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HRS DOCUMENTATION RECORD

for

Tucker Oil Refinery Clinton Manges Refinery

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August 15, 2000

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HAZARD RANKING SYSTEM DOCUMENTATION RECORD

for

**Clinton Manges Oil and Refining Company
Anderson County, Texas
SWR No. 83334**

Volume II of II

Prepared by:

**Texas Natural Resource Conservation Commission
Superfund Site Discovery and Assessment Program
Austin, Texas**

August 2000

HRS
Documentation Record

Clinton Manges Oil and Refining Company
Anderson County, Texas

TNRCC SWR No. 83334

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HRS DOCUMENTATION RECORD

CLINTON MANGES OIL AND REFINING COMPANY

ANDERSON COUNTY, TEXAS

SWR 83334

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ATTACHMENTS

Attachment A - Site Photographs

Attachment B - US Geological Survey 7.5 Minute Topographic Maps
 Southwest Palestine Quadrangle. 1982.
 Long Lake Quadrangle. 1964.

Attachment C - Summary of Ground Water Potential Contamination Population

HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

SITE NAME: CLINTON MANGES OIL AND REFINING COMPANY

CONTACT PERSON:

Documentation Record: Kelly Cook - TNRCC Project Manager 512/239-2525

PATHWAYS OF CONCERN:

Ground Water Pathway

Releases of hazardous substances to the ground water pathway are the major concern for this site. Hazardous substances have been documented in the subsurface soils and shallow ground water beneath the site. The Carrizo-Wilcox Aquifer and the overlying Queen City Aquifer, which is inner-connected to Carrizo Wilcox, are the aquifers of concern. The Ground Water Pathway is being scored based on the threat of potential contamination to area drinking water wells.

PATHWAYS, COMPONENTS, OR THREATS NOT EVALUATED:

Surface Water Pathway

The Ground Water to Surface Water Migration Component of the Surface Water Migration Pathway was not evaluated due to the lack of an observed release. The Drinking Water Threat in the Surface Water Overland/Flood Migration Pathway was not evaluated due to the lack of drinking water targets within the 15 mile Target Distance Limit (TDL). The Human Food Chain Threat in the Surface Water Overland/Flood Migration Pathway was not evaluated due to the lack of an observed release. The Environmental Threat in the Surface Water Overland/Flood Migration Pathway was not evaluated due to the lack of an observed release.

Soil Exposure Pathway

The Soil Exposure Pathway was not evaluated due to the lack of targets and because the inclusion of this pathway would not significantly affect the site score. In addition, the site is currently maintained with a high security chain link fence, thereby restricting public access.

Air Migration Pathway

The Air Migration Pathway was not evaluated due to the lack of an observed release and because the inclusion of this pathway would not significantly affect the site score.

(Although these pathways have not been evaluated, the TNRCC is concerned for all pathways surrounding the site. However, evaluation of these pathways would not have significantly increased the overall site score.)

NOTES TO THE READER

The following rules were used when citing references in the HRS Documentation Record:

1. All references attached to this report have been stamped with a designated page number (example: Ref. 1, p. 10 = 001 00010). However, if the reference being cited has an original page number, that page number was cited. If the reference being cited has no original page number or the pagination is not complete, then the designated page number is cited.
2. The State predecessor agencies: Texas Water Quality Board (TWQB), Texas Department of Water Resources (TDWR), Texas Water Commission (TWC), and Texas Air Control Board (TACB), referred to throughout this report are now known as the Texas Natural Resource Conservation Commission (TNRCC). The new agency, TNRCC, became effective September 1, 1993, as mandated under State Senate Bill 2 of the 73rd Regular Legislative Session.

