CERCLA SITE INVESTIGATION LETTER REPORT
GOINS WASTE OIL SITE
CLEVELAND, BRADLEY COUNTY, TENNESSEE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4 Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

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1.0 INTRODUCTION

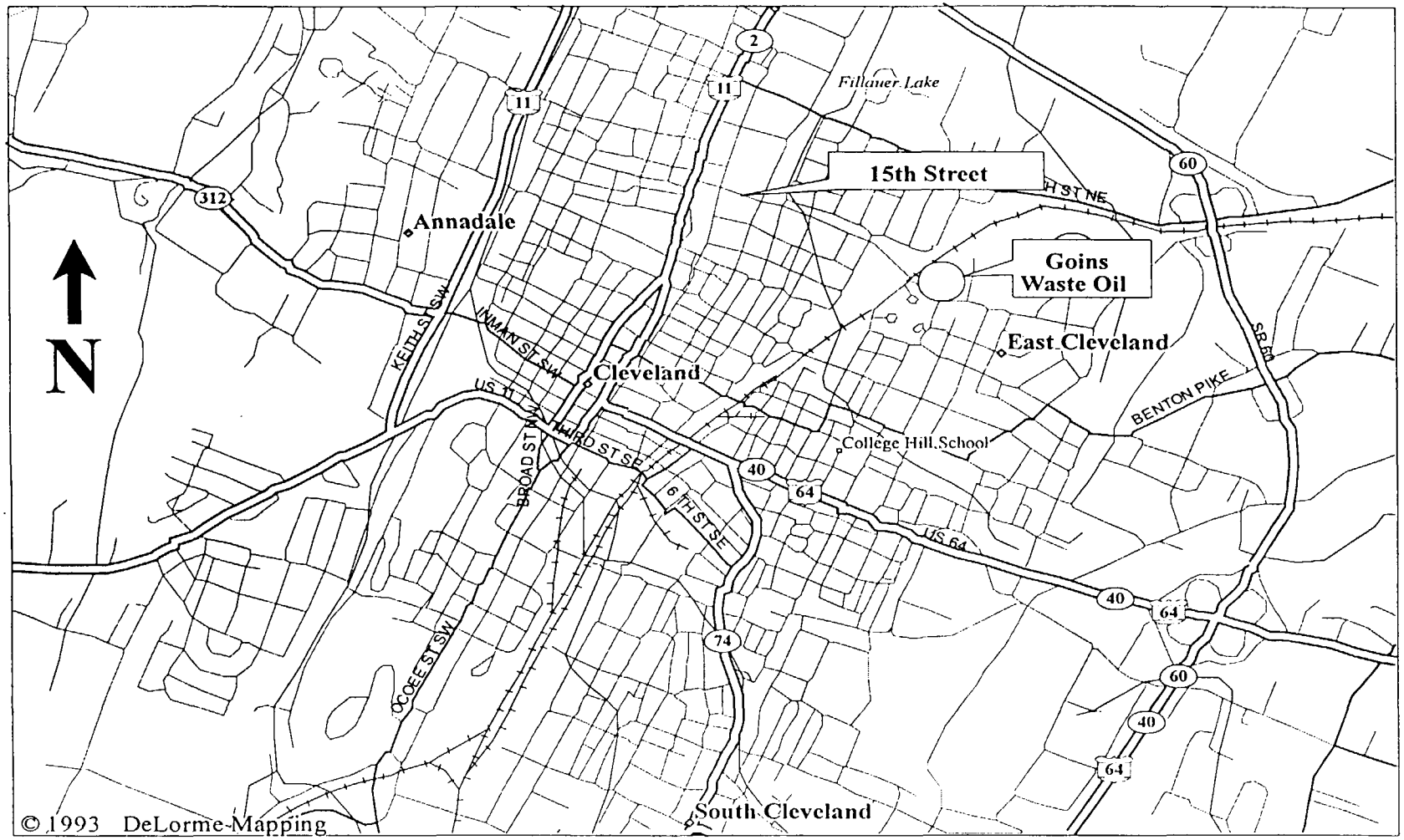
This letter report has been prepared in accordance with the requirements of Technical Direction Document (TDD) No. 04-9902-0001, which the U.S. Environmental Protection Agency (EPA) Region 4 Emergency Response and Removal Branch (ERRB) assigned to the Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START).

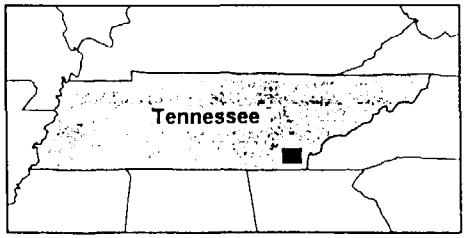
The scope of the TDD, monitored by On-Scene Coordinator (OSC) Fred Stroud, was to provide technical support at the Goins Waste Oil (GWO) site, located in Cleveland, Bradley County, Tennessee (see Figure 1). The OSC tasked START to mobilize to the site to provide on-site technical support, along with the following support: tank sampling; soil sampling; letter report preparation; site maps generation; and site documentation, including photographic documentation of site conditions (see Appendix A) and written documentation of site activities (see Appendix B). Prior to mobilization, START prepared a site health and safety plan; the OSC did not request a sampling plan prior to site activities.

2.0 SITE BACKGROUND

The GWO site is located at 801 15th Street, N.E., in a light industrial area of northeast Cleveland, Bradley County, Tennessee. The site is a closed oil recycling facility, located on about 6,100 square feet. Although the facility is closed, the owner/operator, Mr. Jack Goins, continues to perform some activities on site, such as vehicle maintenance and oil filter crushing. Figure 2 provides a layout of the GWO property.

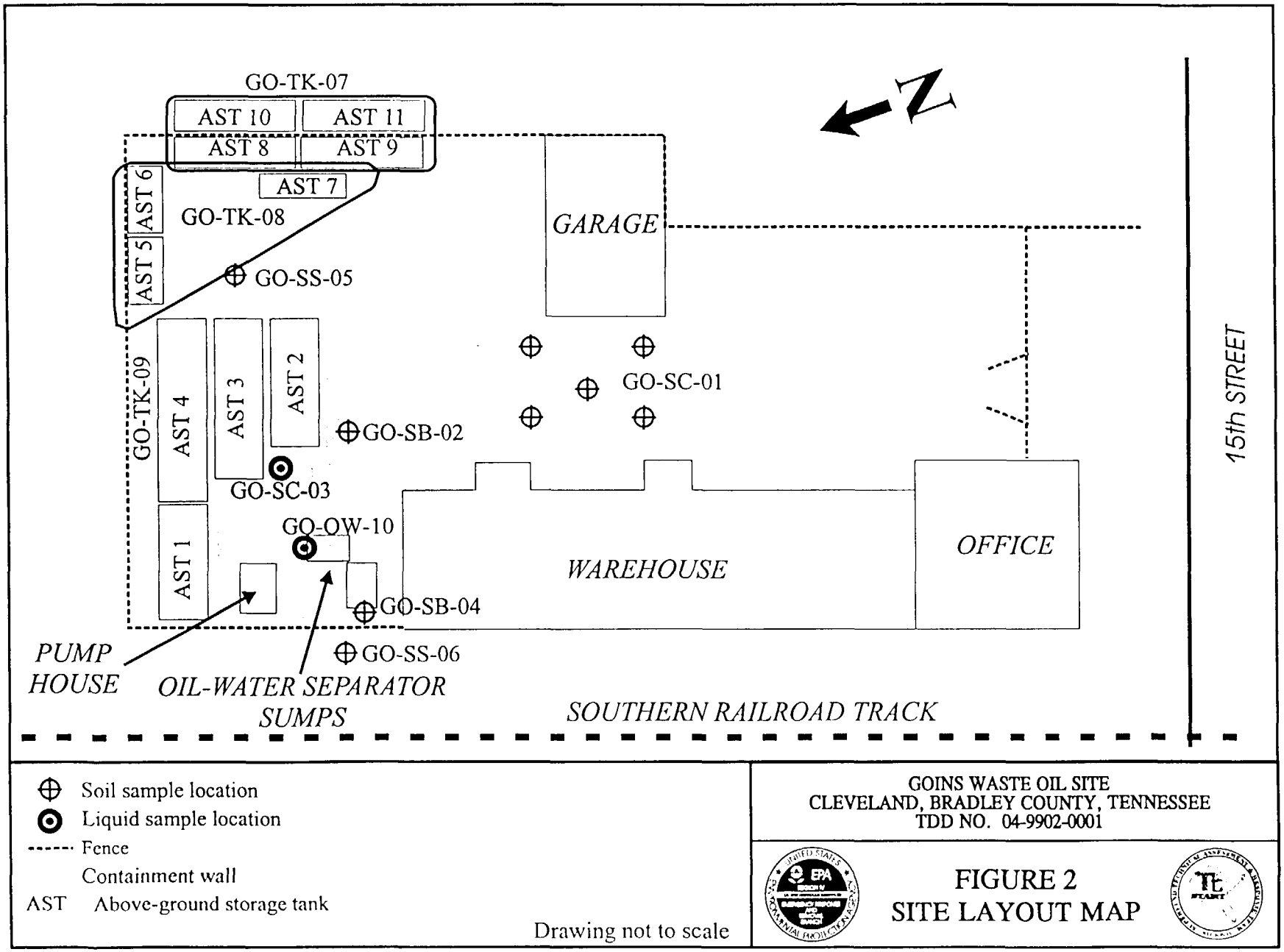
The facility includes three buildings, a garage, a warehouse, and an office. The garage was used for vehicle maintenance and equipment storage. The warehouse contains the oil filter press and also provides storage space for equipment, tools, and supplies. The warehouse also contained between 20 and 30 55-gallon drums. Many of these drums contained crushed and uncrushed oil filters, while other drums contained lubricating oils or were empty.





GOINS WASTE OIL SITE
CLEVELAND, BRADLEY COUNTY, TENNESSEE
TDD NO. 04-9902-0001

FIGURE 1
SITE LOCATION MAP



GOINS WASTE OIL SITE
CLEVELAND, BRADLEY COUNTY, TENNESSEE
TDD NO. 04-9902-0001

FIGURE 2
SITE LAYOUT MAP

Eleven above-ground storage tanks (AST) are also located on the facility property and the adjacent property. Four of the ASTs, ASTs 1 through 4, are located in the northern corner of the property on stilts in a secondary containment area. The AST volumes are 22,000 gallons, 17,000 gallons, 12,000 gallons, and 10,000 gallons. The secondary containment consists of a concrete block wall of no more than two feet high on the south side of these four ASTs. There are no walls or curbs on the other sides of the secondary containment and there is no floor other than gravel and soil.

The remaining seven horizontal ASTs are located in the northeastern corner of the property or on adjacent property. These ASTs include two 6,000-gallon, one 8,000-gallon, and four 10,000-gallon tanks that are laying directly on the ground surface with no secondary containment. Two of the four 10,000-gallon ASTs lie on the eastern side of the property fence on the adjacent property. The entire site is fenced with a secured gate providing access from 15th Street.

The GWO facility has received numerous notices of violations (NOV) from the Tennessee Department of Environment and Conservation dating as far back as 1985. NOVs were filed relating to permitting, unpermitted discharges, labeling, secondary containment, and documentation and records management. Mr. Goins indicated that all of the on-site ASTs were full, except for the 15,000-gallon AST located closest to the pump house (AST 1). He could not, however, recall which tanks contained mostly oil or mostly wastewater, which was pumped from the containment area.

3.0 SUMMARY OF FIELD ACTIVITIES

On Wednesday, February 10, 1999, START mobilized to the GWO site to provide technical support and to conduct tank and soil sampling at the site, as directed by the OSC. Upon arrival at the site, the OSC and START performed a reconnaissance of the area to become familiar with the layout of the facility and to identify sampling locations. Evidence of contamination was observed over several areas of the site. There were significant amounts of oil on the ground in the area surrounding the ASTs, the pump house, and two oil-water separator sumps. Also, there was a significant amount of liquid in the containment area. The liquid appeared to be mostly water with a layer of oil floating on top. The liquid was contained by secondary containment wall on the southern side and was in direct contact with the ground surface on the other sides of the secondary containment area.

The vacinity of many of the ASTs is overgrown with vegetation. All of the ASTs appear to be in sound structural condition. However, most of the wooden boards of the catwalk above the ASTs on stilts were rotten and broken. AST 4 has a ladder leading up to the catwalk; it was the only one of the four ASTs on stilts that was safely accessible for sampling. Fill ports for all of the ground-level ASTs and AST 4 were open to the elements upon arrival at the GWO site.

The site property contains two oil-water separator sumps located between the warehouse and the pump house. The sumps were the only area where a photoionization detector (PID) detected significant levels of volatile organic vapors. The detector recorded measurements in excess of 100 parts per million (ppm) at about 1 foot above the liquid layer in the sumps.

After the initial site reconnaissance, the OSC decided to call in a removal contractor to transfer the liquid that was in the secondary containment area to one of the on-site ASTs (AST 1) and a portable Butler® tank. The OSC and START also identified the soil sampling locations and methods for collecting and compositing samples from the ASTs. The OSC and START also decided to collect one sample of the surface layer liquid in the secondary containment area of ASTs 1 through 4 and one liquid sample of the oil-water separator sump contents.

3.1 TANK SAMPLING

START began AST sampling activities in Level C personal protective equipment (PPE). All of the ASTs sampled had at least one fill port open upon START's arrival on the property.

The first AST sample (GO-TK-07) was a composite sample from ASTs 8, 9, 10, and 11. Each of the 10,000-gallon ASTs was about 90 percent full and exhibited similar contents and similar three-layer profiles. The top layer, from 0 to 1 foot deep, was mostly oil; the second layer; from 1 to 2 feet deep, was mostly water, the remaining material, from 2 to 8 feet deep, was a thick oily sludge. The composite sample included material from the oil and sludge layers from each of the four ASTs.

The second AST sample (GO-TK-08) was a composite sample from ASTs 5, 6, and 7. AST 5 contained a thick oily sludge. AST 6 contained mostly oily water. AST 7 contained mostly oily/rusty water. Each of the ASTs was at least 90 percent full.

The third AST sample (GO-TK-09) was a grab sample collected from AST 4. The AST was full with about equal volumes of water and oily sludge.

3.2 SOIL SAMPLING

Soil samples were collected at various depths depending on the sample location. The approximate locations of all soil samples are presented on Figure 2. The head space of each sample hole was measured with a PID for the presence of volatile organic vapors.

The first soil sample collected (GO-SC-01) was a five-point composite subsurface soil sample in the truck parking and turn-around area south of the ASTs. The samples were collected at a mean depth of 6 to 8 inches below ground surface (bgs) at the bottom of a compacted gravel layer. The sample was dry and exhibited a strong oily odor with no increase in PID measurements.

The second soil sample (GO-SB-02) was a grab subsurface soil sample collected adjacent to the secondary containment wall on the southern side of the containment area. The sample was collected from about 1 to 1.5 feet bgs and about 6 inches inside the perimeter of the secondary containment area. The sample was wet and exhibited a strong odor with no increase in PID measurements, and the hole quickly filled up with oily water.

The third soil sample (GO-SB-04) was a grab sample collected between the fence and the oil-water separator sump on the western side of the site property. The sample was collected from 0.5 to 1 foot bgs. The sample was wet and exhibited a strong odor with no increase in PID measurements.

The fourth soil sample (GO-SS-05) was a grab sample collected east of the containment area at the base of ATSs 2, 3, and 4. The sample was collected near the interface of the wet and dry ground surface areas at a depth of 10 to 12 inches bgs below a layer of compacted gravel. The sample was dry and exhibited little odor with no increase in PID measurements.

The fifth soil sample (GO-SS-06) was a grab sample collected in an off-site area about 6 feet east of the fence on the eastern side of the site property near the oil-water separator sumps and the pump house.

Based on comments from State officials, this area likely received oily discharges from the GWO facility. The samples was collected at a depth of less than 4 inches bgs. The sample was dry and exhibited a slight odor with no increase in PID measurements.

3.3 ADDITIONAL SAMPLING

In addition to the tank and soil samples collected at the GWO site, a sample of the secondary containment liquid surface layer was collected (GO-SC-03). The sample was collected by skimming off the surface layer liquid and pouring it into one 16-ounce jar and two 40-milliliter volatile organic analysis (VOA) vials. The liquid collected was light brown in color and had the consistency of typical house paint. This sample was collected before the liquid was drawn off by the removal contractor. The liquid below the surface layer appeared to be mostly water and was not sampled.

A liquid sample was also collected from one of the two oil-water separator sumps (GO-OW-10). The sample was collected in one 16-ounce jar and two 40-milliliter VOA vials. Significant levels of volatile organic vapors, greater than 100 ppm, were measured about 1 foot above the liquid layer in the sump. The black liquid had a paint or solvent-like smell. Also, the headspace gas in the zipper-lock bag in which the filled sample containers were placed exhibited organic vapor concentrations greater than 170 ppm.

3.4 HAZARD CATEGORIZATION

All tank and liquid samples were field screened on site using methods set forth in the "Hazard Categorization Field Methodology," which Region 4 Technical Assistance Team prepared for EPA. The results from the field screening are provided in Table 1. For samples that settled into distinctive layers, each layer was categorized separately. The sample layers are designated in Table 1 with an "A" or "B" to differentiate between the top and bottom layers, respectively.

TABLE 1

GOINS WASTE OIL SITE
TANK AND LIQUID SAMPLE
HAZARDOUS CATEGORIZATION
TDD NO. 04-9902-0001

Sample Number	Water Solubility Test	pH Test	Hexane Solubility Test	Peroxide Test	Oxidizer Test	Acid Test	Combustibility Test	Halogenation Test
GO-SC-03	Insoluble	6	Soluble	No	No	No	Negative	No
GO-TK-07A	Insoluble	8	Soluble	No	No	No	Negative	No
GO-TK-07B	Soluble	8	Insoluble	No	No	No	Negative	No
GO-TK-08A	Insoluble	10	Soluble	No	No	No	Negative	No
GO-TK-08B	Soluble	10	Partly Soluble	No	No	No	Negative	No
GO-TK-09	Insoluble	7	Soluble	No	No	No	Negative	No
GO-OW-10A	Insoluble	7	Soluble	No	No	No	Negative	No
GO-OW-10B	Insoluble	7	Insoluble	No	No	No	Negative	No

Notes:

All tests were performed following "Hazard Categorization Field Methodology," which the Region 4 Technical Assistance Team prepared for the U.S. Environmental Protection Agency.

4.0 ANALYTICAL RESULTS

START members collected a total of three tank samples, five soil samples, and two liquid samples from the GWO site. All samples were collected in accordance with the 1996 EPA Region 4 Science and Ecosystem Support Division Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. After the samples were collected, START individually tagged and sealed the samples, completed chain-of-custody reports, and prepared the samples for delivery to the contract laboratory. After the samples were packaged for delivery and site work was completed, START demobilized from the site and returned to Atlanta, Georgia, on February 10, 1999. START hand-delivered the samples to Accura Analytical Laboratory, Inc. (AAL), in Norcross, Georgia, on February 11, 1999.

AAL was contracted by START to analyze the samples collected from the GWO site for full-scan analyses, which included the following: volatile organic compounds, semivolatile organic compounds, polychlorinated biphenyls, pesticides, Total Analyte List (TAL) metals, and cyanide. Analytical data were delivered from the contract laboratory to START for validation. A laboratory report is presented as Appendix C. The report includes validated analytical data and summary tables showing analytical results for each sample.

