DWW 3/7/89

~~*****CONFIDENTIAL*****PRE-DECISIONAL DOCUMENT*****~~

PRESCORE ANALYSIS HRS SCORESHEET

DECLASSIFIED
Date: 3/3/89
SF:_____ or ORC:_____

Site Name: Union Carbide Corporation
EPA ID No.: TXD980626782
TDD No.: F-6-8902-13
City: Texas City
County: Galveston
State: Texas

Site Evaluator: Joseph D. Phillips
Region VI FIT Geologist

Date: February 16, 1989

POTENTIAL RELEASES

[X] Groundwater
[X] Surface Water
[ ] Air
[ ] On-site/direct contact

SCORING SCENARIOS		Preliminary	Projected
GROUNDWATER ROUTE SCORE (Sgw)	=	6.12	6.12
SURFACE WATER ROUTE SCORE (Sw)	=	10.90	21.82
AIR ROUTE SCORE (SA)	=	0	0
TOTAL SCORE (Sm)	=	7.23	13.10

NEW HRS MODEL CONSIDERATIONS

GROUNDWATER ROUTE: New HRS model considerations will not affect the score for this route.

SURFACE WATER ROUTE: New HRS model considerations may raise this score due to the environmental and recreational uses of Galveston Bay.

AIR ROUTE: The potential to release exists at this site, and a population is present within four miles of the site.

ON-SITE ROUTE: Consideration of this route under the new HRS will raise the score due to on-site workers and nearby residents.

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****** GROUND WATER ROUTE WORKSHEET ******

	Preliminary	Ref.	Projected	
1 OBSERVED RELEASE	45	5, 7 (p. 5)	45	5, 7 (p. 5)
2 ROUTE CHARACTERISTICS				
DEPTH TO AQUIFER OF CONCERN (x2)				
NET PRECIPITATION				
PERMEABILITY OF UNSATURATED ZONE				
PHYSICAL STATE				
ROUTE CHARACT. SCORE =				
3 CONTAINMENT				
4 WASTE CHARACTERISTICS:				
TOXICITY/PERSISTENCE	18	3	18	3
HAZARDOUS WASTE QUANTITY	8	1, 4	8	1, 4
WASTE CHARACT. SCORE =	26		26	
5 TARGETS:				
GROUNDWATER USE (x3)	3	7 (p.8), 8-10	3	7(p.8), 8-10
DISTANCE TO NEAREST WELL/POPULATION SERVED	0	8, 9, 10	0	8, 9, 10
TOTAL TARGETS SCORE =	3		3	
(1x4x5) or (2x3x4x5) x 100 / 57,330				
GROUNDWATER ROUTE SCORE =	6.12		6.12	

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***** SURFACE WATER ROUTE WORKSHEET ****

	Preliminary	Ref.	Projected	Ref.
1 OBSERVED RELEASE	45	6 (p. 3)	45	6 (p. 3)
2 ROUTE CHARACTERISTICS:				
FACILITY SLOPE AND INTER VENING TERRAIN				
1-yr, 24-hr. RAINFALL				
DISTANCE TO NEAREST SURFACE WATER (x2)				
PHYSICAL STATE				
ROUTE CHARACT. SCORE				
3 CONTAINMENT				
4 WASTE CHARACTERISTICS:				
TOXICITY/PERSISTENCE	18	3	18	3
HAZ. WASTE QUANTITY	8	1, 4	8	1, 4
WASTE CHARACT. SCORE	26		26	
5 TARGETS:				
SURFACE WATER USE(x3)	6	2, 7 (p. 9)	6	2, 7 (p. 9)
DISTANCE TO A SENSITIVE ENVIRONMENT (x2)	0	2, 7, Memo-1	6	2, 7, Mem-1
POPULATION SERVED/ DISTANCE TO DOWNSTREAM WATER INTAKE	0	2	0	2
TOTAL TARGETS SCORE =	6		12	
(1x4x5) or (2x3x4x5) x 100 / 64,350				
SURFACE WATER ROUTE SCORE =	10.90		21.82	

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***** AIR ROUTE WORK SHEET ****

	Preliminary	Ref.	Projected	Ref.
1 OBSERVED RELEASE	0	5	0	5
DATE AND LOCATION:				
2 WASTE CHARACTERISTICS:				
REACTIVITY AND INCOMPATIBILITY				
TOXICITY (x3)				
HAZARDOUS WASTE QUANTITY				
WASTE CHARACT. SCORE -				
3 TARGETS:				
POP. WITHIN 4 MILES				
DISTANCE TO SENSITIVE ENVIRONMENT (x2)				
LAND USE				
TOTAL TARGETS SCORE -				
(1x2x3) -				
AIR ROUTE SCORE -				
$\frac{1x2x3}{35,100}$ x 100 -	0		0	

2

Preliminary S_m WORKSHEET

	S	S^2
GROUNDWATER ROUTE SCORE (Sgw)	6.12	37.4544
SURFACE WATER ROUTE SCORE (Ssw)	10.90	118.81
AIR ROUTE SCORE (Sa)	———	———
$Sgw^2 + Ssw^2 + Sa^2$		156.2644
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2}$		12.500576
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2} / 1.73 = S_M =$		7.23

2

Projected S_m WORKSHEET

	S	S^2
GROUNDWATER ROUTE SCORE (Sgw)	6.12	37.4544
SURFACE WATER ROUTE SCORE (Ssw)	21.82	476.1124
AIR ROUTE SCORE (Sa)	———	———
$Sgw^2 + Ssw^2 + Sa^2$		513.5668
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2}$		22.662012
$(Sgw^2 + Ssw^2 + Sa^2)^{1/2} / 1.73 = S_M =$		13.10

HRS DOCUMENTATION LOG SHEET

SITE NAME: Union Carbide Corporation
CITY: Texas City STATE: Texas
IDENTIFICATION NUMBER: TXD980627682

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
1	U.S. EPA Uncontrolled Hazardous Waste Site Ranking System: A Users Manual. July 16, 1982.
2	U.S.G.S. 7.5 minute series Topographic maps. Galveston, TX. 1954, photorevised 1969 and 1974. Port Bolivar, TX. 1954, photorevised 1969 and 1974. Texas City, TX. 1954, photorevised 1969 and 1974. Virginia Point, TX. 1954, photorevised 1969 and 1974.
3	Sax, N. Irving. 1984. Dangerous Properties of Industrial Materials, Sixth Edition. Van Nostrand Reinhold Company.
4	Leverton, J. B., Union Carbide Corporation. Memorandum to the Texas Water Commission concerning the UCC Texas City Plant Solid Waste Registration # 30689 and #35921 - Amended Part A Permit Applications. TXD980626782. May 29, 1986.
5	Union Carbide Internal Correspondence. Subject was IPDA and OPDA Groundwater Data Summary and Compilation. March 7, 1986.
6	Riforgiat, Mark, FIT. Potential Hazardous Waste Site, Identification and Preliminary Assessment, Union Carbide Marine Terminal/OPDA, Texas City, TX. TXD980626782. February 24, 1983.
7	Chapman, Hunt, FIT Chemist. Potential Hazardous Waste Site, Site Inspection Report, Union Carbide - Texas City, Texas City, TX. TXD980626782. July 21, 1986.
8	Texas Water Development Board. Records of Wells, Drillers' Logs, Water-Level Measurements, and Chemical Analyses of Groundwater in Harris and Galveston Counties, TX, 1970-1974. Report 203. March, 1976.
9	Texas Department of Water Resources. Records of Wells, Drillers' Logs, Water-Level Measurements, and Chemical Analyses of Groundwater in Harris and Galveston Counties, TX, 1975-1979. Report 285. March 1984.
10	U.S. Geological Survey. Records of Wells, Drillers' Logs, Water-Level Measurements, and Chemical Analyses of Groundwater in Harris and Galveston Counties, TX, 1980-1984. Open - File Report 87-378. 1987.

REFERENCE 01

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

REFERENCE 03

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger

VAN NOSTRAND REINHOLD COMPANY
New York

BENZEDRINE SULFATE

CAS RN: 156310 NIOSH #: SI 1225000
mf: $C_{18}H_{26}N_2 \cdot H_2O_4S$; mw: 368.54

SYNS:
PHENETHYLAMINE, ALPHA-METHYL-, SULFATE (2:1)
DIAMPHETAMINE SULFATE
DL-ALPHA-METHYLPHENETHYLAMINE SULFATE
1-PHENYL-2-AMINOPROPANE SULFATE

TOXICITY DATA:	3	CODEN:
ipr-rat LDLo:25 mg/kg		JPETAB 100,267,50
scu-rat LDLo:10 mg/kg		JPETAB 71,62,41
scu-mus LD50:14 mg/kg		JPETAB 87,214,46
ipr-gpg LDLo:50 mg/kg		JPETAB 100,267,50

THR: HIGH ipr, scu. See also sulfates.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

D-BENZEDRINE SULFATE

CAS RN: 51638 NIOSH #: SI 1400000
mf: $C_{18}H_{26}N_2 \cdot H_2O_4S$; mw: 368.54

SYNS:
AMPHEDRINE
AMPHEREX
(+)-AMPHETAMINE SULFATE
D-AMPHETAMINE SULFATE
DEXAMPHETAMINE SULFATE
DEXAMYL
DEXEDRINA
DEXEDRINE SULFATE
DEXIES
D-ALPHA-METHYLPHENETHYLAMINE SULFATE
OBESEDRIN
FASTBALLS
HEARTS
DEXTROAMPHETAMINE SULFATE
DEXTRO-ALPHA-METHYLPHENETHYLAMINE SULFATE
ORANGES
PHENEDRINE
PHENOPROMIN
D-1-PHENYL-2-AMINOPROPANE SULFATE
DEXTRO-1-PHENYL-2-AMINOPROPANE SULFATE
D-BETA-PHENYLISOPROPYLAMINE SULFATE
DEXTRO-BETA-PHENYLISOPROPYLAMINE SULFATE

TOXICITY DATA:	3	CODEN:
ipr-mus TDLo:50 mg/kg/(8D preg):TER		TJADAB 1,413,68
unk-mus TDLo:50 mg/kg/(8D preg):TER		TJADAB 1,413,68
orl-rat LD50:38 mg/kg		JOPDAB 69,663,66
ipr-rat LD50:70 mg/kg		TXAPA9 45(1),49,78
scu-rat LD50:200 mg/kg		12VXA5 8,335,68
ivn-rat LD50:30 mg/kg		JPETAB 110,180,54
orl-mus LD50:33 mg/kg		TXAPA9 21,302,72
ipr-mus LD50:72 mg/kg		JPETAB 128,176,60
scu-mus LD50:16 mg/kg		AIPTAK 184,34,70
ivn-mus LD50:30 mg/kg		JPETAB 137,365,62
orl-dog LD50:10 mg/kg		PSEBAA 118,557,65
ivn-dog LD50:3 mg/kg		PSEBAA 118,557,65
ivn-rbt LD50:10 mg/kg		JPETAB 110,180,54

Toxicology Review: ISYAM* -,343,70; 27ZTAP 3,46,69.
THR: An exper TER. HIGH orl, ipr, scu, ivn. A habit-forming stimulant. See also sulfates.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

L-BENZEDRINE SULFATE

CAS RN: 51627 NIOSH #: SI 1575000
mf: $C_{18}H_{26}N_2 \cdot H_2O_4S$; mw: 368.54

SYNS:
(-)-AMPHETAMINE SULFATE
L-AMPHETAMINE SULFATE
LEVEDRINE
L-1-PHENYL-2-AMINOPROPANE SULFATE

TOXICITY DATA:	3	CODEN:
scu-rat LDLo:160 mg/kg		JPETAB 71,62,41
ipr-mus LD50:232 mg/kg		JPETAB 158,135,67

THR: HIGH scu, ipr. See also sulfates.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

BENZENAMINE HYDROCHLORIDE

CAS RN: 142041 NIOSH #: CY 0875000
mf: $C_6H_7N \cdot ClH$; mw: 129.60

Crystals. vap. d: 4.46, d: 1.22, mp: 198°, bp: 245°, flash p: 380°F (OC).

SYNS:
ANILINE HYDROCHLORIDE
"ANILINE SALT"
CHLORHYDRATE D'ANILINE (FRENCH)
CHLORID ANILINU (CZECH)
NCI-C03736
USAF EK-442

TOXICITY DATA:	3	CODEN:
skn-rbt 500 mg/24H MOD		28ZPAK -,65,72
eye-rbt 20 mg/24H SEV		28ZPAK -,65,72
orl-rat TDLo:130 gm/kg/2Y-C:CARC		NCITR* NCI-CG-TR-130,78
orl-rat TD:238 gm/kg/2Y-C:CARC		NCITR* NCI-CG-TR-130,78
orl-rat LD50:1072 mg/kg		NTIS** PB214-270
ipr-rat LDLo:500 mg/kg		NCNSA6 5,11,53
orl-mus LD50:841 mg/kg		NTIS** PB214-270
ipr-mus LD50:300 mg/kg		NTIS** AD277-689
orl-rat TD:137 gm/kg/60W-C:ETA		IARC** 27,39,82
orl-rat TD:2163 gm/kg/2Y-C:CAR		IARC** 27,39,82
orl-rat TD:4326 gm/kg/2Y-C:CAR		IARC** 27,39,82

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 2,-,74. NCI Carcinogenesis Bioassay Completed; Results Positive: Rat (NCITR* NCI-CG-TR-130,78). NCI Carcinogenesis Bioassay Completed; Results Negative: Mouse (NCITR* NCI-CG-TR-130,78). Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper CARC. HIGH ipr; MOD orl, ipr. MOD skn irr, SEV eye irr in rbt. See also aniline.
Fire Hazard: Slight, when exposed to heat or flame.
Spontaneous Heating: No.
Disaster Hazard: Dangerous; when heated to decomp, or on contact with acid or acid fumes, emits highly toxic fumes of aniline and chlorine compounds; can react vigorously with oxidizing materials.
To Fight Fire: Water, CO_2, water mist or spray, dry chemical.

BENZENE

CAS RN: 71432 NIOSH #: CY 1400000
mf: C_6H_6; mw: 78.12

Clear colorless liquid. mp: 5.51°, bp: 80.093°-80.094°, flash p: 12°F (CC), d: 0.8794 @ 20°, autoign. temp.: 1044°F, lel: 1.4%, uel: 8.0%, vap. press: 100 mm @ 26.1°, vap. d: 2.77, ulc: 95-100.

SYNS:

(6)ANNULENE
BENZEEN (DUTCH)
BENZEN (POLISH)
BENZOL
BENZOLENE
BENZOLO (ITALIAN)
BICARBURET OF HYDROGEN
CARBON OIL
COAL NAPHTHA
CYCLOHEXATRIENE
FENZEN (CZECH)
MINERAL NAPHTHA
MOTOR BENZOL
NCI-C55276
PHENYL HYDRIDE
PYROBENZOLE

TOXICITY DATA: 3	CODEN:
skn-rbt 15 mg/24H open MLD	AIHAAP 23,95,62
eye-rbt 88 mg MOD	AMIHAB 14,387,56
eye-rbt 2 mg/24H SEV	28ZPAK -,23,72
cyt-rat-scu 12 gm/kg/12D-I	GTPZAB 17(3),24,73
mnt-mus-ipr 500 uL/kg	ENMUDM 2,43,80
cyt-mus-orl 100 uL/kg	ENMUDM 2,43,80
cyt-mus-ipr 100 uL/kg	ENMUDM 2,43,80
dlt-mus-ipr 5 mg/kg	TPKVAL 15,30,79
cyt-rbt-scu 8400 mg/kg	PSDTAP 15,275,74
scu-mus TDLo:2700 mg/kg/(13D preg):TER	AMBNAS 17,285,70
ihl-hmn TCLo:100 ppm/10Y-I:CAR	TRBMAV 37,153,78
orl-rat TDLo:52 gm/kg/52W-I:CAR	MELAAD 70,352,79
skn-mus TDLo:1200 gm/kg/ 49W-I:NEO	BJCAAI 16,275,62
scu-mus TDLo:600 mg/kg/ 17W-I:ETA	KRANAW 9,403,32
par-mus TDLo:670 mg/kg/ 19W-I:ETA	KLWOAZ 12,109,33
ihl-hmn TC:400 ppm/8Y-I:ETA	BLOOAW 52,285,78
ihl-man TC:2100 mg/m3/4Y-I:CAR	NEJMAG 271,872,64
orl-rat TD:10 gm/kg/52W-I:CAR	MELAAD 70,352,79
orl-hmn TDLo:130 mg/kg:CNS	AHYGAJ 31,336,1897
ihl-hmn LCLo:20000 ppm/5M	29ZUA8 -,-,53
ihl-hmn TCLo:210 ppm:BLD	27ZXA3 -,341,63
ihl-rat TCLo:670 mg/m3/24H (15D pre/1-22D preg)	HYSAAV 33,327,68
ihl-rat TCLo:56600 ug/m3/24H (1-22D preg)	HYSAAV 33,112,68
ihl-rat TCLO:50 ppm/24H (7-14D preg)	JHEMA2 24,363,80
ihl-rat TCLO:150 ppm/24H (7-14D preg)	JHEMA2 24,363,80
scu-mus TDLo:1100 mg/kg (12D preg)	TOXID9 1,125,81
scu-mus TDLo:2700 mg/kg/(13D preg) TFX:TER	AMBNAS 17,285,70
orl-mus TDLo:9 gm/kg (6-15D preg)	TJADAB 19,41A,79
orl-mus TDLo:12 gm/kg (6-15D preg)	TJADAB 19,41A,79
orl-rat TD:10 gm/kg/52W-I TFX:CAR	MELAAD 70,352,79
ihl-hmn TCLo:100 ppm:CNS	INMEAF 17,199,48
unk-man LDLo:194 mg/kg	85DCAI 2,73,70
orl-rat LD50:3800 mg/kg	TXAPA9 19,699,71
ihl-rat LC50:10000 ppm/7H	28ZRAQ -,113,60
ipr-rat LDLo:1150 mg/kg	TXAPA9 1,156,59
orl-mus LD50:4700 mg/kg	HYSAAV 32,349,67
ihl-mus LC50:9980 ppm	JIHTAB 25,366,43
ipr-mus LD50:990 ug/kg	AGGHAR 18,109,60
orl-dog LDLo:2000 mg/kg	HBAMAK 4,1313,35
ihl-dog LCLo:146000 mg/m3	HBTXAC 1,324,56
ihl-cat LCLo:170000 mg/m3	HBTXAC 1,324,56
ivn-rbt LDLo:88 mg/kg	JTEHD6 -(Suppl.2),45,77
ipr-gpg LDLo:527 mg/kg	HBTXAC 1,42,56
scu-frg LDLo:1400 mg/kg	HBAMAK 4,1313,35
ihl-mam LCLo:20000 ppm/5M	AEPPAE 138,65,28

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 2,-,74. Carcinogenic Determination: Human Suspected IARC** 7,203,74.

TLV: Air: 10 ppm DTLVS* 4,37,80. *Toxicology Review:* ARPAAQ 11,434,31; EVHPAZ 11,163,75; AEHLAU 22,373,71; PAREAQ 4,1,52; FNSCA6 2,67,73; MUREAV 47(2),75,78; AMSVAZ 118,354,44; ZHPMAT 166,113,78; JTEHD6 -(suppl.2),69,77; PHRPA6 41,1357,26; CTOXAO 11,531,77; BNYMAM 54, 413,78; KRANAW 9,403,32; 27ZTAP 3,22,69. OSHA Standard: Air: TWA 10 ppm; CL 25 ppm; Pk 50 ppm/ 10M/8H (SCP-U) FEREAC 39,23540,74. DOT: Flammable Liquid, Label: Flammable Liquid FEREAC 41,57018,76. Occupational Exposure to Benzene recm std: Air: CL 10 ppm/60M NTIS**. Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. "NIOSH Manual of Analytical Methods" VOL 1 127, VOL 3 S311. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8E NO:12770027-Followup Sent as of April, 1979.

