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HRS DOCUMENTATION RECORD

for

Force Road Oil and Vacuum Truck Co.

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August 15, 2000

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HAZARD RANKING SYSTEM DOCUMENTATION RECORD

for

**Force Road Oil & Vacuum Truck Company
Brazoria County, Texas
SWR No. 33970**

Prepared by:

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

August 2000

HRS
Documentation Record

Force Road Oil & Vacuum Truck Company
Brazoria County, Texas

TNRCC SWR No. 33970

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

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HRS DOCUMENTATION RECORD

FORCE ROAD OIL & VACUUM TRUCK COMPANY

BRAZORIA COUNTY, TEXAS

SWR 33970

SIGNATURE PAGE

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ATTACHMENTS

Attachment A - Summary of Ground Water Potential Contamination Population

HRS DOCUMENTATION RECORD - REVIEW COVER SHEET

SITE NAME: FORCE ROAD OIL & VACUUM TRUCK COMPANY

CONTACT PERSON:

Documentation Record: Johnny Kennedy - TNRCC Project Manager 713/767-3552

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 shallow ground water beneath the site. The Chicot/Evangeline aquifer is the aquifer 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 Surface Water Overland/Flood Migration Pathway was not evaluated since the overland segment exceeded 2 miles. The US Geological Survey 7.5 Minute Topographic Map, Juliff Quadrangle, indicates that the West Fork Chocolate Bayou is an intermittent stream for a distance exceeding the 2-mile overland flow segment. Soil samples collected along the Surface Water Pathway Overland/Flood Migration Pathway during the HRS sampling event indicated four instances of an observed release. For each observed release documented, the hazardous substance exceeded a non-detect background level for the hazardous substance at a concentration slightly above the sample quantitation limit.

Soil Exposure Pathway

The Soil Exposure Pathway was not evaluated since the site is completely surrounded by a high-security, locked fence and due to the lack of targets which are located more than 0.75 mile from the site. Inclusion of this pathway would not significantly affect the site score.

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.)

NOTE TO THE READER

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: Force Road Oil & Vacuum Truck Company **Date Prepared:** 08/00
(aka: Force Road Oil & Vacuum Company, Force Road Oil)

Solid Waste Registration (SWR) Number: 33970

Site Owner: Mrs. Sarabeth Caldwell Waller (Property Owner)
11170 FM 521
Rosharon, TX 77583

Street Address of Site: 1722 County Road 573

City, County, State: Arcola, Brazoria County, Texas

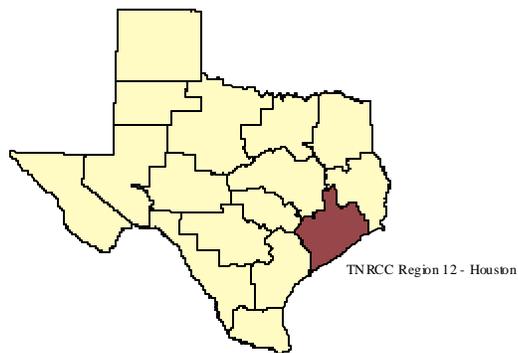
General Location in the State:
(see Figure 1, Site Location Map and Figure 2, Site Map).

Topographic Map(s): US Geological Survey 7.5 Minute Topographic Map, Juliff Quadrangle, 1964, Photorevised 1974.

Latitude: 29° 28' 29.51" North

Longitude: 95° 26' 57.39" West

TNRCC Region: 12



Pathway Scores:

Groundwater Migration Pathway - 46.00

Surface Water Migration Pathway - NE

Soil Exposure Pathway - NE

Air Migration Pathway - NE

(NE - Not Evaluated)

SITE SUMMARY

General Description of the Site:

The Force Road Oil & Vacuum Truck Company site (FRO) is located at 1722 County Road 573 (Alloy Road), Brazoria County, Texas. The site location is approximately 1300 feet east of the Brazoria - Fort Bend County line, 7000 feet west of State Highway 288, and 9000 feet south of State Highway 6 (Ref. 3). The permitted facility occupies between 9 and 12 acres out of a leased 28 acre tract of land inherited by Sarabeth Caldwell Waller upon the death of Robert Milam Caldwell, Jr. on December 7, 1997 (Refs. 3 and 4). Land surrounding the site is primarily used for agriculture and petroleum production. The site is bounded on the north by County Road 573 and the remainder of the 28 acres, on the west by an inactive drainage canal, and on the east and south by agricultural land (Figure 1, Site Location Map). West of the drainage canal there is a State permitted wastewater treatment plant sludge application facility (Registration No. 710609) (Ref. 5).

