RCRA FACILITY ASSESSMENT EVALUATION

PRELIMINARY REVIEW AND VISUAL SITE INSPECTION

Region VI, Technical Compliance Section

FACILITY'S NAME(S): Union Oil Company of California

EPA ID NUMBER: TXD010794097

ADDRESS: F.M. Highway 366 Nederland, TX.

LOCATION: Site is located on the 100-year floodplain of the Neches River approximately 1/2 mile north of Port Neches and 1 1/2 miles northeast of Nederland, Jefferson County, Texas.

SITE DESCRIPTION: Oil Refinery

PREPARED BY: Kristen Woody, TWC DATE PREPARED: 2/11/87

REVIEWED BY: Walter Helmick DATE REVIEWED:

ANTICIPATED DRAFT PERMIT DATE: Fourth quarter 1987

ANY ON-GOING STATE/FED 264, 265, or 270 CORRECTIVE ACTION OR CERCLA ACTION:

1. March 17, 1986 - CME conducted by the State found a Class I groundwater violation and a Class II "other" violation. The Class I violation was for a downgradient point of compliance not being sufficiently monitored.

2. The company entered into an enforcement agreement in 1984 due to a violation for lack of adequate freeboard. The company submitted a corrective action plan on July 16, 1984 describing the projects that would improve stormwater handling capabilities which follows:

   1) Construct a 12-acre stormwater impoundment,
   2) Increase the levee height of the stormwater basin, and
   3) Divert stormwater from the area into the Neches River via Outfall 003.

   Project 3 was completed, Project 1 was abandoned, and Project 2 was not accomplished.

DATE OF INSPECTION: 9/10/86

DOES FACILITY HAVE A CERCLA FILE? YES X NO ____ HAZSIT: TX1097B EPA: TXD010794097

Has a CERCLA PA/SI performed at this facility: Yes, PA 1/4/84; SI 5/30/84
final strategy: No further action (11/6/84)

DOES FACILITY HAVE UIC WELL? YES ____ NO X

194074

TYPE OF DRINKING WATER SUPPLY IN VICINITY OF REFINERY:
In the vicinity of the refinery, all drinking water is drawn from the lower Chicot aquifer at depths of 500-600 feet.

TARGET POPULATION WITHIN A 3-MILE RADIUS:
The cities of Nederland and Port Neches.

RECOMMENDATIONS: ____ S.V. __X__ R.I.I. ____ I.M. ____ No Further Action under RFA

(Indicate only one unless I.M. is marked)

__X__ 3004(u) ____ 3007

Possible Enforcement Action: ____ 3008(a) ____ 3008(h)

Form Rev. 2/20/87

I. Preliminary Review of Prior or Continuing Releases of Solid Waste Management Units (SWMU)

A. Evaluation of Information

1. The main purpose is to determine whether there has been or may have been a release(s) of hazardous waste or hazardous constituents from any SWMUs which will require corrective action measures under Section 3004(u) of the RCRA Hazardous and Solid Waste Amendments (HSWA) of 1984. The SWMUs of concern are:

a) SWMUs not regulated under RCRA; and

b) SWMUs regulated under RCRA regardless of whether they are subject to ground water monitoring requirements.

2. The purpose of this review is to:

a) Identify all SWMU;

b) Identify if there have been prior or continuing releases of hazardous wastes or hazardous constituents from such units to any media (air, surface water, ground water, soil & subsurface gas);

c) Determine if such releases caused environmental contamination that would require corrective action; and

c) Determine what additional information or investigation is needed to clarify whether there has been a release or if a potential for a release exists.

II. Visual Site Inspection

A. Purpose

* Verify PR Information

* Identify additional releases

* Assess Condition of Solid Waste Management Units (SWMU)

* Determine Sampling Locations for a Sampling Visit when applicable

B. NUMBER OF SWMU INVESTIGATED DURING THE PR/VSI: 15

LIST OF SWMU	REGULATED BY RCRA*	STATUS**	SUBJECT TO GWM*** SUBPART F
* 1) C1 Surface Impoundment	Y	A	Y
2) D2 Landfill (Class II, III)	N	I	N
* 3) C3 Surface Impoundment	Y	A	N
4) D4 Container Storage Area	Y	A	N
5) D5 Container Storage	Y	A	N

*Groundwater monitoring wells exist that could detect contamination.