THR: Poisoning occurs most commonly through inhal of the vapor, though benzene can penetrate the skin, and poison in that way. Locally, benzene has a comparatively strong irr effect, producing erythema and burning, and, in more severe cases, edema and even blistering. Exposure to high conc of the vapor (3000 ppm or higher) may result from failure of equipment or spillage. Such exposure, while rare in industry, may result in acute poisoning, characterized by the narcotic action of benzene on the CNS. The anesthetic action of benzene is similar to that of other anesthetic gases, consisting of a preliminary stage of excitation followed by depression and, if exposure is continued, death through respiratory failure. The chronic, rather than the acute form, of benzene poisoning is important in industry. It is a recog leukemogen. There is no specific blood picture occurring in cases of chronic benzol poisoning. The bone marrow may be hypoplastic, normal, or hyperplastic, the changes reflected in the peripheral blood. Anemia, leucopenia, macrocytosis, reticulocytosis, thromocytopenia, high color index, and prolonged bleeding time may be present. Cases of myeloid leukemia have been reported. For the supervision of the worker, repeated blood examinations are necessary, including hemoglobin determinations, white and red cell counts and differential smears. Where a worker shows a progressive drop in either red or white cells, or where the white count remains below 5,000 per cu mm or the red count below 4.0 million per cu mm, on two successive monthly examinations, he should be immediately removed from exposure. Following absorption of benzene, elimination is chiefly through the lungs, when fresh air is breathed. The portion that is absorbed is oxidized, and the oxidation products are combined with sulfuric and glycuronic acids and eliminated in the urine. This may be used as a diagnostic sign. Benzene has a definite cumulative action, and exposure to relatively high conc is not serious from the point of view of causing damage to the blood-forming system, provided the exposure is not repeated. On the other hand,

daily exposure to conc of 100 ppm or less will usually cause damage if continued over a protracted period of time. In acute poisoning, the worker becomes confused and dizzy, complains of tightening of the leg muscles and of pressure over the forehead, then passes into a stage of excitement. If allowed to remain in exposure, he quickly becomes stupefied and lapses into coma. In non-fatal cases, recovery is usually complete and no permanent disability occurs. In chronic poisoning the onset is slow, with the symptoms vague; fatigue, headache, dizziness, nausea and loss of appetite, loss of weight and weakness are common complaints in early cases. Later, pallor, nosebleeds, bleeding gums, menorrhagia, petechiae and purpura may develop. There is great individual variation in the signs and symptoms of chronic benzene poisoning. Benzene is a common air contaminant. Exper MUT, CARC, TER, ETA, NEO.

Fire Hazard: Dangerous, when exposed to heat or flame; can react vigorously with oxidizing materials, such as BrF_5, Cl_2, CrO_3, O_2NClO_4, O_2, O_3, perchlorates, ($AlCl_3$ + $FClO_4$), (H_2SO_4 + permanganates), K_2O_2, ($AgClO_4$ + acetic acid), Na_2O_2.

Spontaneous Heating: No.

Explosion Hazard: Mod, when its vapors are exposed to flame. Use with adequate ventilation.

Disaster Hazard: Dangerous, highly flammable.

To Fight Fire: Foam, CO_2, dry chemical.

Incomp: diborane.

For further information see Vol. 2, No. 4 and Vol. 3, No. 3 of *DPIM Report.*

BENZENEACETALDEHYDE

CAS RN: 122781 NIOSH #: CY 1450000
mf: C_8H_8O; mw: 120.16

SYNS:

HYACINTHIN
PHENYLACETALDEHYDE
PHENYLETHANAL
ALPHA-TOLUALDEHYDE
ALPHA-TOLUIC ALDEHYDE

TOXICITY DATA:	2	CODEN:
skn-hmn 2%/48H		FCTXAV 17,357,79
orl-rat LD50:1550 mg/kg		FCTXAV 17,357,79
orl-mus LD50:3890 mg/kg		FCTXAV 17,357,79
orl-gpg LD50:3890 mg/kg		FCTXAV 17,357,79

Reported in EPA TSCA Inventory, 1980.

THR: MOD orl. Hmn skn irr. See also aldehydes.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZENEARSONIC ACID

CAS RN: 98055 NIOSH #: CY 3150000
mf: $C_6H_7AsO_3$; mw: 202.05

Colorless crystals, water-sol. d: 1.760, mp: 160° decomp.

SYNS:

PHENYL ARSENIC ACID
PHENYLARSONIC ACID

TOXICITY DATA:	3	CODEN:
orl-rat LDLo:50 mg/kg		JPETAB 93,287,48
orl-mus LD50:270 ug/kg		CLDND*
ivn-rbt LD50:16 mg/kg		JPETAB 80,93,44

Reported in EPA TSCA Inventory, 1980.

THR: HIGH via oral and ivn routes. A deadly poison. See also arsenic compounds.

Disaster Hazard: When heated to decomp it emits tox fumes of As.

BENZENEBORONIC ACID

CAS RN: 98806 NIOSH #: CY 8575000
mf: $C_6H_7BO_2$; mw: 121.94

SYNS:

ACIDE PHENYLBORIQUE (FRENCH)
BOROPHENYLIC ACID
PHENYLBORIC ACID
USAF BO-2

TOXICITY DATA:	3-2	CODEN:
orl-rat LD50:740 mg/kg		14KTAK -,708,64
ipr-mus LD50:500 mg/kg		NTIS** AD277-689
ivn-mus LD50:320 mg/kg		CSLNX* NX#02033
ivn-dog LDLo:450 mg/kg		BANMAC 135,314,51
orl-rbt LDLo:600 mg/kg		14KTAK -,708,64
skn-rbt LDLo:4500 mg/kg		14KTAK -,708,64
ipr-gpg LD50:284 mg/kg		BANMAC 135,314,51

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ivn, ipr. MOD orl, ipr, ivn, skn. See also boron compds.

Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

BENZENECARBOTHIOAMIDE

CAS RN: 63906898 NIOSH #: CV 5860000
mf: C_7H_7NS; mw: 137.21

SYNS:

BENZOTHIAMIDE
BENZOTHIOAMIDE
THIOBENZAMIDE
TIOBENZAMIDE (ITALIAN)

TOXICITY DATA:	3	CODEN:
orl-rat TDLo:6300 mg/kg/15W-C:ETA		BSIBAC 54,1027,78
ipr-mus LD50:500 mg/kg		PCJOAU 11,1383,77

THR: An exper ETA.

Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

BENZENECARBOXALDEHYDE

CAS RN: 63021329 NIOSH #: CU 3750000
mf: $C_{19}H_{15}N$; mw: 257.35

SYNS:

7-ETHYLBENZ(C)ACRIDINE
9-ETHYL-3,4-BENZACRIDINE
PHENYLMETHANAL

TOXICITY DATA:	3	CODEN:
scu-mus TDLo:200 mg/kg:ETA		VOONAW 1,52,55

THR: An exper ETA. See also aldehydes.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

Disaster Hazard: Dangerous; shock will explode it; when heated, burns and emits acrid fumes; can react on contact with oxidizing materials.

NAPHTHA, COAL TAR

CAS RN: 8030306 NIOSH #: QI 9450000

Dark straw-colored to colorless liquid. Sol in benzene, toluene, xylene, etc. bp: 149°-216°, flash p: 107°F (CC), d: 0.862-0.892, autoign. temp.: 531°F.

SYNS:

BENZIN
160 DEGREE BENZOL
COAL TAR NAPHTHA DISTILLATE
LIGHT LIGROIN
NAFTA (POLISH)
NAPHTHA
NAPHTHA, PETROLEUM
PETROLEUM BENZIN
PETROLEUM NAPHTHA

TOXICITY DATA: 2 CODEN:
ihl-rat LCLo:1600 ppm/6H CHINAG 17,1078,39

TLV: Air: 300 ppm DTLVS* 4,433,80. OSHA Standard: Air: TWA 100 ppm (SCP-G) FEREAC 39,23540,74. "NIOSH Manual of Analytical Methods" VOL 2 S86. Reported in EPA TSCA Inventory, 1980.

THR: MOD via inhal route. Can cause unconsciousness which may go to coma, stentorious breathing and bluish tint to the skin. Recovery follows removal from exposure. In mild form, intoxication resembles drunkenness. On a chronic basis no true poisoning; sometimes headache, lack of appetite, dizziness, sleeplessness, indigestion and nausea. A common air contaminant. See oils, mineral.

Fire Hazard: Mod, when exposed to heat or flame; can react with oxidizing materials. Keep containers tightly closed.

Explosion Hazard: Slight.

To Fight Fire: Foam, CO_2, dry chemical.

alpha-NAPHTHAL

CAS RN: 66773 NIOSH #: QJ 0175000

TOXICITY DATA: 3 CODEN:
scu-dog LDLo:330 mg/kg ZMWIAJ 19,545,1881

Reported in EPA TSCA Inventory, 1980.

THR: HIGH scu.

NAPHTHALENE

CAS RN: 91203 NIOSH #: QJ 0525000
mf: $C_{10}H_8$; mw: 128.18

Aromatic odor, white, crystalline, volatile flakes. mp: 80.1°, bp: 217.9°, flash p: 174°F (OC), d: 1.162, lel = 0.9%, uel = 5.9%, vap. press: 1 mm @ 52.6°, vap. d: 4.42. Autoign temp: 1053°F (567°C); sol in alc, benzene. Insol in water; very sol in ether, CCl_4, CS_2 hydronaphthalenes, in fixed and volatile oils.

SYNS:

CAMPHOR TAR
MOTH BALLS
MOTH FLAKES
NAFTALEN (POLISH)
NAPHTHALINE
NAPHTHENE
NCI-C52904
TAR CAMPHOR
WHITE TAR

TOXICITY DATA: 3 CODEN:
ipr-rat TDLo:5925 mg/kg (1-15D preg) TXAPA9 48,A35,79
skn-rbt 495 mg open MLD UCDS** 1/11/68
eye-rbt 100 mg MLD BIOFX* 16-4/70
scu-rat TDLo:3500 mg/kg/12W-1:ETA APAVAY 329,141,56
orl-chd LDLo:100 mg/kg 28ZRAQ -,228,60
unk-man LDLo:74 mg/kg 85DCAI 2,73,70
orl-rat LD50:1780 mg/kg BIOFX* 16-4/70
ipr-mus LD50:150 mg/kg NTIS** AD691-490
scu-mus LD50:969 mg/kg TOIZAG 20(5/6),772,73
ivn-mus LD50:100 mg/kg CSLNX* NX#00203
orl-dog LDLo:400 mg/kg HBAMAK 4,1289,35
orl-cat LDLo:1000 mg/kg HBAMAK 4,1289,35
orl-rbt LDLo:3 gm/kg HBAMAK 4,1289,35
orl-mam LD50:1000 mg/kg FMCHA2 -,D213,80

Aquatic Toxicity Rating: TLm96:10-1 ppm WQCHM* 3,-,74. *TLV:* Air: 10 ppm DTLVS* 4,293,80. *Toxicology Review:* 38ZNAA 1(1),93,71; JOPDAB 59,1,61; 27ZTAP 3,30,69. OSHA Standard: Air: TWA 10 ppm (SCP-T) FEREAC 39,23540,74. DOT-ORM-A, Label: None FEREAC 41,57018,76. Currently Tested by NTR for Carcinogenesis by Standard Bioassay Protocol as of Sept 1980. "NIOSH Manual of Analytical Methods" VOL 3 S292. Reported in EPA TSCA Inventory, 1980.

THR: MOD orl and HIGH ipr, ivn. An exper ETA. May be used as an insecticide. Systemic reactions include nausea, headache, diaphoresis, hematuria, fever, anemia, liver damage, vomiting, convulsions and coma. Poisoning may occur by ing of large doses, inhal or skn absorption.

Fire Hazard: Mod, when exposed to heat or flame; reacts with oxidizing materials. Reacts violently with CrO_3.

Spontaneous Heating: No.

Explosion Hazard: Mod, in the form of dust, when exposed to heat or flame.

To Fight Fire: Water, CO_2, dry chemical.

Incomp: Dinitrogen pentaoxide.

1-NAPHTHALENEACETAMIDE

CAS RN: 86862 NIOSH #: QJ 0590000
mf: $C_{12}H_{11}NO$; mw: 185.24

SYNS:

NAPHTHALENE ACETAMIDE
ALPHA-NAPHTHALENEACETAMIDE
ALPHA-NAPHTHYLACETAMIDE
1-NAPHTHYLACETAMIDE

TOXICITY DATA: 2 CODEN:
orl-mam LD50:1000 mg/kg FMCHA2 -,D143,75

Reported in EPA TSCA Inventory, 1980.

THR: MOD orl.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

1-NAPTHTALENEACETIC ACID

CAS RN: 86873 NIOSH #: QJ 0875000
mf: $C_{12}H_{10}O_2$; mw: 186.22

skn-rbt 500 mg/24H MOD	28ZPAK -,28,72
eye-rbt 100 mg MLD	AIHAAP 19,353,58
eye-rbt 2 mg/24H SEV	28ZPAK -,28,72
ihl-man LCLo:27 gm/m3/10M	JOCMA7 8,358,66
ihl-man TCLo:350 ppm:PSY	WEHSAL 10,82,73
orl-hmn TDLo:670 mg/kg:GIT	NTIS** PB257-185
ihl-hmn TCLo:920 ppm/70M:CNS	AIHAAP 19,353,58
orl-rat LD50:10300 mg/kg	NTIS** PB257-185
ihl-rat LCLo:1000 ppm	FMCHA2 -,D317,80
ipr-rat LD50:5100 mg/kg	NTIS** PB257-185
orl-mus LD50:11240 mg/kg	NTIS** PB257-185
ihl-mus LCLo:11000 ppm/2H	HBTXAC 5,72,59
ipr-mus LD50:4700 mg/kg	TXAPA9 13,287,68
orl-dog LD50:750 mg/kg	FMCHA2 -,D317,80
ipr-dog LD50:3100 mg/kg	TXAPA9 10,119,67
ivn-dog LDLo:95 mg/kg	HBTXAC 5,72,59
orl-rbt LD50:5660 mg/kg	AIHAAP 19,353,58
scu-rbt LDLo:500 mg/kg	HBTXAC 5,72,59
orl-gpg LD50:9470 mg/kg	AIHAAP 19,353,58

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 3,-,74. Carcinogenic Determination: Indefinite IARC** 20,515,79.

TLV: Air: 350 ppm DTLVS* 4,269,80. *Toxicology Review:* FAZMAE 18,365,74; EATR** EB-TR-75047; AIHAAP 40,A46,79. OSHA Standard: Air: TWA 350 ppm (SCP-J) FEREAC 39,23540,74. DOT: ORM-A, Label: None FEREAC 41,57018,76. Occupational Exposure to 1,1,1-Trichloroethane recm std: Air: CL 350 ppm/15M NTIS**. NCI Carcinogenesis Bioassay Completed; Results Negative (NCITR* NCI-CG-TR-3,77). Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. "NIOSH Manual of Analytical Methods" VOL 1 127, VOL 3 S328. NIOSH Current Intelligence Bulletin 27, 1978. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.

THR: In hmn it causes PSY, GIT, CNS effects. A MOD skn irr, a SEV eye irr in rbts. LOW orl, ipr, ihl in rat, mus. MOD orl, ipr dog; Narcotic in high conc. Causes a proarrhythmic activity which sensitizes the heart to epinephrine-induced arrhythmias. This sometimes will cause a cardiac arrest particularly when this material is massively inhaled as in drug abuse for euphoria. Reacts violently with N_2O_4, O_2, O_2 liquid, Na, NaOH, Na-K alloy.

Disaster Hazard: Dangerous; see chlorides.

For further information see Vol. 2, No. 1 of *DPIM Report.*

1,1,2-TRICHLOROETHANE

CAS RN: 79005 NIOSH #: KJ 3150000

mf: $C_2H_3Cl_3$; mw: 133.40

Liquid, pleasant odor. bp: 114°, fp: −35°, d: 1.4416 @ 20°/4°, vap. press: 40 mm @ 35.2°.

SYNS:

ETHANE TRICHLORIDE
NCI-C04579
BETA-TRICHLOROETHANE
1,2,2-TRICHLOROETHANE
TROJCHLOROETAN(1,1,2) (POLISH)
VINYL TRICHLORIDE

TOXICITY DATA: 3	CODEN:
skn-rbt 500 mg open MLD	UCDS** 6/28/72
skn-rbt 810 mg/24H SEV	JETOAS 9,171,76
eye-rbt 162 mg MLD	JETOAS 9,171,76
skn-gpg 1440 mg/15M	APTOA6 41,298,77
cyt-gpg-skn 2880 ug/kg	APTOA6 41,298,77
orl-mus TDLo:76 gm/kg/78W-I:CAR	NCITR* NCI-CG-TR-74,78
orl-mus TD:152 gm/kg/78W-I:CAR	NCITR* NCI-CG-TR-74,78
orl-rat LD50:1140 mg/kg	UCDS** 6/28/72
ihl-rat LCLo:500 ppm/8H	AIHAAP 30,470,69
ipr-mus LD50:994 mg/kg	TXAPA9 9,139,66
scu-mus LD50:227 mg/kg	JPETAB 123,224,58
orl-dog LDLo:500 mg/kg	AJHYA2 16,325,32
ipr-dog LD50:450 mg/kg	TXAPA9 10,119,67
ivn-dog LDLo:95 mg/kg	QJPPAL 7,205,34
ihl-cat LCLo:13100 mg/m3/4.5H	AHBAAM 116,131,36
scu-rbt LDLo:500 mg/kg	QJPPAL 7,205,34

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 3,-,74. Carcinogenic Determination: Animal Positive IARC** 20,533,79.

TLV: Air: 10 ppm (skin) DTLVS* 4,406,80. *Toxicology Review:* FAZMAE 18,365,74; AIHAAP 40,A46,79; 27ZTAP 3,146,69. OSHA Standard: Air: TWA 10 ppm (skin) (SCP-J) FEREAC 39,23540,74. NCI Carcinogenesis Bioassay Completed; Results Positive: Mouse (NCITR* NCI-CG-TR-74,78). NCI Carcinogenesis Bioassay Completed; Results Negative: Rat (NCITR* NCI-CG-TR-74,78). "NIOSH Manual of Analytical Methods" VOL 1 127, VOL 2 S134. NIOSH Current Intelligence Bulletin 27, 1978. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45, 13646,80.

THR: HIGH ivn, scu and MOD orl, ihl, ipr and dermal. MOD skn irr and SEV eye irr in rbts. Trichloroethane has narcotic properties and acts as a local irr to the eyes, nose and lungs. It may also be injurious to the liver and kidneys. A fumigant. An exper CARC. MUT data.

Disaster Hazard: Dangerous; see chlorides.

Incomp: K.

For further information see Vol. 2, No. 6 and Vol. 3, No. 2 of *DPIM Report.*

1,1,1-TRICHLOROETHANE mixed with TETRACHLOROETHYLENE (3:1)

NIOSH #: KJ 3950000

SYNS:

DOWCLENE
EC CLEANER

TOXICITY DATA: 2-1	CODEN:
orl-rat LD50:15 gm/kg	AIHAAP 24,541,63
ihl-rat LC50:3700 ppm/7H	AIHAAP 24,541,63
orl-mus LD50:10 gm/kg	AIHAAP 24,541,63
orl-rbt LD50:13 gm/kg	AIHAAP 24,541,63
orl-gpg LD50:6 gm/kg	AIHAAP 24,541,63

THR: LOW orl, ihl in rat; LOW orl in mus; orl in rbt and orl in gpg.

Disaster Hazard: When heated to decomp it emits very tox fumes of Cl^-.

REFERENCE 04

UNION CARBIDE

UNION CARBIDE CORPORATION
SOLVENTS AND COATINGS MATERIALS DIVISION

P.O. BOX 471, TEXAS CITY, TEXAS 77592-0471

HEALTH & ENVIRONMENTAL AFFAIRS

May 29, 1986

Mr. Minor Hibbs, Chief
Permit Section
Hazardous and Solid Waste Division
TEXAS WATER COMMISSION
P. O. Box 13087, Capitol Station
Austin, TX 78711-3087

Subject: UCC Texas City Plant Solid Waste Registration #30689 and #35921. Amended Part A Permit Applications

Dear Mr. Hibbs:

Enclosed are the revisions of the Part A Permit Applications for the UCC Texas City Plant RCRA Facilities, i.e., the Main Plant (Solid Waste Registration #30689), and the Marine Terminal-Off Plant Disposal Area (Solid Waste Registration #35921). The Part A permit applications were revised as required by the EPA Final Rule of November 29, 1985, that begins regulation of hazardous waste fuel and used oil burned for energy recovery in boilers and industrial furnaces. Notification of hazardous waste storage activities were sent to EPA and the TWC on January 29, 1986.

