mg/l Grab	Total Organic Halogen mg/l Grab	Chloride mg/l Grab	Iron mg/l Grab	Manganese mg/l Grab	Phenols mg/l Grab	Sodium mg/l Grab	Sulfate mg/l Grab
Date											
**First Year (initial) Background arithmetic mean		± **	± **	± **	± **						
3-4-82	+1.86	6.7	4,200	< 0.05	0.21	2,022	1.1	0.24	0.05	298	0
6-1-82	+2.93	6.8	4,200	< 0.05	0.06	2,011	2.1	0.29	0.00	392	0
9-14-82	+2.74	7.1	4,100	3.3	0.22	1,941	2.0	0.23	0.00	548	51

TABLE 2

Parameter Units Sample Type	Arsenic mg/l Grab	Barium mg/l Grab	Cadmium mg/l Grab	Chromium mg/l Grab	Fluoride mg/l Grab	Lead mg/l Grab	Mercury mg/l Grab	Nitrate mg/l Grab	Selenium mg/l Grab	Silver mg/l Grab
Date										
3-4-82	< .01	0.4	<.005	<.03	0.4	<.05	<.0002	0.1	<.01	<.02
6-1-82	< .01	0.6	<.005	<.03	0.4	<.05	<.0002	< 0.1	<.01	<.02
9-14-82	<.01	0.6	<.005	<.03	0.4	<.05	<.0002	0.1	<.01	<.02

Parameter Units Sample Type	Endrin mg/l Grab	Lindane mg/l Grab	Methoxychlor mg/l Grab	Toxaphene mg/l Grab	2,4-D mg/l Grab	2,4,5-TP Silvex mg/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta Grab	California Bacteria U/100 ml Grab
Date									pCi/l	
3-4-82	<.0002	<.004	<.100	<.005	<.100	<.010	1.12±.53	< 2	6 ± 2	0
6-1-82	<.0002	<.004	<.100	<.005	<.100	<.010	3 ± 1	< 2	9 ± 3	0
9-14-82	<.0002	<.004	<.100	<.005	<.100	<.010	< 2	< 2	< 3	< 1

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete.

W. E. Norris [signature] 12-8-82

IF THE PAGE FILMED IS NOT AS LEGIBLE AS THIS LABEL, IT IS DUE TO THE QUALITY OF THE ORIGINAL.

TEXAS DEPARTMENT OF WATER RESOURCES TDWR 0849

NO. SW 03665

District 06 Org. No. 536 Work No. 9091 Lab SRA

Site Name Union Oil Co. of Calif.

Point of Collection Ground water monitoring well No U-1

Site Location Nederland, Tx

County Jefferson Basin Neches, Seg. No 0601

Method of Collection air lift pump used to collect sample in clean container

Type facility: ☐ Drum; ☐ Tank; ☐ Impoundment; ☐ Landfill ☐ Waste pile; ☐ Landfarm; ☒ Other well

Time Collected 8:20 (am/pm) Date Shipped 5-21-84

Add. COC #s

ODOR: ☐ Yes; ☒ No; Describe

S.W. Registration (1–9)	Permit Number (10–18)	Page No. (19–21)	(22)	Date Mo. (23 24)	Date Day (25 26)	Date Yr. (27 28)	(29)
3 0 0 0 1			6	0 5	2 2	8 4	M

Wesley Manley (Collector's Signature)

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71

TEXAS DEPARTMENT OF WATER RESOURCES TDWR 0849

NO. SW 03665

District 06 Org. No. 536 Work No. 9091 Lab SRA

Material Sampled: ☐ Solid waste (W); ☐ Liquid waste (L); ☐ Soil (E); ☒ Well (M); ☐ Stream (S); ☐ Other (O)

Comments

(continued on back)

Lab Only	Date	
	rec'd: 5-22-84	3
	cmplt: 5-30-84	(Lab No)
	Analyst sign.: Mary J. Vann	

Preservation: ☐ None; ☒ Ice; ☐ H_2SO_4; ☐ HNO_3

Other

Auxiliary Tags

☐ LEACHATE: ___ EP Toxicity Series: ___ TDWR

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71
pH		sulfates (mg/l)			
00403	7.4	00945	22		
[redacted]		Conductivity (micromho/cm)			
00340		00095	4850		
[redacted]					
00680					
[redacted]					

IF THE PAGE FILMED IS NOT AS LEGIBLE AS THIS LABEL, IT IS DUE TO THE QUALITY OF THE ORIGINAL.