The site is currently an inactive oily wastewater disposal and oil recovery facility (Refs. 3, 6, 7). The only structures remaining at the site are one metal pump house/storage shed and three aboveground storage tanks. The aboveground storage tanks are located along the northern part of the site adjacent to County Road 573, just west of the entrance gate (Figure 2). These tanks are standard API, bolted steel tanks used to store oily waste prior to reprocessing, and on occasion, these tanks were used to store other waste. Three underground storage tanks are also located at the site. These tanks actually consist of buried railroad cars used to store various waste. The total capacity of each tank is approximately 10,000 gallons. The tops of these tanks have been exposed, and large openings have been cut in the tops of the tanks (Attachment 1, Exhibit A in Ref. 6).

Site operations primarily involved the use of five surface impoundments for the separation of waste brought to the site. Three of these surface impoundments, surface impoundments 1 - 3, were considered holding ponds where the waste separation occurred. Surface impoundment 4 is an "L" shaped waste management unit identified as the sludge pond. Surface impoundment 5 is the largest waste management unit and was used for spray evaporation of waste water. This surface impoundment is referred to as the evaporation pond. West of the surface impoundments is a low lying area referred to as the temporary holding pond area. The temporary holding pond area was used to temporarily store wastewater while construction occurred on the evaporation pond (See Figure 2; Attachment 1, Exhibit A in Ref. 6).

Site History:

First recorded operations at the FRO site involved oil and gas production. At least one well, the J. B. Stoddard #1 well, was drilled on the property to a depth of 7500 feet (Refs. 8 & 9). FRO did not begin operations at the site until March 1971 (Ref. 8). On December 28, 1971, the Texas Water Quality Board issued FRO an Emergency Order (Order No. 71-17E) which authorized FRO to continue to operate pending the processing of required site registration. A Preliminary Certificate of Registration (Registration No. 20312) was issued to FRO on June 29, 1972 (Ref. 11), with final approval of the Certificate of Registration being given on September 5, 1973 (Ref. 12). On March 19, 1976, the Texas Water Quality Board changed Registration Number 20312 to Permit Number 39014 (Ref. 13). An Industrial Solid Waste Permit (Permit No. 39014) for the

Figure 1 - Site Location Map

Figure 2 - Site Map

receipt of non-hazardous waste was issued to FRO on July 14, 1977, superseding and canceling Permit No. 39014 issued on June 29, 1972 (Attachment 1 in Ref. 6).

In 1973, FRO installed three monitor wells at the site which were subsequently abandoned due to sampling difficulties. Three new monitor wells were then installed and an initial sampling of the ground water in July 1974 indicated no ground water contamination (Ref. 14). High chloride values detected in ground water samples collected during a September 1975 were attributed to a former oil field salt water disposal pit located at the site (Ref. 15). In early 1977, five test holes were drilled to a depth of 40 feet around the FRO site. Three of the five test holes were cased to 28 feet and converted to monitor wells 4, 5, and 6 (Attachment 8 in Ref. 6). Under Special Provision #12 of FRO's Industrial Solid Waste Permit No. 39014, Amended, approved July 14, 1977, FRO was required to obtain background ground water samples for chemical analysis from on-site monitor wells. These background ground water samples were collected in August 1977. Beginning in March 1978, chemical analysis of subsequent ground water samples indicated the shallow ground water beneath the site had been impacted by a release of organic contaminants from the on-site waste management units (Ref. 17). The last Comprehensive Groundwater Monitoring Investigation conducted at the FRO site on May 14 and 28, 1993 documented elevated levels of hazardous constituents trans-1,2 dichloroethylene, vinyl chloride, and 1,1,1 trichloroethane in the ground water samples collected from on-site monitor wells (Attachment 4 in Ref. 6).

In May 1980, the Industrial Compliance Unit of the Enforcement and Field Operations Division of the Texas Department of Water Resources circulated an enforcement summary to all enforcement coordinators requesting a review of the document and any technical comments. The violations cited included (Ref. 18):

- 1) Failure to extend the four-foot perimeter berm around the north-east corner of the site as required by Special Provision No. 5 of Permit No. 39014.
- 2) Failure to maintain the required two-foot freeboard in all surface impoundments as specified in Special Provision No. 7 of Permit No. 39014.
- 3) Contamination of ground water in violation of Special Provision No. 14 of Permit No. 39014.