There are two copies of the revised Part A pages for each of the two facilities. Each copy contains:

1. An instruction sheet to insert part A revisions into the Part B permit application.

2. Revised pages and drawings.

Other sections of the Part B permit application are being revised to reflect changes associated with the Nov. 29 EPA Regulation. Copies of the revised pages will be sent to TWC as soon as possible.

If you have questions or comments, please contact Mariano Ramos of my staff at (409) 948-5102.

Yours very truly,

J. B. Leverton

JBL:IR:PartAMR1
Enclosures
cc: M. Ramos
E. J. Mikowski
S. J. Footer (letter only)
R. E. O'Bryan "

Revised 5-29-

REPORTS SIGNING PERSON'S AUTHORIZATION

CERTIFICATE OF DELEGATION

Pursuant to the authority delegated to me by the Board of Directors of Union Carbide Corporation on March 26, 1975, I hereby authorize and empower the Plant Manager, or in his absence the Acting Plant Manager of Union Carbide Corporation, Texas City, Texas, and the Solvents and Coatings Materials Division of the Texas City Plant, for and on behalf of the Corporation, to execute and provide all necessary certifications or verifications of environmental reports and information request responses to federal, state and local government agencies, necessary and appropriate to conduct and manage the business, operations, and affairs of said Plant.

Dated, 11/6/85
Date Signed

T. T. Elgin
Signature

T. T. Elgin
Typed Name

V.P. Operations/Technology
Typed Officer's Title

Solvents and Coatings Materials
Typed Division Name

REPLACEMENT INSTRUCTIONS

SW REG NO. 35921

Volume	Section	Remove Pages	Insert Pages
I	I-B	I-B-5	I-B-5
		I-B-8	I-B-8
		I-B-11a	
		I-B-13	I-B-13
		I-B-26	I-B-26
		I-B-29	I-B-29
		I-B-31	I-B-31
			I-B-31a
			I-B-31b
		I-B-37	
		I-B-38	I-B-38
		DWG 1078151 (ATTMT IG-E)	DWG 1078151 (ATTMT IG-E)

Table III-I Hazardous Wastes and Management Activities

Verbal Description of Waste	TDWR Sequence Number	TDWR Waste Code Number	EPA Hazard Code	EPA Hazardous Waste No.	Waste Management Activities (Check applicable items) Off-Site Disposal	On-Site Storage[1]	On-Site Processing[2]	On-Site Disposal	Annual Quantity Generated (lbs)	SIC Code and Process
Filter Cartridges	16	979720	I	D001	X				131,000	2869 Marine Termi
Acrylate Contaminated Charcoal	4	982630	I	D001	X				620	2869 Marine Termi
Contaminated Dirt	1	980490	I	D001	X				192,700	2869 Marine Termi
Washwater with Miscellaneous Residues	7	908590	I,T	D001	X	X			4.22×10^6	2869 Plant Process Uni
Brucine Contaminated Material	6	977240	H	P018	X				200	2869 Ethanol Denaturing
Mixed Organics Liquid Residues	12	913370	I,T	D001	X	X			1.78×10^6	2869 Plant Process Uni
Misc Line Flushes	21		I,T	D001	X				200,000	2869 Marine Term
Washwater Organics from Tanks, Tank Cars, etc.	11	908780	I,C	D001	X				600,000	2869 Marine Term

"Storage" means the holding of solid waste for a temporary period, at the end of which the waste is processed, disposed of, or stored elsewhere.

"Processing" means the extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including th treatment or neutralization of hazardous waste, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wast or so as to recover energy or material from the waste or so as to render such waste non hazardous or less hazardous; safer for transport, store or dispose of, or amenable for recover amenable for storage, or reduced in volume. The "transfer" of solid waste for reuse or disposal as used above, does not include the actions of a transporter in conveying or transporti solid waste by truck, ship, pipeline, or other means. Unless the Executive Director determines that regulation of such activity is necessary to protect human health or the environmen the definition of "processing" does not include activities relating to those materials exempted by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, amended by the Resource Conservation and Recovery Act 42 U.S.C. 6901 et seq. as amended.

Table III-4 Hazardous Waste Facility Components List

Facility Component		Status			Design Capacity			Number of Years Utilized	Date in Service
Name	TDWR Seq. No.	Inactive	Active	Proposed	(cu yds)	(gal)	(lbs)		
OPDA #5 Lagoon (unlined)			X			44.4×10^6		19	1966
Verbal Description: Surface impoundment for the storage and treatment of wastewater generated by phase separation at the organic pits and disposal of primary sludge (non-hazardous).									
OPDA #3 Lagoon (unlined)			X			31.4×10^6		19	1966
Verbal Description: Surface impoundment for the storage and treatment of wastewaters and disposal of primary sludge (non-hazardous).									
Organic Pits (lined)		X				170,000		7	1978
Verbal Description: Two concrete lined pits for recovery of recyclable residues from wastewaters by means of phase separation.									
Lake Institute Lagoon (unlined)		X(1)				80×10^6		11	1966
Verbal Description: Surface impoundment used for treatment, storage and disposal of miscellaneous wastewaters. Facility has been capped with clay.									
OPDA #1 Landfill (other)		X(1)			550,000			28	1952
Verbal Description: Unlined solid waste landfill.									
OPDA #2 Lagoon (unlined)		X				11.3×10^6		23	1952
Verbal Description: Storage lagoon for A-dripolene sludge.									

REVISED 5-2-83

D. Flow Diagram/Description

Show as "Attachment G" process flow diagrams or step-by-step word descriptions of the process flow, depicting the handling, collection, storage, processing, and/or disposal of each of the hazardous wastes previously listed in this application.

The flow diagrams or descriptions should include the following information:

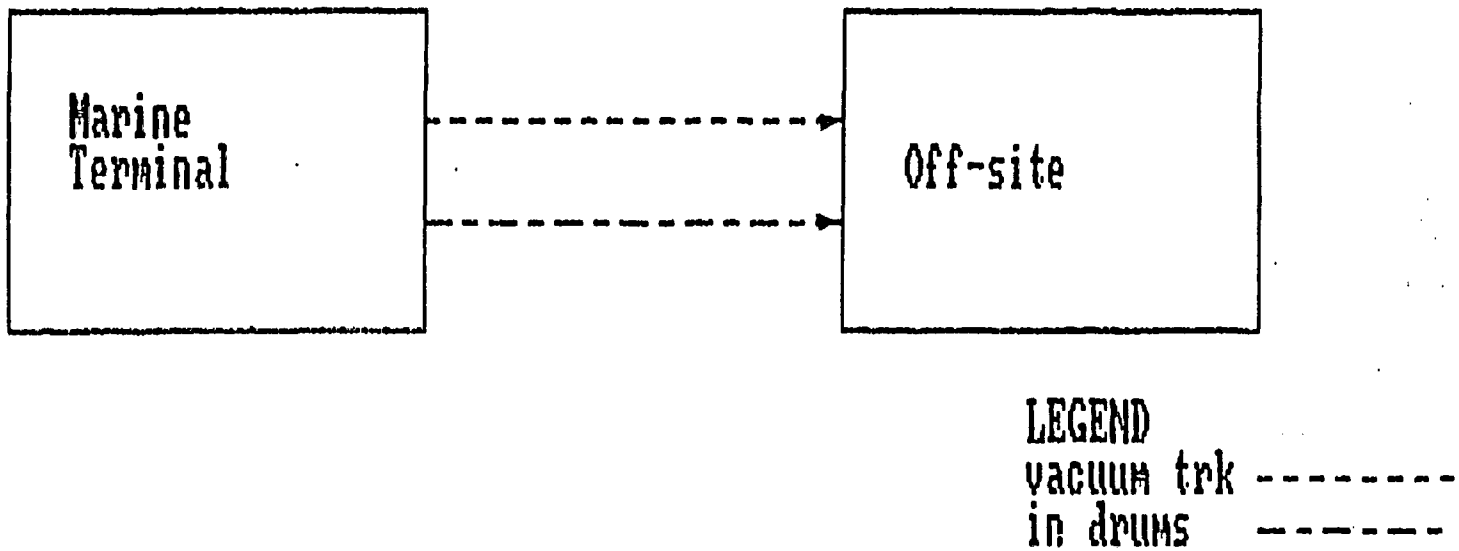
1. Originating point of each waste and waste classification code;
2. Means of conveyance utilized in every step of the process flow;
3. Name and function of each facility component through which the waste passes;
4. The ultimate disposition of all wastes (if off-site, specify "off-site") and waste residues.

IV. INDEX OF ATTACHMENTS

List and index below all attachments to this application and indicate if included or not included:

Item	Mandatory Attachments	Attachment	Included	Not Included
II.A.4	USGS map	A	X	
II.A.5.a.	Affected landowners	B	X	
II.B.	Site legal description	C	X	
III.B.1.	Hazardous waste facility component summary sheets	D	X	
III.C.1	Facility boundaries and adjacent waters map	E	X	
III.C.2.	Photographs	F	X	
III.D.	Process flow diagram/description	G	X	
	Other Attachments as Required			
I.D.2.a.	Lease	H	X	
III.A.2	Additional generated waste list (Table III-1)	I		
III.B.4.	Additional hazardous waste facility components list (Table III-4)	J	X	

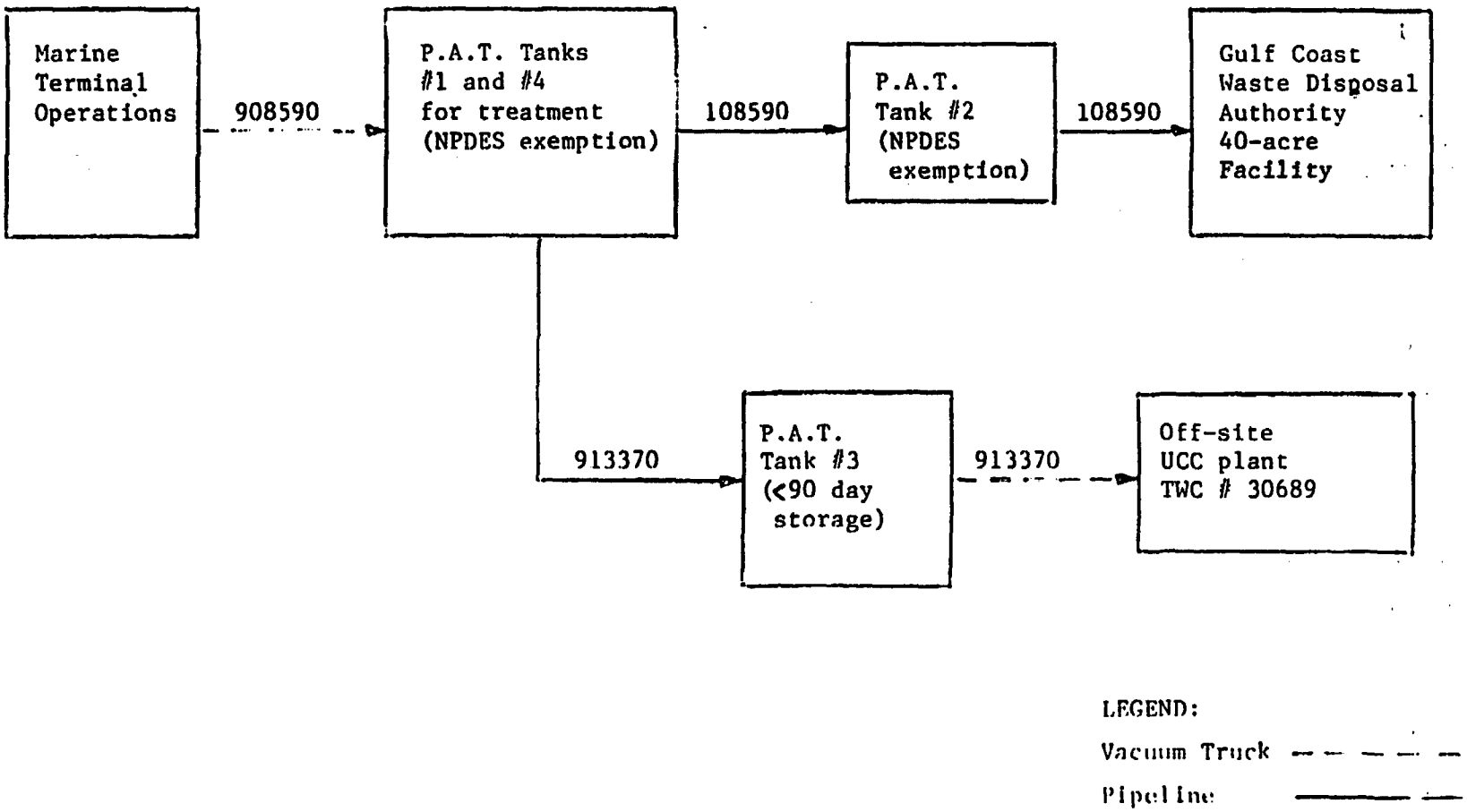
Waste Description :Filter Cartridges
TDWR Waste Code :979720
EPA Hazard Code :I



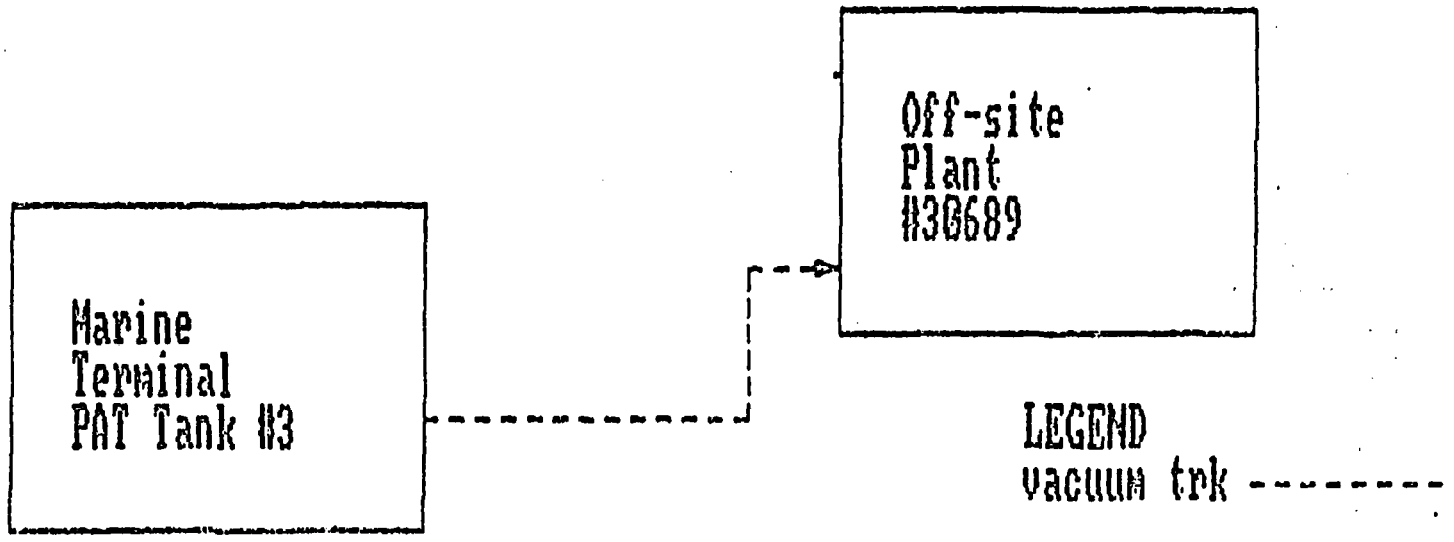
ATTACHMENT G

Revised 5-29-86

WASTE DESCRIPTION: Washwater w/ Misc. Residues
TWC HAZARD CODE: 908590
EPA HAZARD CODE: I

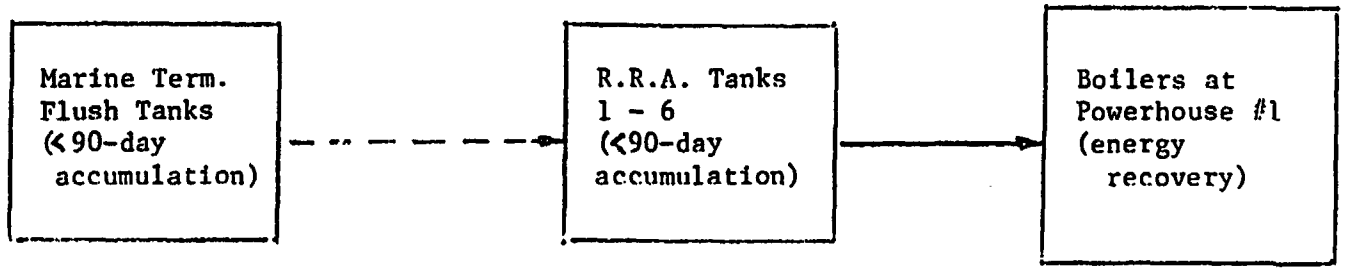


Waste Description :Mixed Organic Liquid Residues
TDWR Waste Code :913370
EPA Hazard Code :I T



Revised 7-29-00

WASTE DESCRIPTION: Misc. Line Flushes
TWC WASTE CODE:
EPA HAZARD CODE: I,C

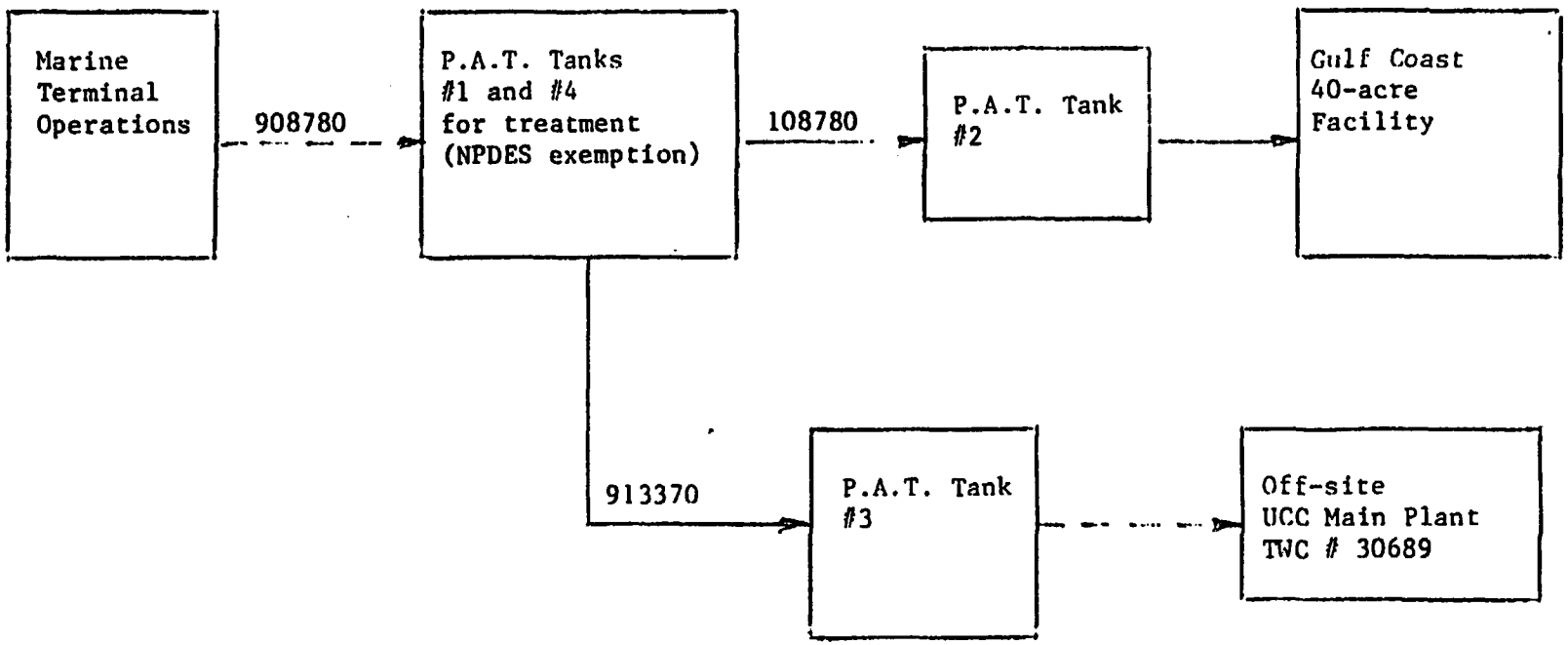


LEGEND:

Vacuum Truck — — — — —

Pipeline ————————

WASTE DESCRIPTION: Washwater - Organics from Tanks, Tank Cars, etc.
TWC WASTE CODE: 908780
EPA HAZARD CODE: I,C



LEGEND:

Vacuum Truck - - - - - -

Pipeline ————————

Revised 5-29-86

Table III-4 Hazardous Waste Facility Components List

Facility Component		Status			Design Capacity			Number of Years Utilized	Date in Service
Name	TDWR Seq. No.	Inactive	Active	Proposed	(cu yds)	(gal)	(lbs)		
OPDA #4 Lagoon (unlined)		X				10.5×10^6		14	1952
Verbal Description: Inactive wastewater treatment lagoon.									
East Lagoon (unlined)		X(1)				176,400,000		30	1952
Verbal Description: Surface impoundment for the storage and treatment of wastewaters.									
Verbal Description:									
Verbal Description:									
Verbal Description:									
Verbal Description:									

REFERENCE 05

UNION CARBIDE CORPORATION

TEXAS CITY PLANT

ADDITIONAL INFORMATION
RECONNAISSANCE INSPECTION

UC 149-2

UNION CARBIDE

INTERNAL CORRESPONDENCE

P. O. BOX 471, TEXAS CITY, TEXAS 77590

Date: March 7, 1986

To: M. Ramos 515 (2 copies)

cc: A. H. Cheely/B. E. Smith 511
B. M. Daniel ERT, Inc. (Houston)
* J. B. Leverton 515
* R. E. O'Bryan 515

* Letter only

From: A. J. Pastene

Subject: IPDA and OPDA groundwater data summary and compilation

Mariano:

I understand that as followup to the recent EPA reconnaissance inspection of inactive solid waste mangement units at the UCC Texas City facility, you were requested to provide the inspection team with most recent groundwater monitoring data from wells at or nearby the inactive waste management units in the In-Plant Disposal Area (IPDA) and Off-Plant Disposal Area (OPDA). In response and at your request, I have compiled the attached summary of the most recent data available from wells at both waste management areas. I understand that you have already supplied the inspection team with drawings of both areas, showing the actual location of the wells.