TEXAS DEPARTMENT OF WATER RESOURCES TDWR-0849

NO. SW 03666

District 06 Org. No. 536 Work No. 9091 Lab SRA

Site Name Union Oil of Calf.

Site Location Nederland, tx

County Jefferson Basin Neches, Seg. No. 0601

Method of Collection Air lift pump used to collect sample in a clean acetone rinse jar

Point of Collection Groundwater monitoring well No. U-1

Type facility: ☐ Drum; ☐ Tank; ☐ Impoundment; ☐ Landfill ☐ Waste pile; ☐ Landfarm; ☒ Other well

Time Collected 8:20 (am/pm) Date Shipped 5-22-84

Add. COC #s

ODOR: ☐ Yes; ☒ No; Describe

S.W. Registration (1–9)	Permit Number (10–18)	Page No. (19–21)	Date Mo. (22–24)	Day (25–26)	Yr. (27–28)	(29)
30001			B 05	22	84	M

Wesley Newby (Collector's Signature)

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71

TEXAS DEPARTMENT OF WATER RESOURCES TDWR-0849

NO. SW 03666

District 06 Org. No. 536 Work No. 9091 Lab SRA

Material Sampled: ☐ Solid waste (W); ☐ Liquid waste (L); ☐ Soil (E); ☒ Well (M); ☐ Stream (S); ☐ Other (O)

Comments

(continued on back)

Lab Only — Date: rec'd: 5-22-84; cmplt: 5-31-84; 3 (Lab No)

Analyst sign.: Mary Dan

Preservation: ☐ None; ☒ Ice; ☒ H_2SO_4; ☐ HNO

Other

Auxiliary Tags

☐ LEACHATE: EP Toxicity Series: TDWR

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71
[redacted]		phenols (ug/l)			
00403			2.7		
[redacted]					
00340					
TOC mg/L					
00680	16				
[redacted]					

IF THE PAGE FILMED IS NOT AS LEGIBLE AS THIS LABEL, IT IS DUE TO THE QUALITY OF THE ORIGINAL.

TEXAS DEPARTMENT OF WATER RESOURCES TDWR 0849

NO. SW 03667

District 06 Org. No. 536 Work No. 9091 Lab SRA

Site Name Union Oil of Calif.

Site Location Nederland, Tx

County Jefferson Basin Seg. No. 0601

Method of Collection use air lift pump to collect sample in clean cubitainer

Point of Collection Groundwater monitoring well No. D-1

Type facility: ☐ Drum; ☐ Tank; ☐ Impoundment; ☐ Landfill ☐ Waste pile; ☐ Landfarm; ☒ Other well

Time Collected 9:18 (am) (pm) Date Shipped 5-25-84

Add. COC #s

ODOR: ☐ Yes; ☒ No; Describe

S.W. Registration (1–9)	Permit Number (10–18)	Page No. (19–21)	Date Mo. (23–24)	Day (25–26)	Yr. (27–28)	
30001			B 05	22	89	M

Wesley Hrubey (Collector's Signature)

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71

TEXAS DEPARTMENT OF WATER RESOURCES TDWR-0849

NO. SW 03667

District 06 Org. No. 536 Work No. 9091 Lab SRA

Material Sampled: ☐ Solid waste (W); ☐ Liquid waste (L); ☐ Soil (E); ☒ Well (M); ☐ Stream (S); ☐ Other (O)

Comments

(continued on back)

Lab Only	Date	
	rec'd: 5-22-84	3 (Lab No)
	cmplt: 5-30-84	
	Analyst sign. Mary J. Vann	

Preservation: ☐ None; ☒ Ice; ☐ H_2SO_4; ☐ HNO_3 Other

Auxiliary Tags

☐ LEACHATE: ___ EP Toxicity Series: ___ TDWR

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71
pH		sulfates mg/l			
00403	7.0	00945	<2		
[redacted]					
00340					
[redacted]		Spec. Cond. umhos/cm			
00680		00095	4100		
[redacted]					

IF THE PAGE FILMED IS N
AS LEGIBLE AS THIS LABE
IT IS DUE TO THE QUALIT
OF THE ORIGINAL.