HRS DOCUMENTATION RECORD

Name of Site: Clinton Manges Oil & Refining Company
(aka: Tucker Refinery) **Date Prepared:** 08/00

Solid Waste Registration (SWR) Number: 83334

Site Owner: Mr. Steven Funderburk
116 Bertrand, Suite 205
Lafayette, LA 70506

Street Address of Site: State Highway 79

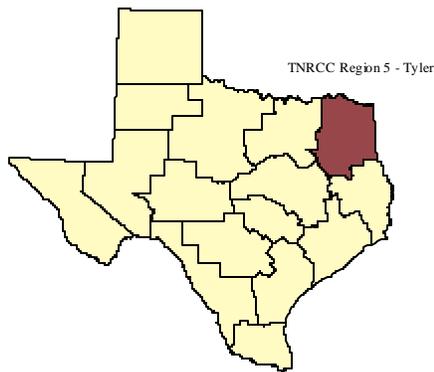
City, County, State: Tucker, Anderson County, Texas

General Location in the State:
(see Figure 1, Site Location Map and Figure 2, Site Map).

Topographic Map(s): US Geological Survey 7.5 Minute Topographic Map, Southwest Palestine Quadrangle 1982 and Long Lake Quadrangle 1964.

Latitude: 31° 40' 38" North
(see Appendix B,
TNRCC Region: 5

Longitude: 95° 44' 32" West
Topographic Maps)



Pathway Scores:
Groundwater Migration Pathway - 19.41
Surface Water Migration Pathway - NE
Soil Exposure Pathway - NE
Air Migration Pathway - NE
(NE - Not Evaluated)

Figure 1

SITE SUMMARY

General Description of the Site:

The Clinton Manges Oil and Refining site (aka: Tucker Refinery) is located along the east side of U.S. Highway 79 in the rural community of Tucker, approximately 9 miles west of Palestine. There is no physical address given to the former refinery site in Tucker. The land use surrounding the site is a mixture of rural and residential. The site is bounded on the north by a public water supply well, on the east by the Union Pacific Railroad and rural land, on the south by a residential property and on the west by U.S. Highway 79 and rural residential land. Also, located on the west side of the site, there is the possible location of a former gasoline service station that is not believed to have been associated with the site (Ref. 18)(see Figure 1, Site Location Map).

The facility consists of an inactive and dismantled oil refinery situated on an approximate 9.249 acre tract of land. An additional 2.2 acres which housed a small frame office building for the refinery operations is located directly across U.S. Highway 79 to the west. Other tracts of land located adjacent to the 9.249 acre tract may have also been utilized as part of the refinery operations as noted in a review of property ownership records and surface rights (Ref. 19, Attachment 1).

Site History:

Oil refinery operations began at the site as early as 1940 by the Phoenix Refining Company, Inc. Various other refining companies also operated at the site after that time. Early operations included a pump house, still, boiler, laboratory, office, loading rack, cooling tower, water box, tetra-ethyl lead plant and dyeing pot, along with 13 storage tanks (Ref. 19, Attachment 1).

In 1958 Anderson Refining Company, also known as Anderson Refining Corporation was listed in the Texas Railroad Commission, Annual Report of the Oil and Gas Division, as the site operator (Ref. 16). The Anderson Refining Company operated at the site under a state Waste Control Order (WCO) No. 01327(Ref. 16). On November 20, 1970, WCO 01327 was canceled by the Texas Water Development Board under Order no. 70-1120-10 and temporarily ceased operations (Ref. 18).

In 1973, after three years of inactivity, the refinery was sold to J & W Refining, Inc. and began operating as the Tucker Refinery. The Tucker Refinery operations were conducted under WCO 01911 and Texas Air Control Board No. C-1121 (Ref. 15) until March 25, 1975, when the Texas Department of Water Resources amended the plant's waste permit, WCO 01911, and issued it to conform to the new federal NPDES Permit No. TX0058297 (Ref 12).

On May 8, 1974, an inspection of the active refinery by the Texas Water Quality Board revealed the roadside ditch along U.S. Highway 79 to be in poor condition because of spillages and seepages of oil from the refinery proper (Ref. 18). Drainage in the ditch was such that discharges from the refinery could have flowed both east and west along the roadside ditch, depending upon the point of discharge. The grass had been killed and there was standing water in the ditch. Some attempts had been made to cover the oil with dirt and to absorb it with hay. No samples were collected during this inspection (Ref. 18).

On December 9, 1976, J & W Refining Inc., was found to be in violation of Texas water Quality Board

Permit No. 01911 (citation no. 578) for their wastewater discharge in the following manner: (Ref. 17)

Part I, A. Effluent Limitations and Monitoring - A Grab sample collected on December 9, 1976 showed a pH value of 9.6 standard units.