In reviewing our groundwater data files, it became apparent that a good deal of the most recent monitoring data is already compiled and included in the two RCRA Part B permit applications for the Main Plant Facility and the Marine Terminal/OPDA. Since the inspection team has access to a copy of each permit application, I have only included data that are not already available in the permit applications. However, I have also provided references to specific Appendices in the permit applications for the data that are available there.

Since samples have been collected at different times from different wells and subjected to different analytical schemes, the report also provides a brief synopsis of the monitoring history at the two waste management areas.

Please call me if you have any questions or need additional data.

Jim

Summary of Recent Groundwater Monitoring Data from UCC Texas City IPDA and OPDA Waste Management Areas

March 1986

Union Carbide Corporation

Texas City, Texas

Summary of recent groundwater monitoring data from
UCC Texas City IPDA and OPDA Waste Management Areas

INTRODUCTION

The following is a summary and partial compilation of recent groundwater monitoring data collected from wells in the In-Plant Disposal Area (IPDA) and Off-Plant Disposal Area (OPDA) waste management areas at the Union Carbide Corporation Texas City Plant.

The IPDA is located at the Main Plant RCRA Facility, and the OPDA is located at the Marine Terminal/OPDA RCRA Facility. Much of the data referred to in this report is available in the RCRA Part B permit applications submitted for these two facilities in 1985. For those data that are available in the Part B application, the report cites the section where the data can be found (usually an Appendix). Data that are not available in the Part B application are included as attachments to this report.

Data (or Part B references) are provided herein from wells in the uppermost aquifer and next lower aquifer at the IPDA, and from wells in the uppermost aquifer and next lower aquifer at the OPDA.

DATA SUMMARY

In-Plant Disposal Area

Table 1 provides a summary of the data collected from wells at the IPDA. With the exception of the deep well (Well D-21), all wells are screened in the uppermost aquifer, identified as Zone II in Figures IV-A-15 and IV-A-16 and described in Section IV (Geology Report) of the Main Plant Facility RCRA Part B Permit Application.

Well D-21 was installed in May 1985 at the request of the Texas Department of Water Resources to evaluate groundwater quality in the next lower sand unit (designated Zone IV in Figures IV-A-15 and IV-A-16 in the Part B application). The well is screened from 124 to 134 feet below ground surface.

For those data cited in Table 1 that are available in the Main Plant Facility Part B permit application, the table also cites the specific section of the Part B where the data are located. Any data cited in the table that are not available in the permit application are provided as an attachment to this report.

Off-Plant Disposal Area

From November 1981 to December 1982, all groundwater monitoring at the Off-Plant Disposal Area was conducted in a deep sand unit (termed the -100 foot MSL aquifer and designated Zone V in Figures IV-16 through IV-21 of the Marine Terminal/OPDA RCRA Part B permit application). Table 2 provides a summary of the data collected from wells in the -100 foot MSL aquifer at the OPDA.

Since 1983, most groundwater monitoring at the OPDA has been conducted in a shallower sand unit (termed the -30 foot MSL aquifer and designated Zone III in Figures IV-16 through IV-21). Table 3 provides a summary of the data collected from wells in the -30 foot MSL aquifer at the OPDA.

For those data cited in Tables 2 or 3 that are available in the Marine Terminal/OPDA Facility Part B permit application, the tables also cite the specific section of the Part B where the data are located. Any data cited in the tables that are not available in the permit application are provided as an attachment to this report.

A. J. Pastene
March 1986

		Interim status monitoring of uppermost aquifer		
Interim status parameters	U-1, D-1, D-2, D-3, D-4	Indicator evaluation program	March 1982 to May 1983	Appendix V-A-1
Volatile and semivolatile organic compounds via GC-MS	D-1 through D-11	Initial determination of groundwater quality during groundwater quality assessment program (GWQAP)	July 1982 to Dec. 1983	Appendix V-A-2
1,2-dichloroethane, 1,2-dichloropropane, Naphthalene Bis(2-chloroethyl)ether	D-1, D-12, D-14, D-15, D-19, D-20	Quarterly determination of groundwater quality (GWQAP)	November 1985	Attachment A
		Other groundwater sampling and analysis		
Appendix VIII constituents	D-1, D-2, D-5, D-10, D-11, D-15	Part B information reqmt.	January 1985	Appendix VI-2
1,2-dichloroethane, 1,2-dichloropropane, Naphthalene Bis(2-chloroethyl)ether	D-21	Assessment of groundwater quality in next lower aquifer	July 1985	Attachment B
Volatile and semivolatile priority pollutant organic compounds	PW-1 and PW-2	NPDES monitoring of water pumped from pilot recovery wells	September 1985	Attachment C

* Location of data in either an Appendix to the Main Plant Facility RCRA Part B permit application or an attachment to this report

Table 3. Summary of groundwater monitoring data collected from wells in the -30 foot MSL aquifer at the Off-Plant Disposal Area at the UCC Texas City Marine Terminal/OPDA Facility

Analyte(s)	Wells	Purpose of Sampling	Most recent sampling	Location of Data *
Interim status parameters	P-F, P-G, P-H, P-I, P-J, P-R, P-T, P-U, P-V	Indicator evaluation program	Oct. - Nov. 1984	Summary - Att. G Original reports - Appendix V-1
Appendix VIII constituents (non GC-MS methodology)	P-F, P-G, P-H, P-I, P-J, P-R, P-T, P-U, P-V	Initial determination of groundwater quality (GWQAP) and Part B info reqmt.	Oct. - Nov. 1984	Summary - Att. H Original reports - Appendix V-2
Appendix VIII constituents (GC-MS methdology)	P-E, P-F, P-G, P-H, P-I, P-J, P-K, P-L, P-M, P-N, P-O, P-P, P-Q, P-R, P-S, P-T, P-U, P-V	Initial determination of groundwater quality (GWQAP) and Part B info reqmt.	Oct. - Nov. 1984	Summary - Att. I Original reports - Appendices V-2,V-3
1,2-dichloroethane, 1,2-dichloropropane, Naphthalene Bis(2-chloroethyl)ether Benzene	P-E, P-F, P-H, P-I, P-J, P-N, P-O, P-R, P-T, P-U	Quarterly determination of groundwater quality in -30 ft. MSL aquifer	November 1985	Attachment J

* Location of data in either an Appendix to the Marine Terminal/OPDA RCRA Part B permit application or an attachment to this report

ATTACHMENT A

1985 fourth quarter assessment monitoring data
from selected wells at the IPDA

BUSINESS CONFIDENTIAL

December 20, 1985

TO: W. H. Horn

cc: S. J. Footer
J. B. Leverton
E. J. Mikowski
S. M. Norwood
R. E. O'Bryan
A. J. Pastene
M. Ramos
K. G. Strawn

SUBJ: IPDA Groundwater Assessment Program - 4th Quarter

Six wells were sampled at the IPDA on Novwmber 13/14, 1985. The purpose of the sampling was to meet a commitment to TWC to conduct a quarterly monitoring program at the IPDA.

The well samples were analyzed for four specific Appendix VIII parameters. The results are given in the attached table.

The samples were analyzed by NUS Labs, Clear Lake.

If there are questions, please let me know.

F. L. Johnson

/FLJ:FLJ45:la
Attachment

IPDA Groundwater [illegible] HUS [illegible]

Specific Appendix VIII Parameters	wells					
	D-1	D-12	D-14	D-15	D-19	D-20
Bis(2-chloroethyl)ether	120	<10*	170	<10*	47	240
Naphthalene	190	<10	<10	<10	<10	<10
1,2-Dichloroethane	<10	<10	<10	<10	<10	<10
1,2-Dichloropropane	<10	25	<10	<10	<10	<10

*Present but below reportable limit.

NOTE: Analysis in µg/l

ATTACHMENT B

Analytical data from July 1985 sampling of
Well D-21 at the IPDA

QUALITY ASSURANCE

BUSINESS CONFIDENTIAL

DATE: August 12, 1985

TO: W. H. Horn

cc: S. J. Footer
J. B. Leverton
R. A. Mendez
E. J. Mikowski
R. E. O'Bryan
A. J. Pastene
M. Ramos
G. F. Tacquard

SUBJ: Analysis of IPDA Well DW-21

Attached is the analysis and quality assurance report for a water sample taken from IPDA Deep Well DW-21 on July 11, 1985. The sample was taken to check for contamination in the lower aquifer and taken at an appropriate depth of 108 feet.

The analysis was done by NUS Labs, Clear Lake.

The results show that all four selected Appendix VIII compounds were less than the lower detection limits of the tests.

Frank

F. L. Johnson

FLJ06:la
Attachments

NUS CORPORATION

Laboratory Services Division
900 Gemini Avenue
Houston, TX 77058
713 - 488-1810

REMIT TO:
900 Gemini Avenue
Houston, TX 77058

LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
ATTENTION: FRANK JOHNSON

REPORT DATE: 07/26/85

NUS CLIENT NO: 288201
NUS SAMPLE NO: 25070685
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 07/15/85

SAMPLE IDENTIFICATION: IPDA-DW-21 07/11

TEST	DETERMINATION	RESULTS	UNITS
0311	Bis(2-chloroethyl)ether	< 100	ug/l
0B39	Naphthalene	< 100	ug/l
0E25	Base Neutral Extraction-Water		
0V15	1,2-Dichloroethane	< 10	ug/l
0V17	1,2-Dichloropropane	< 10	ug/l

COMMENTS:

Reviewed and Approved by: DM

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QUALITY ASSURANCE REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY, TX. 77590

ATTENTION: FRANK JOHNSON

REPORT DATE: 07/26/85

NUS CLIENT NO: 288201
NUS SAMPLE NO: 25070685
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 07/15/85

SAMPLE IDENTIFICATION: IPDA-DW-21 07/11

ORGANICS

TEST CODE	PARAMETER	QA SAMPLE	ANA-LYST	DATE RUN	TIME RUN	LIT. REFER.	ORIGINAL RESULT	SPIKE CONC	SPIKE RECOVERY	ACCEPTABLE RANGE	REAGENT BLANK	UNITS
OB11	Bis (2-chlorethyl)ether	25070152	SH	07/15/85	2300	3-M625	<10	100	52	43-126	<10	ug/l
OB39	Napthalene	25070152	SH	07/15/85	2300	3-M625	<10	100	54	36-120	<10	ug/l
OV15	1,2-Dichloroethane	25070500	SG	07/23/85	2230	3-M624	<10	20	16	15-26	<10	ug/l
OV17	1,2-Dichloropropane	25070500	SG	07/23/85	2230	3-M624	<10	20	15	10-30	<10	ug/l

LIT. REFERENCES:

1: EPA, "Methods for Chemical Analysis of Water and Wastes," March, 1979.
2: STD-METHOD-APHA, "Standard Methods for the Examination of Water and Wastewater," 15th Edition, 1975.
3: EPA, "Federal Register," October 26, 1984, Vol. 49, No. 209, 40 CFR PART 136.

ATTACHMENT C

Analytical data from Sept. 1985 sampling of
Wells PW-1 and PW-2 at the IPDA

QUALITY ASSURANCE

BUSINESS CONFIDENTIAL

DATE: October 30, 1985

TO: W. H. Horn

cc: S. J. Footer*
J. B. Leverton*
R. A. Mendez*
E. J. Mikowski*
R. E. O'Bryan*
J. G. Orr*
A. J. Pastene*
M. Ramos*
G. F. Tacquard*

SUBJ: Analysis of IPDA Pumping Wells PW-1, PW-2

Attached is the analysis and quality assurance report for water samples taken from IPDA wells PW-1 and PW-2 on Sept. 24 and Sept. 25, repsectively. The wells were drilled during the week of Sept. 16.

The samples were taken during pumping tests made to determine the priority pollutants present in preparation for subsequent treatment of the groundwater. Priority pollutant analyses were requried to determine the impact of the groundwater treatment on the NPDES permit.

The results of additional analysis performed in the Texas City Water Laboratory are as follows:

Well	Date	Time	pH s.u.	TOC mg/L	Flashpoint deg. F
PW-1	9/23/85	1355	7.0	225	>140
PW-1	9/24/85	1300	6.7	250	>140
PW-2	9/25/85	1238	6.2	2000	101
PW-2	9/25/85	1535	6.0	2700	117

If there are questions, please let me know.

F. L. Johnson

/FLJ
FLJ33:1a
Attachments
*Analysis only

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Laboratory Services Division
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Houston, TX 77058

LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
REPORT DATE: 10/24/95
ATTENTION: FRANK JOHNSON

NUS CLIENT NO: 288201
NUS SAMPLE NO: 25091482
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 09/26/95

SAMPLE IDENTIFICATION: IPOA-MW-PW-1 09/24

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
8110	VOLATILES-PP IN WATER						
8V01	Acrolein	(5000	ug/l				
8V02	Acrylonitrile	(5000	ug/l				
8V03	Benzene	8600	ug/l				
8V05	Bromoform	(500	ug/l				
8V06	Carbon tetrachloride	(500	ug/l				
8V07	Chlorobenzene	(500	ug/l				
8V08	Dibromochloromethane	(500	ug/l				
8V09	Chloroethane	(500	ug/l				
8V10	2-Chloroethylvinyl ether	(500	ug/l				
8V11	Chloroform	(500	ug/l				
8V12	Bromodichloromethane	(500	ug/l				
8V13	trans-1,3-Dichloropropene*	(500	ug/l				
8V14	1,1-Dichloroethane	(500	ug/l				
8V15	1,2-Dichloroethane	(500	ug/l				
8V16	1,1-Dichloroethene	(500	ug/l				
8V17	1,2-Dichloropropane	(500	ug/l				
8V18	cis-1,3-Dichloropropene*	(500	ug/l				
8V19	Ethylbenzene	(500	ug/l				
8V20	Methyl bromide	(500	ug/l				
8V21	Methyl chloride	(500	ug/l				
8V22	Methylene chloride	(500	ug/l				
8V23	1,1,2,2-Tetrachloroethane	(500	ug/l				
8V24	Tetrachloroethene	(500	ug/l				
8V25	Toluene	(500	ug/l				
8V26	trans-1,2-Dichloroethene	(500	ug/l				
8V27	1,1,1-Trichloroethane	(500	ug/l				
8V28	1,1,2-Trichloroethane	(500	ug/l				
8V29	Trichloroethene	(500	ug/l				
8V31	Vinyl chloride	(500	ug/l				
8V80	d8-Toluene(Surrogate)			100	ug/l	110	ug/l

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REPORT DATE: 10/24/85
ATTENTION: FRANK JOHNSON

NUS CLIENT NO: 288201
NUS SAMPLE NO: 25091482
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-1 09/24

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
OVS1	Bromofluorobenzene(Surrogate)			100	ug/l	110	ug/l
OVS2	d4-1,2-Dichloroethane(Surr.)			100	ug/l	99	ug/l
0120	ACID EXTRACTABLES						
0A01	2-Chlorophenol	(500	ug/l				
0A02	2,4-Dichlorophenol	(500	ug/l				
0A03	2,4-Dimethylphenol	(500	ug/l				
0A04	2-Methyl-4,6-dinitrophenol	(1000	ug/l				
0A05	2,4-Dinitrophenol	(2500	ug/l				
0A06	2-Nitrophenol	(1000	ug/l				
0A07	4-Nitrophenol	(2500	ug/l				
0A08	4-Chloro-3-methylphenol	(500	ug/l				
0A09	Pentachlorophenol	(500	ug/l				
0A10	Phenol	(500	ug/l				
0A11	2,4,6-Trichlorophenol	(500	ug/l				
0AS0	d5-Phenol(Surrogate)			100	ug/l	NA	ug/l
0AS1	2-Fluorophenol(Surrogate)			100	ug/l	NA	ug/l
0AS2	2,4,6-Tribromophenol(Surrogate			100	ug/l	NA	ug/l
0AS3	Pentafluorophenol(Surrogate)			100	ug/l	NA	ug/l
0130	BASE NEUTRAL EXTRACTABLES						
0B01	Acenaphthene	(500	ug/l				
0B02	Acenaphthylene	(500	ug/l				
0B03	Anthracene	(500	ug/l				
0B04	Benzidine	(2000	ug/l				
0B05	Benzo(a)anthracene	(500	ug/l				
0B06	Benzo(a)pyrene	(1000	ug/l				
0B07	Benzo(b)fluoranthene	(1000	ug/l				
0B08	Benzo(ghi)perylene	(1000	ug/l				
0B09	Benzo(k)fluoranthene	(1000	ug/l				
0B10	Bis(2-chloroethoxy)methane	(500	ug/l				
0B11	Bis(2-chloroethyl)ether	2900	ug/l				
0B12	Bis(2-chloroisopropyl)ether	(500	ug/l				

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LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
REPORT DATE: 10/24/85
ATTENTION: FRANK JOHNSON

NUS CLIENT NO: 283201
NUS SAMPLE NO: 25091402
VENDOR NO: 01819927
WORK ORDER NO: 55630
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-1 09/24

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
0313	Bis(2-ethylhexyl)phthalate	(500	ug/l				
0314	4-Bromophenyl phenyl ether	(500	ug/l				
0315	Benzyl butyl phthalate	(500	ug/l				
0316	2-Chloronaphthalene	(500	ug/l				
0317	4-Chlorophenyl phenyl ether	(500	ug/l				
0318	Chrysene	(500	ug/l				
0319	Dibenzo(a,h)anthracene	(1000	ug/l				
0320	1,2-Dichlorobenzene	(500	ug/l				
0321	1,3-Dichlorobenzene	(500	ug/l				
0322	1,4-Dichlorobenzene	(500	ug/l				
0323	3,3'-Dichlorobenzidine	(1000	ug/l				
0324	Diethyl phthalate	(500	ug/l				
0325	Dimethyl phthalate	(500	ug/l				
0326	Di-n-butyl phthalate	(500	ug/l				
0327	2,4-Dinitrotoluene	(1000	ug/l				
0328	2,6-Dinitrotoluene	(1000	ug/l				
0329	Di-n-octyl phthalate	(500	ug/l				
0330	1,2-Diphenylhydrazine(Azobz)	(500	ug/l				
0331	Fluoranthene	(500	ug/l				
0332	Fluorene	(500	ug/l				
0333	Hexachlorbenzene	(500	ug/l				
0334	Hexachlorobutadiene	(500	ug/l				
0335	Hexachloro-cyclopentadiene	(500	ug/l				
0336	Hexachloroethane	(500	ug/l				
0337	Indeno(1,2,3-cd)pyrene	(1000	ug/l				
0338	Isophorone	(500	ug/l				
0339	Naphthalene	3300	ug/l				
0340	Nitrobenzene	(500	ug/l				
0341	N-Nitrosodimethylamine	(500	ug/l				
0342	N-Nitrosodi-n-propylamine	(500	ug/l				
0343	N-Nitrosodiphenylamine	(500	ug/l				

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LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
ATTENTION: FRANK JOHNSON

REPORT DATE: 10/24/85

NUS CLIENT NO: 203201
NUS SAMPLE NO: 25091482
VENDOR NO: 01919927
WORK ORDER NO: 55680
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-1 09/24

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
0344	Phenanthrene	(500	ug/l				
0345	Pyrene	(500	ug/l				
0346	1,2,4-Trichlorobenzene	(500	ug/l				
0290	d5-Nitrobenzene(Surrogate)			100	ug/l	NA	ug/l
0291	2-Fluorobiphenyl(Surrogate)			100	ug/l	NA	ug/l
0292	d-14-p-Terphenyl(Surrogate)			100	ug/l	NA	ug/l
0293	Decafluorobiphenyl(Surrogate)			100	ug/l	NA	ug/l

COMMENTS: No surrogate recovery possible due to extract dilution.

