

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Lubrizol - Deer Park Plant
Facility Address: 41 Tidal Road, Deer Park, TX 77536-0158
Facility EPA ID #: TXD041067638

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

X If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

_____ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**¹ above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	<u> </u>	<u> </u>	<u>12 COCs exceed default risk levels; See Comment 5</u>
Air (indoors) ²	<u> </u>	<u>X</u>	<u> </u>	<u>No enclosed work areas overlie VOC plumes</u>
Surface Soil (e.g., <2 ft)	<u>X</u>	<u> </u>	<u> </u>	<u>1 COC exceeds default risk levels; See Comment 5</u>
Surface Water	<u> </u>	<u>X</u>	<u> </u>	<u>See Comment 5 Below</u>
Sediment	<u> </u>	<u>X</u>	<u> </u>	<u>See Comment 5 Below</u>
Subsurf. Soil (e.g., >2 ft)	<u>X</u>	<u> </u>	<u> </u>	<u>16 COCs exceed default risk levels; See Comment 5</u>
Air (outdoors)	<u> </u>	<u>X</u>	<u> </u>	<u>See Comment 5 Below</u>

If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

1. RCRA Facility Investigations (RFIs) and/or closure investigations were conducted for three units. The investigations were approved by the Texas Natural Resource Conservation Commission (TNRCC) and the units were "Clean Closed" with no further action required. Details of the three units are as follows:

Aeration Basin (Lagoon) - Investigation of this unit was approved by the TNRCC with No Further Action on August 21, 1990 following Lubrizol's demonstration that the operation of the unit had not affected groundwater quality.

Tank LAB-B - The interim-status hazardous waste unit was closed in accordance with the provisions of 30 TAC §335.112, §335.211-.216, §335.265 and §335.286 and the general applicability requirements of Title 40 Code of Federal Regulations Section 265.111. The TNRCC approved closure of the unit on December 11, 1987.

The Filter Cake/ Concrete Storage Pit (Box) - The unit was closed pursuant to the notification and sampling requirements of Emergency Rule 30 Texas Administrative Code Section 335.6(f). This closure was approved by the TNRCC on August 19, 1988.

2. RFIs were completed for six additional units and, following the implementation of corrective measures, the units were closed in accordance with Texas Title 30 TAC Chapter 335 Subchapter S, Risk Reduction Rules with no further action required. The final closure dates and closure standards were as follows:

Equalization Basin – Texas Risk Reduction Standard No. 3 (RRS 3), April 3, 1995;

No. 1 Lift Station – Texas RRS 3, January 9, 1998;

No. 2 Lift Station – Texas RRS 2, November 24, 1998;

B5 Area of Concern (Compressor Area) – Texas RRS 2, January 9, 2001;

*Soil Pile (SWMU “V”) – Texas RRS 2, January 9, 2001; and,
Abrasive Blast Area (SWMU 045) – Texas RRS 2, December 13, 2001.*

3. RFIs have been completed for two units and follow-on corrective action is in-progress as shown below:

- *Unit 116 - #1 Muriatic Acid Unit (SWMU “U”)*
 - *The RFI was completed on May 14, 1999 and approved on January 5, 2000*
 - *Interim Corrective Measures (ICMs) (groundwater recovery) have been in effect since September 1997*
 - *The TNRCC verbally approved combining the unit into the adjacent Unit 116 Area of Concern (AOC) below on June 4, 2002. Written approval is pending.*
- *Unit 116 Area of Concern*
 - *The RFI was completed on April 27, 2001 and approved on October 15, 2001*
 - *ICMs (groundwater recovery) have been in effect since May 2002*
 - *Baseline Risk Assessment due December 31, 2002 (Draft Compliance Plan CP-50077, dated July 3, 2002)*
 - *Corrective Measures Study due December 31, 2003 (Draft CP-50077, dated July 3, 2002).*

4. RFIs/Affected Property Assessments are required for four additional units (Draft CP-50077, dated July 3, 2002) and the status of corrective action is as listed below:

- .AOC near No. 1 Lift Station – RFI is in-progress – report due to TNRCC by December 31, 2003*
- Soil Boring SB-7 Area of Concern – RFI is in-progress - report due to TNRCC by December 31, 2003*
- Soil Boring SB-25 Area of Concern - Report is due to TNRCC by December 31, 2004*
- Soil Boring SB-35 Area of Concern – RFI is in-progress - report due to TNRCC by December 31, 2003*