TEXAS DEPARTMENT OF WATER RESOURCES TDWR-0849

NO. SW 03668

District 06 Org. No. 536 Work No. 9091 Lab SKA

Site Name Union Oil of California

Site Location Nederland, Tx.

County Jefferson Basin Seg. No. 0601

Method of Collection use air lift pump to collect sample in clean acetone rinsed glass Var

Point of Collection groundwater monitoring well no. B-1

Type facility: ☐ Drum; ☐ Tank; ☐ Impoundment; ☐ Landfill ☐ Waste pile; ☐ Landfarm; ☒ Other well

Time Collected 9:18 (am/pm) Date Shipped 5-29-84

Add. COC #s

ODOR: ☐ Yes; ☒ No; Describe

S.W. Registration (1–9)	Permit Number (10–18)	Page No. (19–21)	Date Mo. (22–24)	Day (25–26)	Yr. (27–28)	(29)
30001			B 05	22	84	M

(Collector's Signature)

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71

TEXAS DEPARTMENT OF WATER RESOURCES TDWR-0349

NO. SW 03668

District 06 Org. No. 536 Work No. 9091 Lab SKA

Material Sampled: ☐ Solid waste (W); ☐ Liquid waste (L); ☐ Soil (E); ☒ Well (M); ☐ Stream (S); ☐ Other (O)

Comments

(continued on back)

Lab Only	Date	
	rec'd: 5-22-84	3 (Lab No)
	cmplt: 5-31-84	
	Analyst sign.: Mary J. Van	

Preservation: ☐ None; ☒ Ice; ☒ H_2SO_4; ☐ HNO_3

Other

Auxiliary Tags

☐ LEACHATE: ___ EP Toxicity Series: ___ TDWR

30 Code	35 Parameter Value	44 Code	49 Parameter Value	58 Code	63 Parameter Value 71
[redacted]		phenols (mg/l)			
00403			2.2		
[redacted]					
00340					
TOC mg/L					
00680	15				
[redacted]					

ENGINEERING-SCIENCE, INC.
SITE INSPECTION TEAM
SITE SAFETY AND WORK PLAN

A. GENERAL INFORMATION

Site: Union Oil Co. of California - Beaumont Hazsit No.: TX 10979

Location: Nederland, Texas FM 366 - north side, near SH 347

Plan Prepared by: Barry E. North Date: 4/18/84

Approved by: _____ Date: _____

Objective(s): Review records to establish history of on-site waste management, especially the inactive disposal pits, and to determine current status of groundwater quality in the area. Obtain groundwater samples, soil samples (if appropriate), and other samples to determine potential for and extent of off-site waste migration. Analysis for heavy metals, priority pollutant organics.

Proposed Date of Investigation: Week of May 21, 1984

Preliminary Assessment Hazard: High ____ Medium ____ Low X
None ____ Unknown ____

B. SITE/WASTE CHARACTERISTICS

Waste Type(s): Liquid ____ Solid X Sludge X Gas ____ Unknown

Characteristic(s): Corrosive X Ignitable ____ Radioactive ____
Volatile ____ Toxic ____ Reactive ____
Unknown X Other ____ (Name) ____

Facility Description: Petroleum refinery

Principal Disposal Method (type and location): Landfill, surface impoundment (two disposal pits used for leaded tank bottoms used until 1973 and 1969, now covered by 31 acre disposal pond)

Unusual Features (dike integrity, power lines, terrain, etc.) None

Status: (active, inactive, unknown): Active

History: (worker or nonworker injury, complaints from public, previous remedial or enforcement action): Minor oil spill reported

C. HAZARD EVALUATION

Wastes disposed in active disposal pond are RCRA hazardous wastes. These materials do not pose a high inhalation hazard. Direct skin and eye contact with wastes, contaminated soils, wastewater, and other materials should be prevented by adequate protective clothing and contamination avoidance during sampling.