Reviewed and Approved by: DM

PAGE NO: 4

NUS CORPORATION

Laboratory Services Division
900 Gemini Avenue
Houston, TX 77058

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LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
ATTENTION: FRANK JOHNSON

REPORT DATE: 10/24/85

NUS CLIENT NO: 283201
NUS SAMPLE NO: 25091491
VENDOR NO: 01319927
WORK ORDER NO: 55620
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-2 09/25

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
8110	VOLATILES-PP IN WATER						
8V01	Acrolein	(25,000	ug/l				
8V02	Acrylonitrile	(25,000	ug/l				
8V03	Benzene	5000	ug/l				
8V05	Bromoform	(2500	ug/l				
8V06	Carbon tetrachloride	(2500	ug/l				
8V07	Chlorobenzene	(2500	ug/l				
8V08	Dibromochloromethane	(2500	ug/l				
8V09	Chloroethane	(2500	ug/l				
8V10	2-Chloroethylvinyl ether	(2500	ug/l				
8V11	Chloroform	(2500	ug/l				
8V12	Bromodichloromethane	(2500	ug/l				
8V13	trans-1,3-Dichloropropene*	(2500	ug/l				
8V14	1,1-Dichloroethane	(2500	ug/l				
8V15	1,2-Dichloroethane	(2500	ug/l				
8V16	1,1-Dichloroethene	(2500	ug/l				
8V17	1,2-Dichloropropane	(2500	ug/l				
8V18	cis-1,3-Dichloropropene*	(2500	ug/l				
8V19	Ethylbenzene	(2500	ug/l				
8V20	Methyl bromide	(2500	ug/l				
8V21	Methyl chloride	(2500	ug/l				
8V22	Methylene chloride	(2500	ug/l				
8V23	1,1,2,2-Tetrachloroethane	(2500	ug/l				
8V24	Tetrachloroethene	(2500	ug/l				
8V25	Toluene	11,000	ug/l				
8V26	trans-1,2-Dichloroethene	(2500	ug/l				
8V27	1,1,1-Trichloroethane	(2500	ug/l				
8V28	1,1,2-Trichloroethane	(2500	ug/l				
8V29	Trichloroethene	(2500	ug/l				
8V31	Vinyl chloride	(2500	ug/l				
8VS0	d8-Toluene(Surrogate)			100	ug/l	180	ug/l

PAGE NO: 1

NUS CORPORATION

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REMIT TO:
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LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
REPORT DATE: 10/24/85
ATTENTION: FRANK JOHNSON

NUS CLIENT NO: 203201
NUS SAMPLE NO: 25091431
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-2 09/25

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE ZONE	UNITS	SURROGATE RECOVERY	UNITS
OVS1	Bromofluorobenzene(Surrogate)			100	ug/l	76	ug/l
OVS2	d4-1,2-Dichloroethane(Surr.)			100	ug/l	66	ug/l
0120	ACID EXTRACTABLES						
OA01	2-Chlorophenol	< 6	mg/l				
OA02	2,4-Dichlorophenol	< 6	mg/l				
OA03	2,4-Dimethylphenol	< 6	mg/l				
OA04	2-Methyl-4,6-dinitrophenol	< 12	mg/l				
OA05	2,4-Dinitrophenol	< 30	mg/l				
OA06	2-Nitrophenol	< 12	mg/l				
OA07	4-Nitrophenol	< 30	mg/l				
OA08	4-Chloro-3-methylphenol	< 6	mg/l				
OA09	Pentachlorophenol	< 6	mg/l				
OA10	Phenol	6.6	mg/l				
OA11	2,4,6-Trichlorophenol	< 6	mg/l				
OAS0	d5-Phenol(Surrogate)			100	ug/l	NA	mg/l
OAS1	2-Fluorophenol(Surrogate)			100	ug/l	NA	mg/l
OAS2	2,4,6-Tribromophenol(Surrogate			100	ug/l	NA	mg/l
OAS3	Pentafluorophenol(Surrogate)			100	ug/l	NA	mg/l
0130	BASE NEUTRAL EXTRACTABLES						
OB01	Acenaphthene	< 6	mg/l				
OB02	Acenaphthylene	< 6	mg/l				
OB03	Anthracene	< 6	mg/l				
OB04	Benzidine	< 24	mg/l				
OB05	Benzo(a)anthracene	< 6	mg/l				
OB06	Benzo(a)pyrene	< 12	mg/l				
OB07	Benzo(b)fluoranthene	< 12	mg/l				
OB08	Benzo(ghi)perylene	< 12	mg/l				
OB09	Benzo(k)fluoranthene	< 12	mg/l				
OB10	Bis(2-chloroethoxy)methane	< 6	mg/l				
OB11	Bis(2-chloroethyl)ether	< 6	mg/l				
OB12	Bis(2-chloroisopropyl)ether	< 6	mg/l				

NUS CORPORATION

Laboratory Services Division
900 Gemini Avenue
Houston, TX 77058
713 - 488-1010

REMIT TO:
900 Gemini Avenue
Houston, TX 77058

LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
REPORT DATE: 10/24/85
ATTENTION: FRANK JOHNSON

NUS CLIENT NO: 238291
NUS SAMPLE NO: 25091421
VENDOR NO: 01819927
WORK ORDER NO: 55489
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-2 09/25

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
0813	Bis(2-ethylhexyl)phthalate	< 6	ug/l				
0814	4-Bromophenyl phenyl ether	< 6	ug/l				
0815	Benzyl butyl phthalate	< 6	ug/l				
0816	2-Chloronaphthalene	< 6	ug/l				
0817	4-Chlorophenyl phenyl ether	< 6	ug/l				
0818	Chrysene	< 6	ug/l				
0819	Dibenzo(a,h)anthracene	< 12	ug/l				
0820	1,2-Dichlorobenzene	< 6	ug/l				
0821	1,3-Dichlorobenzene	< 6	ug/l				
0822	1,4-Dichlorobenzene	< 6	ug/l				
0823	3,3'-Dichlorobenzidine	< 12	ug/l				
0824	Diethyl phthalate	< 6	ug/l				
0825	Dimethyl phthalate	< 6	ug/l				
0826	Di-n-butyl phthalate	< 6	ug/l				
0827	2,4-Dinitrotoluene	< 12	ug/l				
0828	2,6-Dinitrotoluene	< 12	ug/l				
0829	Di-n-octyl phthalate	< 6	ug/l				
0830	1,2-Diphenylhydrazine(Azobz)	< 6	ug/l				
0831	Fluoranthene	< 6	ug/l				
0832	Fluorene	< 6	ug/l				
0833	Hexachlorbenzene	< 6	ug/l				
0834	Hexachlorobutadiene	< 6	ug/l				
0835	Hexachloro-cyclopentadiene	< 6	ug/l				
0836	Hexachloroethane	< 6	ug/l				
0837	Indeno(1,2,3-cd)pyrene	< 12	ug/l				
0838	Isophorone	< 6	ug/l				
0839	Naphthalene	26	ug/l				
0840	Nitrobenzene	< 6	ug/l				
0841	N-Nitrosodimethylamine	< 6	ug/l				
0842	N-Nitrosodi-n-propylamine	< 6	ug/l				
0843	N-Nitrosodiphenylamine	< 6	ug/l				

NUS CORPORATION

Laboratory Services Division
900 Gemini Avenue
Houston, TX 77058

713 - 488-1810

REMIT TO:
900 Gemini Avenue
Houston, TX 77058

LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
ATTENTION: FRANK JOHNSON

REPORT DATE: 10/24/85

NUS CLIENT NO: 239201
NUS SAMPLE NO: 25091431
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 09/26/85

SAMPLE IDENTIFICATION: IPDA-MW-PW-2 09/25

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
0944	Phenanthrene	10	ug/l				
0945	Pyrene	< 6	ug/l				
0946	1,2,4-Trichlorobenzene	< 6	ug/l				
0950	d5-Nitrobenzene(Surrogate)			100	ug/l	NA	ug/l
0951	2-Fluorobiphenyl(Surrogate)			100	ug/l	NA	ug/l
0952	d-14-p-Terphenyl(Surrogate)			100	ug/l	NA	ug/l
0953	Decafluorobiphenyl(Surrogate)			100	ug/l	NA	ug/l

COMMENTS: No surrogate recovery possible due to extract dilution. Bis(2-chloroethyl)ether present below detect. limit.

Reviewed and Approved by: [illegible]

PAGE NO: 4

ATTACHMENT D

Interim status parameter data from wells in the
-100 ft. MSL aquifer at the OPDA

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

TDWR Generator's Registration No. or TSD Facility Permit No. 30689

EPA TSD Fac. No. or Gen. No. TXD000461533

Company Well Number 2 0 0

Gradient Up * Down

Report for: 82 19 82

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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Occurence	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 arithmetic mean		± **	± **	± **	± **						
03/01/82	-5.9	7.2	9808	2.5	.07	2900	4.8	1.6	< 0.1	1300	< 50
04/27/82	-5.2	7.2	9078	< 2	.08	3000	2.5	1.6	< 0.1	1300	< 50
08/23/82	-5.9	7.0	9490	< 2	.04	2940	3.2	1.6	< 0.1	1200	< 50
12/08/82	-5.6	7.3	9170	< 2	.48	2900	3.2	1.7	< 0.1	1250	< 50

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										
03/01/82	<0.01	3.2	<0.01	< 0.01	0.3	< 0.1	< 0.001	< 0.05	< 0.01	< 0.01
04/27/82	<0.01	2.6	< 0.01	< 0.01	0.3	< 0.05	< 0.001	<0.05	< 0.01	< 0.01
08/25/82	< 0.01	2.5	<0.01	< 0.01	0.3	< 0.04	< 0.001	<0.05	< 0.01	<0.01
12/08/82	< 0.01	2.7	<0.01	0.01	0.3	0.02	< 0.001	< 0.1	< 0.01	<0.01

Parameter Units Sample Type	Endrin µ/l Grab	Lindane µ/l Grab	Methoxychlor µ/l Grab	Toxaphene µ/l Grab	2,4-D µ/l Grab	2,4,5-TP Silvex µ/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta millirem/yr Grab	Coliform Bacteria Total/100 ml Grab
Date										
03/01/82	ND< 0.2	ND< 0.2	ND< 1	ND < 2	ND<1.8	ND< 0.9	4+2	< 2	11+2	ND < 2
04/27/82	ND< 0.4	ND< 0.4	ND< 2	ND 10	< 2 ND	ND< 1	< 2	< 2	5+2	ND < 2
08/25/82	ND< 0.2	ND< 0.2	ND< 1	tr< 5	ND<1	ND< .05	6+2	12+10	8+2	< 2
12/08/82	ND< 0.2	ND< 0.2	ND < 1	ND< 5	ND< 1	ND < 0.5	< 2	< 2	16 + 4	< 2

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.

Walker Horn, Chemist
Prepared By

Signature of Authorized Agent

TDWR 0910

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

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 6 8 9

EPA TSD Fac. No. or Gen. No. T X D 0 0 0 4 6 1 5 3 3

Company Well Number 3 0 0

Gradient Up * Down

Report for: XX 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Occurrence	pH Standard Grab	Conductivity Micro mo/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		± **	± **	± **	± **						
02/23/82	-3.3	7.6	3760	7	3.0	874	0.39	0.34	< 0.01	600	< 10
04/27/82	-4.2	7.5	3930	< 4	2.6	958	2.5	1.6	< 0.01	1300	< 10
08/23/82	-4.8	7.3	4000	8	4.8	1040	2.6	0.40	< 0.1	620	< 10
12/08/82	-4.4	7.5	4230	< 3	5.4	970	2.5	0.41	< 0.1	638	20

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										
02/23/82	< 0.01	0.46	< 0.01	< 0.01	0.5	< .1	< 0.001	< 0.05	< 0.01	< 0.01
04/27/82	< 0.01	02.6	< 0.01	< 0.01	0.05	< 0.05	< 0.001	< 0.05	< 0.01	< 0.01
08/25/82	< 0.01	0.69	< 0.01	0.01	0.5	< 0.04	< 0.001	<0.05	< 0.01	<0.01
12/08/82	< 0.01	0.65	< 0.01	< 0.01	0.5	< 0.01	< 0.001	< 0.05	< 0.01	<0.01

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 millirem/yr. Grab	Coliform Bacteria #/100 ml Grab
Date										
02/23/82	ND< .2	ND< .2	ND< 1	ND< 2	< 1.2	ND< 0.6	< 2	< 2	9±2	ND < 2
04/27/82	ND< .4	ND< .4	ND< 2	ND< 10	ND< 2	ND 4	< 2	< 2	5±3	ND < 2
08/25/82	ND<0.2	ND<0.2	ND< 1	ND< 5	ND< 1	ND< .5	2±1	12±10	10±2	ND <2
12/08/82	ND<0.2	ND<0.2	ND <1	ND < 5	ND< 1	ND <0.5	< 2	< 2	14 ± 3	< 2

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.

Walker Horn, Chemist
Prepared By

Signature of Authorized Agent

Date

TDWR 0910

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

TDWR Generator's Registration No. or TSD Facility Permit No: 3 0 6 8 9

EPA TSD Fac. No. or Gen. No.: T X D 0 0 0 4 6 1 5 3 3

Company Well Number: 5 0 0

Gradient: Up [ ] Down [*]

Report for: XX 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 741, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Observed	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		± **	± **	± **	± **						
02/24/82	-6.1	7.2	9170	5	0.17	2890	0.76	1.6	< 0.1	1200	< 2
04/28/82	-6.3	7.2	9500	3.3	.05	3050	1.4	1.6	< 0.1	1300	< 50
08/23/82	-5.5	7.0	10400	<2	.04	3240	2.1	1.6	< 0.1	1300	< 50
12/07/82	-6.0	7.2	11000	4	.062	3200	3.0	1.8	< 0.1	1250	45

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										
02/24/82	< 0.01	1.2	< 0.01	< 0.01	0.4	< 0.1	< 0.001	< 0.05	< 0.01	< 0.01
04/28/82	< 0.01	1.5	< 0.01	< 0.01	0.3	< 0.05	< 0.001	< 0.05	< 0.01	< 0.01
08/25/82	< 0.01	1.3	< 0.01	< 0.01	0.3	< 0.04	< 0.001	< 0.05	< 0.01	< 0.01
12/07/82	< 0.01	1.4	< 0.01	0.02	0.3	< 0.01	< 0.001	< 0.1	< 0.01	< 0.01

Parameter Units Sample Type	Endrin µ mg/l Grab	Lindane µ mg/l Grab	Methoxychlor µ mg/l Grab	Toxaphene µ mg/l Grab	2,4-D µ mg/l Grab	2,4,5-TP µ mg/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta millirem/yr. Grab	Coliform Bacteria MPN/100 ml Grab
Date										
02/24/82	ND < 0.01	< 0.01	ND < .1	ND < .1	ND < 1.2	ND < 0.6	4±1	< 2	12±3	ND < 2
04/28/82	ND < .4	ND < .4	ND <2	ND < 10	ND < 2	ND < 1	4±2	2±1	18±3	ND < 2
08/25/82	ND<0.2	ND<0.2	ND< 1	tr < 5	ND < 1	ND < 0.5	< 2	< 2	12±2	ND < 2
12/07/82	ND< 0.2	ND< 0.2	ND <1	ND< 5	ND < 1	ND< 0.5	3 + 1	< 2	21+4	< 2.0

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.

Walker Horn, Chemist

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

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 6 8 9

EPA TSD Fac. No. or Gen. No. T X D 0 0 0 4 6 1 5 3 3

Company Well Number 7 0 0

Gradient Up [ ] Down [*]

Report for: X 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

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		± **	± **	± **	± **						
02/23/82	-4.1	7.4	6475	< 6	.10	1820	1.6	0.6	< 0.1	940	< 19
04/27/82	-4.4	7.4	6824	3	.08	1840	2.7	< 0.05	< 0.1	1000	< 20
08/23/82	-5.2	7.2	9390	4	0.8	1920	2.1	0.6	< 0.1	1000	48
12/07/82	-6.9	7.5	7330	< 4	.061	1900	3.4	0.53	< 0.1	1000	< 20

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										
02/23/82	0.01	1.2	< 0.01	< 0.01	0.4	< 0.1	< 0.001	< 0.2	< 0.01	0.01
04/27/82	< 0.01	1.2	< 0.01	3	0.4	< 0.05	< 0.001	< 0.05	< 0.01	< 0.01
08/25/82	< 0.01	1.3	<0.01	0.01	0.4	<0.04	< 0.001	0.55	< 0.01	<0.01
12/07/82	0.01	1.2	< 0.01	0.02	0.4	< 0.01	< 0.001	< 0.1	< 0.01	< 0.01
Parameter Units Sample Type	**Endrin µg/l Grab**	**Lindane µg/l Grab**	**Methoxychlor µg/l Grab**	**Toxaphene µg/l Grab**	**2,4-D µg/l Grab**	**2,4,5-TP Silvex µg/l Grab**	**Radium pCi/l Grab**	**Gross Alpha pCi/l Grab**	**Gross Beta millirem/yr. Grab**	**Coliform Bacteria T/100 ml Grab**
Date										
02/23/82	ND < .2	ND < .2	ND < 1	ND < 2	ND< 1.2	ND < .6	< 2	< 2	10+2	ND < 2
04/27/82	ND < .4	ND < .4	ND < 2	ND < 10	ND< 2	ND < 1	< 2	< 2	6+2	ND < 2
08/25/82	ND <0.2	ND< 0.2	ND < 1	tr < 5	ND <1	ND <0.5	3+1	< 2	9+2	ND < 2
12/07/82	ND< 0.2	ND < 0.2	ND < 1	ND < 5	ND < 1	ND< 0.05	3+2	< 2	15+4	7.8

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.