5. Based on the results of the above investigations and a review of solid waste management units, affected media and applicable risk-based standards are as described below:

Groundwater: *Based on the results of completed investigations, there are 12 constituents present in groundwater at concentrations that exceed the TNRCC’s default health-based limits established under Title 30 Texas Administrative Code Chapter 335 Subchapters A and S and Chapter 350.*

Constituents of Concern in Groundwater That Exceed Default Health-based Targets (Concentrations in milligrams/liter (mg/L))

Constituent	CAS	Maximum Detected Conc.	Risk Reduction Standard (RRS 2) GW-Ind	Texas Risk Reduction Program (TRRP) ^{GW} GW _{ing} Industrial
Chlorinated COCs				
1,1-Dichloroethene	75-35-4	0.193	0.007	0.007
cis 1,2-Dichloroethene	156-59-2	3.15	0.07	0.07
trans 1,2-Dichloroethene	156-60-5	0.194	0.10	0.10
Tetrachloroethylene	127-18-4	0.007	0.005	0.005
Trichloroethene	79-01-6	2.04	0.005	0.005
Vinyl Chloride	75-01-4	0.892	0.002	0.002
Petroleum Hydrocarbon COCs				
Benzene	71-43-2	0.043	0.005	0.005
Ethyl benzene	100-41-4	0.976	0.70	0.70
Oxygenated COCs				

4-Methyl 2-pentanone (MIBK)	108-10-1	37.5	8.2	5.8
RCRA Metal COCs				
Arsenic	7440-38-2	0.039	0.01	0.01
Barium	7440-39-3	229	2.0	2.0
Lead	7439-92-1	0.101	0.015	0.015

Notes:

1. Source - "Semi Annual Report (January - June 2002), Stabilization/Interim Measures Status and Groundwater Monitoring, Unit 116 Area of Concern, The Lubrizol Corporation, Deer Park Texas Facility" July 2002
2. Maximum reported concentrations represent the highest analytical result detected for each constituent of concern in groundwater samples collected from the Shallow Zone, A1, and A2 water-bearing units. Concentrations shown are for the most current groundwater sampling event.

Air (Indoors): Not Impacted. *Based on the results of completed investigations, there are no enclosed ground-level work areas present over soil or groundwater contamination plumes containing volatile organic constituents. There are partially enclosed facility work areas that overlie contaminated subsurface soil or groundwater plumes, but the areas are covered by concrete roadways and process unit containment structures and ventilation in these areas is not restricted.*

Surface Soil: *Based on the results of completed investigations, there is one constituent present in surface soils at concentrations that exceed TNRCC's default health-based limits established under Title 30 Texas Administrative Code Chapter 335 Subchapter A and S and Chapter 350. This soil sample was collected in the 0-2 feet depth interval beneath a concrete containment structure.*

**Constituents of Concern in Shallow Soils That Exceed Default Health-based Targets
(Concentrations in milligrams/liter (mg/Kg))**

Constituent	CAS	Maximum Detected Conc. (mg/Kg)	Risk Reduction Standard (RRS 2) SAI-Ind	Texas Risk Reduction Program (TRRP) ^{TotSoilComb} Industrial
4-Chlorotoluene	106-43-4	65.4	4.8	6.7

Surface Water: *Not Impacted as a Consequence of Releases at Lubrizol. Patrick Bayou is a tidally-influenced, south-to-north flowing tributary of Buffalo Bayou and forms the boundary between the Lubrizol Facility on the east bank and the Shell Chemical property on the west bank. The bayou flows north into Segment 1006 of Buffalo Bayou (a.k.a. "Houston Ship Channel"), approximately 1.9 miles north of the Facility. Segment 1006 of Buffalo Bayou and Patrick Bayou (Segment 1006-A) have been classified for navigation and industrial water supply purposes only. Although not believed to have been impacted as a consequence of releases at the Lubrizol facility, Patrick Bayou is known to be an impaired surface water body. Recently, the EPA conducted a screening investigation at the bayou and the bayou is currently undergoing a Total Maximum Daily Load (TMDL) study. Storm water and process water discharges from the facility are controlled and closely monitored in accordance with TNRCC TPDES Permit No. 00639.*

Sediment: *Not Impacted as a Consequence of Releases at Lubrizol. Process, storage, and handling areas*

at the facility are completely covered by concrete roadways, containment structures, pads, and buildings thereby limiting sediment accumulation on-site. Sediment samples collected in association with a recent EPA screening and an on-going TMDL study of a nearby surface water body (Patrick Bayou) have indicated the presence of PCBs, pesticides, volatile and semi-volatile organic compounds, and heavy metals as constituents of concern in bayou sediments.