Part II, A. Management Requirements, 2. Noncompliance Notification - On December 9, 1976, a review of refinery monitoring data on effluent revealed some maximum daily limitations had been violated. Notifications of such noncompliance discharges were not received from the facility as required.

Part III, Other Requirements - On December 9, 1976, a sample collected from outfall No.001 revealed violations for BOD, COD, TSS, and Oil & Grease parameters.

On February 21, 1979, after ownership of the refinery was transferred from J & W Refining, Inc. to Sector Refining, Inc., the federal NPDES permit was transferred to Sector Refining, Inc. (Ref. 13).

On November 4, 1981, an application for permit renewal was submitted for the refinery under the name Clinton Manges Oil and Refining Company. The permit renewal carried an expiration date of June 30, 1982, however the refinery never operated under the permit renewal, having last processed crude oil in July of 1981. On February 4, 1983 the refinery NPDES permit was terminated at the request of Clinton Manges Oil and Refining Company (Ref. 14).

The inactive refinery was purchased by Funderburk Salvage, Inc. in July 1994 in order to salvage the site for scrap metal (Ref. 7, Attachment 4). Following the purchase by Funderburk Salvage, Inc., the site was partial dismantled, leaving many of the ground storage tanks ruptured and leaking refinery wastes throughout the site (Ref. 7, Attachment 7 and 15).

On April 12, 1995 during a TNRCC Region 5 inspection of the refinery, large areas of oil stained soils and discharges of oily tank bottoms were documented at the facility (Ref. 7, Attachment 6).

On December 19, 1995, the TNRCC Superfund Site Discovery & Assessment Program (SSDAP) conducted a site status inspection. Upon arrival to the site, the TNRCC inspectors observed an active tank salvage operations in progress. The TNRCC inspectors also observed waste management practices which had occurred since the last Region 5 CEI inspection, conducted on October 25, 1995. The waste management practices observed included a bermed storage area along Highway 79 where possible tank bottoms generated during the salvage operations had been placed. Leakage around the bermed storage area was documented during the inspection. Discussions with the site operator, Scott Davis of Western Environmental, Inc. revealed that his company has been salvaging scrape metal from the site, including refinery product and crude oil storage tanks, since November 6, 1995 (Ref. 10). The Refinery salvage operations were completed in late December 1995.

During the week of April 27 through 29, 1998, TNRCC SSDAP conducted a U.S. Environmental Protection Agency (EPA) Screening Site Inspection (SSI) at the Clinton Manges Oil and Refining Company site. The purpose of this investigation was to document the release(s) or potential release(s) of hazardous substances from the site as part of a federal Superfund program evaluation. Surface soil samples

were collected from on-site areas documenting organic and inorganic concentrations at greater than three times the associated background levels or greater than or equal to the background sample quantitation limit, if not detected in background (Ref. 3, Appendices E & F).

On March 28, 2000, the U.S. Environmental Protection Agency issued a “No Further Remedial Action Planned” designation for the Clinton Manges Oil and Refinery Company site under the federal Superfund program with a referral recommendation to the State of Texas for any future actions (Ref. 4).

On April 18, 2000, TNRCC SSDAP initiated immediate removal actions on-site to secure the site with high level security fence. The fence installation was completed and the front gate was locked on June 20, 2000 (Ref. 9).

During the week of June 12 through 14, 2000, TNRCC SSDAP conducted a Hazard Ranking System (HRS) Site Sampling Event at the Clinton Manges Oil and Refinery Company site. The primary objective of this event was to document the release(s) or potential release(s) of hazardous substances from the site to the shallow ground water beneath the site. Ground water samples were collected from on-site monitoring wells, documenting organic and inorganic concentrations at greater than three times the associated background levels or greater than or equal to the background sample quantitation limit, if not detected in background (Ref. 22).

The nearest well is a Tucker Water Supply Corporation well (G0010029A) for the rural community of Tucker. The well is part of a two well blended system that serves approximately 1296 persons. The well has a total depth of 578 feet and is screened from 526 to 576 feet (Ref. 3, Appendix C).