Following the receipt of technical comments, a request for enforcement action against FRO was submitted to the General Counsel on August 5, 1980. One violation added to the enforcement request was unauthorized contaminated stormwater in violation of Special Provision No. 16 of Permit No. 39014 and of Chapter 26 of the Texas Water Code (Ref. 19). On October 24, 1980, a Notice of Violation letter was sent to Mr. Don Forse of FRO outlining the violations of Permit No. 39014 and requesting Mr. Forse's attendance at a meeting to discuss the violations and proposed corrective actions (Ref. 20).

In a December 17, 1980 letter, the Executive Director of the Texas Department of Water Resources informed Mr. Don Forse of FRO that a Compliance Agreement had been issued to FRO. Copies of the Compliance Agreement were attached and Mr. Forse was requested to consider and accept the agreement by signing both copies. Twelve points were outlined in the agreement including proper maintenance and operation of the waste management units, ground water remediation, and other provisions defined under Permit No. 39014 (Ref. 21). At the request of FRO, one requirement of the Compliance Agreement was modified and on January 26, 1981, the Compliance Agreement was signed by Mr. Don Forse (Ref. 22 &

23).

After continued violations and failure to comply with the January 1981 Compliance Agreement, the Executive Director of the Texas Department of Water Resources filed a petition for partial suspension of Permit No. 39014 with the Texas Water Commission in December 1982. Partial suspension of FRO's permit would discontinue authorization for any further acceptance, storage, treatment or storage of waste material until FRO demonstrated the ability to comply with all permit provisions and the requirements of the Compliance Agreement. Upon this threat of permit suspension, representatives of FRO began negotiations with the Texas Department of Water Resources.

On February 3, 1983, Texas Department of Water Resources staff collected a sample from an on-site storage tank exhibiting a strong solvent odor at the FRO site. The laboratory sample result for this sample indicated a level of 155,000 ppm of 1,1,1 trichloroethane, a chlorinated hydrocarbon specifically prohibited by FRO's permit (Ref. 24). Subsequently on April 1, 1983, Texas Department of Water Resources staff collected a sediment sample from surface impoundment #1 at the site and the laboratory results indicated elevated levels of 1,1,1 trichloroethane, 1,2,4 trichlorobenzene, xylenes, carbon tetrachloride, toluene, 4-chloro-3-cresol, naphthalene, and 1,1 dichloroethane. The receipt of these hazardous substances at the FRO site was specifically prohibited by Permit No. 39014 (Ref. 25). Documentation of FRO's receipt of chlorinated hydrocarbons led the Executive Director of the Texas Department of Water Resources to request the Attorney General represent the Department in appropriate legal action (Ref. 26).

In 1983, FRO received its last waste shipment and the site status changed to inactive. FRO submitted a closure plan for the site in February 1984, with subsequent modified closure plans being submitted in September 1987 and May 1988 (Ref. 6). Throughout this period, representatives for the Texas Department of Water Resources and the Texas Water Commission continued to conduct site inspections and sampling events to further characterize the waste present and monitor the ground water contamination.

On December 3, 1990, an Agreed Final Judgement was issued against FRO by the 239th Judicial District, Cause No 83-G-2683, in Brazoria County, through a lawsuit filed by the Office of the Attorney General. In general, the judgement required the closure of the inactive RCRA surface impoundments that received hazardous waste, and closure of the 3 underground waste storage tanks. Additionally, the judgement required assessment and corrective action to address ground water contamination by constituents including trans-1,2 dichloroethylene, vinyl chloride, and 1,1,1, trichloroethane (Attachment 1 in Ref. 7).

On November 25, 1991, the Texas Water Commission amended FRO's water quality permit (Permit No. 02705) to allow discharge from the surface impoundments after on-site treatment (Attachment 2 in Ref. 6). This was an attempt to expedite cost effective dewatering and closure of the impoundments. FRO submitted The Proposed Dewatering Plan and Schedule for dewatering the on-site surface impoundments on February 11, 1992, and the Commission approved this plan by letter dated June 2, 1992 (Ref. 6; Attachment 2 in Ref. 7). On September 30, 1992, TNRCC approved with modification, the Ground Water Assessment Plan submitted by FRO in June 1990. However, In an August 24, 1992 letter, FRO notified the TNRCC that both the Proposed Dewatering Plan and the Ground Water Assessment Plan would not be implemented due to the lack of funds (Ref. 6).