Subsurface Soil: Based on the results of completed investigations, there are 16 constituents present in subsurface soils at concentrations that exceed TNRCC's default health-based limits or groundwater protection standard established under Title 30 Texas Administrative Code Chapter 335 Subchapter A and S and Chapter 350. Identified constituents of concern are listed below.

**Constituents of Concern in Subsurface Soils That Exceed Default Health-based Targets
(Concentrations in milligrams/liter (mg/Kg))**

Constituent	CAS	Maximum Detected Conc.	Risk Reduction Standard (RRS 2) <small>SAL,Ind/GWP,Ind</small>	Texas Risk Reduction Program (TRRP) <small>TotSoilComb Industrial</small>	Texas Risk Reduction Program (TRRP) <small>GWSoilIng Industrial</small>
Chlorinated COCs					
4-Chlorotoluene	106-43-4	6.94	4.8/200	6.7	32
cis 1,2-Dichloroethene	156-59-2	0.829	2500/7.0	6,400	0.25
Trichloroethene	79-01-6	0.238	6.6/0.5	310	0.034
Vinyl Chloride	75-01-4	0.128	0.066/0.2	15	0.022
Petroleum Hydrocarbon COCs					
Benzene	71-43-2	0.041	1.6/0.5	67	0.026
Ethyl benzene	100-41-4	124	6,900/70	18,000	7.6
o-Xylene	95-47-8	167	48,000/1,000	66,000	71
m-, p-Xylene	108-38-3 /	520	3,300 and 3,800	9,300	110 and 150
Oxygenated COCs					
4-Methyl 2-pentanone	108-10-1	117	2,900 / 820	5,200	15
RCRA Metal COCs					
Arsenic	7440-38-2	36.7	200 / 1.0	200	1.0
Barium	7440-39-3	111,000	59,000 / 200	39,000	440
Cadmium	7440-43-9	4.3	1,500 / 0.5	850	1.5
Chromium	16065-83-1 /	614	350,000 / 10	95,000	2,400
Lead	7439-92-1	45.9	1,000 / 1.5	1,600	3.0
Mercury	7439-97-6	2.34	9.6 / 0.2	19	2.1
Silver	7440-22-4	8.55	2,900 / 51	1,900	1.4

Air (outdoors): Not Impacted. Based on the results of air monitoring conducted during numerous RCRA facility investigations, outdoor air has not been affected by the release of volatile organic compounds known to be present in contaminated soil and groundwater media in concentrations that exceed the default TNRCC health-based limits. Facility areas that overlie contaminated subsurface soil or groundwater plumes are covered by concrete roadways and process unit containment structures that inhibit the release of contaminants into the atmosphere.

Footnotes:

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or

dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

²Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

“Contaminated” Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	<u>No</u>	<u>No</u>	<u>No</u>	<u>Yes</u>			<u>No</u>
Air (indoors)							
Soil (surface, e.g., <2 ft)	<u>No</u>	<u>No</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)				<u>Yes</u>			<u>No</u>
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not “contaminated”) as identified in #2 above.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

- X** If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

The Lubrizol Deer Park Facility is located in the heavily industrialized corridor known as “The Houston Ship Channel” and is bordered by industrial and petrochemical facilities to the west, north, and east. To the south, the facility is bordered by State Highway 225.

The groundwater gradient for the uppermost saturated units is to the northwest. The nearest residential area.

is located approximately ½ mile south (up-gradient) of the process areas of the facility. There are no residential water supply wells located within one mile of the facility. Two potable water supply wells are located on the Lubrizol facility. Both are located up-gradient (eastward) of known groundwater plumes and are screened at a depth of 1,350 feet below ground surface, well below documented contamination involving shallow groundwater units. There are 14 industrial supply water wells located within one mile of impacted groundwater plumes at the facility. All are screened at depths greater than 300 feet below ground surface, well below documented contamination involving shallow groundwater units. The facility is fenced and guard gates are manned or monitored 24 hours each day, thereby limiting potential exposure of the general public to contaminated media at the facility.