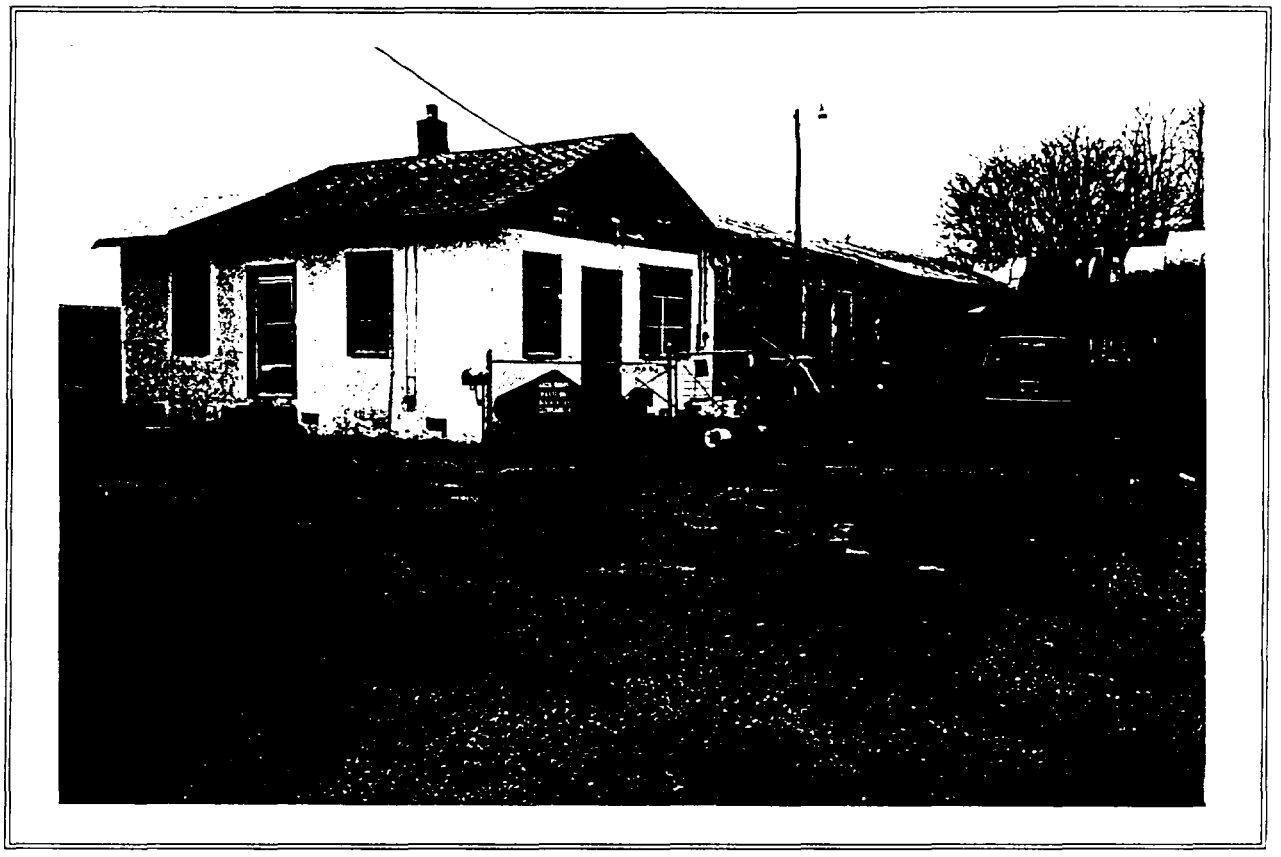
5.0 SUMMARY

Under TDD No. 04-9902-0001, START performed AST, soil, and additional liquid sampling at the GWO site on February 10 and 11, 1999. Throughout the investigation, START provided detailed documentation of site activities through written and photographic logs, as directed under the TDD. EPA will use these results to determine future enforcement actions at the site. At this time, no further action is required by START under this TDD.

APPENDIX A

PHOTOGRAPHIC LOG

(35 Pages)



OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

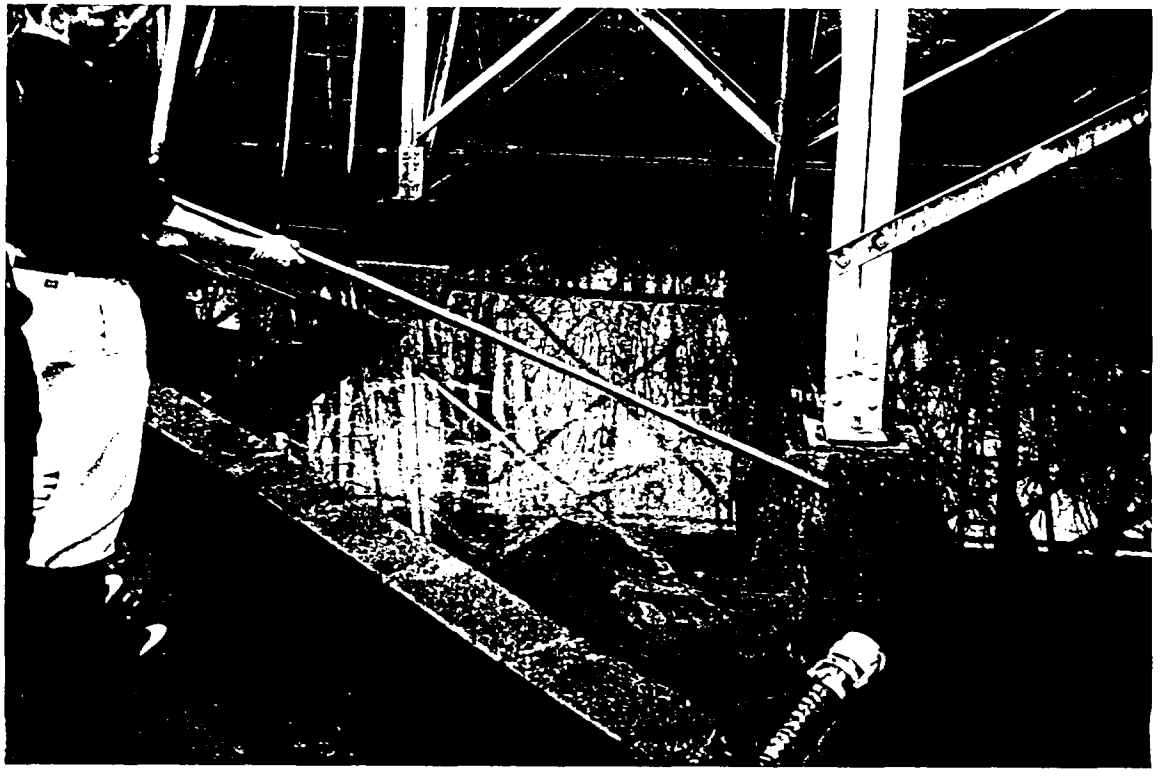
Subject:	Entrance to the Goins Waste Oil Site and office building		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Above-ground storage tanks (from the left, Numbers 2, 3, and 4)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Above-ground storage tanks (from the left, Numbers 2, 3, and 4) and drums		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

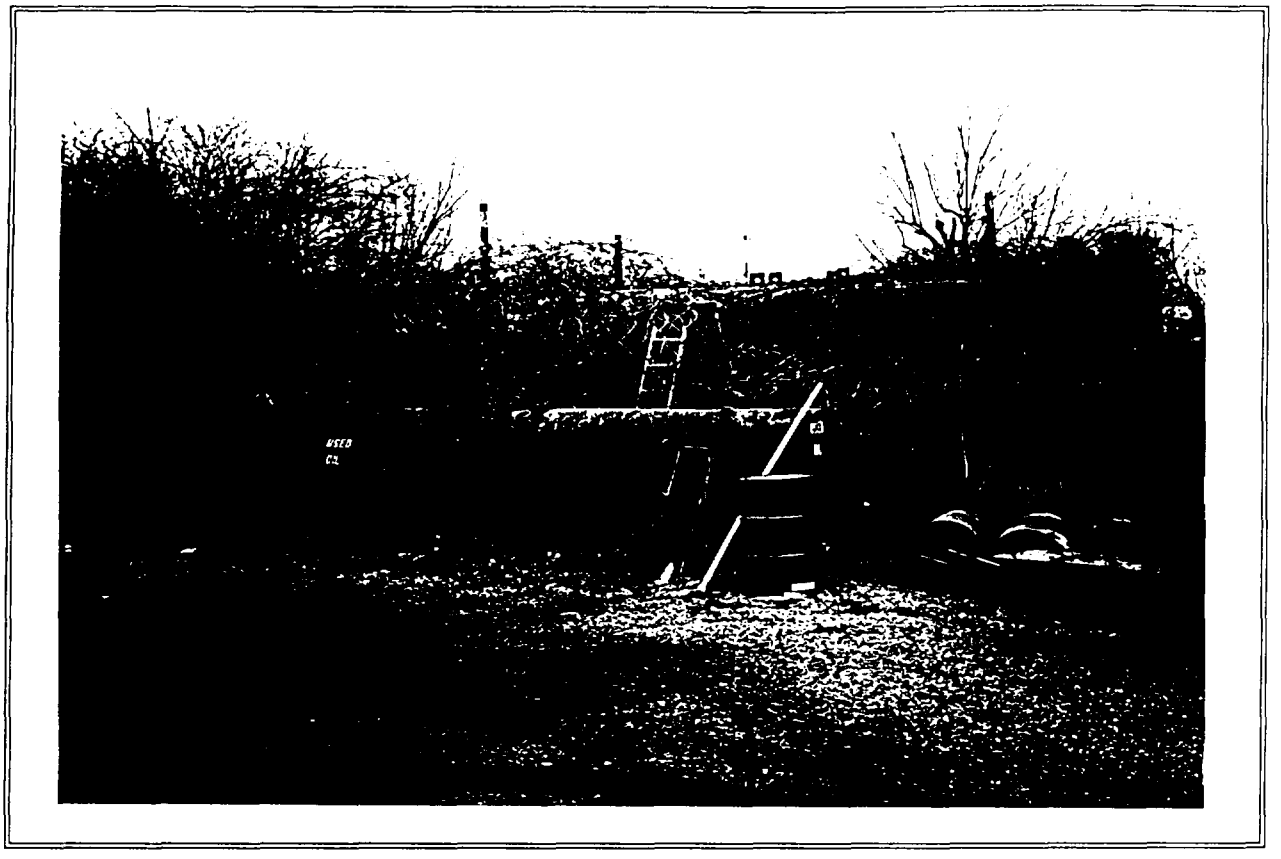
Subject:	Liquid in secondary containment		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	North side of secondary containment area		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	North side of secondary containment area		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

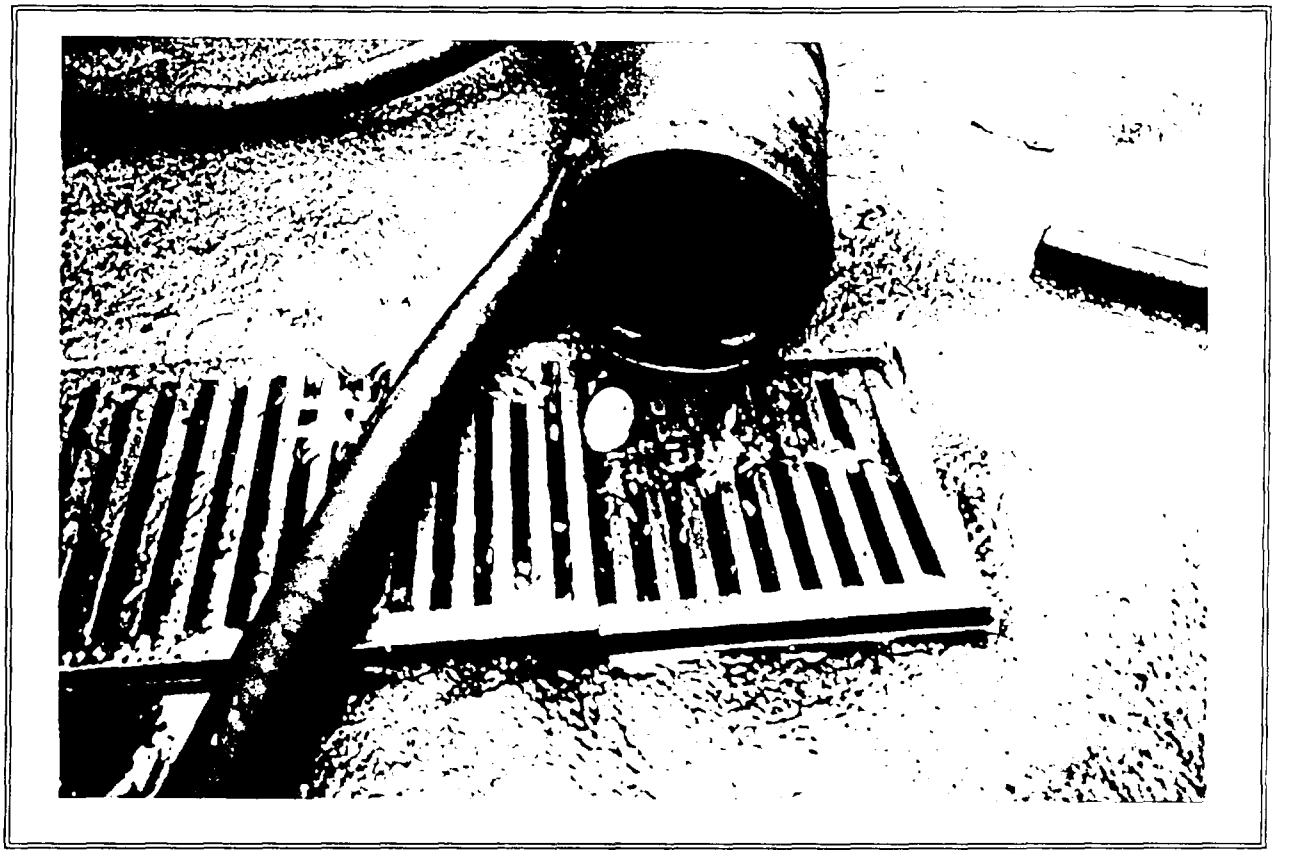
Subject:	Above-ground storage tanks (from front to back, left to right, Numbers 7, 8, and 9; Numbers 10 and 11 are not visible behind Number 8 and 9)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Oil/waster separator sump		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	Kevin Taylor, START	**Witness:**	OSC Fred Stroud, EPA

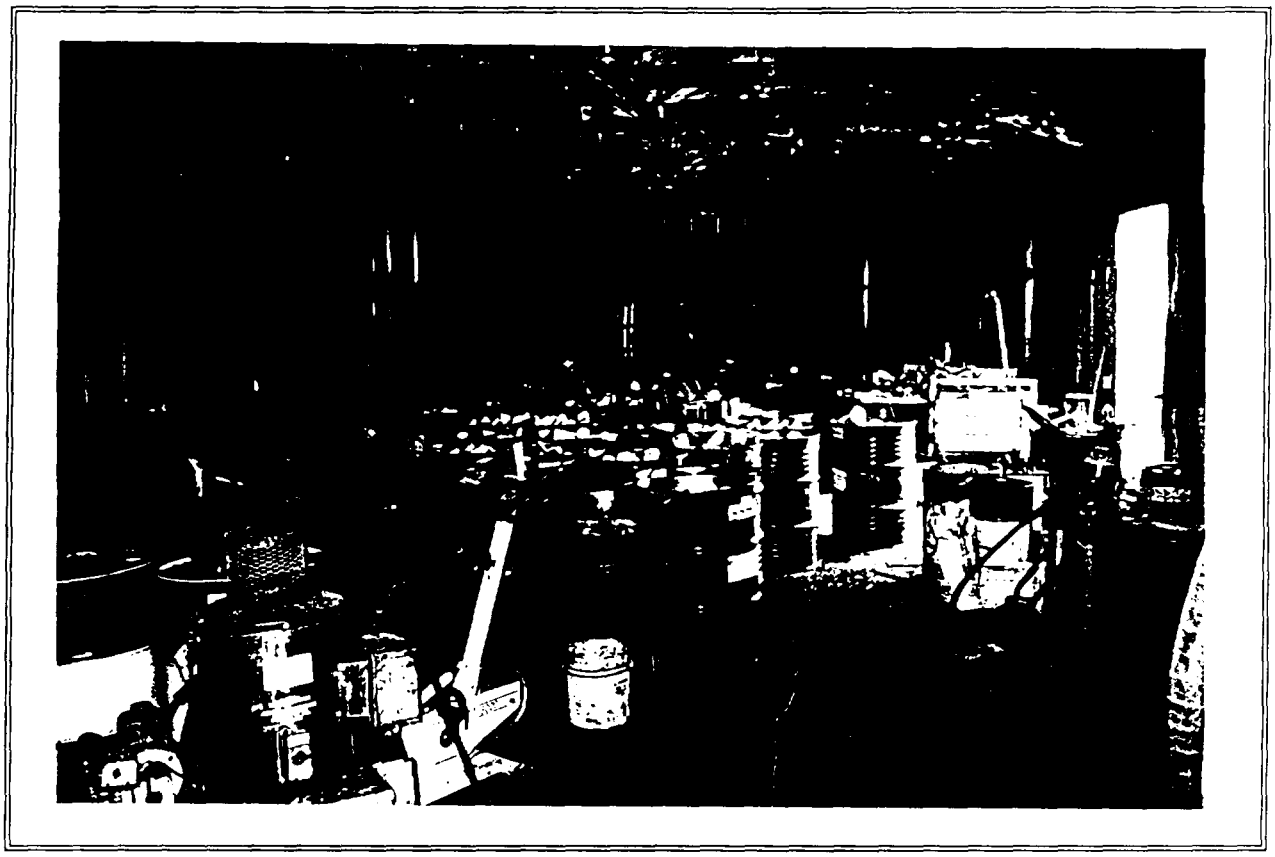
OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Entrance to pump house		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	Kevin Taylor, START	**Witness:**	OSC Fred Stroud, EPA