Previous ground water samples collected from this well on June 14, 1995, by the TNRCC, indicated low levels of two volatile organic compounds (ethyl benzene and xylene) were detected below their MCL (Ref. 3, Appendix C). The levels of volatile organics detected were below the TNRCC Water Program’s levels of concern. A subsequent sampling event by TNRCC on March 27, 1996 did not detect any volatile organic compounds (Ref. 6).

The chemical analyses of drinking water samples collected by TNRCC, SSDAP during the week of June 12 through 14, 2000 did not reveal the presence of contaminants at concentrations that meet the observed release criteria (Ref. 22).

Releases of hazardous substances to the ground water pathway are the major concern for this site. Hazardous substances have been documented in the subsurface soils and shallow ground water beneath the site. The Carrizo-Wilcox Aquifer, which is the major aquifer in the area, is hydrologically interconnected with the overlying Recklaw Formation and Queen City Aquifer (Ref. 5; Ref. 8; and, Ref. 21). The Ground Water Pathway is being scored based on the threat of potential contamination to area drinking water wells within this aquifer.

REFERENCES

- | <u>Reference Number</u> | <u>Description of the Reference</u> |
|-------------------------|---|
| 1. | U.S. Environmental Protection Agency, 40CFR Part 300, <i>Hazard Ranking System</i> , Appendix A, 55 FR 51583, December, 1990. |
| 2. | U.S. Environmental Protection Agency, <i>Superfund Chemical Data Matrix (SCDM)</i> . June, 1996. |
| 3. | U.S. Environmental Protection Agency, Screening Site Inspection Report for Clinton Manges Oil and Refining Company. August 1999. |
| 4. | U.S. Environmental Protection Agency, Superfund Site Strategy Recommendation for Clinton Manges Oil and Refining Company. March 28, 2000. |
| 5. | Texas Water Commission, Reconnaissance Investigation of the Ground-Water Resources of the Trinity River Basin, Texas, Surface Water Division, Bulletin 6309, September 1963. 110 pages. |
| 6. | Texas Natural Resource Conservation Commission, Preliminary Hazard Assessment, Tucker Refinery (Clinton Manges Oil and Refining Company), Superfund Site Discovery and Assessment Team, September 30, 1997. |
| 7. | Texas Natural Resource Conservation Commission, Industrial and Hazardous Waste Inspection Report, Tucker Refinery, TNRCC Region 5, October 25, 1995. |
| 8. | Texas Water Commission, Ground-Water Resources of the Anderson County Underground Water Conservation District. Report 88-01. February 1988. |
| 9. | Leigh Engineering, Inc., Field Activity Report for Security Fence Installation Activities for Tucker Oil Refinery. June 23, 2000. 14 pages. |
| 10. | Cook, Kelly W., Texas Natural Resource Conservation Commission, Superfund Site Discovery and Assessment Team to Files, Interoffice Memorandum. December 20, 1995. 1 page. |
| 11. | Cook, Kelly W., Superfund Site Discovery and Assessment Team, Texas Natural Resource Conservation Commission, to Files, Interoffice Memorandum. February 14, 1996. 1 page. |
| 12. | Texas Water Commission. Permit to Dispose of Waste, issued to J and W Refining, Incorporated, October 30, 1978. 1 page. |

13. Texas Department of Water Resources. Transfer of Texas Water Commission Permit No. 01911, issued February 20, 1979. 1 page.
14. Hughes, Richard, Wastewater Section, Texas Department of Water Resources, to Charles Eanes, Permit Control and Reports, Interoffice Memorandum. March 30, 1983. 1 page.
15. Texas Water Quality Board. Application for Waste Control Order, received November 2, 1973. 3 pages.
16. Texas Water Quality Board. Order No. 70-1120-10, approved November 20, 1970. 1 page.
17. Texas Water Quality Board. Citation No. 578, issued January 25, 1977. 3 pages.
18. Starkey, Jimmy, Supervisor, District 5, Texas Water Quality Board, to John B. Latchford, Director, Field Operations, Interoffice Memorandum. June 6, 1974. 4 pages.
19. DPRA Incorporated, Letter Report of Findings for Clinton Manges Oil and Refining Company. June 30, 2000.
20. Carden, Clair A. Technical Report in Support of Application to Amend Waste Discharge Permit for J & W Refining, Inc., Tucker, Texas, submitted to the Texas Department of Water Resources, April 1978. 8 pages.
21. Texas Water Development Board, Ground-Water Conditions in Anderson, Cherokee, Freestone, and Henderson Counties, Texas. Report 150. August 1972.
22. Terra-Mar, Inc., Field Activity Report for Clinton Manges Oil and Refining Company. July 2000.

