DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Equilon Enterprises, LLC (Odessa Refining Company)
Facility Address: 2700 South Grandview, Odessa, Texas 79766
Facility EPA ID #: TXD026896290

1.Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, 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 #8 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 "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "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 "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

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).

2. Is groundwater known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

__X*__ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

_____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

* ***"Yes" denoted due to the presence of constituents within groundwater above the media-specific concentrations (MSCs) specified in the Texas Risk Reduction Rules, 30 Texas Administrative Code (TAC) Chapter 335, Updated Examples of Risk Reduction Standard No. 2 (RRS#2), Appendix II Medium-Specific Concentrations, July 1999.***

Rationale and Reference(s):

Rationale:

GROUNDWATER

Key Contaminants	Appropriate Protective Levels (mg/L)**
• arsenic	0.05
• benzene	0.005
• cresols (total)	0.51
• 1,2-dichloroethane	0.005
• ethylbenzene	0.7
• indene	0.00039
• 1-methylnaphthalene	4.1
• naphthalene	2.0
• styrene	0.1
• toluene	1.0
• xylenes	10.0

** ***RRS#2 industrial groundwater (GW-Ind) MSC.***

References:

- **Seventh Annual Status Report, 1998, West Facility Interim Corrective Action Implementation, RMT, Inc., January 1999.**
- **Compliance Plan CP-50152, 1998 Annual Report, RMT, Inc., January 1999.**
- **RCRA Facility Investigation Soil-Boring Report, RMT, Inc., December 1993.**
- **Texas Risk Reduction Rules, 30 TAC Chapter 335, Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations, July 1999.**

Footnote:

[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 appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

__X__ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Rationale:

- **Time series evaluation of groundwater data indicates a diminishing plume condition. Past investigations have identified suspected sources of leaks/releases (*e.g.*, from process units, land treatment of wastewater) – each of which has been adequately addressed.**

- **The refinery shut down operations in 1998 and all units were removed in 1999. Therefore, the majority of potential contributing sources of contamination have been removed from the facility. All process units and most tanks have been removed. Process unit and tank removal, in conjunction with continuing implementation of tank inspection procedures, serves to minimize potential future impact.**

References:

- **Seventh Annual Status Report, 1998, West Facility Interim Corrective Action Implementation, RMT, Inc., January 1999.**
- **Compliance Plan CP-50152, 1998 Annual Report, RMT, Inc., January 1999.**

4. Does "contaminated" groundwater discharge into surface water bodies?

____ If yes - continue after identifying potentially affected surface water bodies.

__X__ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Rationale:

- **Prior stream and sediment investigations do not show any impacts to surface water. Corrective action system maintains hydrocarbon plume on-site, thereby preventing any potential impact to off-site surface water.**

References:

- **Investigation of Ground-Water Conditions at and Around the Dixie Road Wastewater Treatment Site, Jones and Neuse, Inc./IT Corporation, August 1990.**

Not Applicable

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

Not Applicable

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s):

7. **Will groundwater monitoring / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"**

__X__ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

Rationale:

- **Interim corrective measures will include groundwater sampling.**
- **Groundwater monitoring is being conducted in accordance with the Ground-Water Compliance Sampling and Analysis Plan dated April 1994.**

References:

- **Seventh Annual Status Report, 1998, West Facility Interim Corrective Action Implementation, RMT, Inc., January 1999.**
- **Compliance Plan CP-50152, 1998 Annual Report, RMT, Inc., January 1999.**

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).

_X_ YE - 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 **Equilon Enterprises, LLC (Odessa Refining Company)** facility, EPA ID **#TXD026896290**, located at **2700 South Grandview, Odessa, 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) _____ Date _____
(print)
(title)

Supervisor (signature) _____ Date _____
(print)
(title) _____
(EPA Region or State) _____

Locations where References may be found:

Texas Natural Resource Conservation Commission
P.O. Box 13087, Austin, Texas 78711-3087

Contact telephone and e-mail numbers:

(name) _____
(phone #) _____
(e-mail) _____

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).

__X__ YE - 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 **Equilon Enterprises, LLC (Odessa Refining Company)** facility, EPA ID # **TXD026896290**, located at **Odessa, TX**. 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) _____ Date 2/28/03
(print) Gary Beyer
(title) Project Manager

Supervisor (signature) _____ Date 2/28/03
(print) Jason Wang
(title) Team Leader
(EPA Region or State) Texas

Locations where References may be found:

Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination.

Contact telephone and e-mail numbers

(name) Gary Beyer
(phone #) (512) 239-2361
(e-mail) gbeyer@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 "YE" DETERMINATION DOES NOT END THE CORRECTIVE ACTION PROCESS. THE EI MAY BE CHANGED AT ANY TIME AS NEW INFORMATION BECOMES AVAILABLE.

OM/TZ concurrence supplied