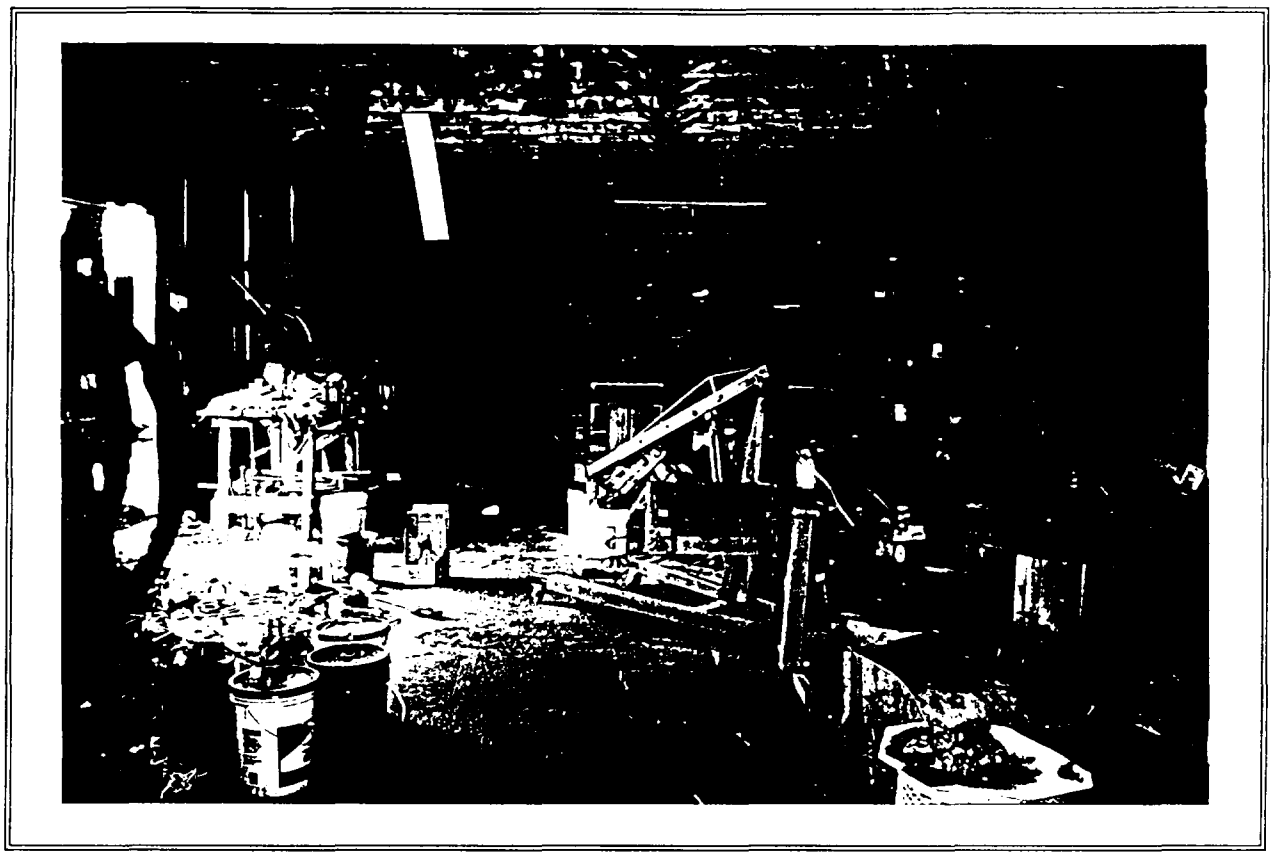
OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Drainage grate and bucket near oil/water separator sumps		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	West		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	Kevin Taylor, START	**Witness:**	OSC Fred Stroud, EPA



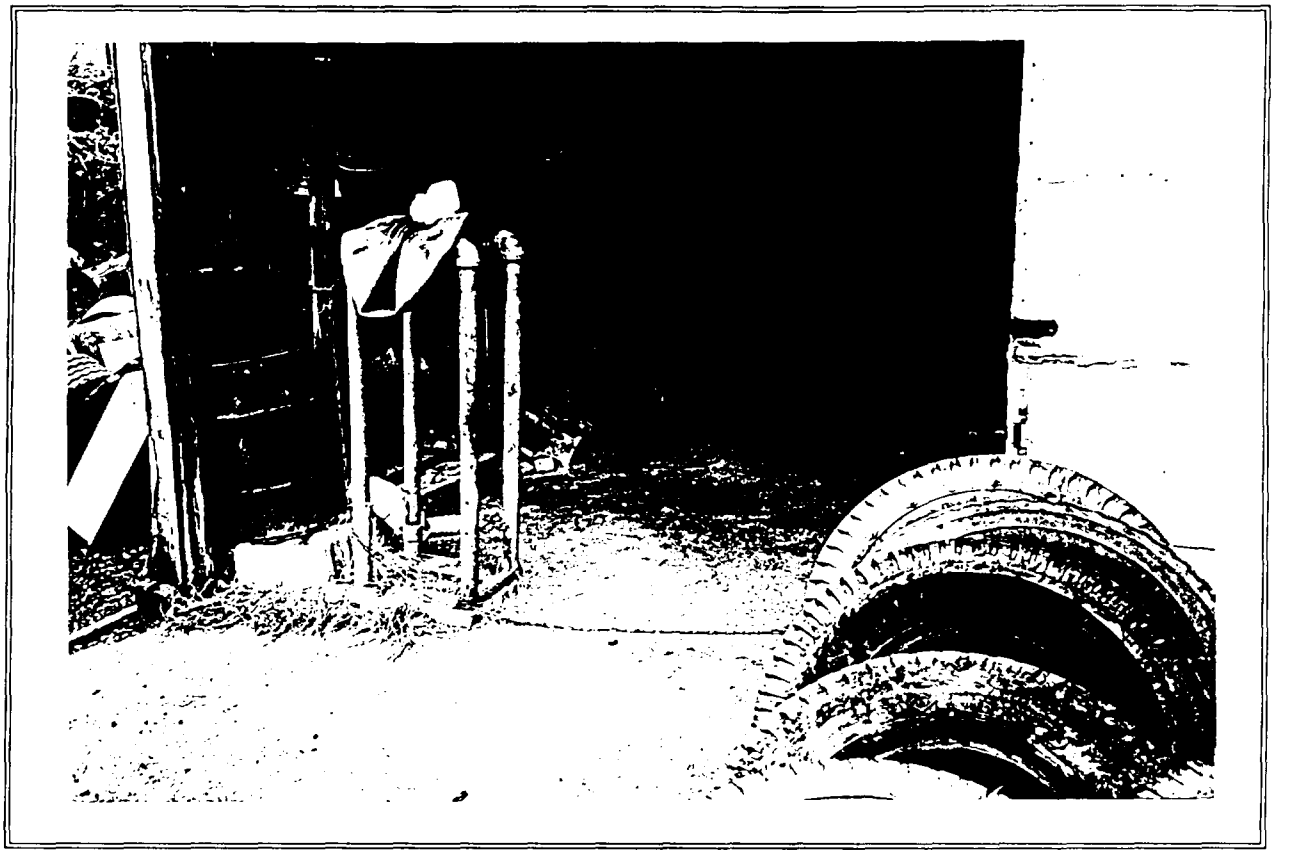
OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Warehouse interior with oil filter press on the right near the door		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Warehouse interior		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	South		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Garage interior		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 14
U.S. ENVIRONMENTAL PROTECTION AGENCY

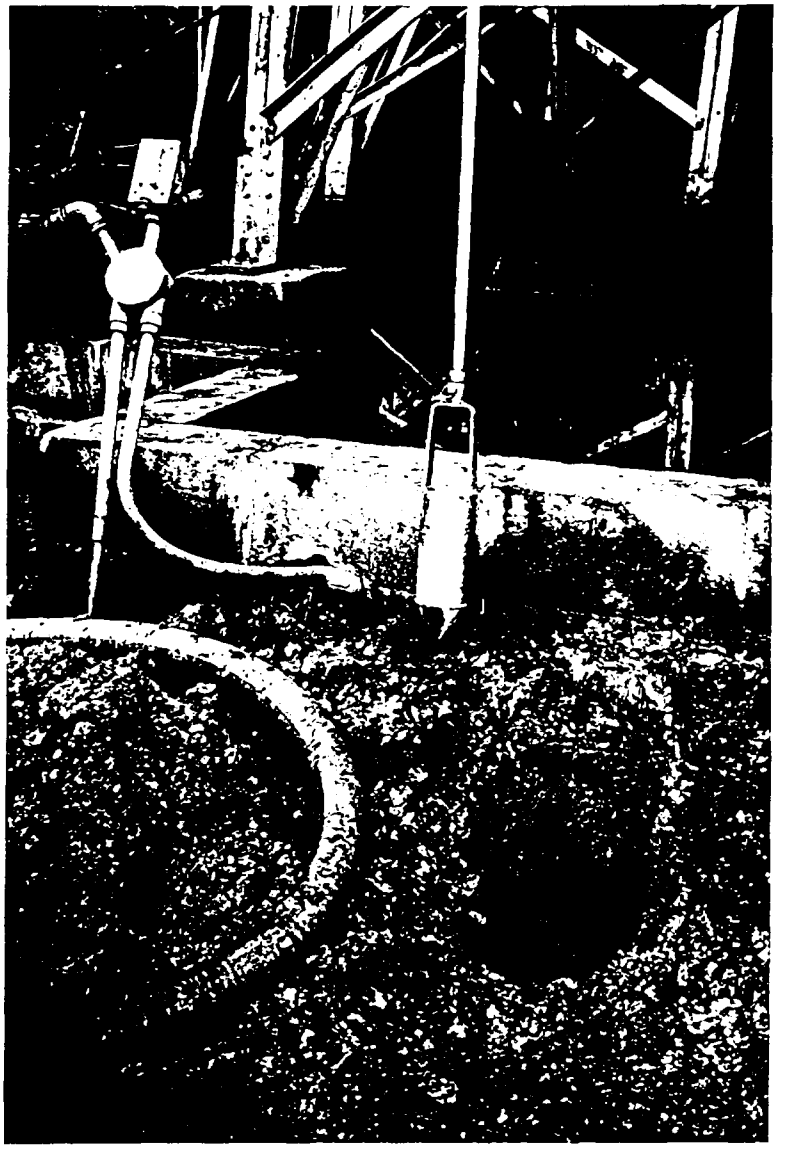
Subject:	Above-ground storage tanks from off-site railroad tracks		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 15
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Drainage ditch between Goins Waste Oil Site and railroad tracks		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 16
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	GO-SC-01 sample location		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

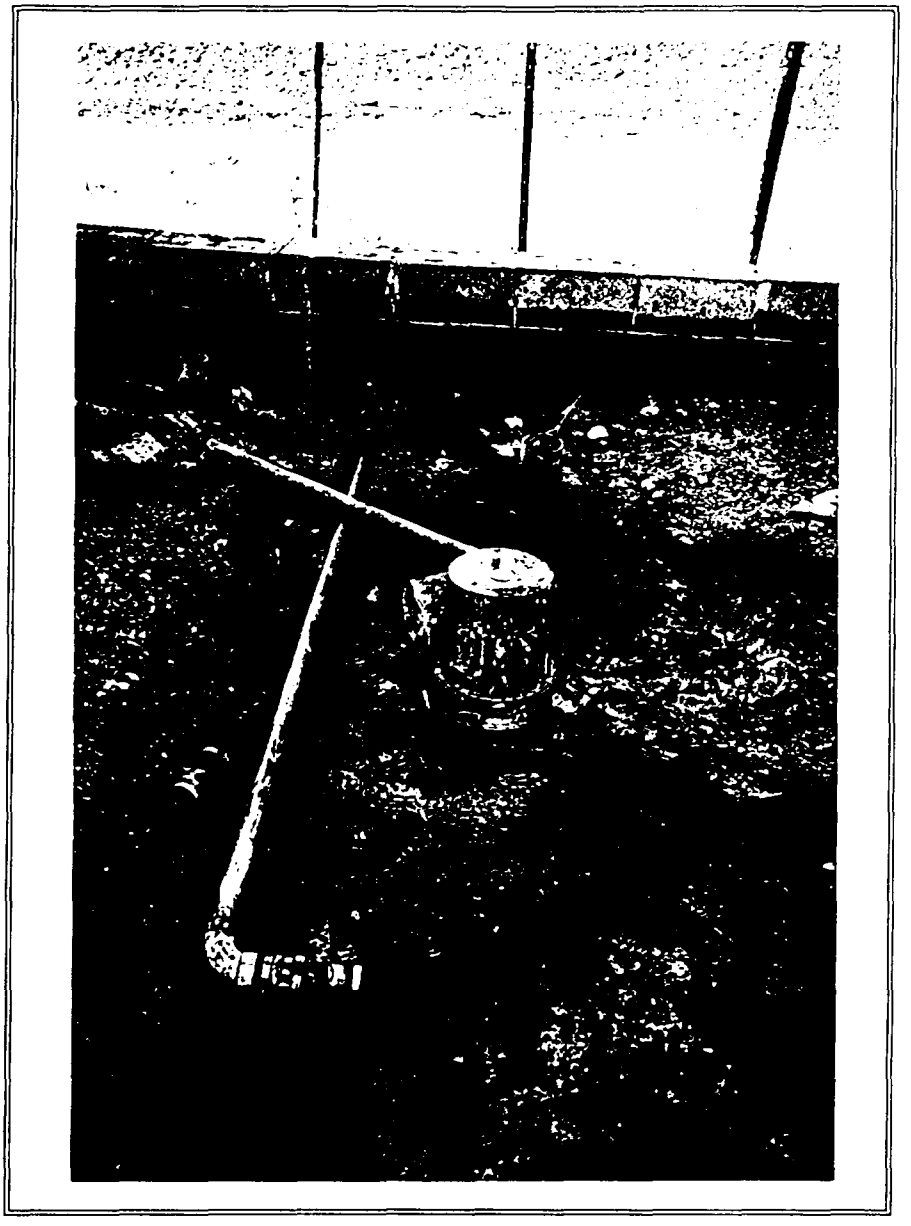


OFFICIAL PHOTOGRAPH NO. 17
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	GO-SC-02 sample location		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	Kevin Taylor, START	**Witness:**	OSC Fred Stroud, EPA

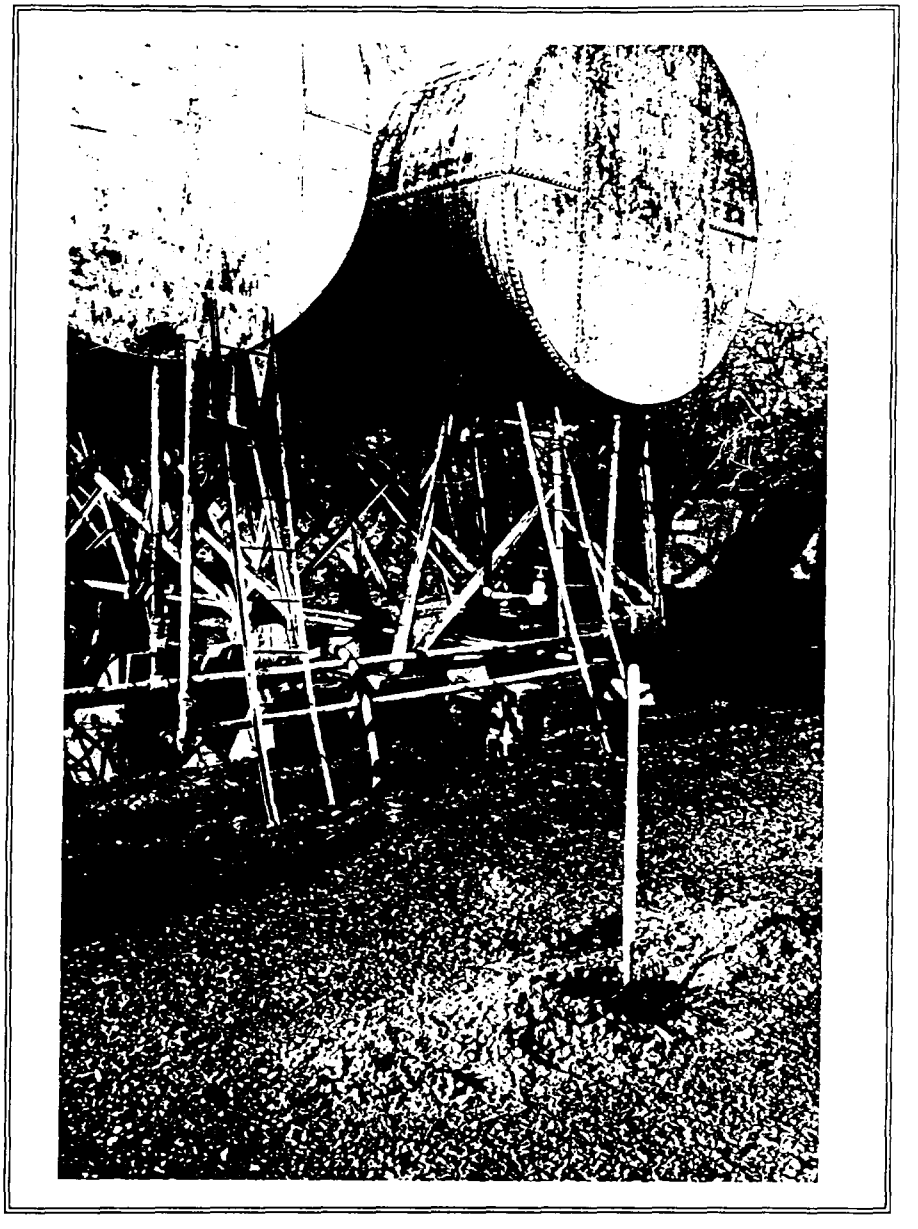
OFFICIAL PHOTOGRAPH NO. 18
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	GO-SC-02 sample location hole filled with liquid from secondary containment area		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	Kevin Taylor, START	**Witness:**	OSC Fred Stroud, EPA



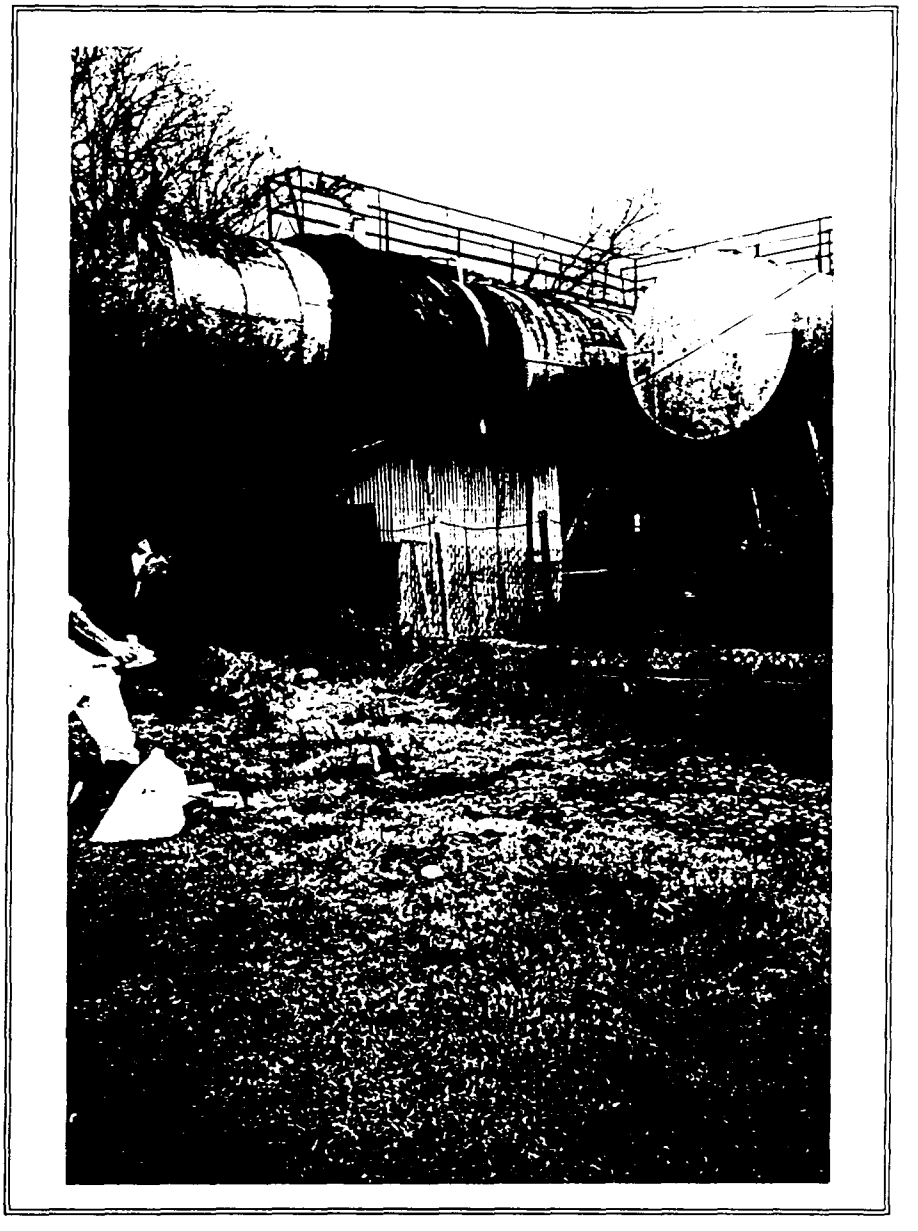
OFFICIAL PHOTOGRAPH NO. 19
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	GO-SB-04 sample location (back left marked with pipe)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 20
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	GO-SC-05 sample location		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA



OFFICIAL PHOTOGRAPH NO. 21
U.S. ENVIRONMENTAL PROTECTION AGENCY

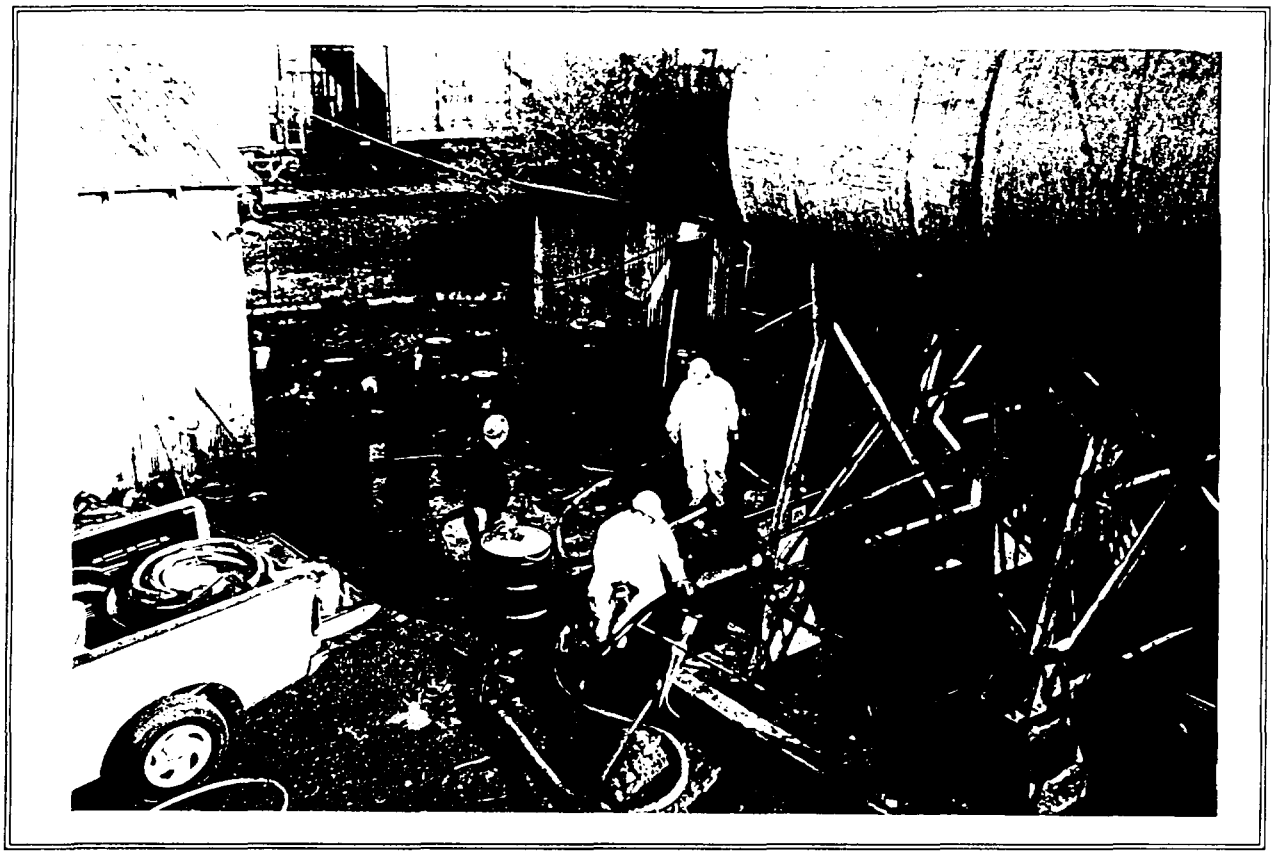
Subject:	GO-SC-06 sample location (off-site sample)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 22
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Removal contractors pumping out secondary containment		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	South		
TDD Number:	04-9902-0001	**Date:**	February 10, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 23
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Removal of secondary containment liquid		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START



OFFICIAL PHOTOGRAPH NO. 24
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Removal of secondary containment liquid		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 25
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Secondary containment liquid		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 26
U.S. ENVIRONMENTAL PROTECTION AGENCY

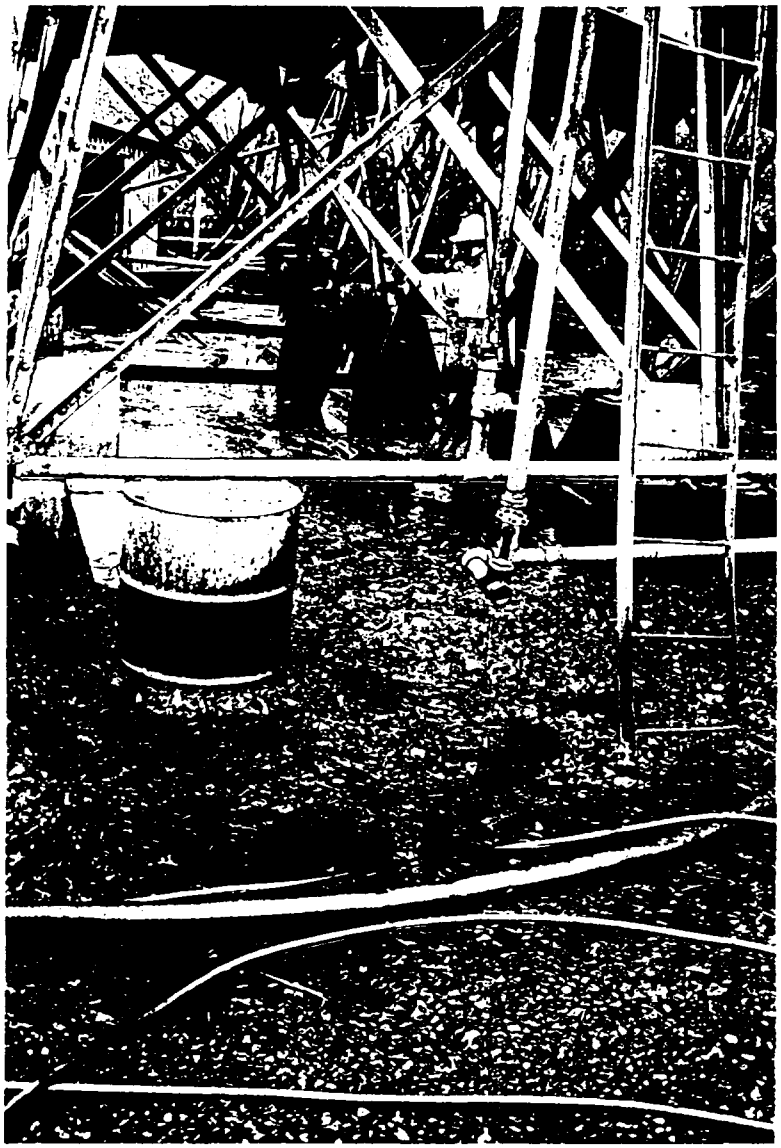
Subject:	Secondary containment liquid and sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	West		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 26
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Secondary containment liquid and sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	West		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 27
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Secondary containment sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	West		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START



OFFICIAL PHOTOGRAPH NO. 28
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Secondary containment sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northeast		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	David Andrews, START	**Witness:**	OSC Fred Stroud, EPA

OFFICIAL PHOTOGRAPH NO. 30
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Secondary containment liquid and sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	Northwest		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 31
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Removal of secondary containment liquid and sludge		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 32
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sludge and liquid outside of the pump house		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	North		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 33
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sampling of above-ground storage tanks (Nos. 7 through 11)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 33
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sampling of above-ground storage tanks (Nos. 7 through 11)		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	East		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

OFFICIAL PHOTOGRAPH NO. 35
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sampling of oil/water separator sump		
Location:	Goins Waste Oil Site Cleveland, Bradley County, Tennessee		
Orientation:	West		
TDD Number:	04-9902-0001	**Date:**	February 11, 1999
Photographer:	OSC Fred Stroud, EPA	**Witness:**	Kevin Taylor, START

APPENDIX B

LOGBOOK NOTES

(Five Pages)

CONTENTS

PAGE	REFERENCE	DATE

7/10/99

1050 Arrived at Goins Oil in Cleveland, TN.
Fred Stroud, EPA-OSC
Kevin Taylor, Tetra Tech, PM
David Andrews, Tetra Tech
Other State, EPA, and TVA officials (Lynne Koby, TDEC)

1115 Overall site conditions
Yard is stained gravel
Stressed veg. along perimeter
2 metal and 1 block buildings

1215 Layed out sampling locations

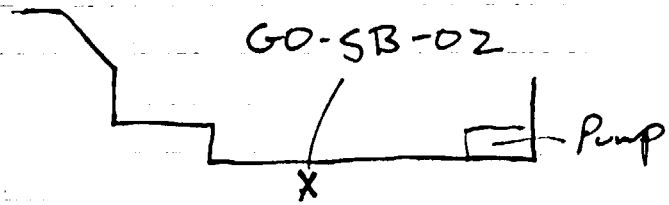
1400 Began digging to collect composite sample 1 in truck loading area. 1 8oz

1500 Collected GO-SC-01 1 2oz
Surface composite of 1A-1E.
Collected 6in to 1ft soils below gravel layers. Soils exhibited strong odor with PID readings of 2 to 3 ppm

1520 Began digging at GO-SB-02 next to containment wall

1535 Collected GO-SB-02.
~~for~~ Sample pulled at approx. (1 8oz, 1 2oz VOA)

1535 (con't) 1.5' bgs. Sample collected w/ hand auger approx 6" into the area directly below the containment. Liquid containing product filled the hole.



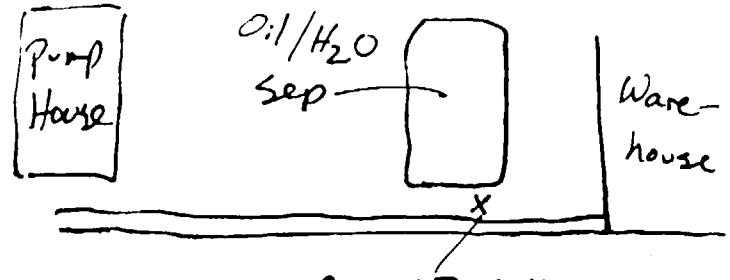
1535 EPA's contractor on-site to pump out liquid from containment area.

1600 Collected GO-SC-03 Surface layer of containment 1 16 oz and 2 40 ml VOA

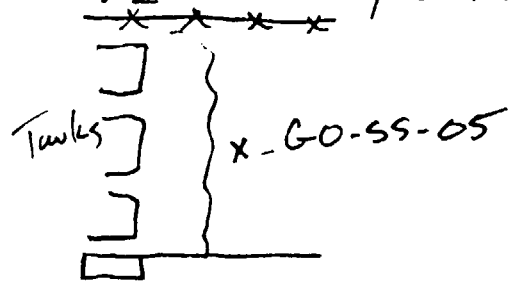
1610 Contractors began pumping off containment liquid. EarthTech and Jordan

1620 Selected spot for GO-SB-04 Subsurface soil. Sample collected from 6-12".

1625 Collected GO-SB-04 1 8oz, 1 2oz

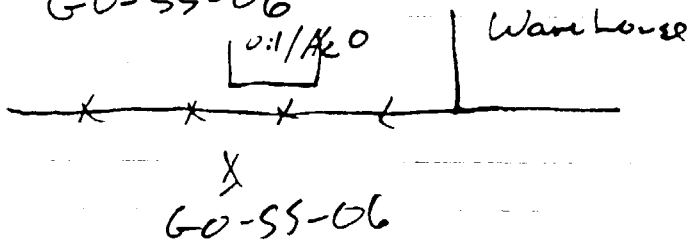


1645 At GO-SS-05 at cont. H_2O and dry soil interface



1700 Collected sample below gravel layer a ~ 10" bgs

1720 Collected surface soil <4" off site near oil/H_2O sep. GO-SS-06



1 8oz, 1 2oz Sample had oily smell / dark color.

1800 Tetra Tech off site.
Fred Stroud and removal
contractors still on site

Ken Eddy 2/10/99

2/11/99

0810 Tetra Tech Arrives on site. Frac tank on site for storage of containment liquids. Completed Roll 1 of film.

0815 Fred Stroud arrives on site. Earth Tech on site to continue removal.

0820 Measuring to soil sample locations

0900 Tetra Tech dressing out in Level C for tank sampling

1000 Collected composite sample of tanks 8 - 11. 1 16 oz jar. (eight - eleven)

Tanks exhibited similar contents with 3-layer make up

1. Oil surface layer (0.1 ft)
2. Water layer ~~(1 ft)~~ (1-2 ft)
3. Thick sludge layer (2 ft down)

All tanks were at least 90% full.

Sample number GO-TK-07

1030 Collected composite sample from tanks 5-7.

1045 Tank sample number
GO-TK-08, 16oz amber
Composite of tanks 5-7
Tank 5 - consistant thick
oily sludge
Tank 6 - Mosty oily water
Tank 7 - Mosty oily/rusty water
1120 Collected GO-TK-09 from
AST # 4. Tank was
full ~~of~~ with Water and
sludge layers (1/2 and 1/2)
1145 Collected GO-DW-10 from
oil/water seperator.
Watery liquid with paint.
like smell. Collected
16 oz amber and 2
40 ml VOA.
1210 Decided to collect
GO-DW-10 from other
oil/H_2O seperator because
PID read >100 ppm at
1.5' above liquid surface
1215 Collected GO-DW-10:
1 16 oz amber and
2 40 ml VOA

1230 Earth Tech finished
removing liquid in containment
1245 Tetra Tech offsite for
lunch
1330 Tetra Tech back on site.
EPA and Earth Tech off
site. Setting up for Haz Cat
1510 Haz Cat and Field decon
complete. Fred Stroud
off site.
1530 Hertz off site with
generator. Baker tank
1623 left on site.
1540 Tetra Tech off site.

DES
2-11-99

TDD # 990201

FEB 12, 1999 – FRIDAY

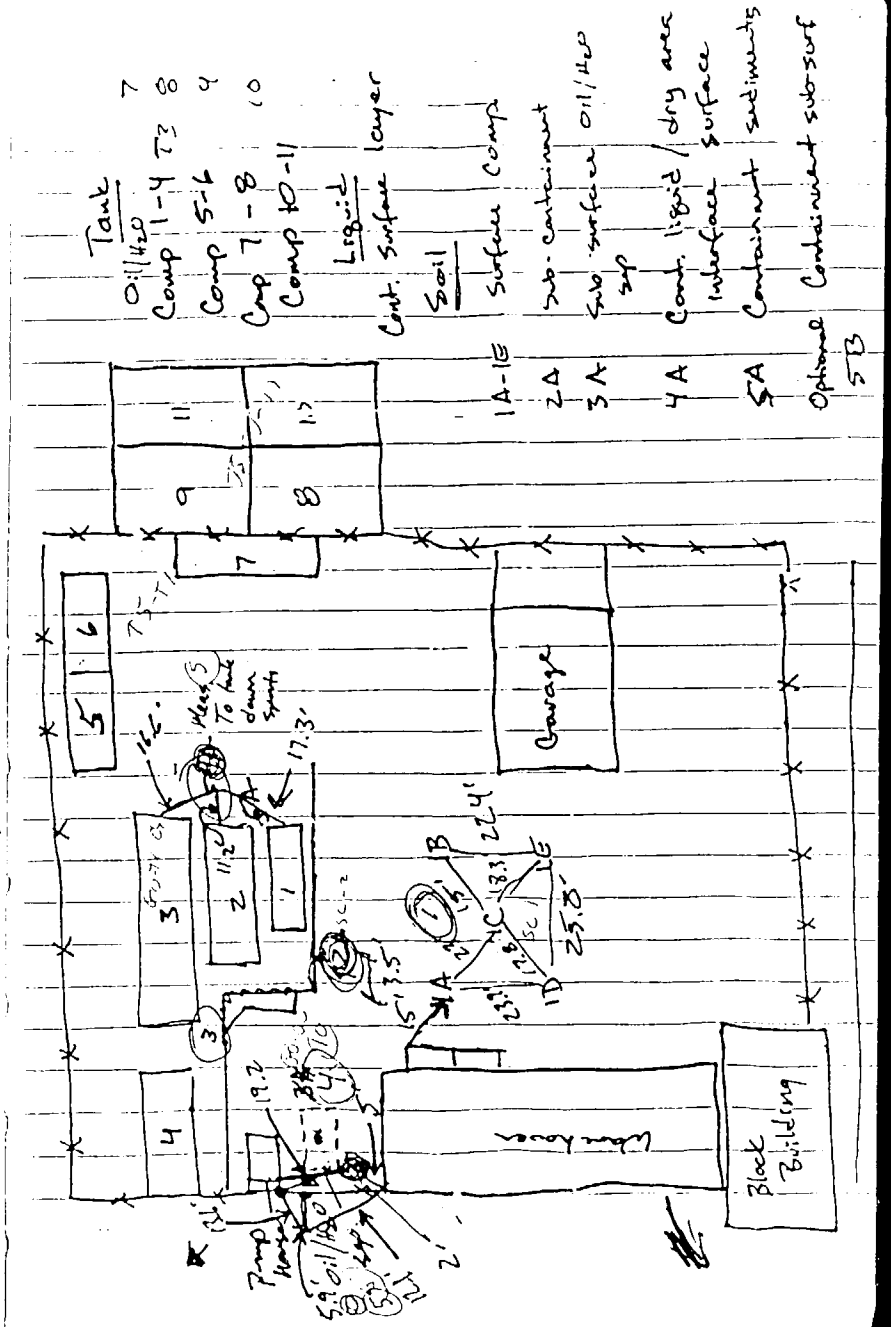
0900 hrs – Completed 2-12-99 START MEMBER (D. ANDREWS) completed Chain of Custody and related paper work for CONTRACT LABORATORY service. 3-bid winner for CL yet to be announced.

1500 – Accura Laboratories (Norcross, GA) Won the bid. 5 x soils & 5 x oil (waste) product were bidded for: RCRA metals, CN (TOTAL), PCB's, Pesticides, 8260 (volatiles), 8270 Semi-volatiles w/ 14 working-day turn-a-round.

1615 – START MEMBER (D. ANDREWS) delivers Goins Waste Oil Co. samples to Accura Labs receiving. COC to Accura.

1645 – COC returned to START MEMBER (Paula McLaren – Lab Coordinator).

2-13-99



APPENDIX C

ANALYTICAL REPORT

(81 Pages)

Tetra Tech EM Inc.