D. SITE SAFETY WORK PLAN

PERSONAL PROTECTION

LEVEL OF PROTECTION: A____ B____ C____ D X

MODIFICATIONS: Rubber boots, gloves, goggles worn during sampling and inspection.

SURVEILLANCE EQUIPMENT AND MATERIALS: Bachrach organic vapor detector

SITE ENTRY PROCEDURES: Contact site owner/operator to arrange access to site.

DECONTAMINATION PROCEDURES: Dispose gloves used during sampling.

Special Equipment, Facilities, or Procedures:

Team Member	Responsibility

E. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance:

Hospital:

Poison Control Center:

Police:

Fire Department:

EPA Contact:

TDWR Contact: Daniel L. Scheppers (512) 475-1344

Emergency Contacts:

Project Safety Manager: Dr. Barry North (303) 455-4427

Project Manager: David G. Johnson (512) 477-9901 892-3755

F. EMERGENCY ROUTES

HOSPITAL: _____

_____

_____

_____

OTHER: _____

_____

_____

_____

_____

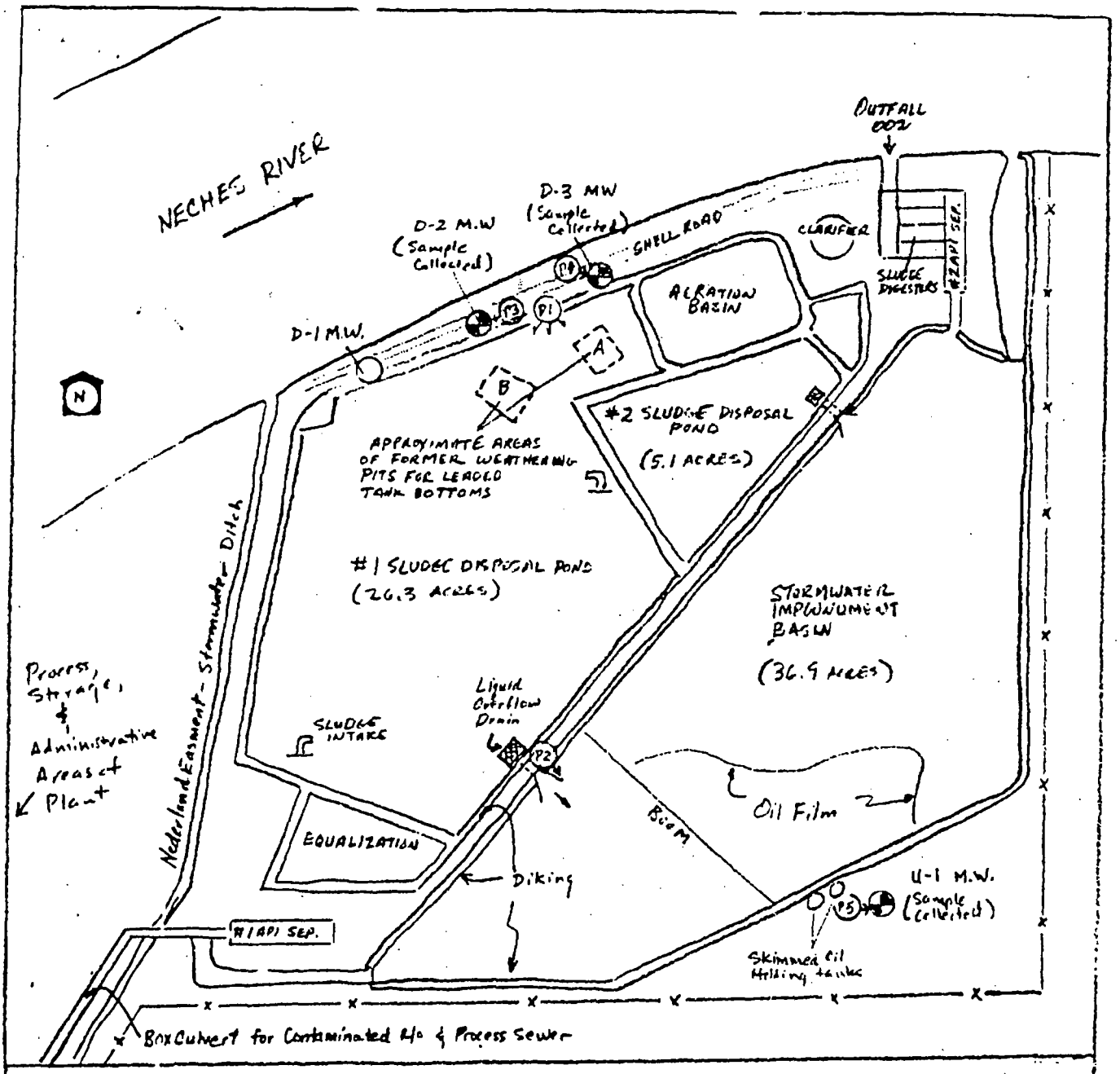
_____

_____

_____

_____

_____



TX 10979

UNION OIL CO. OF CALIFORNIA

BEAUMONT, TEXAS

MAY 30, 1984

SAMPLING POINTS

PHOTO LOCATIONS

1" = 400' ALL PARTS NOT SCALE

FHD

ENGINEERING—SCIENCE, INC.

924 GEMINI BOULEVARD, HOUSTON, TEXAS 77058 (713) 488-3004

LABORATORY RESULTS

Engineering-Science, Inc.
2901 N. Interregional
Austin, Texas 78722

Attn: Mr. R. H. Davis

ES PROJECT NO. 8073.99

DATE SAMPLE RECEIVED 6-06-84

DATE DATA TRANSMITTED 6-21-84

CLIENT JOB REFERENCE

ES SAMPLE NUMBER	CLIENT IDENTIFICATION	Pb mg/L	Zn mg/L	Cr mg/L	Cd mg/L
5393	GWM Well D-2	< 0.01	< 0.02	< 0.01	< 0.01
5394	GWM Well D-3	< 0.01	< 0.02	< 0.01	< 0.01
5395	GWM Well U-1	0.02	< 0.02	0.01	< 0.01

ES

APPROVED FOR TRANSMITTAL

LABORATORY MANAGER

ES ENGINEERING-SCIENCE