Walker Horn, Chemist

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

TDWR Generator's Registration No. or TSD Facility Permit No: 3 0 6 8 9

EPA TSD Fac. No. or Gen. No.: T X D 0 0 0 4 6 1 5 3 3

Company Well Number: 8 0 0

Gradient Up [*] Down [ ]

Report for 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Consumed	pH Standard Grab	Conductivity Micro mho 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		± **	± **	± **	± **						
02/23/82	- 4.7	7.3	6720	< 6	.03	1970	1.6	1.1	< 0.1	950	< 32
04/28/82	- 4.0	7.2	7481	< 2	.11	2030	1.8	0.7	< 0.1	1100	< 20
08/31/82	-3.6	7.5	6670	4	.06	1900	1.6	0.8	< 0.1	920	< 20
12/07/82	-6.6	7.5	7860	< 2	.033	2200	1.6	0.76	< 0.1	1000	20

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										
02/23/82	< 0.01	1.1	< 0.01	< 0.01	0.4	< 0.1	< 0.001	< 0.1	< 0.1	< 0.01
04/28/82	< 0.01	1.1	< 0.01	< 0.01	0.4	< 0.05	< 0.001	.70	< 0.01	< 0.01
08/25/82	< 0.02	1.1	< 0.01	0.01	0.4	< 0.04	< 0.001	< .1	< 0.01	< 0.01
12/07/82	< 0.01	1.2	< 0.01	0.02	0.4	< 0.01	< 0.001	< 0.1	< 0.01	< 0.01
Parameter Units Sample Type	**Endrin µ/l Grab**	**Lindane µ/l Grab**	**Methoxychlor µ/l Grab**	**Toxaphene µ/l Grab**	**2,4-D µ/l Grab**	**2,4,5-TP Silvex µ/l Grab**	**Radium pCi/l Grab**	**Gross Alpha pCi/l Grab**	**Gross Beta millirem/yr. Grab**	**Coliform Bacteria M/100 ml Grab**
Date										
02/23/82	ND < .2	ND < .2	ND < 1	ND < 2	ND < 1.2	ND < .6	2±1	< 2	10±2	ND < 2
04/28/82	ND < .04	ND < .4	ND < 2	ND < 10	ND < 1	ND < 1	7+2	9+4	11±3	ND < 2
08/32/82	ND <0.2	ND <0.2	ND < 1	tr.< 5	ND < 1	ND < 0.5	7+2	7+3	12+2	ND< 2
12/07/82	ND < 0.2	ND < 0.2	ND < 1	ND < 5	ND < 1	ND < 0.05	2	< 2	16+4	ND < 2.0

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.

Walker Horn, Chemist

Prepared by

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

TDWR Generator's Registration No. or TSD Facility Permit No. 3 0 6 8 9

EPA TSD Fac. No. or Gen. No. T X D 0 0 0 4 6 1 5 3 3

Company Well Number 9 0 0

Gradient Up [ ] 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Occurrence	pH Standard Grab	Conductivity Micromhos 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		± **	± **	± **	± **						
02/23/82	-4.3	7.3	17200	4	.12	6680	1.7	3.0	< 0.1	2200	380
04/28/82	-4.8	6.8	18400	< 2	.25	6630	0.87	2.7	< 0.1	2200	96
08/23/82	-5.5	6.9	19600	< 2	.06	7300	1.4	2.8	< 0.1	2100	190
12/07/82	-7.2	7.0	22000	< 2	.087	7200	1.4	2.8	< 0.1	2250	140

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										
02/23/82	< 0.01	0.32	<0.01	0.02	0.3	< 0.1	< 0.001	< 0.05	< 0.01	< 0.01
04/28/82	< 0.01	0.38	<0.01	0.02	0.3	< 0.05	< 0.001	< 0.3	< 0.01	< 0.01
08/31/82	< 0.02	0.53	<0.01	0.03	0.3	< 0.04	< 0.001	< 0.7	< 0.01	< 0.01
12/07/82	< 0.01	0.30	< 0.01	< 0.04	0.3	< 0.01	< 0.001	< 0.5	< 0.01	< 0.01

Parameter Units Sample Type	Endrin µ/l Grab	Lindane µ/l Grab	Methoxychlor µ/l Grab	Toxaphene µ/l Grab	2,4-D µ/l Grab	2,4,5-TP Silvex µ/l Grab	Radium pCi/l Grab	Gross Alpha pCi/l Grab	Gross Beta millirem/yr. Grab	Coliform Bacteria (Fecal) Grab
Date										
02/23/82	ND< 0.2	ND < 0.2	ND < 1	ND < 2	ND <1.2	ND< 0.6	3±2	2	12±2	ND < 2
04/28/82	ND< 0.4	ND < 0.4	ND <.2	ND < 10	ND <2	ND< 1	7±2	11±5	16±3	ND < 2
08/31/82	ND< 0.2	ND < 0.2	ND < 1	tr < 5	ND <1	ND< 0.5	5±2	3±2	6±2	ND < 2
12/07/82	ND < 0.2	ND < 0.2	ND< 1	ND < 5	ND < 1	ND <0.5	4±1	< 2	14±3	ND < 2

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.

Walker Horn, Chemist
Prepared By

Signature of Authorized Agent

TDWR 0910

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

TDWR Generator's Registration No or TSD Facility Permit No. 3 0 6 8 9

EPA TSD Fac. No. or Gen. No. T X D 0 0 0 4 6 1 5 3 3

Company Well Number 1 0 0 0

Gradient Up * 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 Carbide Corporation, Texas City Plant Phone: (713) 945-7411

Business Address: P.O. Box 471, Texas City, Texas Zip: 77590

TABLE 1

Parameter Units Sample Type	Ground Water Elev. Ft. Sample Concentrate	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		± **	± **	± **	± **						
02/23/82	-6.2	6.7	20800	< 5	.17	8100	8.2	1.5	< 0.1	3200	290
04/27/82	-5.8	6.9	21550	2	.05	7890	5.6	1.3	< 0.1	3100	< 50
08/23/82	-6.4	6.7	21600	3	.09	8000	6.0	1.3	< 0.1	2900	190
12/08/82	-6.2	6.8	22000	< 2	.052	7600	8.8	1.3	< 0.1	2750	340

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										
02/23/82	0.02	0.28	< 0.02	< 0.02	0.3	< 0.1	< 0.001	< 0.05	< 0.01	< 0.01
04/27/82	< 0.01	0.3	< 0.01	< 0.01	0.3	< 0.05	< 0.001	< 0.3	< 0.01	< 0.01
08/31/82	< 0.02	.34	< 0.01	< 0.02	0.3	< 0.04	< 0.001	< 0.3	< 0.01	< 0.01
12/08/82	0.02	0.22	< 0.01	0.02	0.3	< 0.01	< 0.001	0.5	< 0.01	< 0.01
Parameter Units Sample Type	**Endrin µ/l Grab**	**Lindane µ/l Grab**	**Methoxychlor µ/l Grab**	**Toxaphene µ/l Grab**	**2,4-D µ/l Grab**	**2,4,5-TP µ/l Grab**	**Radium pCi/l Grab**	**Gross Alpha pCi/l Grab**	**Gross Beta millirem/yr. Grab**	**Coliform Bacteria 1/100 ml Grab**
Date										
02/23/82	ND< 0.2	ND< 0.2	ND < 1	ND < 2	ND < 2	ND< 0.6	4+2	10+6	10+2	ND 2
04/27/82	ND< 0.4	ND< 0.4	ND < 2	ND < 10	ND < 2	ND< 1	6+4	5+3	12+3	ND< 2
08/31/82	ND <0.2	ND< 0.2	ND < 1	trace< 5	ND <1	ND < 0.5	4+2	< 2	6+2	ND< 2
12/08/82	ND< 0.2	ND < 0.2	ND < 1	ND< 5	ND < 1	ND < 0.5	4+1	< 2	6+3	ND 2

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.

Walker Horn, Chemist

Prepared By

D-7

ATTACHMENT E

Groundwater quality assessment data from Well MW-300
in the -100 ft. MSL aquifer at the OPDA

NUS CORPORATION

Laboratory Services Division
900 Gemini Avenue
Houston, TX 77058
713 - 488-1810

REMIT TO:
900 Gemini Avenue
Houston, TX 77058

LAB ANALYSIS REPORT

CLIENT NAME: UNION CARBIDE
ADDRESS: 3301 5TH AVE. SO.
TEXAS CITY TX 77590
ATTENTION: FRANK JOHNSON

REPORT DATE: 09/20/85

NUS CLIENT NO: 288201
NUS SAMPLE NO: 25080463
VENDOR NO: 01819927
WORK ORDER NO: 55680
DATE RECEIVED: 08/08/85

SAMPLE IDENTIFICATION: OPOA-MW-300 08/08

TEST	DETERMINATION	RESULTS	UNITS	SURROGATE CONC	UNITS	SURROGATE RECOVERY	UNITS
QA59	QA - Base Neutrals						
QA60	QA - VOA						
OB11	Bis(2-chloroethyl)ether	(10	ug/l				
OB39	Naphthalene	(10	ug/l				
OE25	Base Neutral Extraction-Water						
OV03	Benzene	(10	ug/l				
OV15	1,2-Dichloroethane	14	ug/l				
OV17	1,2-Dichloropropane	(10	ug/l				

COMMENTS:

Reviewed and Approved by: JWB

ATTACHMENT F

Interim status parameters and hazardous waste characteristic data from Wells MW-200, 900, 1000 in the -100 ft. MSL aquifer at the OPDA

(Generated as part of closure of East Lagoon)

TABLE V

TEXAS CITY OPDA - EAST LAGOON

Groundwater Well Analysis

Indicator Parameter	Well		
	MW-200	MW-900	MW-1000
Corrosivity (pH)	6.7	6.5	6.4
Ignitibility (FP)°F	>160	>160	>160
Specific Conductance, µmhos/cm	9500	>20,000	>20,000
*TOC, mg/l	9	<1	<1
*TOX, µg/l	120	580	610

*Analysis by NUS Lab, Clear Lake

ATTACHMENT G

Interim status parameter data from wells in the
-30 ft. MSL aquifer at the OPDA

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 26, 1985

TABLE 5

Interim Status Parameter Values
For OPDA Wells P-F, P-G, P-H, P-I, P-J, P-R, P-T, P-U, and P-V
At The Off-Plant Disposal Area

Parameters	Units	Sample Points, Sampling Dates, and ETC Sample No's											
		Well P-F 841031 F8592	Well P-G 841030 F8588	Well P-H 841030 F8587	Well P-I 841030 F8586	Well P-J 841030 F8589	Well P-R 841030 F8591	Well P-T 841128 F8604	Well P-T 841128 G5386	Well P-U 841128 F8593	Well P-U 841128 G5385	Well P-V 841128 F8595	Well P-V 841128 G5388
GW Met., Pest. & Herb													
Arsenic	ug/l	BMDL	40	BMDL	BMDL	ND	ND	7	-	10	-	BMDL	-
Barium	ug/l	92	310	84	120	52	79	70	-	19	-	110	-
Cadmium	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Chromium	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Lead	ug/l	ND	ND	ND	ND	BMDL	9	25	-	BMDL	-	15	-
Mercury	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Selenium	ug/l	ND	ND	ND	ND	ND	ND	29	-	BMDL	-	BMDL	-
Silver	ug/l	ND	ND	ND	ND	BMDL	ND	ND	-	ND	-	ND	-
Iron	ug/l	ND	ND	BMDL	BMDL	ND	ND	2500	-	BMDL	-	900	-
Manganese	ug/l	2000	8500	2400	1000	6000	11000	4000	-	800	-	1400	-
Sodium	ug/l	540E+4	320E+4	550E+4	340E+4	130E+5	130E+5	590E+4	-	100E+4	-	730E+4	-
Endrin (GC)	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Lindane (GC)	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Methoxychlor (GC)	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
Toxaphene (GC)	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
2,4-D	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
2,4,5-TP (Silvex)	ug/l	ND	ND	ND	ND	ND	ND	ND	-	ND	-	ND	-
GW Conventionals													
Chloride	mg/l	8500	12000	8400	6300	19000	24000	14000	-	14000	-	1400	-
Fluoride	mg/l	0.54	0.25	0.83	0.31	0.9	<0.1	0.51	-	<0.5	-	0.56	-
Nitrate as N	mg/l	<0.1	0.28	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-
Sulfate as SO4	mg/l	1300	2440	1270	890	3950	3750	1730	-	1660	-	1820	-
Phenolics, Total	mg/l	<0.05	85	0.11	0.12	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-
Total Organic Halides (TOX)	ug/l	650	710000	31000	190	81	9500	-	-	-	-	-	-
Total Organic Halides (TOX)	ug/l	610	590000	33000	110	91	5000	-	-	-	-	-	-
Total Organic Halides (TOX)	ug/l	630	500000	35000	110	120	6100	-	-	-	-	-	-
Total Organic Halides (TOX)	ug/l	670	500000	26000	210	130	7400	-	-	-	-	-	-
Total Organic Carbon	mg/l	29	560	240	64	<1	1.2	2.1	-	1.6	-	6.3	-
Total Organic Carbon	mg/l	29	560	240	64	<1	1.2	2	-	2	-	5.6	-
Total Organic Carbon	mg/l	27	570	230	63	<1	1.4	1.3	-	1.3	-	6.6	-
Total Organic Carbon	mg/l	33	570	230	63	<1	<1	1.5	-	1.2	-	5.7	-
Specific Conductance	um/cm	23000	34000	22000	18000	48000	56000	30000	-	29000	-	31000	-
Specific Conductance	um/cm	24000	33000	22000	18000	48000	56000	30000	-	29000	-	31000	-
Specific Conductance	um/cm	24000	32000	22000	18000	48000	54000	30000	-	29000	-	31000	-
Specific Conductance	um/cm	24000	32000	23000	17000	48000	55000	30000	-	29000	-	31000	-
pH	std	6.6	6.4	6.5	6.5	6.4	6.4	6.7	-	6.9	-	6.9	-
pH	std	6.6	6.4	6.5	6.5	6.4	6.5	6.7	-	6.9	-	6.9	-
pH	std	6.6	6.4	6.5	6.5	6.4	6.5	6.8	-	6.9	-	6.9	-
pH	std	6.6	6.4	6.5	6.5	6.4	6.5	6.8	-	6.9	-	6.9	-
Gross Alpha	pCi/l	<61	<100	<44	<44	<152	<152	161	-	<57	-	<57	-
Gross Alpha	pCi/l	-	-	-	-	-	-	+/-117	-	-	-	-	-
Gross Beta	pCi/l	102	143	102	126	194	245	<66	-	<50	-	178	-
Gross Beta	pCi/l	+/-68	+/-109	+/-51	+/-53	+/-161	+/-176	-	-	-	-	+/-93	-
Miscellaneous Parameters													
Radium 226	pCi/l	-	-	-	-	-	-	-	<0.9	-	0.9	-	<0.8
Radium 226		-	-	-	-	-	-	-	-	-	+/-0.6		-
Radium 228	pCi/l	-	-	-	-	-	-	-	<1.9	-	<1.8	-	3.2
Radium 228		-	-	-	-	-	-	-	-	-	-	-	+/-2.2

ATTACHMENT H

Summary of Appendix VIII constituent data from selected wells in the -30 ft. MSL aquifer at the OPDA

(Non GC-MS methodology)

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 26, 1986

TABLE 6

Concentration of Appendix VIII Constituents Detected Via Non-GC-MS Methods In Wells P-F, P-G, P-H, P-I, P-J, P-R, P-T, P-U, and P-V At The Off-Plant Disposal Area

Parameters	Units	P-F 841031 F8601	P-G 841030 F8605	P-H 841030 F8600	P-I 841030 F8599	P-J 841030 F8603	P-R 841030 F8604	P-T 841128 F8614	P-U 841128 F8613	P-V 841128 F8615
		Sample Points, Sampling Dates and ETC Sample No.								
RCRA Appendix 8- Pest & Herb Compounds										
Aldrin	ug/l	ND	0.2	ND	ND	ND	ND	ND	ND	ND
Chlordane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ug/l	ND	0.7	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	ug/l	BHDL	BHDL	ND	ND	ND	BHDL	ND	ND	ND
Dieldrin	ug/l	0.1	BHDL	ND	ND	ND	ND	ND	ND	BHDL
Thionazin	ug/l	ND	8	ND	ND	ND	ND	ND	ND	ND
Dimethoate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Disulfoton	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ug/l	BHDL	ND	ND	0.4	ND	0.2	ND	ND	ND
Endosulfan II	ug/l	ND	ND	ND	ND	1.2	BHDL	ND	ND	ND
Endrin	ug/l	ND	0.1	0.2	0.1	0.7	0.2	ND	ND	ND
Heptachlor	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	ug/l	ND	ND	ND	0.2	ND	ND	ND	ND	ND
Alpha-BHC	ug/l	ND	ND	ND	0.1	ND	ND	BHDL	ND	BHDL
Beta-BHC	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC	ug/l	ND	ND	ND	ND	BHDL	ND	ND	ND	ND
Delta-BHC	ug/l	1.1	ND	ND	0.1	0.3	ND	ND	ND	ND
Kepone	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl parathion	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Parathion	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Famphur	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetraethylpyrophosphate	ug/l	ND	320	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-T	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	ug/l	ND	BHDL	ND	ND	ND	ND	ND	BHDL	BHDL
RCRA Appendix 8- DAI HPLC Compounds										
1-Acetyl-2-thiourea	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylamide	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-(o-Chlorophenyl)thiourea	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylenethiourea	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maleic hydrazide	mg/l	5	11	ND	ND	ND	ND	ND	ND	ND
Methomyl	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nicotinic acid	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-N-methylurea	mg/l	IND	IND	IND	IND	IND	IND	-	-	-
N-Phenylthiourea	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thiourea	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
RCRA Appendix 8- Metals and Cyanides										
Aluminum	ug/l	ND	ND	ND	ND	ND	ND	2000	ND	2200
Antimony	ug/l	ND	BHDL	ND	ND	ND	ND	ND	ND	ND
Arsenic	ug/l	BHDL	75	12	BHDL	BHDL	BHDL	BHDL	BHDL	5
Barium	ug/l	94	300	78	120	50	59	97	52	160
Beryllium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	ug/l	530000	120E+4	580000	140000	110E+4	150E+4	100E+4	500000	700000
Chromium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	ug/l	ND	ND	ND	ND	BHDL	BHDL	BHDL	BHDL	BHDL
Cyanide, Total	ug/l	<25	<25	<25	<25	<25	<25	<25	<25	<25
Iron	ug/l	ND	BHDL	ND	ND	BHDL	ND	1900	BHDL	1900
Lead	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	ug/l	ND	ND	ND	ND	ND	ND	BHDL	BHDL	BHDL
Osmium	ug/l	ND	ND	ND	ND	ND	IND	ND	ND	ND
Potassium	ug/l	21000	25000	12000	19000	43000	78000	38000	45000	47000
Selenium	ug/l	ND	ND	ND	ND	ND	ND	10	8	30
Silver	ug/l	ND	ND	ND	ND	BHDL	ND	ND	ND	ND
Sodium	ug/l	550E+4	940E+4	570E+4	160E+4	110E+5	130E+5	710E+4	720E+4	70E+4
Strontium	ug/l	5600	11000	5900	4400	1500	18000	9400	6900	7900
Thallium	ug/l	BHDL	BHDL	BHDL	ND	ND	BHDL	ND	ND	ND
Vanadium	ug/l	ND	ND	ND	ND	ND	ND	BHDL	BHDL	BHDL
Zinc	ug/l	ND	ND	ND	ND	ND	ND	12	ND	ND
RCRA Appendix 8- Aroclors										
Aroclor 1242	ug/l	ND	ND	ND	ND	ND	ND	ND	1.7	ND
Aroclor 1254	ug/l	BHDL	BHDL	ND	BHDL	BHDL	BHDL	ND	2.7	ND
Aroclor 1260	ug/l	ND	ND	ND	ND	ND	ND	ND	BHDL	ND
Aroclor 1248	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1016	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
RCRA Appendix 8- Extractable HPLC Compound										
Warfarin	ug/l	ND	BHDL	BHDL	BHDL	ND	ND	-	-	-
Benzidine	ug/l	ND	BHDL	BHDL	BHDL	ND	ND	-	-	-
3,3'-Dimethoxybenzidine	ug/l	ND	BHDL	BHDL	BHDL	50	ND	-	-	-
1-Naphthyl-2-thiourea	ug/l	ND	BHDL	BHDL	BHDL	BHDL	ND	-	-	-
m-phenylenediamine	ug/l	BHDL	BHDL	BHDL	BHDL	ND	ND	-	-	-
o-phenylenediamine	ug/l	ND	BHDL	ND	ND	ND	ND	-	-	-
p-phenylenediamine	ug/l	BHDL	BHDL	BHDL	BHDL	ND	ND	-	-	-
Toluene-2,4-Diamine	ug/l	ND	BHDL	ND	ND	ND	ND	-	-	-