Gwinnett Corporate Center ◆ 1750 Corporate Drive, Suite 735 ◆ Norcross, GA 30093 ◆ (770) 935-1542 ◆ FAX (770) 935-9049

MEMORANDUM

TO: Kevin Taylor
Superfund Technical Assessment and Response Team (START) Project Manager

FROM: Paula MacLaren
START Quality Assurance Officer

THROUGH: R. Steve Pierce
START Leader, U.S. Environmental Protection Agency (EPA) Region 4

SUBJECT: Goins Waste Oil Site Analytical Data
Technical Direction Document No. 04-9902-0012

DATE: March 5, 1999

Accura Analytical Services, Inc., analyzed five soil samples (samples 1 and 2 and 4 through 6) and five waste samples (samples 3 and 7 through 10) collected on February 10 and 11, 1999, at the Goins Waste Oil site in Cleveland, Tennessee. The samples were analyzed for the following parameters:

- Volatile organic compounds (VOC)
- Semivolatile organic compounds (SVOC)
- Pesticides
- Polychlorinated biphenyls (PCB)
- Target analyte list (TAL) metals
- Total cyanide

The analytical data package was received 1 day late. A penalty charge of 3 percent will be applied against the total invoice cost. The following quality control samples were analyzed:

- **VOC analyses:** All sample analytical holding times were met. The laboratory blank was free of contamination. Matrix spike and matrix spike duplicate (MS/MSD) analyses were performed on soil sample 6. For the MS analysis, all six spiked component percent

contains recycled fiber and is recyclable

recoveries were within the recommended quality assurance and quality control (QA/QC) range of 80 to 120 percent. For the MSD analysis, one of six spiked component percent recoveries was below the QA/QC lower limit of 80 percent (specifically toluene at 74 percent). All sample surrogate percent recoveries were within method limits. All laboratory control sample (LCS) percent recoveries were within the recommended QA/QC range of 80 to 120 percent. Analytical precision, as measured by relative percent difference (RPD), was within the recommended QA/QC guideline of no more than 20.

- **SVOC analyses:** All sample analytical holding times were met. The laboratory blank was free of contaminants. MS and MSD analyses were performed on soil sample 6. All spiked component percent recoveries were diluted out due to elevated levels of contaminants within the sample. All sample surrogate recoveries were diluted out due to matrix interferences or elevated levels of contaminants. All LCS spiked component percent recoveries were within the method-recommended limits.

- **Pesticides analyses:** All sample analytical holding times were met. The laboratory blank was free of contaminants. MS and MSD analyses were performed on soil sample 6. Again, all spiked component percent recoveries were diluted out due to matrix interferences. Surrogate recoveries for samples 3, 4, 5, 6, 7, 8, 9, and 10 were diluted out. All other sample surrogate percent recoveries were within method-recommended limits. All LCS spiked component percent recoveries were within method-recommended limits.

- **PCB analyses:** All sample analytical holding times were met. The laboratory blank was free of contaminants. MS and MSD analyses were performed on soil sample 6. All spiked component percent recoveries were diluted out due to matrix interferences. Surrogate recoveries for samples 3, 4, 5, 6, 7, 8, 9, and 10 were diluted out. All other sample surrogate percent recoveries were within method-recommended limits. All LCS spiked component percent recoveries were within the recommended QA/QC range of 80 to 120 percent.

- **TAL metals analyses:** All sample analytical holding times were met. The laboratory blank was free of contaminants. MS and MSD analyses were performed on soil sample 5. All spiked component percent recoveries were diluted out because of calcium matrix interference. All LCS spiked component percent recoveries were within the recommended QA/QC range of 80 to 120 percent.

- **Total cyanide analyses:** All sample analytical holding times were met. The laboratory blank was free of contaminants. The LCS spiked component percent recovery was within the QA/QC range of 80 to 120 percent.

A summary of the sample data is presented in Tables 1 and 2.

TABLE 1

GOINS WASTE OIL SITE
ANALYTICAL DATA

Soil Samples

Parameter	Sample Identification, Location, and Date				
	1	2	4	5	6
	GO-SC-01	GO-SB-02	GO-SB-04	GO-SS-05	GO-SS-06
	02/10/99	02/10/99	02/10/99	02/10/99	02/10/99
Volatile Organic Compound (µg/kg)					
Acetone	600	2,800 E	280	ND	ND
Benzene	12	8.1	68	ND	ND
2-Butanone	94	470	ND	ND	ND
1,1-Dichloroethane	ND	19	ND	ND	ND
Ethylbenzene	38	27	200	440	88
Tetrachloroethene	ND	ND	ND	ND	36
Toluene	130	44	370	1,700	110
Xylene (total)	520	41	1,300	2,800	930
Semivolatile Organic Compound (µg/kg)					
bis(2-Ethylhexyl)phthalate	ND	ND	ND	9,700	3,400
Pesticide (µg/kg)					
SW-846 Method 8081A	ND	ND	ND[1]	ND	ND
Polychlorinated Biphenyl (µg/kg)					
Aroclor 1260	350	ND	ND[1]	ND	6,200
Target Analyte List Metal (mg/kg)					
Aluminum	3,300	3,500	4,300	4,700	4,300
Antimony	ND	14	9.7	ND	13
Arsenic	ND	17	6.2	ND	12
Barium	1,800	33	50	260	46

TABLE 1 (continued)

GOINS WASTE OIL SITE
ANALYTICAL DATA

Soil Samples

Parameter	Sample Identification, Location, and Date				
	1	2	4	5	6
	GO-SC-01	GO-SB-02	GO-SB-04	GO-SS-05	GO-SS-06
	02/10/99	02/10/99	02/10/99	02/10/99	02/10/99
Target Analyte List Metal (mg/kg) (continued)					
Beryllium	ND	ND	ND	ND	ND
Cadmium	ND	1.3	1.1	ND	1.6
Calcium	180,000	1,400	3,800	190,000	31,000
Chromium	ND	9.6	8.4	380	18
Cobalt	ND	0.83	3.2	ND	4.1
Copper	ND	11	14	200	13
Iron	8,500	15,000	11,000	17,000	14,000
Lead	190	7.4	29	3,900	39
Magnesium	18,000	210	550	28,000	910
Manganese	190	23	250	230	260
Mercury	ND	ND	ND	ND	ND
Nickel	ND	2.6	4.1	40	4.3
Potassium	430	180	210	780	220
Selenium	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND
Sodium	ND	250	ND	ND	ND
Thallium	ND	ND	ND	ND	ND
Vanadium	15	29	22	ND	32
Zinc	ND	ND	ND	ND	110

TABLE 1 (continued)

GOINS WASTE OIL SITE
ANALYTICAL DATA

Soil Samples

Parameter	Sample Identification and Location				
	1	2	4	5	6
	GO-SC-01	GO-SB-02	GO-SB-04	GO-SS-05	GO-SS-06
	02/10/99	02/10/99	02/10/99	02/10/99	02/10/99
General Chemistry (mg/kg)					
Total cyanide	ND	ND	ND	2.3	ND

Notes:

E	Estimated value; the concentration exceeded the calibration range of the instrument
µg/kg	Microgram per kilogram
mg/kg	Milligram per kilogram
ND	Not detected
1	Not detected; elevated detection limits due to matrix interferences

Accura Analytical Laboratory, Inc., performed the sample analyses.

TABLE 2

GOINS WASTE OIL SITE
ANALYTICAL DATA

Waste Samples

Parameter	Sample Identification, Location, and Date				
	3	7	8	9	10
	GO-SC-03	GO-TK-07	GO-TK-08	GO-TK-09	GO-OWS-10
	02/10/99	02/11/99	02/11/99	02/11/99	02/11/99
Volatile Organic Compound (µg/L)					
Acetone	ND	22,000 E	170,000 E	83,000	310,000
Benzene	ND	280	970	ND	13,000
2-Butanone	ND	6,200	26,000	25,000	130,000 E
Carbon tetrachloride	ND	940	ND	720	ND
1,1-Dichloroethane	ND	ND	ND	340	ND
Ethylbenzene	48,000	1,800	12,000	1,100	220,000
Methylene chloride	270,000	3,900	460,000	19,000	2,000,000
4-Methyl-2-pentanone	ND	ND	190,000 E	9,000	270,000
Tetrachloroethene	62,000	560	11,000	2,700	230,000
Toluene	1,400,000	6,300	35,000	7,200	2,500,000
1,1,1-Trichloroethane	ND	5,500	5,600	4,300	5,300
Trichloroethene	29,000	1,700	45,000	7,100	72,000
Xylene (total)	190,000	9,500	60,000	5,400	950,000
Semivolatile Organic Compound (µg/kg)					
bis(2-Ethylhexyl)phthalate	2,200,000	ND[1]	ND[1]	ND[1]	1,500,000
Pesticide (µg/kg)					
SW-846 Method 8081A compounds	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
Polychlorinated Biphenyl (µg/kg)					
SW-846 Method 8082 compounds	ND	ND	ND	ND	ND

TABLE 2 (continued)

GOINS WASTE OIL SITE
ANALYTICAL DATA

Waste Samples

Parameter	Sample Identification, Location, and Date				
	3	7	8	9	10
	GO-SC-03	GO-TK-07	GO-TK-08	GO-TK-09	GO-OWS-10
	02/10/99	02/11/99	02/11/99	02/11/99	02/11/99
Target Analyte List Metal (mg/kg)					
Aluminum	96	37	210	150	270
Antimony	2.4	0.60	ND	ND	4.0
Arsenic	ND	ND	0.58	ND	ND
Barium	44	12	38	19	52
Beryllium	ND	ND	ND	ND	0.082
Cadmium	0.77	0.29	1.7	0.15	0.67
Calcium	590	280	1,200	680	920
Chromium	24	220	530	230	38
Cobalt	1.9	2.8	3.0	1.3	3.5
Copper	120	49	93	30	120
Iron	2,000	1,200	1,400	760	2,600
Lead	52	27	42	7.4	67
Magnesium	64	25	140	17	170
Manganese	22	38	50	33	45
Mercury	ND	ND	ND	ND	ND
Nickel	22	100	140	88	36
Potassium	35	180	630	310	74
Selenium	0.65	ND	ND	ND	1.1
Silver	ND	5.7	4.4	1.0	ND

TABLE 2 (continued)

GOINS WASTE OIL SITE
ANALYTICAL DATA

Waste Samples

Parameter	Sample Identification, Location, and Date				
	3	7	8	9	10
	GO-SC-03	GO-TK-07	GO-TK-08	GO-TK-09	GO-OWS-10
	02/10/99	02/11/99	02/11/99	02/11/99	02/11/99
Target Analyte List Metal (mg/kg) (continued)					
Sodium	260	1,300	8,100	6,000	1,000
Thallium	ND	ND	ND	ND	0.56
Vanadium	1.5	1.7	3.8	1.5	0.16
Zinc	290	58	57	20	470
General Chemistry (mg/kg)					
Total cyanide	ND	ND	ND	ND	ND

Notes:

E	Estimated value; the concentration exceeded the calibration range of the instrument
µg/kg	Microgram per kilogram
mg/kg	Milligram per kilogram
ND	Not detected
SW	Solid Waste
1	Not detected; elevated detection limits due to matrix interferences

Accura Analytical Laboratory, Inc., performed the sample analyses.

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 TAT

CHAIN OF CUSTODY RECORD

TDA/4°C
19695

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION RO
ATHENS, GEORGIA 30

CLIENT: TETRA TECH CONTACT: PAULA MACLAREN

PROJ. NO.

PROJECT NAME: Gozzi Oil, Cleveland, TN

SAMPLERS (Signature): David Andrews, Kevin Taylor (Pm)

	STA. NO.	DATE 1999	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, Sot, etc)	ILG (phenol) (O&G) (pest)	ILP (met, herb) (TOC, COD, N, P, etc)	0.5-ILP (S⁻)	½ gal or ILP (CN)	8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S⁻, N, P, COD, etc)	8 oz G (ext org pest, herb, VOA)	8 oz G (EP) (met, CN, S⁻, FP) (FP, BTU)								REMARKS/TAG NUMBERS
							Water/Wastewater														Soil/Sed/Sldg		Waste						Misc
2041	1	2/10	1500	✓		GO-SC-01 (Pre Area)	2									1	1												STA# 1-10: Vol, Semi Vol,
2042	2	2/10	1535		✓	GO-SB-02 (-2' Bel. w Pipe)	2									1	1												1SST, PCB's,
2043	3	2/10	1600		✓	GO-SC-03	3		2														1						TAL METALS,
2044	4	2/10	1625		✓	GO-SB-04	2									1	1												& Total CN⁻
2045	5	2/10	1700		✓	GO-SS-05	2									1	1												
2046	6	2/10	1720		✓	GO-SS-06	2									1	1												*(Gool for Manganese Sp.Ve)
2047	7	2/11	0500	✓		GO-TK-07 (TK 8,9,10,11)	1																1						
2048	8	2/11	1045	✓		GO-TK-08 (TK 5,6,7)	1																1						
2049	9	2/11	1120		✓	GO-TK-09 (TK #3)	1																1						
2050	10	2/11	1215		✓	GO-OWS-10 (oil/H2O sep)	3		2														1						

2/12/99

Relinquished by (Signature)	Date/Time	Received by: (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)
	2/12/99 1620	2/12/99			
Relinquished by (Signature)	Date/Time	Received by (Signature)	Relinquished by (Signature)	Date/Time	Received by (Signature)

Remarks: ANTICIPATE heavy (medium oil contam. on Soil Samples STA# 1-6 (incl 3). Pure product or mix w/ H2O #3, #7, #8, #9, #10.
*STA#1-10: Vol, Semi-Vol, Pest, PCB's, TAL METALS & Total CN⁻

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers. Blue copy extra copy as needed

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

CASE NARRATIVE for Project Number: 19695-Revision
Client Project: Goins Oil, Cleveland, TN / Undisclosed

The following items were noted concerning this project:

1. The following samples required dilution due to high analyte concentration and/or matrix interference, resulting in elevated detection limits:

   Pesticides – SW-846-8081A
   1 2 3 4 5 6 7 8 9

   PCB – SW-846-8082
   1 2 3 4 5 6 7 8 9 10

   SVOC – SW-846-8270C
   1 2 3 4 5 6 7 8 9 10

   VOC- SW-846-8260B
   1 2 3 4 5 6 7 8 9 10

   Metals – SW-846-6010B
   1 5

   Cyanide – SW-846-9010B / 9014
   5

2. The samples were received in 2oz jars. Because of this, the VOC soil samples were analyzed by method 5030.

3. The following surrogates were outside the method specified limits due to matrix interference:

   VOC – SW-846-8260B
   4-Bromofluorobenzene - 1 4 6

4. The surrogates were diluted out for the following samples; therefore no recoveries could be reported:

   Pesticides / PCB– SW-846-8081A / 8082
   3 4 5 6 7 8 9 10

   SVOC – SW-846-8270C
   1 2 3 4 5 6 7 8 9 10

5. The following analyte concentrations were above calibration range:

   VOC – SW-846-8260B
   Acetone - 2 7 8
   4-Methyl-2-Pentanone - 8
   2-Butanone - 10

   The results for these samples should be considered estimated.

6. The matrix spike standard was diluted out for the following analyses; therefore no recoveries could be reported for the matrix spike or matrix spike duplicate:

   SVOC – SW-846-8270C

   Pesticides – SW-846-8081A

   PCB – SW-846-8082

7. The matrix spike duplicate recovery for the following analyte was outside the method specified limit due to sample heterogeneity:

   VOC – SW-846-8260B
   Toluene

8. Due to high Calcium interference, recoveries for the Metals analysis could not be reported for the matrix spike or matrix spike duplicate.

9. The Laboratory Control Sample for the Cyanide analysis had a 112% recovery. The Matrix Spike for the Cyanide analysis had a 104% recovery. The Matrix Spike Duplicate for the Cyanide analysis had a 94% recovery. The Relative Percent Difference for the Cyanide analysis had a 10% recovery.

Quality Assurance

Accura Analytical Laboratory
6017 Financial Drive
Norcross, GA 30071

QUALITY CONTROL RESULTS
TOTAL METALS - SOIL

Laboratory Control Sample

Spike Compound	LCS Recovery (%)	LCSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Aluminum	96	NA	NA	20	79-121
Antimony	97	NA	NA	20	65-119
Arsenic	93	NA	NA	20	67-115
Barium	97	NA	NA	20	77-113
Beryllium	94	NA	NA	20	65-116
Cadmium	95	NA	NA	20	70-119
Calcium	98	NA	NA	20	61-125
Chromium	96	NA	NA	20	70-120
Cobalt	97	NA	NA	20	72-119
Copper	99	NA	NA	20	77-114
Iron	102	NA	NA	20	72-125
Lead	95	NA	NA	20	69-118
Mercury	103	NA	NA	20	63-129
Magnesium	95	NA	NA	20	71-114
Manganese	98	NA	NA	20	73-120
Nickel	95	NA	NA	20	68-121
Potassium	95	NA	NA	20	79-108
Selenium	97	NA	NA	20	67-118
Silver	95	NA	NA	20	21-146
Sodium	101	NA	NA	20	75-158
Thallium	95	NA	NA	20	69-125
Vanadium	96	NA	NA	20	72-120
Zinc	99	NA	NA	20	76-119

QUALITY CONTROL RESULTS
TOTAL METALS - SOIL

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample ID: 5*

Spike Compound	MS Recovery (%)	MSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Antimony	DO	DO	NA	20	0-134
Arsenic	DO	DO	NA	20	69-108
Barium	DO	DO	NA	20	61-125
Beryllium	DO	DO	NA	20	65-108
Cadmium	DO	DO	NA	20	71-112
Chromium	DO	DO	NA	20	69-112
Cobalt	DO	DO	NA	20	71-112
Copper	DO	DO	NA	20	68-119
Lead	DO	DO	NA	20	71-112
Mercury	118	118	0	20	64-126
Nickel	DO	DO	NA	20	71-109
Selenium	DO	DO	NA	20	69-111
Silver	DO	DO	NA	20	32-125
Thallium	DO	DO	NA	20	61-117
Vanadium	DO	DO	NA	20	65-114
Zinc	DO	DO	NA	20	54-126

* = Mercury QC performed on sample 6
DO = Diluted out

QUALITY CONTROL RESULTS
TOTAL VOLATILES - SOIL

Laboratory Control Sample

Spike Compound	LCS Recovery (%)	LCSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
1,1-Dichlorobenzene	106	NA	NA	20	61-154
Benzene	96	NA	NA	20	76-127
Trichloroethene	97	NA	NA	20	71-120
Toluene	99	NA	NA	20	76-125
Chlorobenzene	104	NA	NA	20	75-130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample ID: 2

Spike Compound	MS Recovery (%)	MSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
1,1-Dichlorobenzene	107	107	1	20	61-154
Benzene	96	95	1	20	76-127
Trichloroethene	90	89	1	20	71-120
Toluene	90	74*	20	20	76-125
Chlorobenzene	104	102	2	20	75-130

* = Outside limit due to sample heterogeneity

QUALITY CONTROL RESULTS
TOTAL SEMIVOLATILES - SOIL

Laboratory Control Sample

Spike Compound	LCS Recovery (%)	LCSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Phenol	79	NA	NA	20	19-92
2-Chlorophenol	77	NA	NA	20	21-91
4-Chloro-3-methylphenol	94	NA	NA	20	19-114
4-Nitrophenol	69	NA	NA	20	15-116
Pentachlorophenol	94	NA	NA	20	21-102
1,4-Dichlorobenzene	74	NA	NA	20	19-98
n-Nitroso-di-n-propylamine	92	NA	NA	20	7-111
1,2,4-Trichlorobenzene	80	NA	NA	20	22-104
Acenaphthene	88	NA	NA	20	28-113
2,4-Dinitrotoluene	96	NA	NA	20	18-110
Pyrene	94	NA	NA	20	54-110