LABORATORY RESULTS

CLIENT: TDWR TX 10979

DATE RECEIVED: 6-6-84

Parameter	Sample I.D.	Well D-2	Well D-3	Well U-1
	ES #	5393	5394	5395
	Units	ug/L	ug/L	ug/L
Benzene		< 5	< 5	< 5
Carbon tetrachloride		< 50	< 50	< 50
Chlorobenzene		< 5	< 5	< 5
1,2 - Dichloroethane		< 10	< 10	< 10
1,1,1 - Trichloroethane		< 10	< 10	< 10
1,1 - Dichloroethane		< 10	< 10	< 10
1,1,2 - Trichloroethane		< 10	< 10	< 10
1,1,2,2 - Tetrachloroethane		< 10	< 10	< 10
Chloroform		< 50	< 50	< 50
1,1 - Dichloroethylene		< 10	< 10	< 10
1,2 - trans-Dichloroethylene		< 10	< 10	< 10
1,2 - Dichloropropane		< 10	< 10	< 10
Ethylbenzene		< 5	< 5	< 5
Methylene chloride		< 10	< 10	< 10
Bromoform		< 50	< 50	< 50
Dichlorobromomethane		< 50	< 50	< 50
Trichlorofluoromethane		< 50	< 50	< 50
Chlorodibromomethane		< 50	< 50	< 50
Tetrachloroethylene		< 10	< 10	< 10
Toluene		< 5	< 5	< 5
Trichloroethylene		< 10	< 10	< 10
Xylenes (o,m,p)		< 5	< 5	< 5

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
36410.03	RCRA 3012

SAMPLERS: (Signature) R H [illegible]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Parsonite Organics PPM	Po, Zn, Cr, Cd					REMARKS
5393	TX 10979-1	5/30/84	12:45p		X	GWM Well D-2 (downgradient)	2	X	X					Metal Sample Volumes were preserved
														w/ HNO_3 to pH <2
5394	TX 10979-2	5/30/84	1:40p		X	GWM Well D-3 (downgradient)	2	X	X					
														All samples were cooled over ice
5395	TX 10979-3	5/30/84	2:15p		X	GWM Well U-1 (upgradient)	2	X	X					

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
R.H. [illegible]	6/4/84 [illegible]	[illegible]			
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:	
		[illegible]	6-6-84 3PM		

ENC NEERING-SCIENCE, INC.