ATTACHMENT I

Summary of Appendix VIII constituent data from selected wells in the -30 ft. MSL aquifer at the OPDA

(GC-MS methodology)

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 26, 1985

TABLE 7

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods In -30 Feet MSL Aquifer Wells Located Immediately Downgradient Of The OPDA Hazardous Waste Management Units (Wells P-F, P-I, P-J, P-R, P-T, P-U, and P-V)

Parameters	Units	Sample Points Sampling Dates and ETC Sample No.						
		Well P-F 841031 F8601	Well P-I 841030 F8599	Well P-J 841030 F8603	Well P-R 841030 F8604	Well P-T 841128 F8614	Well P-U 841128 F8613	Well P-V 841128 F8615
RCRA Appendix 8- Dir/Inj Vol Compounds								
Allyl alcohol	mg/l	ND	ND	ND	ND	ND	ND	ND
Chloral	mg/l	ND	ND	ND	ND	ND	ND	ND
Chloroacetaldehyde	mg/l	ND	ND	ND	ND	ND	ND	ND
3-Chloropropionitrile	mg/l	ND	ND	ND	ND	ND	ND	ND
Cyanogen	mg/l	ND	ND	ND	ND	ND	ND	ND
Dichloropropanol	mg/l	ND	ND	ND	ND	ND	ND	ND
1,1-Dimethylhydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND
1,2-Dimethylhydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	mg/l	ND	ND	ND	ND	ND	ND	ND
Ethyl cyanide	mg/l	ND	ND	ND	ND	ND	ND	ND
Ethylene oxide	mg/l	ND	ND	ND	ND	ND	ND	ND
Fluoroacetic acid	mg/l	ND	ND	ND	ND	ND	ND	ND
Hydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND
Isobutyl Alcohol	mg/l	ND	ND	ND	ND	ND	ND	ND
Methacrylonitrile	mg/l	ND	ND	ND	ND	ND	ND	ND
Methanethiol	mg/l	ND	ND	ND	ND	ND	ND	ND
Methyl hydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND
2-Methyllactonitrile	mg/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopyrrolidine	mg/l	ND	ND	ND	ND	ND	ND	ND
n-Propylamine	mg/l	ND	ND	ND	ND	ND	ND	ND
2-Propyn-1-ol	mg/l	ND	ND	ND	ND	ND	ND	ND
RCRA Appendix 8- Purge & Trap Compounds								
Acetonitrile	ug/l	ND	ND	ND	ND	ND	ND	ND
Acrolein	ug/l	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND
Methyl bromide	ug/l	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/l	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Freon TF	ug/l	ND	ND	10	ND	ND	ND	ND
Chlorobenzene	ug/l	ND	ND	DL	ND	ND	ND	ND
2-Chloroethylvinyl ether	ug/l	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	ND	ND	ND	ND
Methyl chloride	ug/l	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-dibromo-3-chloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,4-Dichloro-2-butene	ug/l	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	DL
1,2-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-Trans-dichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/l	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/l	ND	ND	ND	8000	ND	ND	ND
2,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	ug/l	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	ug/l	ND	ND	ND	ND	ND	ND	DL
Dichlorobromomethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Hydrogen sulfide	ug/l	ND	ND	ND	ND	ND	ND	ND
Iodomethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone	ug/l	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	ug/l	ND	ND	ND	ND	ND	ND	ND
Pentachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Pyridine	ug/l	11	ND	19	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/l	ND	ND	ND	DL	ND	ND	ND
Carbon tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	ND	ND	ND	ND	ND	ND	ND
Bromoform	ug/l	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/l	ND	ND	ND	DL	ND	ND	ND
1,1,2-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ug/l	DL	ND	ND	ND	ND	ND	ND
1,1,2-trichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,2-trichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/l	ND	ND	DL	ND	ND	DL	ND
Vinyl chloride	ug/l	ND	ND	ND	ND	ND	ND	ND
RCRA Appendix 8- Acid/B/N/Pest Compounds								
Acetophenone	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Acetylaminofluorene	ug/l	ND	ND	ND	ND	ND	ND	ND
4-Aminobiphenyl	ug/l	18	ND	ND	ND	ND	ND	ND
5-(Aminomethyl)-3-isoxazolol	ug/l	ND	ND	ND	ND	IND	IND	IND
Aniline	ug/l	ND	ND	ND	ND	ND	ND	ND
Aramite	ug/l	ND	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND
Dichloromethyl Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzenethiol	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzo[j]fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
p-Benzoquinone	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzyl chloride	ug/l	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	ug/l	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl) ether	ug/l	DL	39	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ug/l	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	ug/l	ND	ND	ND	ND	ND	ND	DL
4-Bromophenyl phenyl ether	ug/l	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4,6-trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,3,4-tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,3,5-tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1-chloronaphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,3,5,6-tetrachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
2,3,4,5-tetrachlorophenol	ug/l	ND	ND	ND	ND	47	ND	17
p-Chloroaniline	ug/l	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND

ETC ENVIRONMENTAL TESTING and CERTIFICATION
March 26, 1985

TABLE 7 (continued)

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods
In ~30 Feet MSL Aquifer Wells Located Immediately Downgradient
Of The OPDA Hazardous Waste Management Units
(Wells P-F, P-I, P-J, P-R, P-T, P-U, and P-V)

Parameters	Units	Sample Points, Sampling Dates, and ETC Sample No.s						
		Well P-F	Well P-I	Well P-J	Well P-R	Well P-T	Well P-U	Well P-V
2-Chlorophenol	ug/l	ND	ND	ND	ND	ND	BDL	ND
Chrysene	ug/l	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ug/l	ND	ND	ND	ND	ND	ND	ND
Acenaphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND
Anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	ug/l	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND
Fluorene	ug/l	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitro-O-Cresol	ug/l	ND	ND	ND	ND	ND	ND	ND
Pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
o-Cresol	ug/l	ND	ND	ND	ND	ND	ND	ND
m-p-Cresol	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Cyclohexyl-4,6-dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]acridine	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,j]acridine	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,e]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,h]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,i]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ug/l	BDL	BDL	BDL	BDL	BDL	ND	BDL
1,2-Dichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
7,12-Dimethylbenz[a]anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND
Thiofenox	ug/l	ND	ND	ND	ND	ND	ND	ND
a-a-Dimethylphenethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND
m-Dinitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ug/l	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND
Diphenylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	ug/l	ND	ND	ND	ND	ND	ND	ND
Di-n-propylnitrosamine	ug/l	ND	ND	ND	ND	ND	ND	ND
Ethyl methanesulfonate	ug/l	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachlorophene	ug/l	ND	ND	ND	ND	ND	ND	ND
Hexachloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND
Isosafrole	ug/l	ND	ND	ND	ND	ND	ND	ND
Melphalan	ug/l	ND	ND	ND	ND	ND	ND	ND
Methapyrilene	ug/l	ND	ND	ND	ND	ND	ND	ND
3-Methylcholanthrene	ug/l	ND	ND	ND	ND	ND	ND	ND
4,4'-Methylenebis(2-chloroaniline)	ug/l	ND	ND	ND	ND	ND	ND	ND
Methyl methanesulfonate	ug/l	ND	ND	ND	ND	ND	ND	ND
Aldicarb	ug/l	ND	ND	ND	ND	ND	ND	ND
Methylthiouracil	ug/l	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND
1,4-Naphthoquinone	ug/l	ND	ND	ND	ND	ND	ND	ND
1-Naphthylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Naphthylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
p-Nitroaniline	ug/l	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-butylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethanolamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomethylethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-N-methylurethane	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomorpholine	ug/l	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ug/l	ND	ND	ND	ND	ND	ND	ND
5-Nitro-o-toluidine	ug/l	ND	ND	ND	ND	ND	ND	ND
Pentachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Phenacetin	ug/l	ND	ND	ND	ND	ND	ND	ND
Phenol	ug/l	ND	ND	ND	ND	ND	ND	ND
2-Picoline	ug/l	ND	ND	ND	ND	ND	ND	ND
Pronamide	ug/l	ND	ND	ND	ND	ND	ND	ND
Resorcinol	ug/l	ND	ND	ND	ND	ND	ND	ND
Safrole	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Thiuram	ug/l	ND	ND	ND	ND	ND	ND	ND
O-Toluidine hydrochloride	ug/l	ND	ND	ND	ND	ND	ND	ND
O-Toluidine	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND
Tris(2,3-dibromopropyl)phospha	ug/l	ND	ND	ND	ND	ND	ND	ND

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods In -30 Feet MSL Aquifer Wells Located Downgradient Of Other, Non-Hazardous Waste Management Units At The OPDA (Wells P-E, P-G, P-H, P-K, P-L, P-M, P-N, P-O, P-P, P-Q, and P-S)

		Sample Points, Sampling Dates, and ETC Sample No's										
Parameters	Units	Well P-E 841031 F8598	Well P-G 841030 F8605	Well P-H 841030 F8600	Well P-K 841106 F8607	Well P-L 841106 F8612	Well P-M 841031 F8611	Well P-N 841031 F8606	Well P-O 841031 F8597	Well P-P 841106 F8608	Well P-Q 841106 F8610	Well P-S 841106 F8609
RCRA Appendix 8- Dir/Inj Vol Compounds												
Allyl alcohol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloral	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroacetaldehyde	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloropropionitrile	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanogen	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloropropanol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dimethylhydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dimethylhydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl cyanide	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene oxide	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoroacetic acid	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutyl Alcohol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methacrylonitrile	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methanethiol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl hydrazine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyllactonitrile	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopyrrolidine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylamine	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propyn-1-ol	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
RCRA Appendix 8- Purge & Trap Compounds												
Acetonitrile	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrolein	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	ND	BMDL	ND	12000	12000	9140	5920	3780	1340	6130	BMDL
Methyl bromide	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon TF	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	ND	ND	ND	ND	ND	BMDL	641	ND	BMDL	BMDL	BMDL
2-Chloroethylvinyl ether	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	BMDL	BMDL	BMDL	ND	ND	BMDL	BMDL	BMDL
Methyl chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dibromo-3-chloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichloro-2-butene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	ND	ND	ND	ND	ND	503	ND	ND	BMDL	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	131000	45000	12300	223000	843	ND	202000	531000	BMDL
1,2-Trans-dichloroethylene	ug/l	ND	ND	ND	BMDL	1120	2070	ND	ND	545	2030	ND
1,1-Dichloroethylene	ug/l	ND	ND	ND	2350	BMDL	727	ND	ND	BMDL	1110	ND
Methylene chloride	ug/l	ND	BMDL	BMDL	1120	1060	700	BMDL	BMDL	608	BMDL	18
1,3-Dichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/l	ND	148000	101E+4	ND	ND	989	ND	ND	1040	4190	ND
2,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorobromomethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hydrogen sulfide	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BMDL
Methyl methacrylate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods In ~30 Feet MSL Aquifer Wells Located Downgradient Of Other, Non-Hazardous Waste Management Units At The OPDA (Wells P-E, P-G, P-H, P-K, P-L, P-M, P-N, P-O, P-P, P-Q, and P-S)

		Sample Points, Sampling Dates, and ETC Sample No's										
Parameters	Units	Well P-E 841031 F8598	Well P-G 841030 F8605	Well P-H 841030 F8600	Well P-K 841106 F8607	Well P-L 841106 F8612	Well P-M 841031 F8611	Well P-N 841031 F8606	Well P-O 841031 F8597	Well P-P 841106 F8608	Well P-Q 841106 F8610	Well P-S 841106 F8609
Pyridine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	ND	BMDL	BMDL	ND	ND	ND	ND	BMDL	ND
Tetrachloroethene	ug/l	ND	ND	ND	ND	BMDL	BMDL	ND	ND	BMDL	BMDL	ND
Carbon tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	ND	ND	ND	4630	3820	2820	BMDL	970	571	1720	BMDL
Bromoform	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/l	ND	ND	ND	BMDL	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ug/l	ND	ND	ND	75400	12900	7060	ND	ND	1320	459000	ND
Trichloroethylene	ug/l	ND	ND	ND	3780	4260	7790	ND	ND	4010	24100	ND
Trichlorofluoromethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	20200	ND
1,2,2-trichloropropane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/l	ND	ND	ND	13000	3560	2730	ND	ND	2400	55000	ND
Vinyl chloride	ug/l	ND	ND	ND	1470	5730	3150	ND	ND	8180	6560	ND
RCRA Appendix 8- Acid/B/N/Pest Compounds												
Acetophenone	ug/l	BMDL	25	ND	48	74	21	ND	ND	ND	13	ND
2-Acetylaminofluorene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Aminobiphenyl	ug/l	ND	ND	ND	57	ND	ND	ND	ND	ND	ND	ND
5-(Aminomethyl)-3-isoxazolol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aniline	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aramite	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz[a]anthracene	ug/l	ND	ND	ND	15	95	ND	ND	67	ND	ND	ND
Dichloromethyl Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzenethiol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	ug/l	ND	ND	ND	BMDL	35	ND	ND	28	ND	ND	ND
Benzo[j]fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	ug/l	ND	ND	ND	BMDL	49	ND	ND	25	ND	ND	ND
p-Benzoquinone	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	ND
bis(2-Chloroethyl) ether	ug/l	ND	ND	42600	4400	1910	1500	2710	1390	322000	322000	ND
bis(2-Chloroisopropyl)ether	ug/l	ND	ND	303	ND	ND	ND	BMDL	63	ND	66500	ND
bis(2-Ethylhexyl)phthalate	ug/l	ND	12	ND	ND	ND	ND	BMDL	54	ND	ND	ND
4-Bromophenyl phenyl ether	ug/l	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4-tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,5-tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-chloronaphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5,6-tetrachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,5-tetrachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloroaniline	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods In -30 Feet MSL Aquifer Wells Located Downgradient Of Other, Non-Hazardous Waste Management Units At The OPDA (Wells P-E, P-G, P-H, P-K, P-L, P-M, P-N, P-O, P-P, P-Q, and P-S)

		Sample Points, Sampling Dates, and ETC Sample No's										
Parameters	Units	Well P-E 841031 F8598	Well P-G 841030 F8606	Well P-H 841030 F8600	Well P-K 841106 F8607	Well P-L 841106 F8612	Well P-M 841031 F8611	Well P-N 841031 F8606	Well P-O 841031 F8597	Well P-P 841106 F8608	Well P-Q 841106 F8610	Well P-S 841106 F8609
Chrysene	ug/l	ND	ND	ND	14	69	ND	ND	30	ND	ND	ND
Acenaphthene	ug/l	ND	BMDL	BMDL	87	197	51	16	167	BMDL	29	ND
Acenaphthalene	ug/l	ND	BMDL	232	390	745	85	ND	493	12	102	ND
Anthracene	ug/l	ND	ND	BMDL	68	178	BMDL	BMDL	ND	ND	BMDL	ND
Benzo[ghi]perylene	ug/l	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	ug/l	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND
Fluorene	ug/l	ND	ND	BMDL	195	537	11	BMDL	362	ND	47	ND
Phenanthrene	ug/l	ND	BMDL	BMDL	285	1050	48	17	392	ND	18	ND
2,6-Dinitro-O-Cresol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ug/l	ND	ND	ND	66	329	BMDL	ND	183	ND	ND	ND
2-Nitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Cresol	ug/l	ND	41	ND	ND	ND	ND	BMDL	2160	ND	ND	ND
m+p-Cresol	ug/l	ND	130	15	ND	ND	ND	BMDL	900	ND	ND	ND
2-Cyclohexyl-4,6-dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]acridine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,j]acridine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,e]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,h]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo[a,i]pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ug/l	BMDL	13	ND	ND	ND	BMDL	BMDL	ND	BMDL	ND	BMDL
1,2-Dichlorobenzene	ug/l	ND	ND	ND	ND	ND	49	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/l	ND	ND	BMDL	ND	ND	192	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/l	ND	ND	BMDL	ND	ND	80	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ug/l	ND	BMDL	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7,12-Dimethylbenz[a]anthracene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thiofanox	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
a-a-Dimethylphenethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m-Dinitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected "-"=Parameter not tested

Concentrations of Appendix VIII Constituents Detected Via GC-MS Methods In -30 Feet MSL Aquifer Wells Located Downgradient Of Other, Non-Hazardous Waste Management Units At The OPDA (Wells P-E, P-G, P-H, P-K, P-L, P-M, P-N, P-O, P-P, P-Q, and P-S)

		Sample Points, Sampling Dates, and ETC Sample No's										
Parameters	Units	Well P-E 841031 F8598	Well P-G 841030 F8605	Well P-H 841030 F8600	Well P-K 841106 F8607	Well P-L 841106 F8612	Well P-M 841031 F8611	Well P-N 841031 F8606	Well P-O 841031 F8597	Well P-P 841106 F8608	Well P-Q 841106 F8610	Well P-S 841106 F8609
Di-n-octyl phthalate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diphenylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-propylnitrosamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methanesulfonate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ug/l	ND	ND	ND	34	164	BMDL	ND	91	ND	ND	ND
Hexachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/l	ND	ND	BMDL	ND	BMDL	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorophene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloropropene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isosafrole	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methapyrilene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylcholanthrene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-Methylenebis(2-chloroaniline)	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methanesulfonate	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylthiouracil	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/l	ND	51	1740	2530	1390	2510	135	9150	133	362	ND
1,4-Naphthoquinone	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Naphthylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Naphthylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Nitroaniline	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-butylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethanolamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomethylethylamine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-N-methylurethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomorpholine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenacetin	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	ug/l	ND	6050	ND	ND	ND	ND	ND	170	ND	ND	ND
2-Picoline	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pronamide	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Resorcinol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Safrole	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thiuram	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
O-Toluidine hydrochloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ug/l	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ATTACHMENT J

1985 fourth quarter assessment monitoring data
from selected wells at the OPDA

BUSINESS CONFIDENTIAL

INTERNAL CORRESPONDENCE

QUALITY ASSURANCE

TO (NAME) J. A. Pastene
LOCATION

DATE February 3, 1986

ORIGINATING DEPT. Plant Laboratory

COPY TO S. J. Footer
J. B. Leverton
E. J. Mikowski
S. M. Norwood
R. E. O'Bryan
M. Ramos
K. G. Strawn

SUBJECT OPDA Monitoring Wells
4th Quarter --1985

Ten wells were sampled at the OPDA between November 15th and November 20, 1985. The purpose of the sampling was to meet our quarterly monitoring program at the OPDA.

The samples were analyzed for total carbon, pH and four specific Appendix VIII parameters. The results are given in the attached table.

The samples were analyzed by NUS Labs, Clear Lake.