	LIST OF SWMU	REGULATED BY RCRA*	STATUS**	SUBJECT TO GWM*** SUBPART F
6)	06 Tank (26)	Y	A	N
7)	07 Tank (27)	Y	A	N
8)	08 Tank (91)	Y	A	N
9)	Tank-API Separator 1 (1)	Y	A	N
10)	Tank-API Separator 2	Y	A	N
11)	Weathering Pit/Landfill (2)	Y	I	Y
12)	Equalization Basin	N	A	N
13)	Aeration Basin	N	A	N
14)	Final Clarifier	N	A	N
15)	Aerobic Digestor	N	A	N

(1) The TANK-API Separator 1 & 2 were considered as a single unit in the RFA from TWC.

(2) This SWMU was inactivated in 1965 but details of the closure are not clear. Leaded Tank Bottoms were deposited in weathering pits while polycatalyst (phosphoric acid with clay) was deposited in a nearby landfill. Both sites were covered by the 01 Surface Impoundment in the late 1960's.

C. NUMBER OF SWMU IDENTIFIED DURING THE VSI (NOT IDENTIFIED IN THE PR): 0

D. NUMBER OF SWMU, AT WHICH RELEASES HAVE BEEN IDENTIFIED: 3

	LIST OF SWMU	REGULATED BY RCRA*	RELEASE TO	NOTED DOCUMENTATION OF RELEASE
1)	01-Surface Impoundment	Y	Soil	Inspection reports and the TWC District 6 Office report seepage from surface impoundment dike.
2)	Weathering Pits/Landfill	Y	Soil	CERCLA Investigation.
3)	03-Surface Impoundment	N	Surface Water and Soil	Documented overflow during heavy rainfall event.

E. NUMBER OF SWMU, (REGULATED) AT WHICH RELEASES TO GROUNDWATER HAVE BEEN IDENTIFIED: 0

F. NUMBER OF SWMU AT WHICH A RELEASE IS HIGHLY POSSIBLE: 2

LIST OF SWMU

1) Tank-API Separator 2
2) Equalization Basin

* Y - Yes
N - No
? - Unknown

** Active or Inactive (A or I)
*** GWM-Ground Water Monitoring

6. NUMBER OF SWMU WHERE A DETERMINATION OF RELEASE CAN NOT BE MADE DUE TO LACK OF INFORMATION: 4

LIST OF SWMU	RATIONALE
1) G2 Landfill (Class II, III)	Records of landfilled wastes are not sufficiently detailed to indicate the presence of Appendix VIII constituents. CERCLA report indicates that the lining is insufficient.
2) Aeration Basin	Unlined above-ground surface impoundment of which no construction or design details are available. It is part of the wastewater treatment facility which treats water known to contain Appendix VIII constituents. Releases to groundwater are possible. Aeration Basin sludge and wastewater should be analyzed for the concentrations of hazardous constituents.
3) Aerobic Digestor	Below-ground concrete tank first built in 1953. There are no documented inspection reports looking at the internal integrity of the vessel. This unit is downstream from the final clarifier. If hazardous constituents are found in its sludge and wastewater, then release of hazardous constituents to the groundwater is possible.
4) Final Clarifier	Steel tank with small portion below ground where leakage can not be detected. Releases to groundwater are possible. This unit is part of the wastewater treatment facility which is known to contain Appendix VIII constituents. The sludge and wastewater should be analyzed for concentrations of hazardous constituents.

. NUMBER OF SWMU WITH NO INDICATED RELEASES: 6
(Documentation is necessary for a SWMU to be included in this category.)