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample ID: 6

Spike Compound	MS Recovery (%)	MSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Phenol	DO	DO	NA	20	19-92
2-Chlorophenol	DO	DO	NA	20	21-91
4-Chloro-3-methylphenol	DO	DO	NA	20	19-114
4-Nitrophenol	DO	DO	NA	20	15-116
Pentachlorophenol	DO	DO	NA	20	21-92
1,4-Dichlorobenzene	DO	DO	NA	20	19-98
n-Nitroso-di-n-propylamine	DO	DO	NA	20	7-111
1,2,4-Trichlorobenzene	DO	DO	NA	20	22-104
Acenaphthene	DO	DO	NA	20	28-113
2,4-Dinitrotoluene	DO	DO	NA	20	18-110
Pyrene	DO	DO	NA	20	54-110

DO = Diluted out

QUALITY CONTROL RESULTS
TOTAL PCBs - SOIL

Laboratory Control Sample

Spike Compound	LCS Recovery (%)	LCSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Ar1016	95	NA	NA	20	56-122
Ar1260	102	NA	NA	20	74-124

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample ID: 6

Spike Compound	MS Recovery (%)	MSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Ar1016	DO	DO	NA	20	56-122
Ar1260	DO	DO	NA	20	74-124

DO = Diluted out

QUALITY CONTROL RESULTS
TOTAL PESTICIDES - SOIL

Laboratory Control Sample

Spike Compound	LCS Recovery (%)	LCSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Aldrin	116	NA	NA	20	42-122
alpha-BHC	113	NA	NA	20	37-134
beta-BHC	119	NA	NA	20	17-147
gamma-BHC	116	NA	NA	20	19-140
delta-BHC	115	NA	NA	20	32-127
4,4'-DDD	120	NA	NA	20	31-141
4,4'-DDE	119	NA	NA	20	30-145
4,4'-DDT	117	NA	NA	20	25-160
Dieldrin	119	NA	NA	20	36-146
Endosulfan I	82	NA	NA	20	45-153
Endosulfan II	91	NA	NA	20	0-202
Endosulfan Sulfate	110	NA	NA	20	26-144
Endrin	144	NA	NA	20	30-147
Endrin Aldehyde	110	NA	NA	20	50-150
Heptachlor epoxide	118	NA	NA	20	37-142
Heptachlor	136	NA	NA	20	17-147
Methoxychlor	118	NA	NA	20	50-185

QUALITY CONTROL RESULTS
TOTAL PESTICIDES - SOIL

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample ID: 6

Spike Compound	MS Recovery (%)	MSD Recovery (%)	RPD	Reference Range	
				RPD	Recovery (%)
Aldrin	DO	DO	NA	20	42-122
alpha-BHC	DO	DO	NA	20	37-134
beta-BHC	DO	DO	NA	20	17-147
gamma-BHC	DO	DO	NA	20	19-140
delta-BHC	DO	DO	NA	20	32-127
4,4'-DDD	DO	DO	NA	20	31-141
4,4'-DDE	DO	DO	NA	20	30-145
4,4'-DDT	DO	DO	NA	20	25-160
Dieldrin	DO	DO	NA	20	36-146
Endosulfan I	DO	DO	NA	20	45-153
Endosulfan II	DO	DO	NA	20	0-202
Endosulfan Sulfate	DO	DO	NA	20	26-144
Endrin	DO	DO	NA	20	30-147
Endrin Aldehyde	DO	DO	NA	20	50-150
Heptachlor epoxide	DO	DO	NA	20	37-142
Heptachlor	DO	DO	NA	20	17-147
Methoxychlor	DO	DO	NA	20	50-185

DO = Diluted out

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

CASE NARRATIVE for Project Number: 19695
Client Project: Goins Oil, Cleveland, TN / Undisclosed

The following items were noted concerning this project:

1. The following samples required dilution due to high analyte concentration and/or matrix interference, resulting in elevated detection limits:

Pesticides – SW-846-8081A	PCB – SW-846-8082
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

SVOC – SW-846-8270C	VOC- SW-846-8260B
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

Metals – SW-846-3050B / 6010B	Cyanide – SW-846-9010B / 9014
1	5
5	

2. The samples were received in 9oz jars. Because of this, the VOC soil samples were analyzed by method 5030.

3. The following surrogates were outside the method specified limits due to matrix interference:

VOC – SW-846-8260B	
4-Bromofluorobenzene -	1
	4
	6

4. The surrogates were diluted out for the following samples; therefore no recoveries could be reported:

Pesticides / PCB– SW-846-8081A / 8082	SVOC – SW-846-8270C
3	1
4	2
5	3
6	4
7	5
8	6
9	7
10	8
	9
	10

5. The following analyte concentrations were above calibration range:

VOC – SW-846-8260B			
Acetone -	2	7	8
4-Methyl-2-Pentanone -			8
2-Butanone -	10		

The results for these samples should be considered estimated.

Quality Assurance

ACCURA ANALYTICAL LABORATORY, INC.

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FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AB62041 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: SOIL

Client Sample ID: 1

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/24/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	3,300	50
Antimony	<RDL	50
Arsenic	<RDL	50
Barium	1,800	50
Beryllium	<RDL	3.0
Cadmium	<RDL	5.0
Calcium	180,000	200
Chromium	<RDL	50
Cobalt	<RDL	10
Copper	<RDL	50
Iron	8,500	100
Lead	190	50
Magnesium	18,000	50
Manganese	190	50
Nickel	<RDL	10
Potassium	430	200
Selenium	<RDL	50
Silver	<RDL	50

Sodium	<RDL	1000
Thallium	<RDL	50
Vanadium	15	10
Zinc	<RDL	1000

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	200
Aroclor-1221	<RDL	400
Aroclor-1232	<RDL	400
Aroclor-1242	<RDL	200
Aroclor-1248	<RDL	200
Aroclor-1254	<RDL	200
Aroclor-1260	350	200

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	20
4,4'-DDE	<RDL	20
4,4'-DDT	<RDL	40
Aldrin	<RDL	20
alpha-BHC	<RDL	20
alpha-Endosulfan	<RDL	20
beta-BHC	<RDL	20
beta-Endosulfan	<RDL	20
delta-BHC	<RDL	20
Dieldrin	<RDL	20
Endosulfan sulfate	<RDL	40
Endrin	<RDL	20
Endrin aldehyde	<RDL	20
gamma-BHC (Lindane)	<RDL	20
Heptachlor	<RDL	20
Heptachlor epoxide	<RDL	20
Methoxychlor	<RDL	100
Total Chlordane (Technical)	<RDL	200
Toxaphene	<RDL	1000

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/1/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	3300
1,2-Dichlorobenzene	<RDL	3300
1,3-Dichlorobenzene	<RDL	3300
1,4-Dichlorobenzene	<RDL	3300

2,4,5-Trichlorophenol	<RDL	3300
2,4,6-Trichlorophenol	<RDL	3300
2,4-Dichlorophenol	<RDL	3300
2,4-Dimethylphenol	<RDL	3300
2,4-Dinitrophenol	<RDL	17000
2,4-Dinitrotoluene	<RDL	3300
2,6-Dinitrotoluene	<RDL	3300
2-Chloronaphthalene	<RDL	3300
2-Chlorophenol	<RDL	3300
2-Methylnaphthalene	<RDL	3300
2-Methylphenol	<RDL	3300
2-Nitroaniline	<RDL	6600
2-Nitrophenol	<RDL	3300
3,3'-Dichlorobenzidine	<RDL	3300
3-Nitroaniline	<RDL	6600
4,6-Dinitro-2-methylphenol	<RDL	6600
4-Bromophenyl phenyl ether	<RDL	3300
4-Chloro-3-methylphenol	<RDL	3300
4-Chloroaniline	<RDL	3300
4-Chlorophenyl phenyl ether	<RDL	3300
4-Methylphenol	<RDL	3300
4-Nitroaniline	<RDL	6600
4-Nitrophenol	<RDL	6600
Acenaphthene	<RDL	3300
Acenaphthylene	<RDL	3300
Anthracene	<RDL	3300
Benzo(a)anthracene	<RDL	3300
Benzo(a)pyrene	<RDL	3300
Benzo(b)fluoranthene	<RDL	3300
Benzo(g,h,i)perylene	<RDL	3300
Benzo(k)fluoranthene	<RDL	3300
bis(2-Chloroethoxy)methane	<RDL	3300
bis(2-Chloroethyl)ether	<RDL	3300
bis(2-Chloroisopropyl)ether	<RDL	3300
bis(2-Ethylhexyl)phthalate	<RDL	3300
Butyl benzyl phthalate	<RDL	3300
Carbazole	<RDL	3300
Chrysene	<RDL	3300
Di-n-butylphthalate	<RDL	3300
Di-n-octylphthalate	<RDL	3300
Dibenz(a,h)anthracene	<RDL	3300
Dibenzofuran	<RDL	3300
Diethylphthalate	<RDL	3300
Dimethylphthalate	<RDL	3300
Fluoranthene	<RDL	3300
Fluorene	<RDL	3300
Hexachlorobenzene	<RDL	3300
Hexachlorobutadiene	<RDL	3300
Hexachlorocyclopentadiene	<RDL	3300
Hexachloroethane	<RDL	3300
Indeno(1,2,3-cd)pyrene	<RDL	3300
Isophorone	<RDL	3300

n-Nitroso-di-n-propylamine	<RDL	3300
n-Nitrosodiphenylamine	<RDL	3300
Naphthalene	<RDL	3300
Nitrobenzene	<RDL	3300
Pentachlorophenol	<RDL	6600
Phenanthrene	<RDL	3300
Phenol	<RDL	3300
Pyrene	<RDL	3300

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	25
1,1,2,2-Tetrachloroethane	<RDL	25
1,1,2-Trichloroethane	<RDL	25
1,1-Dichloroethane	<RDL	25
1,1-Dichloroethene	<RDL	25
1,2-Dichloroethane	<RDL	25
1,2-Dichloroethene (Total)	<RDL	25
1,2-Dichloropropane	<RDL	25
2-Butanone (MEK)	94	50
2-Hexanone	<RDL	250
4-Methyl-2-pentanone (MIBK)	<RDL	250
Acetone	600	250
Benzene	12	5
Bromodichloromethane	<RDL	25
Bromoform	<RDL	25
Bromomethane	<RDL	25
Carbon disulfide	<RDL	50
Carbon tetrachloride	<RDL	25
Chlorobenzene	<RDL	25
Chloroethane	<RDL	25
Chloroform	<RDL	25
Chloromethane	<RDL	25
cis-1,3-Dichloropropene	<RDL	25
Dibromochloromethane	<RDL	25
Ethylbenzene	38	25
Methylene chloride	<RDL	50
Styrene	<RDL	25
Tetrachloroethene	<RDL	25
Toluene	130	25
trans-1,3-Dichloropropene	<RDL	25
Trichloroethene	<RDL	25
Vinyl chloride	<RDL	25
Xylenes (Total)	520	25

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	108	0
Tetrachloro-m-xylene	104	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	109	0
4-Bromofluorobenzene	126	0
Toluene-d8	106	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/1/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

Accura Analytical Laboratory, Inc.

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FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AB62042 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99
Client Contact: PAULA MACLAREN Date Received: 2/12/99
Client Project Number: UNDISCLOSED Date Reported: 3/4/99
Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: SOIL
Client Sample ID: 2

ANALYSIS: Cyanide Method Ref: 9010B/9014
Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A
Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B
Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	3,500	5.0
Antimony	14	5.0
Arsenic	17	5.0
Barium	33	5.0
Beryllium	<RDL	0.3
Cadmium	1.3	0.5
Calcium	1,400	20
Chromium	9.6	5.0
Cobalt	0.83	1.0
Copper	11	5.0
Iron	15,000	10
Lead	7.4	5.0
Magnesium	210	5.0
Manganese	23	5.0
Nickel	2.6	1.0
Potassium	180	20
Selenium	<RDL	5.0
Silver	<RDL	5.0

Sodium	250	100
Thallium	<RDL	5.0
Vanadium	29	1.0
Zinc	<RDL	100

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	200
Aroclor-1221	<RDL	400
Aroclor-1232	<RDL	400
Aroclor-1242	<RDL	200
Aroclor-1248	<RDL	200
Aroclor-1254	<RDL	200
Aroclor-1260	<RDL	200

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	20
4,4'-DDE	<RDL	20
4,4'-DDT	<RDL	40
Aldrin	<RDL	20
alpha-BHC	<RDL	20
alpha-Endosulfan	<RDL	20
beta-BHC	<RDL	20
beta-Endosulfan	<RDL	20
delta-BHC	<RDL	20
Dieldrin	<RDL	20
Endosulfan sulfate	<RDL	20
Endrin	<RDL	20
Endrin aldehyde	<RDL	20
gamma-BHC (Lindane)	<RDL	20
Heptachlor	<RDL	20
Heptachlor epoxide	<RDL	20
Methoxychlor	<RDL	100
Total Chlordane (Technical)	<RDL	200
Toxaphene	<RDL	1000

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	3300
1,2-Dichlorobenzene	<RDL	3300
1,3-Dichlorobenzene	<RDL	3300
1,4-Dichlorobenzene	<RDL	3300

2,4,5-Trichlorophenol	<RDL	3300
2,4,6-Trichlorophenol	<RDL	3300
2,4-Dichlorophenol	<RDL	3300
2,4-Dimethylphenol	<RDL	3300
2,4-Dinitrophenol	<RDL	17000
2,4-Dinitrotoluene	<RDL	3300
2,6-Dinitrotoluene	<RDL	3300
2-Chloronaphthalene	<RDL	3300
2-Chlorophenol	<RDL	3300
2-Methylnaphthalene	<RDL	3300
2-Methylphenol	<RDL	3300
2-Nitroaniline	<RDL	6600
2-Nitrophenol	<RDL	3300
3,3'-Dichlorobenzidine	<RDL	3300
3-Nitroaniline	<RDL	6600
4,6-Dinitro-2-methylphenol	<RDL	6600
4-Bromophenyl phenyl ether	<RDL	3300
4-Chloro-3-methylphenol	<RDL	3300
4-Chloroaniline	<RDL	3300
4-Chlorophenyl phenyl ether	<RDL	3300
4-Methylphenol	<RDL	3300
4-Nitroaniline	<RDL	6600
4-Nitrophenol	<RDL	6600
Acenaphthene	<RDL	3300
Acenaphthylene	<RDL	3300
Anthracene	<RDL	3300
Benzo(a)anthracene	<RDL	3300
Benzo(a)pyrene	<RDL	3300
Benzo(b)fluoranthene	<RDL	3300
Benzo(g,h,i)perylene	<RDL	3300
Benzo(k)fluoranthene	<RDL	3300
bis(2-Chloroethoxy)methane	<RDL	3300
bis(2-Chloroethyl)ether	<RDL	3300
bis(2-Chloroisopropyl)ether	<RDL	3300
bis(2-Ethylhexyl)phthalate	<RDL	3300
Butyl benzyl phthalate	<RDL	3300
Carbazole	<RDL	3300
Chrysene	<RDL	3300
Di-n-butylphthalate	<RDL	3300
Di-n-octylphthalate	<RDL	3300
Dibenz(a,h)anthracene	<RDL	3300
Dibenzofuran	<RDL	3300
Diethylphthalate	<RDL	3300
Dimethylphthalate	<RDL	3300
Fluoranthene	<RDL	3300
Fluorene	<RDL	3300
Hexachlorobenzene	<RDL	3300
Hexachlorobutadiene	<RDL	3300
Hexachlorocyclopentadiene	<RDL	3300
Hexachloroethane	<RDL	3300
Indeno(1,2,3-cd)pyrene	<RDL	3300
Isophorone	<RDL	3300

n-Nitroso-di-n-propylamine	<RDL	3300
n-Nitrosodiphenylamine	<RDL	3300
Naphthalene	<RDL	3300
Nitrobenzene	<RDL	3300
Pentachlorophenol	<RDL	6600
Phenanthrene	<RDL	3300
Phenol	<RDL	3300
Pyrene	<RDL	3300

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	5
1,1,2,2-Tetrachloroethane	<RDL	5
1,1,2-Trichloroethane	<RDL	5
1,1-Dichloroethane	19	5
1,1-Dichloroethene	<RDL	5
1,2-Dichloroethane	<RDL	5
1,2-Dichloroethene (Total)	<RDL	5
1,2-Dichloropropane	<RDL	5
2-Butanone (MEK)	470	250
2-Hexanone	<RDL	50
4-Methyl-2-pentanone (MIBK)	<RDL	50
Acetone	2,800	250
Benzene	8.1	5
Bromodichloromethane	<RDL	5
Bromoform	<RDL	5
Bromomethane	<RDL	5
Carbon disulfide	<RDL	10
Carbon tetrachloride	<RDL	5
Chlorobenzene	<RDL	5
Chloroethane	<RDL	5
Chloroform	<RDL	5
Chloromethane	<RDL	5
cis-1,3-Dichloropropene	<RDL	5
Dibromochloromethane	<RDL	5
Ethylbenzene	27	5
Methylene chloride	<RDL	10
Styrene	<RDL	5
Tetrachloroethene	<RDL	5
Toluene	44	5
trans-1,3-Dichloropropene	<RDL	5
Trichloroethene	<RDL	5
Vinyl chloride	<RDL	5
Xylenes (Total)	41	5

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	108	0
Tetrachloro-m-xylene	88	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	96	0
4-Bromofluorobenzene	97	0
Toluene-d8	103	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62043 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross

Client Contact: PAULA MACLAREN

Client Project Number: UNDISCLOSED

Client Project Name: GOINS OIL, CLEVELAND, TN

Client Sample ID: 3

Date Sampled: 2/10/99

Date Received: 2/12/99

Date Reported: 3/4/99

Sample Matrix: LIQUID

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	96	0.50
Antimony	2.4	0.50
Arsenic	<RDL	0.50
Barium	44	0.50
Beryllium	<RDL	0.030
Cadmium	0.77	0.050
Calcium	590	2.0
Chromium	24	0.50
Cobalt	1.9	0.10
Copper	120	0.50
Iron	2,000	1.0
Lead	52	0.50
Magnesium	64	0.50
Manganese	22	0.50
Nickel	22	0.10
Potassium	35	2.0
Selenium	0.65	0.50
Silver	<RDL	0.50

Sodium	260	10.0
Thallium	<RDL	0.50
Vanadium	1.5	0.010
Zinc	290	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	10
Aroclor-1221	<RDL	20
Aroclor-1232	<RDL	20
Aroclor-1242	<RDL	10
Aroclor-1248	<RDL	10
Aroclor-1254	<RDL	10
Aroclor-1260	<RDL	10

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	5.0
4,4'-DDE	<RDL	5.0
4,4'-DDT	<RDL	10
Aldrin	<RDL	5.0
alpha-BHC	<RDL	5.0
alpha-Endosulfan	<RDL	5.0
beta-BHC	<RDL	5.0
beta-Endosulfan	<RDL	5.0
delta-BHC	<RDL	5.0
Dieldrin	<RDL	5.0
Endosulfan sulfate	<RDL	5.0
Endrin	<RDL	5.0
Endrin aldehyde	<RDL	5.0
gamma-BHC (Lindane)	<RDL	5.0
Heptachlor	<RDL	5.0
Heptachlor epoxide	<RDL	5.0
Methoxychlor	<RDL	25
Total Chlordane (Technical)	<RDL	50
Toxaphene	<RDL	250