J.H. Holstein
J. H. Holstein
Plant Laboratory

JHH5/sac
Attachment

UNION CARBIDE SOLVENTS & INTERMEDIATES

OPDA MONITORING WELLS - NUS LABS

DETERMINATION	WELL									
	PE	PF	PH	PI	PJ	PN	PO	PR	PT	PU
Total Organic Carbon, mg/L	45	31	315	49	3	87	768	2	2	5
pH	6.7	6.9	6.8	6.7	6.7	6.7	6.7	6.8	6.8	6.8
Benzene, mg/L	<5	<5	<25,000	<5	<5	<250	14,000	<500	<5	<5
Bis(2-Chloroethyl)ether,ug/l	<22	<10	1,400,000	<10	<10	7800	<1000	<10	<10	<10
1,2-Dichloroethane, ug/l	<5	<5	1900	<5	<5	820	<1000	<5000	<5	<5
1,2-Dichloropropane, ug/l	<5	<5	<25,000	<5	<5	72,000	<1000	7300	<5	<5
Naphthalene, ug/l	<23	<10	16,000	<10	<10	500	11,000	<10	<10	<10

JHH5

REFERENCE 06

T576 0 001

8212-4

EPA

POTENTIAL HAZARDOUS WASTE SITE
IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION	SITE NUMBER (to be assigned by HQ)
6	TX7595

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II *(Preliminary Assessment)*. File this form in the Regional Hazardous Waste Log File and submit a copy 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

A. SITE NAME: Union Carbide Marine Terml/OPDA

B. STREET *(or other identifier)*: Loop 197

C. CITY: Texas City

D. STATE: TX

E. ZIP CODE: 77590

F. COUNTY NAME: Galveston

G. OWNER/OPERATOR *(if known)*
1. NAME: D.L. Engle-Manager Union Carbide Corp 270 Park Avenue, New York, NY 10017 H.M. Parker-Mgr. Envir Affairs 212/551-4515
2. TELEPHONE NUMBER: 713/945-7411

H. TYPE OF OWNERSHIP
☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION: Petro-chemical Terminal located on Loop 197, Texas City, Tx. OPDA for U.C. Texas City Plant located adjacent to Terminal.

J. HOW IDENTIFIED *(i.e., citizen's complaints, OSHA citations, etc.)*: CERCLA TXS 1400 RCRA TXD 008073322

K. DATE IDENTIFIED *(mo., day, & yr.)*: 8/11/80

L. PRINCIPAL STATE CONTACT
1. NAME: Fred C. Dalbey Merlton Coloton- Supervisor TDWR District 7
2. TELEPHONE NUMBER: 713/479-5981

II. PRELIMINARY ASSESSMENT *(complete this section last)*

A. APPARENT SERIOUSNESS OF PROBLEM
☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION
☒ 1. NO ACTION NEEDED *(no hazard)* (See IV.E.)
☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:
☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:
☐ 4. SITE INSPECTION NEEDED *(low priority)*

RECEIVED MAR 25 1983

C. PREPARER INFORMATION
1. NAME: Mark Riforgiat - FIT
2. TELEPHONE NUMBER: 214/742-6601
3. DATE *(mo., day, & yr.)*: 2/24/83

III. 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.)*
☐ 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 ☒ 2. YES *(specify generator's four-digit SIC Code)*: 2813,2821,2841,2865 2869,2911

C. AREA OF SITE *(in acres)*: 109

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES
1. LATITUDE *(deg.—min.—sec.)*: 29° 22' 09" N
2. LONGITUDE *(deg.—min.—sec.)*: 94° 56' 43" W

E. ARE THERE BUILDINGS ON THE SITE?
☐ 1. NO ☒ 2. YES *(specify)*: Marine Terminal

REVIEWED BY (GAEGHO) 4-19-83

T2070-2 (10-79)

Continue On Reverse

Continued From Front

IV. 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	X	1. PILE		1. FILTRATION	X	1. LANDFILL
	2. SHIP	X	2. SURFACE IMPOUNDMENT		2. INCINERATION	X	2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK	XX	4. TANK, ABOVE GROUND	X	4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
X	5. PIPELINE		5. TANK, BELOW GROUND	X	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. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED Inactive Waste sites exist on the OPDA. Groundwater Monitor Wells and sampling program has been implemented for entire OPDA. Analytical Review and Compliance inspections are conducted by TDWR. No further action by FIT is recommended at the present time.

V. WASTE RELATED INFORMATION

A. WASTE TYPE

[ ] 1. UNKNOWN [X] 2. LIQUID [X] 3. SOLID [X] 4. SLUDGE [ ] 5. GAS

B. WASTE CHARACTERISTICS

[X] 1. UNKNOWN [ ] 2. CORROSIVE [X] 3. IGNITABLE [ ] 4. RADIOACTIVE [ ] 5. HIGHLY VOLATILE
[X] 6. TOXIC [ ] 7. REACTIVE [ ] 8. INERT [ ] 9. FLAMMABLE

[ ] 10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

TDWR Shipping Control Tickets

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 270 *	AMOUNT UNKNOWN *	AMOUNT UNKNOWN *	AMOUNT 0.3 *	AMOUNT 34.1 *	AMOUNT 650 *
UNIT OF MEASURE cu.yds/mo.	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE cu.yds/mo.	UNIT OF MEASURE cu.yds/mo	UNIT OF MEASURE cu.yds/mo
'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	(2) ASBESTOS	(2) HOSPITAL
X (3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/ MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	X (5) OTHER (specify):
Primary Waste-water Sludges			(6) CYANIDE	(6) OTHER (specify):	Trash, glass and other uncontaminated wastes
A-dripolene Sludge			(7) PHENOLS		
*Note: Quantities indicated include wastes from U.C. Texas City Plant which are disposed at the OPDA.			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			X (11) OTHER (specify) Polyethylene	oils and waxes	

 Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

A-dripolene
Spent Olefins
Acetone
Vinyl Acetate
Polyethylene
PolyVinyl Chloride

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

The Marine Terminal/OPDA is the principal waste disposal site for the Union Carbide Texas City Plant. The OPDA (off-site Plant Disposal Area) facilities include lagoon Storage and Landfill Disposal. Currently, 3 landfills and one (See Attachment A)

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER		X	11/9/82	Rupture of wastewater line and subsequent spill into canal
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL		X	11/9/82	Investigated by TDWR-Fish Kill attributed to spill. Follow-up by TDWR.
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS		X	11/9/82	See Above
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

 Continue On Reverse

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [X] 3. STATE PERMIT (specify): TACB Permits
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [ ] 7. RCRA STORER
- [ ] 8. RCRA TREATER
- [X] 9. RCRA DISPOSER
- [X] 10. OTHER (specify): TDWR Registration II 30689

B. IN COMPLIANCE?

- [X] 1. YES
- [ ] 2. NO
- [ ] 3. UNKNOWN
- 4. WITH RESPECT TO (list regulation name & number): _____

VIII. PAST REGULATORY ACTIONS

- [ ] A. NONE
- [X] B. YES (summarize below)

Various Noncompliance Directives (See Attached Correspondence)

IX. INSPECTION ACTIVITY (past or on-going)

- [ ] A. NONE
- [X] B. YES (complete items 1,2,3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
Compliance Inspection	3/17/81	TDWR	Waste Disposal Practices-Compliant
Compliance Inspection	4/26/82	TDWR	Inactive Waste Disposal Site inspected. Closure of site accepted by TDWR
Spill Inspection	11/9/82	TDWR/TDWD	Inspection of Wastewater Line Spill and fish kill.

X. REMEDIAL ACTIVITY (past or on-going)

- [ ] A. NONE
- [X] B. YES (complete items 1, 2, 3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
Groundwater Monitoring	11/18/81	TDWR	Ongoing groundwater monitoring program of entire off-site Plant disposal area (OPDA)

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment (Section II) information on the first page of this form.

REFERENCE 08

TEXAS WATER DEVELOPMENT BOARD

REPORT 203

RECORDS OF WELLS, DRILLERS' LOGS, WATER-LEVEL MEASURMENTS, AND CHEMICAL ANALYSES OF GROUND WATER IN HARRIS AND GALVESTON COUNTIES, TEXAS, 1970-74

By

W. L. Naftel, Kenneth Vaught, and Bobbie Fleming
United States Geological Survey

This report was prepared by the U.S. Geological Survey
under cooperative agreement with the
Texas Water Development Board and the
cities of Houston and Galveston

March 1976

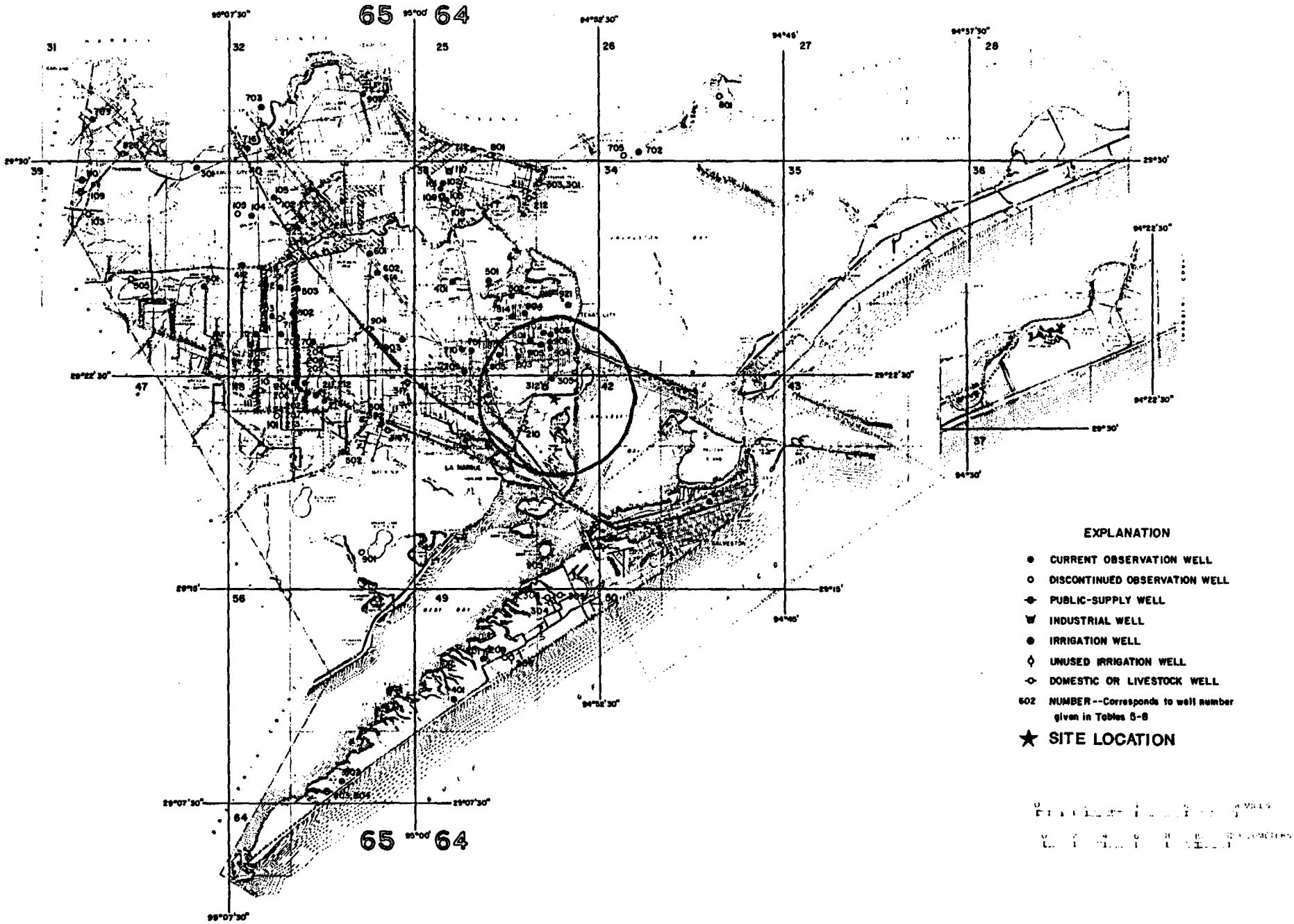


Figure 2

Locations of Wells in Galveston County

Base from Texas Highway Department county highway map

REFERENCE 09

T6 [illegible] 53

TEXAS DEPARTMENT OF WATER RESOURCES

REPORT 285

RECORDS OF WELLS, DRILLERS' LOGS, WATER-LEVEL MEASUREMENTS, AND CHEMICAL ANALYSES OF GROUND WATER IN HARRIS AND GALVESTON COUNTIES, TEXAS, 1975-79

By

Karl W. Ratzlaff, C. W. Bonnet, and L. S. Coplin
U.S. Geological Survey

This report was prepared by the U.S. Geological Survey under cooperative agreement with the Texas Department of Water Resources and the Cities of Houston and Galveston

March 1984

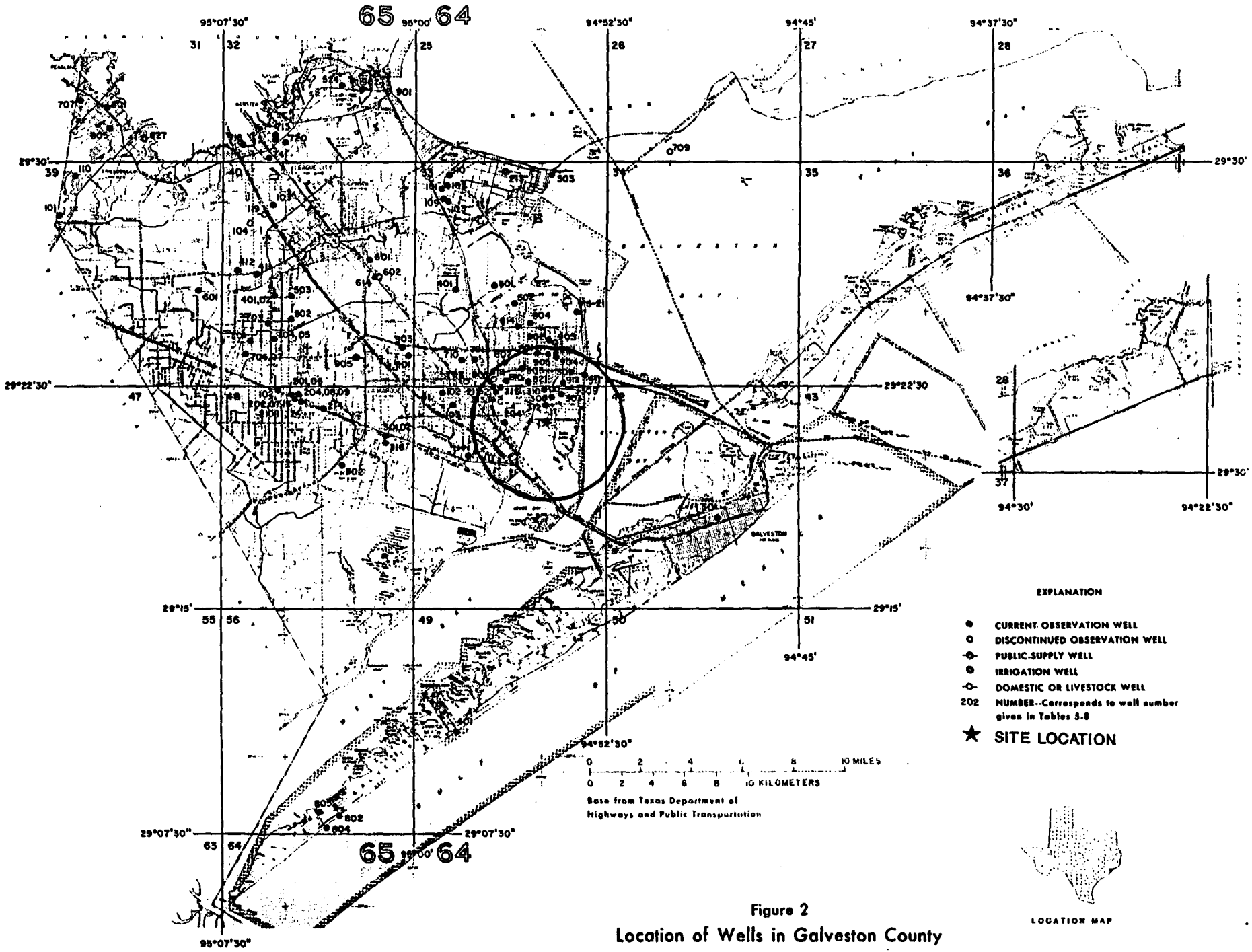


Figure 2
Location of Wells in Galveston County

REFERENCE 10

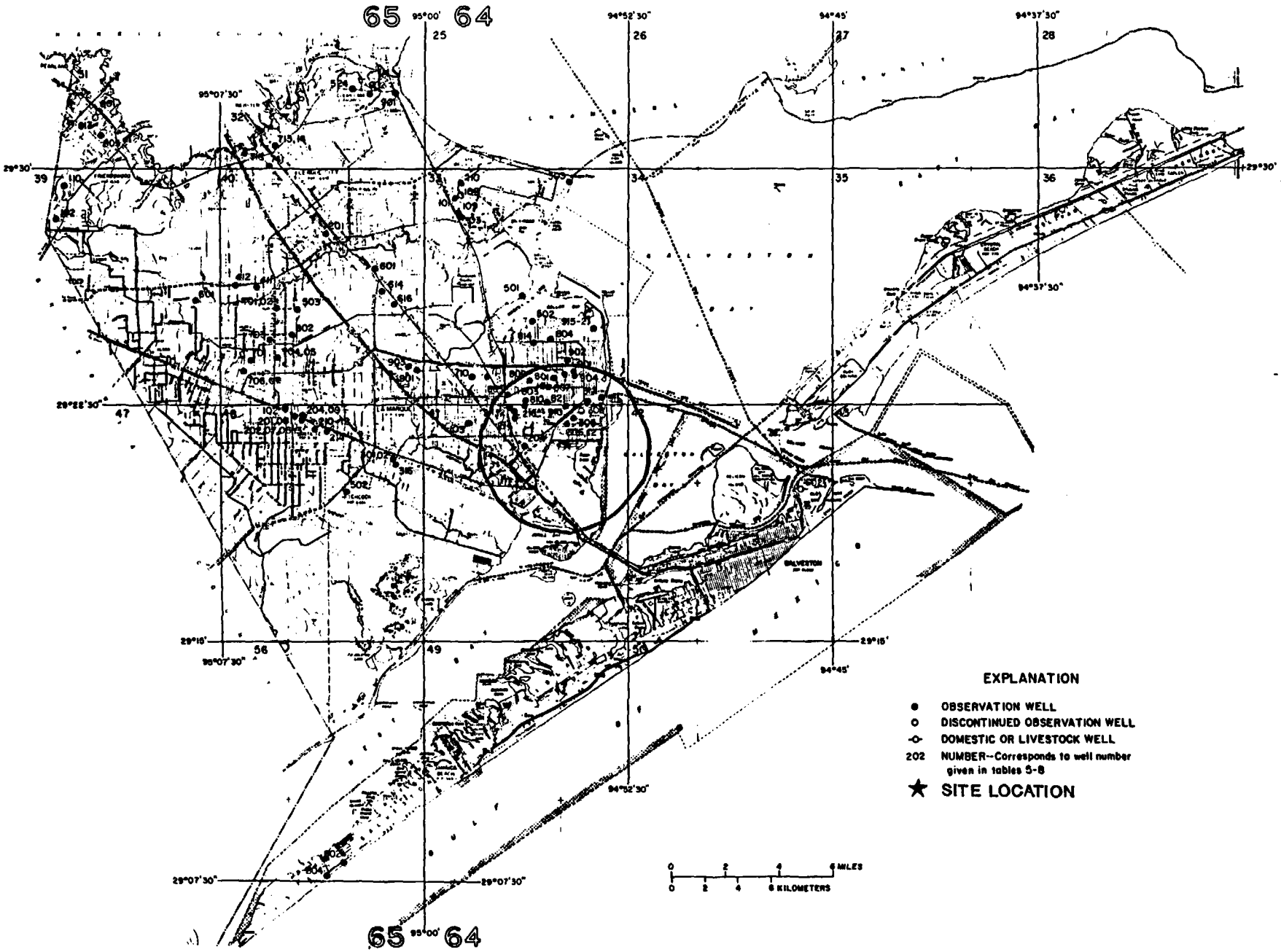
RECORDS OF WELLS, DRILLERS' LOGS, WATER-LEVEL MEASUREMENTS, AND CHEMICAL ANALYSES OF GROUND WATER IN HARRIS AND GALVESTON COUNTIES, TEXAS, 1980-84

By James F. Williams, III, L.S. Coplin, C.E. Ranzau, Jr.,
W.B. Lind, C.W. Bonnet, and Glenn L. Locke

U.S. GEOLOGICAL SURVEY
Open-File Report 87-378

Prepared in cooperation with the
CITY OF HOUSTON and the
HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT

1987



Base from Department of Texas Highways and Public Transportation

Figure 2.—Locations of wells in Galveston County.