924 GEMINI HOUSTON, TEXAS 77058

LABORATORY ANALYSIS REQUEST

SUBMITTER: R H Davis

ES Austin

DATE: 5/30/84

PHONE: 512/477-9901

REQUESTOR: Same

REQUESTED DATE OF COMPLETION: 6/15/84

PROJECT #: RCRA 3012 36410.03

SAMPLE TYPE: Groundwater from monitoring wells around sludge disposal pond
(industrial waste, groundwater, soil, solid waste, etc.)

REQUIRED ANALYSES & DETECTION LIMITS:

2 sample volumes were collected at each well:

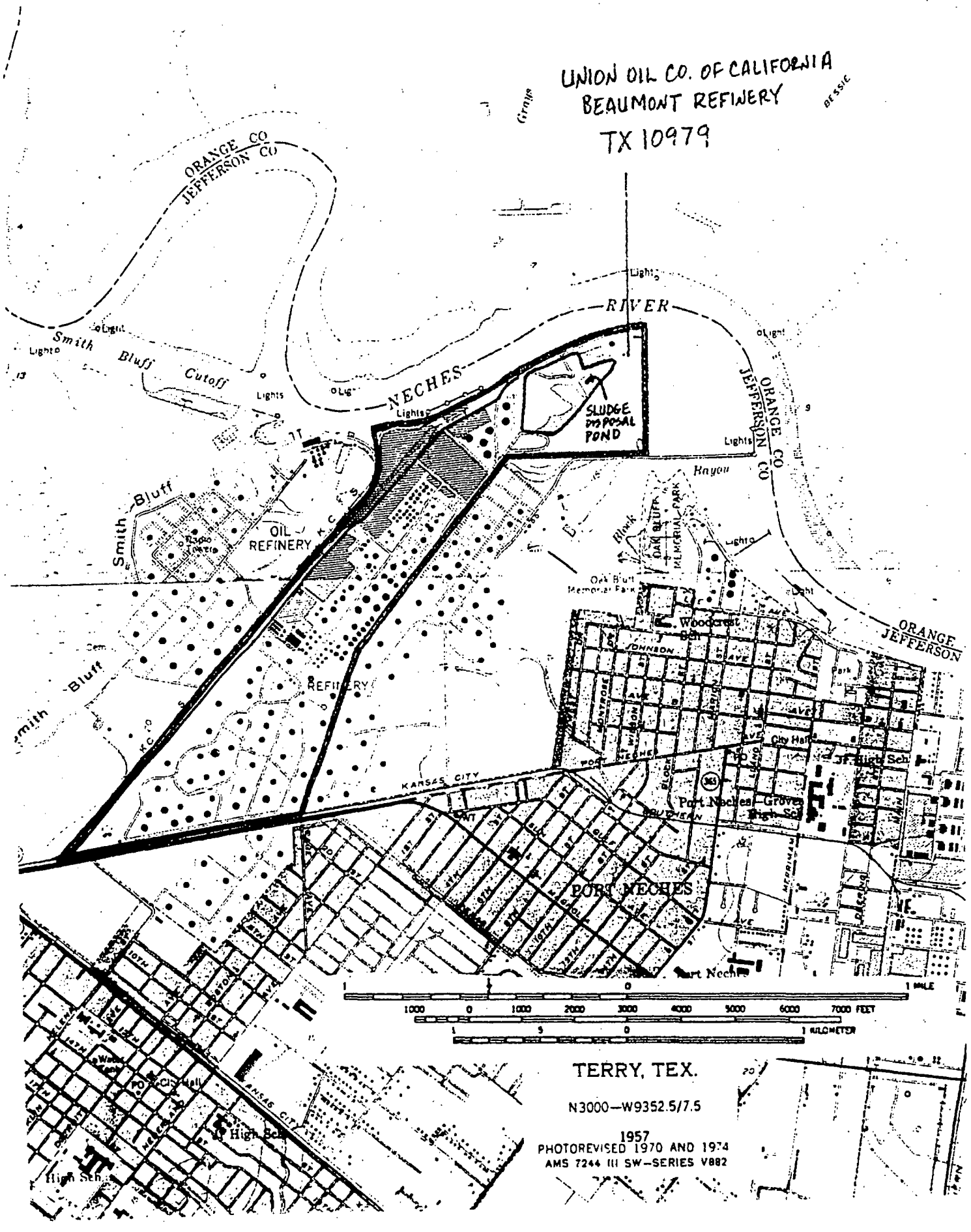
One (1) 30 ml VOA bottle to analyze for organics (purgeables PP-1 kit)