LIST OF SWMU

1) 04 Container Storage Area
2) 05 Container Storage
3) 06 Tank (26)
4) 07 Tank (27)
5) 08 Tank (31)
6) Tank-API Separator 1

1. NUMBER SWMU TO BE INCLUDED IN THE RFI: 8
(Except RCRA units subject to Subpart F)

LIST OF SWMU	RATIONALE
1) Tank - API Separator 2	This separator is a below-grade concrete tank placed in service in 1957. There is no method for detection of leakage. The RFI is to determine extent of possible contamination.
2) Weathering Pits/Landfill	This SWMU was inactivated in 1985 but details of the closure are not clear. Leaded tank bottoms were deposited in weathering pits while polycatalyst (phosphoric acid with clay) was deposited in a nearby landfill. Both sites were covered by the 01 Surface Impoundment in the late 1960's. The RFI is to determine extent of soil contamination and define the proximity of acidic material to the lead.
3) 02 Landfill (Class II, III)	This landfill is capped and supports a vegetative cover. It is known to contain Class II and III non-hazardous waste but records are not sufficiently detailed to indicate whether Appendix VIII constituents are present. The CERCLA Site Investigation reported that Union was cited in 1971 for dumping trash in an area with insufficient lining. After testing to determine if

LIST OF SWMU	RATIONALE
	hazardous constituents are present, an RFI should be conducted to determine the extent of subsurface soil and groundwater contamination.
4) 03 Surface Impoundment	Surface impoundment receiving stormwater runnoff, process wastewater and overflow from the sludge disposal impoundment. An RFI is recommended to upgrade existing monitoring system and determine if releases to groundwater have occurred.
5) Equalization Basin	This below-grade surface impoundment was built in 1977 as part of the wastewater treatment facility. No construction or design details are available. There is probably no constructed liner. The sludge is not a hazardous waste but contains several hazardous constituents which could be a threat to groundwater. An RFI is recommended to determine if Appendix VIII constituents have entered the groundwater.
6) Aeration Basin	This unit is part of the wastewater treatment facility which is known to contain Appendix VIII constituents. Sludge and wastewater should be analyzed for concentrations of hazardous constituents. If they are found then releases to groundwater are possible.
7) Final Clarifier	This steel tank has a small portion below ground. There is no evidence of leakage from the tank; however, leakage from the bottom of the tank cannot be easily detected. Since this unit is part of the wastewater treatment facility, sludge and wastewater should be analyzed for concentrations of hazardous constituents. Releases to groundwater from this unit are possible.

LIST OF SWMU	RATIONALE
c) Aerobic Digestor	Below-ground concrete tanks first built in 1953. There are no documented inspection reports looking at the integrity of the vessel. This unit is part of the wastewater treatment facility known to contain Appendix VIII constituents. Sludge and wastewater should be analyzed for concentrations of hazardous constituents. If they are found then releases to groundwater are possible.

J. SUPPLEMENTAL INFORMATION ON RCRA REGULATED UNITS: 1
(describe any problems identified or suspected from regulated units)

LIST OF SWMU	CONCERNS
D) Surface Impoundment	The adequacy of the groundwater monitoring system is in question, since they have been cited for a Class I groundwater violation. The violation was for having downgradient wells screened in three sections of the aquifer. If contamination is found as a result of a groundwater study, a compliance monitoring program for this unit will be incorporated into the permit.

K. ARE FACILITY MAPS/PHOTOS INCLUDED WITH ORIGINAL VSI REPORT? YES X NO ___

Maps only

11. RECOMMENDATIONS: (EPA, STATE and/or CONTRACTOR)

EPA agrees with TRC recommendations for a RFI for eight (8) SWMUs. The eight SWMUs are as follows:

1. D2 Landfill (Class II and III)
2. D3 Surface Impoundment
3. Weathering Pits/Landfill
4. Tank - API Separator 2

The Waste Water Treatment Facility including the

5. Aerobic Digestor
6. Final Clarifier
7. Aeration Basin
8. Equalization Basin

CONCUR: _____ DATE: _____