Concrete structures at the facility (including buildings, roadways, lay-down yards, process units, and containment structures) cover virtually the entire ground surface in the area of impacted soils or groundwater thereby limiting potential exposure by site workers. There are no residences or day care centers within one mile of the facility in the down-gradient direction (north and west) of groundwater contamination. Food crops are not grown on the facility, nor are there any animal husbandry or fishing activities conducted on-site.

Groundwater: *Groundwater contaminated by chlorinated, petroleum, and oxygenated hydrocarbons and RCRA metals may be encountered during infrequent construction and maintenance activities that require excavation to depths up to 15 feet below ground surface in the area of groundwater plumes. Complete human health exposure pathways include dermal contact, inhalation of vapors, or incidental ingestion by unprotected workers exposed to contaminated groundwater during infrequent short-term construction activities. There are no groundwater supply wells that could potentially be impacted. .*

Surface Soil: *Although not exposed at the surface, impacted shallow soil media may be encountered at a depth of less than two feet beneath the concrete containment surface cover in a small area at one process unit. Complete human health exposure pathways include ingestion, dermal contact, and inhalation of vapors by unprotected workers exposed to contaminated soils during infrequent short-term construction activities.*

Subsurface Soil: *Contaminated subsurface soils may be encountered during construction and maintenance activities that require excavation to depths of 2 to 15 feet below ground surface in the areas of contaminated soil plumes. Complete human health exposure pathways include ingestion, dermal contact and inhalation of vapors by unprotected workers exposed to contaminated soil media during infrequent, short-term construction activities.*

Surface Water and Sediment: *Although recognized as an impaired water body, constituents of concern in surface water and sediments at Patrick Bayou are not believed related to releases at the Lubrizol Facility. The bayou water is classified for navigation and industrial supply use only and access to the bayou is limited by security fences. Therefore, there is not a complete pathway for human health exposure.*

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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- 4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

 X If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

Construction Worker Scenario: On occasion, maintenance or construction activities are conducted in the vicinity of contaminated soil or groundwater media. Work permits and construction plans are reviewed to assess whether there is potential for workers to be exposed to constituents at concentrations above the default health-based limits. If the potential for exposure exceeds default health-based levels, the workers must be OSHA HAZWOPER-trained (29 CFR 1910.120) and wear protective clothing and equipment. Work sites are monitored and respiratory protection and dust-suppression measures are used, as appropriate.

Corrective Action Worker Scenario: All workers involved with investigation and RCRA corrective action are OSHA HAZWOPER trained and are required to conduct monitoring of the work environment, wear appropriate levels of personal protective equipment and adhere to safe work practices as established in site-specific health and safety plans that are reviewed by a certified industrial hygienist

A human-health baseline risk assessment is currently in-progress for the Unit 116 Area of Concern (including #1 Muriatic Acid Unit) to assess potential adverse health effects associated with complete exposure pathways. Based on the results of the risk assessment, additional safety margin (higher allowable constituent concentrations) may be identified beyond the default health-based limits employed in this evaluation of Environmental Indicator CA 725 “Current Human Exposures Under Control”.

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5 Can the “significant” **exposures** (identified in #4) be shown to be within **acceptable** limits?

If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

If no (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.

If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

X YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at ***The Lubrizol Corporation Deer Park, Texas facility, EPA ID #TXD041067638, located at 41 Tidal Road, Deer Park, Texas 77536*** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature) _____ Date _____
(print) Xiaohong Wang
(title) Project Manager

Supervisor (signature) _____ Date _____
(print) Jason wang
(title) Team leader
(EPA Region or State) Region VI, Texas

Locations where References may be found:

All references are available from The Lubrizol Corporation or can be obtained from the Texas Natural Resource Conservation Commission. The Commission is headquartered at 12100 Park 35 Circle, Austin, Texas 78753 (telephone 512-239-1000). The TNRCC Region 12 office is located at 5425 Polk Street, Houston, Texas 77023 (telephone 713-767-3600).

Key references are as listed below:

TPDES Permit No. 00639 (dated 4/25/97) and NPDES Permit No. TX0007048 (dated 10/25/93).

Hazardous Waste Permit No. HW-50077, Issued Feb 16, 1988, renewed April 16, 1999.

Hazardous Waste Compliance Plan No. CP-50077, Issued Feb 16, 1988, renewed April 16, 1999. TNRCC draft of amended CP-50077, dated July 3, 2002.

TNRCC Letter, "Closure of No. 2 Lift Station - Approval", dated November 24, 1998.