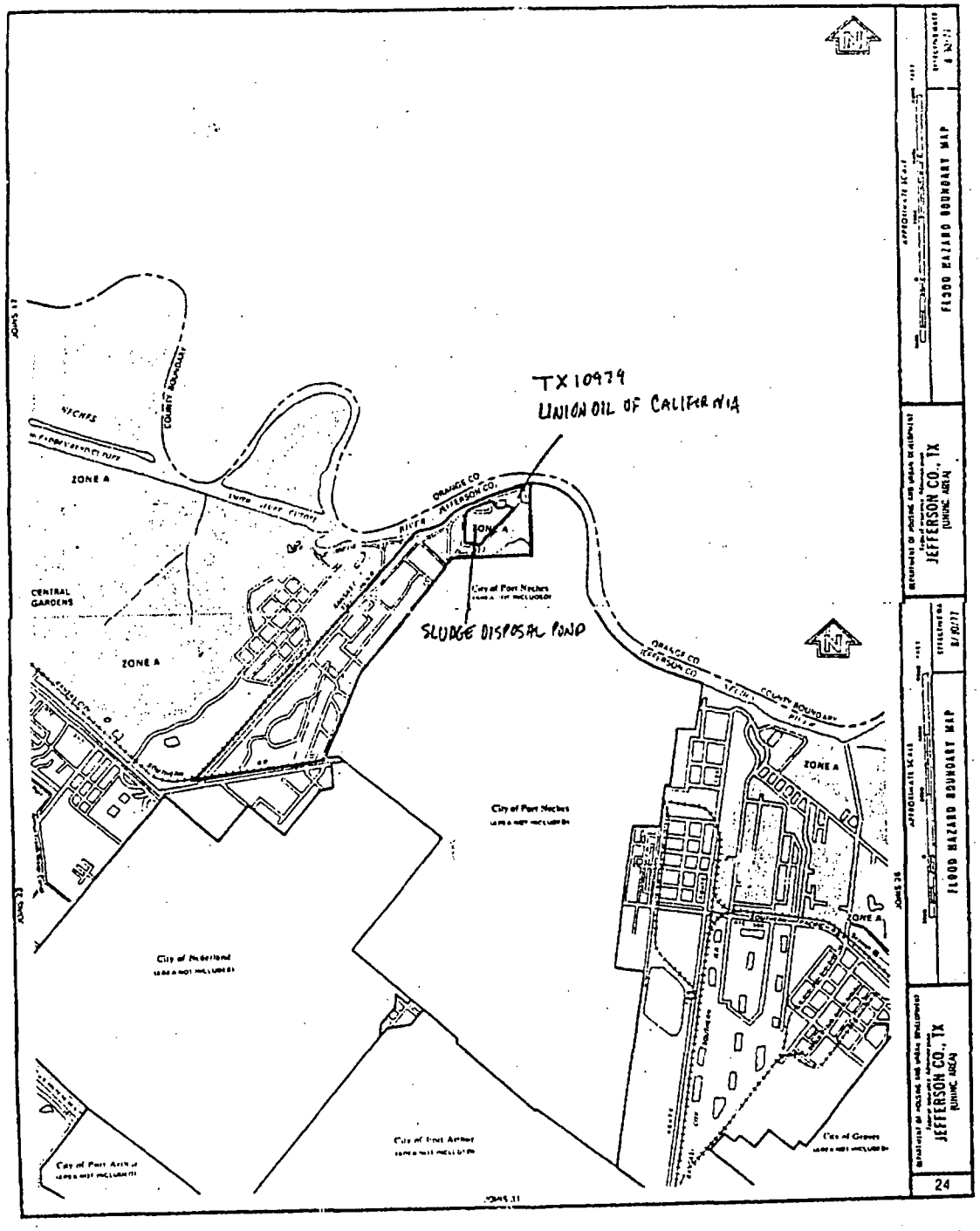
One (1) 8 oz glass bottle to analyze for metals (Pb, Zn, Cr, Cd)

NOTES: Metals preserved by HNO_3 to pH <2

All preserved by ice.