Unauthorized overflows and discharges from the surface impoundments were documented by Texas Water Commission staff on July 11, 1991, March 31, 1992, and April 21, 1992. In addition, hazardous constituents trans-1,2 dichloroethylene, vinyl chloride, and 1,1,1, trichloroethane were documented in the shallow ground water beneath the site during a Comprehensive Groundwater Monitoring Investigation on May 14 & 28, 1993 (Ref. 6). A Notice of Violation letter with attached Corrective Action Directive for obtaining compliance was sent to FRO on June 8, 1992. Another Notice of Violation was issued on February 27, 1995 to Mr. Don Forse, representing FRO, and Mr. R. M. Caldwell, the landowner (Attachment 12 in Ref. 6).

On May 22, 1996, the FRO site was referred to the TNRCC Enforcement Screening Committee, with the recommendation that the site be referred to the State Superfund Program. On June 26, 1996, the TNRCC Enforcement Division referred the FRO site to the TNRCC State Superfund Program after determining that enforcement had been exhausted. This referral was based upon (1) the documented release of trans-1,2 dichloroethylene, vinyl chloride, and 1,1,1 trichloroethane to the ground water, (2) the need for removal and closure of the surface impoundments and tanks, (3) the inactive status of the facility, and (4) the financial inability of both the owner and operator to perform the necessary remediation (Ref. 6).

On August 20, 1997, 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 October 10, 1997 (Ref. 27).

TNRCC SSDAP staff conducted a Hazard Ranking System (HRS) Sampling Event for the FRO site from February 21 through February 23, 2000 and on May 3, 2000 (Figures 3 - 5). On-site monitor wells were re-developed one week prior to the sampling event since these monitor wells had not been sampled since 1993. The primary objectives of this event were to document waste materials contained within the on-site surface impoundments, document the release(s) or potential release(s) of hazardous substances from the site to the shallow ground water beneath the site, determine whether hazardous substances have migrated from site sources along the surface water migration pathway, and to determine whether hazardous substances have impacted drinking water wells within a 1-mile radius of the site. Ground water samples were collected from on-site monitoring wells and from five domestic drinking water wells during the sampling event (Refs. 8 & 28). Laboratory results for the monitor well samples indicate that the shallow ground water beneath the FRO site has been impacted by organic and inorganic contaminants at concentrations greater than the sample quantitation limit (Ref. 29).

The chemical analyses of drinking water samples collected from domestic water wells within a 1-mile radius of the FRO site by TNRCC SSDAP on February 22, February 23, and May 3, 2000 did not reveal the presence of contaminants at concentrations that meet the observed release criteria (Ref. 29; See Figure 5).

The nearest well identified is located approximately 0.75 mile northwest of the site (Figure 1). All ground water wells identified within a 1-mile radius of the site are for domestic use. State of Texas well logs indicate that these wells have total depths ranging from 68 feet to 532 feet (Ref. 30).

Releases of hazardous substances to the ground water pathway are the major concern for this site. Hazardous substances have been documented in the on-site surface impoundments and shallow ground water beneath the site. The Chicot aquifer and the Evangeline aquifer are geologically similar and hydrologically inter-connected; therefore, the aquifers are considered a single aquifer. The Chicot/Evangeline aquifer is the major aquifer in the area (Ref. 31 & 32). The Ground Water Pathway is being scored based on the threat of potential contamination to area drinking water wells within this aquifer.

Figure 3 - Soil/Sediment Sample Location Map

Figure 4 - On-site Drinking Water Samples

Figure 5- Off-site Ground water Location Map

WORKSHEET FOR COMPUTING HRS SITE SCORE

S S²

1. Ground Water Migration Pathway Score (S_{gw}) 46.0 2116.0
(from Table 3-1, line 13)

- 2a. Surface Water Overland/Flood Migration NE
Component (from Table 4-1, line 30)

- 2b. Ground Water to Surface Water Migration NE
Component (from Table 4-25, line 28)

- 2c. Surface Water Migration Pathway Score (S_{sw}) NE
Enter the larger of lines 2a and 2b as the
pathway score.