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	860
1,2-Dichlorobenzene	<RDL	860
1,3-Dichlorobenzene	<RDL	860
1,4-Dichlorobenzene	<RDL	860

2,4,5-Trichlorophenol	<RDL	860
2,4,6-Trichlorophenol	<RDL	860
2,4-Dichlorophenol	<RDL	860
2,4-Dimethylphenol	<RDL	860
2,4-Dinitrophenol	<RDL	860
2,4-Dinitrotoluene	<RDL	860
2,6-Dinitrotoluene	<RDL	860
2-Chloronaphthalene	<RDL	860
2-Chlorophenol	<RDL	860
2-Methylnaphthalene	<RDL	860
2-Methylphenol	<RDL	860
2-Nitroaniline	<RDL	860
2-Nitrophenol	<RDL	860
3,3'-Dichlorobenzidine	<RDL	860
3-Nitroaniline	<RDL	860
4,6-Dinitro-2-methylphenol	<RDL	860
4-Bromophenyl phenyl ether	<RDL	860
4-Chloro-3-methylphenol	<RDL	860
4-Chloroaniline	<RDL	860
4-Chlorophenyl phenyl ether	<RDL	860
4-Methylphenol	<RDL	860
4-Nitroaniline	<RDL	860
4-Nitrophenol	<RDL	860
Acenaphthene	<RDL	860
Acenaphthylene	<RDL	860
Anthracene	<RDL	860
Benzo(a)anthracene	<RDL	860
Benzo(a)pyrene	<RDL	860
Benzo(b)fluoranthene	<RDL	860
Benzo(g,h,i)perylene	<RDL	860
Benzo(k)fluoranthene	<RDL	860
bis(2-Chloroethoxy)methane	<RDL	860
bis(2-Chloroethyl)ether	<RDL	860
bis(2-Chloroisopropyl)ether	<RDL	860
bis(2-Ethylhexyl)phthalate	2,200	860
Butyl benzyl phthalate	<RDL	860
Carbazole	<RDL	860
Chrysene	<RDL	860
Di-n-butylphthalate	<RDL	860
Di-n-octylphthalate	<RDL	860
Dibenz(a,h)anthracene	<RDL	860
Dibenzofuran	<RDL	860
Diethylphthalate	<RDL	860
Dimethylphthalate	<RDL	860
Fluoranthene	<RDL	860
Fluorene	<RDL	860
Hexachlorobenzene	<RDL	860
Hexachlorobutadiene	<RDL	860
Hexachlorocyclopentadiene	<RDL	860
Hexachloroethane	<RDL	860
Indeno(1,2,3-cd)pyrene	<RDL	860
Isophorone	<RDL	860

n-Nitroso-di-n-propylamine	<RDL	860
n-Nitrosodiphenylamine	<RDL	860
Naphthalene	<RDL	860
Nitrobenzene	<RDL	860
Pentachlorophenol	<RDL	860
Phenanthrene	<RDL	860
Phenol	<RDL	860
Pyrene	<RDL	860

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	2500
1,1,2,2-Tetrachloroethane	<RDL	2500
1,1,2-Trichloroethane	<RDL	2500
1,1-Dichloroethane	<RDL	2500
1,1-Dichloroethene	<RDL	2500
1,2-Dichloroethane	<RDL	2500
1,2-Dichloroethene (Total)	<RDL	2500
1,2-Dichloropropane	<RDL	2500
2-Butanone	<RDL	25000
2-Hexanone	<RDL	25000
4-Methyl-2-pentanone	<RDL	25000
Acetone	<RDL	25000
Benzene	<RDL	2500
Bromodichloromethane	<RDL	2500
Bromoform	<RDL	2500
Bromomethane	<RDL	2500
Carbon Disulfide	<RDL	2500
Carbon Tetrachloride	<RDL	2500
Chlorobenzene	<RDL	2500
Chloroethane	<RDL	2500
Chloroform	<RDL	2500
Chloromethane	<RDL	2500
cis-1,3-Dichloropropene	<RDL	2500
Dibromochloromethane	<RDL	2500
Ethylbenzene	48,000	2500
Methylene Chloride	270,000	25000
Styrene	<RDL	2500
Tetrachloroethene	62,000	2500
Toluene	1,400,000	50000
trans-1,3-Dichloropropene	<RDL	2500
Trichloroethene	29,000	2500
Vinyl Chloride	<RDL	1000
Xylenes (Total)	190,000	2500

ANALYSIS: X Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	96	0
4-Bromofluorobenzene	98	0
Toluene-d8	100	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62044 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: SOIL

Client Sample ID: 4

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	4,300	5.0
Antimony	9.7	5.0
Arsenic	6.2	5.0
Barium	50	5.0
Beryllium	<RDL	0.3
Cadmium	1.1	0.5
Calcium	3,800	20
Chromium	8.4	5.0
Cobalt	3.2	1.0
Copper	14	5.0
Iron	11,000	10
Lead	29	5.0
Magnesium	550	5.0
Manganese	250	5.0
Nickel	4.1	1.0
Potassium	210	20
Selenium	<RDL	5.0
Silver	<RDL	5.0

Sodium	<RDL	100
Thallium	<RDL	5.0
Vanadium	22	1.0
Zinc	<RDL	100

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	2000
Aroclor-1221	<RDL	4000
Aroclor-1232	<RDL	4000
Aroclor-1242	<RDL	2000
Aroclor-1248	<RDL	2000
Aroclor-1254	<RDL	2000
Aroclor-1260	<RDL	2000

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	200
4,4'-DDE	<RDL	200
4,4'-DDT	<RDL	400
Aldrin	<RDL	200
alpha-BHC	<RDL	200
alpha-Endosulfan	<RDL	200
beta-BHC	<RDL	200
beta-Endosulfan	<RDL	200
delta-BHC	<RDL	200
Dieldrin	<RDL	200
Endosulfan sulfate	<RDL	200
Endrin	<RDL	200
Endrin aldehyde	<RDL	200
gamma-BHC (Lindane)	<RDL	200
Heptachlor	<RDL	200
Heptachlor epoxide	<RDL	200
Methoxychlor	<RDL	1000
Total Chlordane (Technical)	<RDL	2000
Toxaphene	<RDL	10000

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	3300
1,2-Dichlorobenzene	<RDL	3300
1,3-Dichlorobenzene	<RDL	3300
1,4-Dichlorobenzene	<RDL	3300

2,4,5-Trichlorophenol	<RDL	3300
2,4,6-Trichlorophenol	<RDL	3300
2,4-Dichlorophenol	<RDL	3300
2,4-Dimethylphenol	<RDL	3300
2,4-Dinitrophenol	<RDL	17000
2,4-Dinitrotoluene	<RDL	3300
2,6-Dinitrotoluene	<RDL	3300
2-Chloronaphthalene	<RDL	3300
2-Chlorophenol	<RDL	3300
2-Methylnaphthalene	<RDL	3300
2-Methylphenol	<RDL	3300
2-Nitroaniline	<RDL	6600
2-Nitrophenol	<RDL	3300
3,3'-Dichlorobenzidine	<RDL	3300
3-Nitroaniline	<RDL	6600
4,6-Dinitro-2-methylphenol	<RDL	6600
4-Bromophenyl phenyl ether	<RDL	3300
4-Chloro-3-methylphenol	<RDL	3300
4-Chloroaniline	<RDL	3300
4-Chlorophenyl phenyl ether	<RDL	3300
4-Methylphenol	<RDL	3300
4-Nitroaniline	<RDL	6600
4-Nitrophenol	<RDL	6600
Acenaphthene	<RDL	3300
Acenaphthylene	<RDL	3300
Anthracene	<RDL	3300
Benzo(a)anthracene	<RDL	3300
Benzo(a)pyrene	<RDL	3300
Benzo(b)fluoranthene	<RDL	3300
Benzo(g,h,i)perylene	<RDL	3300
Benzo(k)fluoranthene	<RDL	3300
bis(2-Chloroethoxy)methane	<RDL	3300
bis(2-Chloroethyl)ether	<RDL	3300
bis(2-Chloroisopropyl)ether	<RDL	3300
bis(2-Ethylhexyl)phthalate	<RDL	3300
Butyl benzyl phthalate	<RDL	3300
Carbazole	<RDL	3300
Chrysene	<RDL	3300
Di-n-butylphthalate	<RDL	3300
Di-n-octylphthalate	<RDL	3300
Dibenz(a,h)anthracene	<RDL	3300
Dibenzofuran	<RDL	3300
Diethylphthalate	<RDL	3300
Dimethylphthalate	<RDL	3300
Fluoranthene	<RDL	3300
Fluorene	<RDL	3300
Hexachlorobenzene	<RDL	3300
Hexachlorobutadiene	<RDL	3300
Hexachlorocyclopentadiene	<RDL	3300
Hexachloroethane	<RDL	3300
Indeno(1,2,3-cd)pyrene	<RDL	3300
Isophorone	<RDL	3300

n-Nitroso-di-n-propylamine	<RDL	3300
n-Nitrosodiphenylamine	<RDL	3300
Naphthalene	<RDL	3300
Nitrobenzene	<RDL	3300
Pentachlorophenol	<RDL	6600
Phenanthrene	<RDL	3300
Phenol	<RDL	3300
Pyrene	<RDL	3300

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	25
1,1,2,2-Tetrachloroethane	<RDL	25
1,1,2-Trichloroethane	<RDL	25
1,1-Dichloroethane	<RDL	25
1,1-Dichloroethene	<RDL	25
1,2-Dichloroethane	<RDL	25
1,2-Dichloroethene (Total)	<RDL	25
1,2-Dichloropropane	<RDL	25
2-Butanone (MEK)	<RDL	250
2-Hexanone	<RDL	250
4-Methyl-2-pentanone (MIBK)	<RDL	250
Acetone	280	250
Benzene	68	25
Bromodichloromethane	<RDL	25
Bromoform	<RDL	25
Bromomethane	<RDL	25
Carbon disulfide	<RDL	50
Carbon tetrachloride	<RDL	25
Chlorobenzene	<RDL	25
Chloroethane	<RDL	25
Chloroform	<RDL	25
Chloromethane	<RDL	25
cis-1,3-Dichloropropene	<RDL	25
Dibromochloromethane	<RDL	25
Ethylbenzene	200	25
Methylene chloride	<RDL	50
Styrene	<RDL	25
Tetrachloroethene	<RDL	25
Toluene	370	25
trans-1,3-Dichloropropene	<RDL	25
Trichloroethene	<RDL	25
Vinyl chloride	<RDL	25
Xylenes (Total)	1,300	25

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	107	0
4-Bromofluorobenzene	127	0
Toluene-d8	108	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AB62045 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross
Client Contact: PAULA MACLAREN
Client Project Number: UNDISCLOSED
Client Project Name: GOINS OIL, CLEVELAND, TN
Client Sample ID: 5

Date Sampled: 2/10/99
Date Received: 2/12/99
Date Reported: 3/4/99
Sample Matrix: SOIL

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	2.3	0.2

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/24/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	4,700	50
Antimony	<RDL	50
Arsenic	<RDL	50
Barium	260	50
Beryllium	<RDL	3.0
Cadmium	<RDL	5.0
Calcium	190,000	200
Chromium	380	50
Cobalt	<RDL	10
Copper	200	50
Iron	17,000	100
Lead	3,900	50
Magnesium	28,000	50
Manganese	230	50
Nickel	40	10
Potassium	780	200
Selenium	<RDL	50
Silver	<RDL	50

Sodium	<RDL	1000
Thallium	<RDL	50
Vanadium	<RDL	10
Zinc	<RDL	1000

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	10000
Aroclor-1221	<RDL	20000
Aroclor-1232	<RDL	20000
Aroclor-1242	<RDL	10000
Aroclor-1248	<RDL	10000
Aroclor-1254	<RDL	10000
Aroclor-1260	<RDL	10000

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	1000
4,4'-DDE	<RDL	1000
4,4'-DDT	<RDL	2000
Aldrin	<RDL	1000
alpha-BHC	<RDL	1000
alpha-Endosulfan	<RDL	1000
beta-BHC	<RDL	1000
beta-Endosulfan	<RDL	1000
delta-BHC	<RDL	1000
Dieldrin	<RDL	1000
Endosulfan sulfate	<RDL	1000
Endrin	<RDL	1000
Endrin aldehyde	<RDL	1000
gamma-BHC (Lindane)	<RDL	1000
Heptachlor	<RDL	1000
Heptachlor epoxide	<RDL	1000
Methoxychlor	<RDL	5000
Total Chlordane (Technical)	<RDL	10000
Toxaphene	<RDL	50000

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	6700
1,2-Dichlorobenzene	<RDL	6700
1,3-Dichlorobenzene	<RDL	6700
1,4-Dichlorobenzene	<RDL	6700

2,4,5-Trichlorophenol	<RDL	6700
2,4,6-Trichlorophenol	<RDL	6700
2,4-Dichlorophenol	<RDL	6700
2,4-Dimethylphenol	<RDL	6700
2,4-Dinitrophenol	<RDL	34000
2,4-Dinitrotoluene	<RDL	6700
2,6-Dinitrotoluene	<RDL	6700
2-Chloronaphthalene	<RDL	6700
2-Chlorophenol	<RDL	6700
2-Methylnaphthalene	<RDL	6700
2-Methylphenol	<RDL	6700
2-Nitroaniline	<RDL	13000
2-Nitrophenol	<RDL	6700
3,3'-Dichlorobenzidine	<RDL	6700
3-Nitroaniline	<RDL	13000
4,6-Dinitro-2-methylphenol	<RDL	13000
4-Bromophenyl phenyl ether	<RDL	6700
4-Chloro-3-methylphenol	<RDL	6700
4-Chloroaniline	<RDL	6700
4-Chlorophenyl phenyl ether	<RDL	6700
4-Methylphenol	<RDL	6700
4-Nitroaniline	<RDL	13000
4-Nitrophenol	<RDL	13000
Acenaphthene	<RDL	6700
Acenaphthylene	<RDL	6700
Anthracene	<RDL	6700
Benzo(a)anthracene	<RDL	6700
Benzo(a)pyrene	<RDL	6700
Benzo(b)fluoranthene	<RDL	6700
Benzo(g,h,i)perylene	<RDL	6700
Benzo(k)fluoranthene	<RDL	6700
bis(2-Chloroethoxy)methane	<RDL	6700
bis(2-Chloroethyl)ether	<RDL	6700
bis(2-Chloroisopropyl)ether	<RDL	6700
bis(2-Ethylhexyl)phthalate	9,700	6700
Butyl benzyl phthalate	<RDL	6700
Carbazole	<RDL	6700
Chrysene	<RDL	6700
Di-n-butylphthalate	<RDL	6700
Di-n-octylphthalate	<RDL	6700
Dibenz(a,h)anthracene	<RDL	6700
Dibenzofuran	<RDL	6700
Diethylphthalate	<RDL	6700
Dimethylphthalate	<RDL	6700
Fluoranthene	<RDL	6700
Fluorene	<RDL	6700
Hexachlorobenzene	<RDL	6700
Hexachlorobutadiene	<RDL	6700
Hexachlorocyclopentadiene	<RDL	6700
Hexachloroethane	<RDL	6700
Indeno(1,2,3-cd)pyrene	<RDL	6700
Isophorone	<RDL	6700

n-Nitroso-di-n-propylamine	<RDL	6700
n-Nitrosodiphenylamine	<RDL	6700
Naphthalene	<RDL	6700
Nitrobenzene	<RDL	6700
Pentachlorophenol	<RDL	13000
Phenanthrene	<RDL	6700
Phenol	<RDL	6700
Pyrene	<RDL	6700

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Results Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	250
1,1,2,2-Tetrachloroethane	<RDL	250
1,1,2-Trichloroethane	<RDL	250
1,1-Dichloroethane	<RDL	250
1,1-Dichloroethene	<RDL	250
1,2-Dichloroethane	<RDL	250
1,2-Dichloroethene (Total)	<RDL	250
1,2-Dichloropropane	<RDL	250
2-Butanone (MEK)	<RDL	2500
2-Hexanone	<RDL	2500
4-Methyl-2-pentanone (MIBK)	<RDL	2500
Acetone	<RDL	2500
Benzene	<RDL	250
Bromodichloromethane	<RDL	250
Bromoform	<RDL	250
Bromomethane	<RDL	250
Carbon disulfide	<RDL	500
Carbon tetrachloride	<RDL	250
Chlorobenzene	<RDL	250
Chloroethane	<RDL	250
Chloroform	<RDL	250
Chloromethane	<RDL	250
cis-1,3-Dichloropropene	<RDL	250
Dibromochloromethane	<RDL	250
Ethylbenzene	440	250
Methylene chloride	<RDL	500
Styrene	<RDL	250
Tetrachloroethene	<RDL	250
Toluene	1,700	250
trans-1,3-Dichloropropene	<RDL	250
Trichloroethene	<RDL	250
Vinyl chloride	<RDL	250
Xylenes (Total)	2,800	250

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	98	0
4-Bromofluorobenzene	96	0
Toluene-d8	100	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62046 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: SOIL

Client Sample ID: 6

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	4,300	5.0
Antimony	13	5.0
Arsenic	12	5.0
Barium	46	5.0
Beryllium	<RDL	0.3
Cadmium	1.6	0.5
Calcium	31,000	20
Chromium	18	5.0
Cobalt	4.1	1.0
Copper	13	5.0
Iron	14,000	10
Lead	39	5.0
Magnesium	910	5.0
Manganese	260	5.0
Nickel	4.3	1.0
Potassium	220	20
Selenium	<RDL	5.0
Silver	<RDL	5.0

Sodium	<RDL	100
Thallium	<RDL	5.0
Vanadium	32	1.0
Zinc	110	100

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	2000
Aroclor-1221	<RDL	4000
Aroclor-1232	<RDL	4000
Aroclor-1242	<RDL	2000
Aroclor-1248	<RDL	2000
Aroclor-1254	<RDL	2000
Aroclor-1260	6,200	2000

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	200
4,4'-DDE	<RDL	200
4,4'-DDT	<RDL	400
Aldrin	<RDL	200
alpha-BHC	<RDL	200
alpha-Endosulfan	<RDL	200
beta-BHC	<RDL	200
beta-Endosulfan	<RDL	200
delta-BHC	<RDL	200
Dieldrin	<RDL	200
Endosulfan sulfate	<RDL	200
Endrin	<RDL	200
Endrin aldehyde	<RDL	200
gamma-BHC (Lindane)	<RDL	200
Heptachlor	<RDL	200
Heptachlor epoxide	<RDL	200
Methoxychlor	<RDL	1000
Total Chlordane (Technical)	<RDL	2000
Toxaphene	<RDL	10000

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	3300
1,2-Dichlorobenzene	<RDL	3300
1,3-Dichlorobenzene	<RDL	3300
1,4-Dichlorobenzene	<RDL	3300