UNION OIL CO. OF CALIFORNIA
BEAUMONT REFINERY
TX 10979




TX 10979
UNION OIL OF CALIFORNIA
SLUDGE DISPOSAL POND
NECHES
ZONE A
CENTRAL GARDENS
ORANGE CO.
JEFFERSON CO.
City of Port Neches
City of Nederland
City of Port Arthur
City of Port Arthur
City of Groves
FLOOD HAZARD BOUNDARY MAP
JEFFERSON CO., TX
RURAL AREA
24

(1)

Photographer / Witness

RH Davis / CO Burch, Bill Wilson

Date / Time / Direction

5-30-84 / 1:50 pm / E-S-W

Comments: Panorama of active sludge disposal pond which covers former landfill and 2 weathering pits. Pits were located near midpoint of panorama.

2

Photographer / Witness

RH Davis / CO Burch, Bill Wilson

Date / Time / Direction

5-30-84 / 1:30pm / E - S

Comments: Panorama of Active Stormwater impoundment. Sludge pond overflow discharges to this impoundment via culvert in foreground

(3)

Photographer / Witness

CO Burch / RH Davis, Bill Wilson

Date / Time / Direction

5-30-84 / 12:45pm / West

Comments: Collection of sample from groundwater monitoring well D-2

(4)

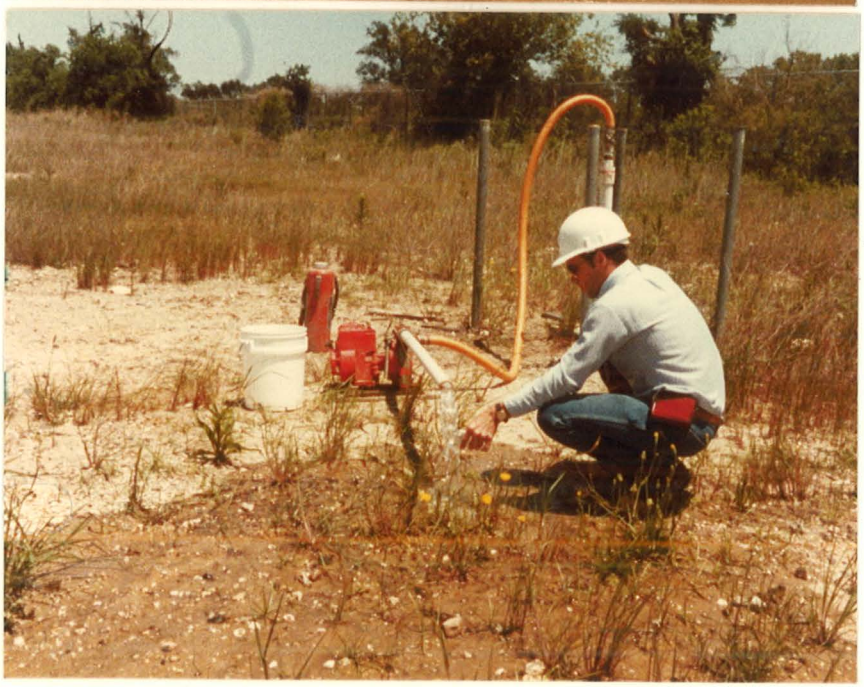
Photographer / Witness

CO Burch / RH Davis, Bill Wilson

Date / Time / Direction

5-30-84 / 1:40pm / SE

Comments: Collection of sample from GW monitoring well D-3



(5)

Photographer / Witness

CO Burch / RH Davis, Bill Wilson

Date / Time / Direction

5-30-84 / 2:15pm / East

Comments: Collection of sample from GW monitoring well U-1