3. Soil Exposure Pathway Score (S_s) NE
(from Table 5-1, line 22)

4. Air Migration Pathway Score (S_a) NE
(from Table 6-1, line 12)

5. Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$ 2116.0

6. **HRS Site Score** Divide the value on line 5
by 4 and take the square root. 23.0

GROUND WATER MIGRATION PATHWAY SCORESHEET
Chicot/Evangeline 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. 29)	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; Arsenic, Barium, Vinyl Chloride; Ref. 29)	*	<u>10,000</u>
5. Hazardous Waste Quantity (Ref. 35; Ref. 1 Tables 2-6)	*	<u>10,000</u>
6. Waste Characteristics (Ref. 1, Table 2-7)	100	<u>100</u>
<u>Targets</u>		
7. Nearest Well (Ref. 28, page 3; Ref. 35; Ref. 1, Sect. 3.3.1)	50	<u>9</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. 30; Ref. 33; Appendix A)	**	<u>60</u>
8d. Population (Lines 8a + 8b + 8c)	**	<u>60</u>
9. Resources	5	<u>0</u>
10. Wellhead Protection Area	20	<u>0</u>
11. Targets (Lines 7 + 8d + 9 + 10)	**	<u>69</u>

* Maximum value applies to waste characteristics category.

** Maximum value not applicable.

GROUND WATER MIGRATION PATHWAY SCORESHEET - (Continued)
Chicot/Evangeline 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>46.00</u>
<u>Ground Water Migration Pathway Score</u>		
13. Pathway Score (S_{gw}), (Highest value from Line 12 for all aquifers evaluated)***	100	<u>46.00</u>

*** Do not round to nearest integer.

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.	Remmert, Cathy, Enforcement Coordinator, I&H Waste Team I, Waste Section, Enforcement Division, Texas Natural Resource Conservation Commission. Interoffice Memorandum. June 26, 1996. 4 pages with attachments.
4.	DPRA Incorporated. Letter Report of Findings for Force Road Oil & Vacuum Truck Company. June 29, 2000.
5.	Texas Natural Resource Conservation Commission. Sludge Registration, Registration No. 710609, issued to J. H. Caldwell. Issued February 11, 1999.
6.	Texas Water Commission. Solid Waste Inspection Report, Force Road Oil & Vacuum Truck Company, Approved April 29, 1992.
7.	IT Corporation. Field Activity Report, Force Road Oil and Vacuum Truck Company, Sampling to Document HRS Scoring, Brazoria County, Texas. Prepared for the Texas Natural Resource Conservation Commission. April 2000.
8.	Texas Water Commission. Industrial Solid Waste Management Site, Application for Registration, Force Road Oil & Vacuum Truck Company. Signed January 20, 1972.
9.	Texas Water Quality Board. Industrial Solid Waste Disposal Site Inspection, Force Road Oil and Vacuum Truck. December 27, 1971.
10.	Texas Water Quality Board. Emergency Order Authorizing Force Road Oil and Vacuum Truck Company to Operate an Industrial Solid Waste Disposal Facility, Order No. 71-17E. Issued December 28, 1971.
11.	Texas Water Quality Board. Preliminary Certificate of Registration No. 20312, Force Road Oil & Vacuum Truck Company, Issued on June 29, 1972.
12.	Texas Water Quality Board. Letter Granting Final Approval of Preliminary Certificate of

Registration, Issued on September 5, 1973.

13. Texas Water Quality Board. Endorsement to Renumber Registration No. 20312, Issued June 29, 1972, to Permit No. 39014, Issued March 1976.
14. Reeves, Bill, District 7 Representative, Texas Water Quality Board, to John B. Latchford, Jr., Director of Field Operations. Inter-Office Memorandum. October 29, 1974. 2 pages with attached sample analyses.
15. Reeves, Bill, District 7 Representative, Texas Water Quality Board, to George E. Green, Chief, Field Support Section, (File). Inter-Office Memorandum. April 8, 1976. 1 page with attached sample analyses.
16. Macko, Karen A., District 7 Representative, Texas Department of Water Resources, to George Green, Chief, Field Support (File). Interoffice Memorandum. December 30, 1977. 2 pages with attached sample analyses.
17. Macko, Karen A., District 7 Representative, Texas Department of Water Resources, to George Green, Technical Review Unit, Field Support Section (File). Interoffice Memorandum. April 7, 1978. 1 pages with attached sample analyses.
18. Macko, Karen A., Field Representative, District 7, Texas Department of Water Resources, to Kathy Upshaw. Interoffice Memorandum. June 9, 1980. 2 pages with attached Interoffice Memorandum.
19. Miertschin, Director, Enforcement and Field Operations Divisions, Texas Department of Water Resources, to Reginald Arnold III, General Counsel. Interoffice Memorandum. August 5, 1980. 1 page with attached Enforcement Summary.
20. Miertschin, C. R., P.E., Director, Enforcement and Field Operations Division, Texas Department of Water Resources, to Don Forse, Force Road Oil & Vacuum Truck Company. Letter. October 24, 1980. 2 pages.
21. Davis, Harvey, Executive Director, Texas Department of Water Resources, to Don Forse, Force Road Oil & Vacuum Truck Company. Letter. December 17, 1980. 2 pages with attached Compliance Agreement.
22. Davis, Harvey, Executive Director, Texas Department of Water Resources, to Don Forse, Force Road Oil & Vacuum Truck Company. Letter. January 6, 1981. 1 page with attached Compliance Agreement.