TNRCC Letter, "Supplemental Assessment and Ground-Water Analytical Results & Risk Reduction Evaluation of the No. 1 Lift Station - Approval", dated January 9, 1998.

TNRCC Letter, "Equalization Basin Risk Reduction Evaluation Dated October, 1992" (Approval), dated April 3, 1995.

TNRCC Letter, "RCRA Facility Investigation Report" (Aeration Basin - Approval), dated August 21, 1990.

TNRCC Letter, "Partial Facility Closure Certification - Tank LAB-B" (Approval), dated December 11, 1987.

TNRCC Letter, "RCRA Facility Investigation (RFI) Work plan" (Filter Cake Below-Grade Concrete Storage Tank, Clean Closure Approval), dated August 19, 1988.

TNRCC Letter, "Approval of RFI (Closure) Report – Risk Reduction Standard No. 2, B-5 Area of Concern (Compressor Area)", dated April 27, 2000.

TNRCC Letter, "Acceptance of Deed Certification and Release from Post-Closure Care Responsibilities, B-5 Area of Concern (Compressor Area)", dated January 9, 2001.

Lubrizol Letter, "RCRA Facility Investigation – Soil Pile (SWMU "V"), dated August 31, 1999.

TNRCC Letter, "Approval of RFI (Closure) Report – Risk Reduction Standard No. 2", Soil Pile (SWMU "V"), dated June 8, 2000.

TNRCC Letter, "Remediation/Closure-Risk Reduction Standard No. 2, Acceptance of Deed Certification and Release From Post-Closure Care Responsibilities, Soil Pile (SWMU "V")", dated January 9, 2001.

Lubrizol Letter, "Preliminary Report Unit 116 Release; Reported 7/23/97" (later named "Unit 116 - #1 Muriatic Acid Unit [MUA]), dated October 31, 1997

TNRCC Letter, "RCRA Facility Investigation Report – Phase II, Unit 116-#1 MUA Unit (SWMU U) (Approval) dated January 5, 2000.

Lubrizol Letter, "Request to Combine Unit 116 - #1 MUA Corrective Action Project into Unit 116 Area of Concern Corrective Action Project", dated June 14, 2002.

TNRCC Letter, "RCRA Facility Investigation Report, Abrasive Blast Area (ABA) (SWMU 045) – Approval", dated July 20, 2001.

TNRCC Letter, "Closure/Remediation – Risk Reduction Standard No. 2, Acceptance of Deed Certification and Release From Post-Closure Care Responsibilities", (Abrasive Blast Area), dated December 13, 2001.

Lubrizol Letter, "RCRA Facility Investigation Report – Unit 116 Area of Concern", dated April 27, 2001.

TNRCC Letter, "RCRA Facility Investigation Report (Phase II), Unit 116 Area of Concern (Approval)", dated October 15, 2001.

Lubrizol Letter, "Semi-Annual Report (January – June 2002) – Stabilization/Interim Corrective Measures and Groundwater Monitoring, Unit 116 Area of Concern", dated July 16, 2002.

TNRCC Letter, "RCRA Facility Investigation (RFI) Report – Two Areas of Concern Near No. 1 Lift Station" (Request to conduct additional assessment – Phase II RFI), dated October 22, 1999.

TNRCC Letter, "RCRA Facility Investigation Report (Phase II), Unit 116 Area of Concern (Approval)" (Request to conduct investigations for SB-7 AOC, SB-25 AOC, and SB-35 AOC), dated October 15, 2001.

Contact telephone and e-mail numbers

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Status Report: As of August 15, 2002

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

**Migration of Contaminated Groundwater Under Control
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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code: CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YB - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Lubrizol Corporation, Deer Park facility, EPA ID # TXD 041067638, located at Deer Park, Texas. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination.

Completed by

(signature)

Jason Wang
(print) Jason Wang
(title) Supervisor

Date 4/29/2004

Supervisor

(signature)

Ata-ur-Rahman
(print) Ata-ur-Rahman
(title) Section Manager
(EPA Region or State) Texas

Date 4/29/2004

Locations where References may be found:

TCEQ Central Records, Austin, Texas

Contact telephone and e-mail numbers

(name) Jason Wang
(phone #) 512-239-2242
(e-mail) jwang@tceq.state.tx.us

Final Note: The purpose of the Migration of Contaminated Groundwater EI is to verify that the groundwater plume is stable. A "YB" determination does not constitute a screening tool to end the corrective action process. The "YB" determination may be changed at any time as new information becomes available.