WORKSHEET FOR COMPUTING HRS SITE SCORE

S S²

- | | | |
|-----|--|----------------------------|
| 1. | Ground Water Migration Pathway Score (S_{gw})
(from Table 3-1, line 13) | <u>19.41</u> <u>376.75</u> |
| 2a. | Surface Water Overland/Flood Migration
Component (from Table 4-1, line 30) | <u>NE</u> |
| 2b. | Ground Water to Surface Water Migration
Component (from Table 4-25, line 28) | <u>NE</u> |
| 2c. | Surface Water Migration Pathway Score (S_{sw})
Enter the larger of lines 2a and 2b as the
pathway score. | <u>NE</u> |
| 3. | Soil Exposure Pathway Score (S_s)
(from Table 5-1, line 22) | <u>NE</u> |
| 4. | Air Migration Pathway Score (S_a)
(from Table 6-1, line 12) | <u>NE</u> |
| 5. | Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$ | <u>376.75</u> |
| 6. | HRS Site Score Divide the value on line 5
by 4 and take the square root. | <u>9.70</u> |

GROUND WATER MIGRATION PATHWAY SCORESHEET
Carrizo-Wilcox Aquifer

<u>Factor Categories and Factors</u>		<u>Maximum Value</u>	<u>Value Assigned</u>
<u>Likelihood of Release to an Aquifer</u>			
1.	Observed Release (Ref. 22)	550	<u>550</u>
2.	Potential to Release (Not Evaluated)		
2a.	Containment	10	—
2b.	Net Precipitation	10	—
2c.	Depth to Aquifer	5	—
2d.	Travel Time	35	—
2e.	Potential to Release (Lines 2a(2b + 2c + 2d))	500	—
3.	Likelihood of Release (Higher of Line 1 and 2e)	550	<u>550</u>
<u>Waste Characteristics</u>			
4.	Toxicity/Mobility (Ref. 1, Sect. 3.2.1.2; Lead, Ref. 22)	*	<u>10,000</u>
5.	Hazardous Waste Quantity (Ref. 3, Page 48; Ref. 1 Tables 2-6)	*	<u>10</u>
6.	Waste Characteristics (Ref. 1, Table 2-7)	100	<u>32</u>
<u>Targets</u>			
7.	Nearest Well (Ref. 3, page 50; Ref. 1, Sect. 3.3.1)	50	<u>20</u>
8.	Population:		
8a.	Level I Concentrations	**	<u>0</u>
8b.	Level II Concentrations	**	<u>0</u>
8c.	Potential Contamination (Ref. 1, Sect. 3.3.2.4; Ref. 3; Appendix C)	**	<u>71</u>
8d.	Population (Lines 8a + 8b + 8c)	**	<u>71</u>
9.	Resources	5	<u>0</u>
10.	Wellhead Protection Area	20	<u>0</u>
11.	Targets (Lines 7 + 8d + 9 + 10)	**	<u>91</u>

* Maximum value applies to waste characteristics category.

** Maximum value not applicable.

GROUND WATER MIGRATION PATHWAY SCORESHEET - (Continued)
Carrizo-Wilcox Aquifer

<u>Ground Water Migration Score for an Aquifer</u>	<u>Maximum Value</u>	<u>Value Assigned</u>
12. Aquifer Score ((Lines 3 x 6 x 11)/82,500)***	100	<u>19.41</u>
<u>Ground Water Migration Pathway Score</u>		
13. Pathway Score (S_{gw}), (Highest value from Line 12 for all aquifers evaluated)***	100	<u>19.41</u>

*** Do not round to nearest integer.