23. Texas Department of Water Resources. Compliance Agreement, Issued to Force Road Oil and Vacuum Truck Company, Permit No. 39014. Signed January 6, 1981 (by Harvey Davis, Executive Director, Texas Department of Water Resources), signed January 26, 1981 (by Don Forse, Representative of Force Road Oil and Vacuum Truck Company). 4 pages.
24. Ripley, Susan, Field Representative, District 7, Texas Department of Water Resources, to Gary Schroeder, Chief, Solid Waste and Spill Response. Interoffice Memorandum. March 25, 1983. 1 page with attached sample analyses.
25. Ripley, Susan, Field Representative, District 7, Texas Department of Water Resources, to Gary Schroeder, Chief, Solid Waste and Spill Response. Interoffice Memorandum. October 21, 1983. 2 pages with attached photograph, map, and sample analyses.
26. Nemir, Charles E., Executive Director, Texas Department of Water Resources, to Jim Mattocks, Attorney General of Texas. Letter. April 14, 1983. 2 pages.
27. Cedilote, Marshall A, Site Discovery & Assessment Program, TNRCC Remediation Division, to Johnny Kennedy, TNRCC Region 12. Facsimile Transmission. August 8, 2000, 2 pages.
28. Kennedy, Johnny, Site Investigation Manager, Texas Natural Resource Conservation Commission. Field Logbook, Force Road Oil & Vacuum Truck Company. February 16, 2000 through July 7, 2000. 28 pages.
29. Lower Colorado River Authority, Environmental Laboratory Services. Laboratory Sample Analyses for HRS Sampling Event, Force Road Oil & Vacuum Truck Company. Results submitted by Letters dated April 11, 2000 and June 7, 2000.
30. State of Texas. State of Texas Water Well Reports, Well Reports Identified Within a 4-Mile Radius of the Force Road Oil & Vacuum Truck Company Site.
31. Texas Department of Water Resources. Digital Models for Simulation of Ground-Water Hydrology of the Chicot and Evangeline Aquifers Along the Gulf Coast of Texas. Report 289. May 1985.
32. Texas Water Development Board. Ground-Water Resources of Brazoria County, Texas. Report 163. February 1973.
33. Texas Natural Resource Conservation Commission, Region 12, Public Water Supply

Section. Region 12 Inspection Reports for Public Water Supply Systems Within a 4-Mile Radius of the Force Road Oil & Vacuum Truck Site.

34. U. S. Geological Survey, Juliff Quadrangle, Texas, 7.5 Minute Series. Topographic Map. 1963, Photorevised 1974. Reference downloaded from TNRCC, GIS Section Webpage.
35. Texas Natural Resource Conservation Commission, GIS Section. Digital Orthophoto Quarter Quad. Juliff Quadrangle, Northwest and Northeast Quarters. Base Map used for Figures 1 - 5.
36. Kennedy, Johnny W., Site Investigation Manager, Texas Natural Resource Conservation Commission, to Missy Cornish, Muniservice Corporation. Telephone Memo to the File. July 21, 2000. 1 page.
37. Kennedy, Johnny W., Site Investigation Manager, Texas Natural Resource Conservation Commission, to Peggy Paul, Orbit Systems. Telephone Memo to the File. August 14, 2000. 1 page.
38. U. S. Census Bureau. 1990 US Census Data, Brazoria County. Internet URL: <http://venus.census.gov/cdrom/lookup/966346256>. 1 page.