2,4,5-Trichlorophenol	<RDL	3300
2,4,6-Trichlorophenol	<RDL	3300
2,4-Dichlorophenol	<RDL	3300
2,4-Dimethylphenol	<RDL	3300
2,4-Dinitrophenol	<RDL	17000
2,4-Dinitrotoluene	<RDL	3300
2,6-Dinitrotoluene	<RDL	3300
2-Chloronaphthalene	<RDL	3300
2-Chlorophenol	<RDL	3300
2-Methylnaphthalene	<RDL	3300
2-Methylphenol	<RDL	3300
2-Nitroaniline	<RDL	6600
2-Nitrophenol	<RDL	3300
3,3'-Dichlorobenzidine	<RDL	3300
3-Nitroaniline	<RDL	6600
4,6-Dinitro-2-methylphenol	<RDL	6600
4-Bromophenyl phenyl ether	<RDL	3300
4-Chloro-3-methylphenol	<RDL	3300
4-Chloroaniline	<RDL	3300
4-Chlorophenyl phenyl ether	<RDL	3300
4-Methylphenol	<RDL	3300
4-Nitroaniline	<RDL	6600
4-Nitrophenol	<RDL	6600
Acenaphthene	<RDL	3300
Acenaphthylene	<RDL	3300
Anthracene	<RDL	3300
Benzo(a)anthracene	<RDL	3300
Benzo(a)pyrene	<RDL	3300
Benzo(b)fluoranthene	<RDL	3300
Benzo(g,h,i)perylene	<RDL	3300
Benzo(k)fluoranthene	<RDL	3300
bis(2-Chloroethoxy)methane	<RDL	3300
bis(2-Chloroethyl)ether	<RDL	3300
bis(2-Chloroisopropyl)ether	<RDL	3300
bis(2-Ethylhexyl)phthalate	3,400	3300
Butyl benzyl phthalate	<RDL	3300
Carbazole	<RDL	3300
Chrysene	<RDL	3300
Di-n-butylphthalate	<RDL	3300
Di-n-octylphthalate	<RDL	3300
Dibenz(a,h)anthracene	<RDL	3300
Dibenzofuran	<RDL	3300
Diethylphthalate	<RDL	3300
Dimethylphthalate	<RDL	3300
Fluoranthene	<RDL	3300
Fluorene	<RDL	3300
Hexachlorobenzene	<RDL	3300
Hexachlorobutadiene	<RDL	3300
Hexachlorocyclopentadiene	<RDL	3300
Hexachloroethane	<RDL	3300
Indeno(1,2,3-cd)pyrene	<RDL	3300
Isophorone	<RDL	3300

n-Nitroso-di-n-propylamine	<RDL	3300
n-Nitrosodiphenylamine	<RDL	3300
Naphthalene	<RDL	3300
Nitrobenzene	<RDL	3300
Pentachlorophenol	<RDL	6600
Phenanthrene	<RDL	3300
Phenol	<RDL	3300
Pyrene	<RDL	3300

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	25
1,1,2,2-Tetrachloroethane	<RDL	25
1,1,2-Trichloroethane	<RDL	25
1,1-Dichloroethane	<RDL	25
1,1-Dichloroethene	<RDL	25
1,2-Dichloroethane	<RDL	25
1,2-Dichloroethene (Total)	<RDL	25
1,2-Dichloropropane	<RDL	25
2-Butanone (MEK)	<RDL	250
2-Hexanone	<RDL	250
4-Methyl-2-pentanone (MIBK)	<RDL	250
Acetone	<RDL	250
Benzene	<RDL	25
Bromodichloromethane	<RDL	25
Bromoform	<RDL	25
Bromomethane	<RDL	25
Carbon disulfide	<RDL	50
Carbon tetrachloride	<RDL	25
Chlorobenzene	<RDL	25
Chloroethane	<RDL	25
Chloroform	<RDL	25
Chloromethane	<RDL	25
cis-1,3-Dichloropropene	<RDL	25
Dibromochloromethane	<RDL	25
Ethylbenzene	88	25
Methylene chloride	<RDL	50
Styrene	<RDL	25
Tetrachloroethene	36	25
Toluene	110	25
trans-1,3-Dichloropropene	<RDL	25
Trichloroethene	<RDL	25
Vinyl chloride	<RDL	25
Xylenes (Total)	930	25

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	106	0
4-Bromofluorobenzene	127	0
Toluene-d8	108	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 3/3/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62047 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/11/99
Client Contact: PAULA MACLAREN Date Received: 2/12/99
Client Project Number: UNDISCLOSED Date Reported: 3/4/99
Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: LIQUID
Client Sample ID: 7

ANALYSIS: Cyanide Method Ref: 9010B/9014
Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A
Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B
Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	37	0.50
Antimony	0.60	0.50
Arsenic	<RDL	0.50
Barium	12	0.50
Beryllium	<RDL	0.030
Cadmium	0.29	0.050
Calcium	280	2.0
Chromium	220	0.50
Cobalt	2.8	0.10
Copper	49	0.50
Iron	1,200	1.0
Lead	27	0.50
Magnesium	25	0.50
Manganese	38	0.50
Nickel	100	0.10
Potassium	180	2.0
Selenium	<RDL	0.50
Silver	5.7	0.50

Sodium	1,300	10
Thallium	<RDL	0.50
Vanadium	1.7	0.10
Zinc	58	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	1000
Aroclor-1221	<RDL	2000
Aroclor-1232	<RDL	2000
Aroclor-1242	<RDL	1000
Aroclor-1248	<RDL	1000
Aroclor-1254	<RDL	1000
Aroclor-1260	<RDL	1000

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	100
4,4'-DDE	<RDL	100
4,4'-DDT	<RDL	200
Aldrin	<RDL	100
alpha-BHC	<RDL	100
alpha-Endosulfan	<RDL	100
beta-BHC	<RDL	100
beta-Endosulfan	<RDL	100
delta-BHC	<RDL	100
Dieldrin	<RDL	100
Endosulfan sulfate	<RDL	100
Endrin	<RDL	100
Endrin aldehyde	<RDL	100
gamma-BHC (Lindane)	<RDL	100
Heptachlor	<RDL	100
Heptachlor epoxide	<RDL	100
Methoxychlor	<RDL	500
Total Chlordane (Technical)	<RDL	1000
Toxaphene	<RDL	5000

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	880
1,2-Dichlorobenzene	<RDL	880
1,3-Dichlorobenzene	<RDL	880
1,4-Dichlorobenzene	<RDL	880

2,4,5-Trichlorophenol	<RDL	880
2,4,6-Trichlorophenol	<RDL	880
2,4-Dichlorophenol	<RDL	880
2,4-Dimethylphenol	<RDL	880
2,4-Dinitrophenol	<RDL	880
2,4-Dinitrotoluene	<RDL	880
2,6-Dinitrotoluene	<RDL	880
2-Chloronaphthalene	<RDL	880
2-Chlorophenol	<RDL	880
2-Methylnaphthalene	<RDL	880
2-Methylphenol	<RDL	880
2-Nitroaniline	<RDL	880
2-Nitrophenol	<RDL	880
3,3'-Dichlorobenzidine	<RDL	880
3-Nitroaniline	<RDL	880
4,6-Dinitro-2-methylphenol	<RDL	880
4-Bromophenyl phenyl ether	<RDL	880
4-Chloro-3-methylphenol	<RDL	880
4-Chloroaniline	<RDL	880
4-Chlorophenyl phenyl ether	<RDL	880
4-Methylphenol	<RDL	880
4-Nitroaniline	<RDL	880
4-Nitrophenol	<RDL	880
Acenaphthene	<RDL	880
Acenaphthylene	<RDL	880
Anthracene	<RDL	880
Benzo(a)anthracene	<RDL	880
Benzo(a)pyrene	<RDL	880
Benzo(b)fluoranthene	<RDL	880
Benzo(g,h,i)perylene	<RDL	880
Benzo(k)fluoranthene	<RDL	880
bis(2-Chloroethoxy)methane	<RDL	880
bis(2-Chloroethyl)ether	<RDL	880
bis(2-Chloroisopropyl)ether	<RDL	880
bis(2-Ethylhexyl)phthalate	<RDL	880
Butyl benzyl phthalate	<RDL	880
Carbazole	<RDL	880
Chrysene	<RDL	880
Di-n-butylphthalate	<RDL	880
Di-n-octylphthalate	<RDL	880
Dibenz(a,h)anthracene	<RDL	880
Dibenzofuran	<RDL	880
Diethylphthalate	<RDL	880
Dimethylphthalate	<RDL	880
Fluoranthene	<RDL	880
Fluorene	<RDL	880
Hexachlorobenzene	<RDL	880
Hexachlorobutadiene	<RDL	880
Hexachlorocyclopentadiene	<RDL	880
Hexachloroethane	<RDL	880
Indeno(1,2,3-cd)pyrene	<RDL	880
Isophorone	<RDL	880

n-Nitroso-di-n-propylamine	<RDL	880
n-Nitrosodiphenylamine	<RDL	880
Naphthalene	<RDL	880
Nitrobenzene	<RDL	880
Pentachlorophenol	<RDL	880
Phenanthrene	<RDL	880
Phenol	<RDL	880
Pyrene	<RDL	880

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	5,500	250
1,1,2,2-Tetrachloroethane	<RDL	250
1,1,2-Trichloroethane	<RDL	250
1,1-Dichloroethane	<RDL	250
1,1-Dichloroethene	<RDL	250
1,2-Dichloroethane	<RDL	250
1,2-Dichloroethene (Total)	<RDL	250
1,2-Dichloropropane	<RDL	250
2-Butanone	6,200	2500
2-Hexanone	<RDL	2500
4-Methyl-2-pentanone	<RDL	2500
Acetone	22,000	2500
Benzene	280	250
Bromodichloromethane	<RDL	250
Bromoform	<RDL	250
Bromomethane	<RDL	250
Carbon Disulfide	<RDL	250
Carbon Tetrachloride	940	250
Chlorobenzene	<RDL	250
Chloroethane	<RDL	250
Chloroform	<RDL	250
Chloromethane	<RDL	250
cis-1,3-Dichloropropene	<RDL	250
Dibromochloromethane	<RDL	250
Ethylbenzene	1,800	250
Methylene Chloride	3,900	250
Styrene	<RDL	250
Tetrachloroethene	560	250
Toluene	6,300	250
trans-1,3-Dichloropropene	<RDL	250
Trichloroethene	1,700	250
Vinyl Chloride	<RDL	100
Xylenes (Total)	9,500	250

ANALYSIS: X Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	97	0
4-Bromofluorobenzene	110	0
Toluene-d8	105	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62048 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/11/99
Client Contact: PAULA MACLAREN Date Received: 2/12/99
Client Project Number: UNDISCLOSED Date Reported: 3/4/99
Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: LIQUID
Client Sample ID: 8

ANALYSIS: Cyanide Method Ref: 9010B/9014
Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A
Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B
Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	210	0.50
Antimony	<RDL	0.50
Arsenic	0.58	0.50
Barium	38	0.50
Beryllium	<RDL	0.03
Cadmium	1.7	0.05
Calcium	1,200	2.0
Chromium	530	0.50
Cobalt	3.0	0.10
Copper	93	0.50
Iron	1,400	1.0
Lead	42	0.50
Magnesium	140	0.50
Manganese	50	0.50
Nickel	140	0.10
Potassium	630	2.0
Selenium	<RDL	0.50
Silver	4.4	0.50

Sodium	8,100	10
Thallium	<RDL	0.50
Vanadium	3.8	0.10
Zinc	57	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	100
Aroclor-1221	<RDL	200
Aroclor-1232	<RDL	200
Aroclor-1242	<RDL	100
Aroclor-1248	<RDL	100
Aroclor-1254	<RDL	100
Aroclor-1260	<RDL	100

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	50
4,4'-DDE	<RDL	50
4,4'-DDT	<RDL	100
Aldrin	<RDL	50
alpha-BHC	<RDL	50
alpha-Endosulfan	<RDL	50
beta-BHC	<RDL	50
beta-Endosulfan	<RDL	50
delta-BHC	<RDL	50
Dieldrin	<RDL	50
Endosulfan sulfate	<RDL	50
Endrin	<RDL	50
Endrin aldehyde	<RDL	50
gamma-BHC (Lindane)	<RDL	50
Heptachlor	<RDL	50
Heptachlor epoxide	<RDL	50
Methoxychlor	<RDL	250
Total Chlordane (Technical)	<RDL	500
Toxaphene	<RDL	2500

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	940
1,2-Dichlorobenzene	<RDL	940
1,3-Dichlorobenzene	<RDL	940
1,4-Dichlorobenzene	<RDL	940

2,4,5-Trichlorophenol	<RDL	940
2,4,6-Trichlorophenol	<RDL	940
2,4-Dichlorophenol	<RDL	940
2,4-Dimethylphenol	<RDL	940
2,4-Dinitrophenol	<RDL	940
2,4-Dinitrotoluene	<RDL	940
2,6-Dinitrotoluene	<RDL	940
2-Chloronaphthalene	<RDL	940
2-Chlorophenol	<RDL	940
2-Methylnaphthalene	<RDL	940
2-Methylphenol	<RDL	940
2-Nitroaniline	<RDL	940
2-Nitrophenol	<RDL	940
3,3'-Dichlorobenzidine	<RDL	940
3-Nitroaniline	<RDL	940
4,6-Dinitro-2-methylphenol	<RDL	940
4-Bromophenyl phenyl ether	<RDL	940
4-Chloro-3-methylphenol	<RDL	940
4-Chloroaniline	<RDL	940
4-Chlorophenyl phenyl ether	<RDL	940
4-Methylphenol	<RDL	940
4-Nitroaniline	<RDL	940
4-Nitrophenol	<RDL	940
Acenaphthene	<RDL	940
Acenaphthylene	<RDL	940
Anthracene	<RDL	940
Benzo(a)anthracene	<RDL	940
Benzo(a)pyrene	<RDL	940
Benzo(b)fluoranthene	<RDL	940
Benzo(g,h,i)perylene	<RDL	940
Benzo(k)fluoranthene	<RDL	940
bis(2-Chloroethoxy)methane	<RDL	940
bis(2-Chloroethyl)ether	<RDL	940
bis(2-Chloroisopropyl)ether	<RDL	940
bis(2-Ethylhexyl)phthalate	<RDL	940
Butyl benzyl phthalate	<RDL	940
Carbazole	<RDL	940
Chrysene	<RDL	940
Di-n-butylphthalate	<RDL	940
Di-n-octylphthalate	<RDL	940
Dibenz(a,h)anthracene	<RDL	940
Dibenzofuran	<RDL	940
Diethylphthalate	<RDL	940
Dimethylphthalate	<RDL	940
Fluoranthene	<RDL	940
Fluorene	<RDL	940
Hexachlorobenzene	<RDL	940
Hexachlorobutadiene	<RDL	940
Hexachlorocyclopentadiene	<RDL	940
Hexachloroethane	<RDL	940
Indeno(1,2,3-cd)pyrene	<RDL	940
Isophorone	<RDL	940

n-Nitroso-di-n-propylamine	<RDL	940
n-Nitrosodiphenylamine	<RDL	940
Naphthalene	<RDL	940
Nitrobenzene	<RDL	940
Pentachlorophenol	<RDL	940
Phenanthrene	<RDL	940
Phenol	<RDL	940
Pyrene	<RDL	940

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	5,600	250
1,1,2,2-Tetrachloroethane	<RDL	250
1,1,2-Trichloroethane	<RDL	250
1,1-Dichloroethane	<RDL	250
1,1-Dichloroethene	<RDL	250
1,2-Dichloroethane	<RDL	250
1,2-Dichloroethene (Total)	<RDL	250
1,2-Dichloropropane	<RDL	250
2-Butanone	26,000	25000
2-Hexanone	<RDL	2500
4-Methyl-2-pentanone	190,000	25000
Acetone	170,000	25000
Benzene	970	250
Bromodichloromethane	<RDL	250
Bromoform	<RDL	250
Bromomethane	<RDL	250
Carbon Disulfide	<RDL	250
Carbon Tetrachloride	<RDL	250
Chlorobenzene	<RDL	250
Chloroethane	<RDL	250
Chloroform	<RDL	250
Chloromethane	<RDL	250
cis-1,3-Dichloropropene	<RDL	250
Dibromochloromethane	<RDL	250
Ethylbenzene	12,000	2500
Methylene Chloride	460,000	25000
Styrene	<RDL	250
Tetrachloroethene	11,000	2500
Toluene	35,000	2500
trans-1,3-Dichloropropene	<RDL	250
Trichloroethene	45,000	2500
Vinyl Chloride	<RDL	100
Xylenes (Total)	60,000	2500

ANALYSIS: X Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	97	0
4-Bromofluorobenzene	97	0
Toluene-d8	98	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62049 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/11/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: LIQUID

Client Sample ID: 9

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	150	0.50
Antimony	<RDL	0.50
Arsenic	<RDL	0.50
Barium	19	0.50
Beryllium	<RDL	0.03
Cadmium	0.15	0.05
Calcium	680	2.0
Chromium	230	0.50
Cobalt	1.3	0.10
Copper	30	0.50
Iron	760	1.0
Lead	7.4	0.50
Magnesium	17	0.50
Manganese	33	0.50
Nickel	88	0.10
Potassium	310	2.0
Selenium	<RDL	0.50
Silver	1.0	0.50

Sodium	6,000	10
Thallium	<RDL	0.50
Vanadium	1.5	0.10
Zinc	20	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	100
Aroclor-1221	<RDL	200
Aroclor-1232	<RDL	200
Aroclor-1242	<RDL	100
Aroclor-1248	<RDL	100
Aroclor-1254	<RDL	100
Aroclor-1260	<RDL	100

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	50
4,4'-DDE	<RDL	50
4,4'-DDT	<RDL	100
Aldrin	<RDL	50
alpha-BHC	<RDL	50
alpha-Endosulfan	<RDL	50
beta-BHC	<RDL	50
beta-Endosulfan	<RDL	50
delta-BHC	<RDL	50
Dieldrin	<RDL	50
Endosulfan sulfate	<RDL	50
Endrin	<RDL	50
Endrin aldehyde	<RDL	50
gamma-BHC (Lindane)	<RDL	50
Heptachlor	<RDL	50
Heptachlor epoxide	<RDL	50
Methoxychlor	<RDL	250
Total Chlordane (Technical)	<RDL	500
Toxaphene	<RDL	2500

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	940
1,2-Dichlorobenzene	<RDL	940
1,3-Dichlorobenzene	<RDL	940
1,4-Dichlorobenzene	<RDL	940

2,4,5-Trichlorophenol	<RDL	940
2,4,6-Trichlorophenol	<RDL	940
2,4-Dichlorophenol	<RDL	940
2,4-Dimethylphenol	<RDL	940
2,4-Dinitrophenol	<RDL	940
2,4-Dinitrotoluene	<RDL	940
2,6-Dinitrotoluene	<RDL	940
2-Chloronaphthalene	<RDL	940
2-Chlorophenol	<RDL	940
2-Methylnaphthalene	<RDL	940
2-Methylphenol	<RDL	940
2-Nitroaniline	<RDL	940
2-Nitrophenol	<RDL	940
3,3'-Dichlorobenzidine	<RDL	940
3-Nitroaniline	<RDL	940
4,6-Dinitro-2-methylphenol	<RDL	940
4-Bromophenyl phenyl ether	<RDL	940
4-Chloro-3-methylphenol	<RDL	940
4-Chloroaniline	<RDL	940
4-Chlorophenyl phenyl ether	<RDL	940
4-Methylphenol	<RDL	940
4-Nitroaniline	<RDL	940
4-Nitrophenol	<RDL	940
Acenaphthene	<RDL	940
Acenaphthylene	<RDL	940
Anthracene	<RDL	940
Benzo(a)anthracene	<RDL	940
Benzo(a)pyrene	<RDL	940
Benzo(b)fluoranthene	<RDL	940
Benzo(g,h,i)perylene	<RDL	940
Benzo(k)fluoranthene	<RDL	940
bis(2-Chloroethoxy)methane	<RDL	940
bis(2-Chloroethyl)ether	<RDL	940
bis(2-Chloroisopropyl)ether	<RDL	940
bis(2-Ethylhexyl)phthalate	<RDL	940
Butyl benzyl phthalate	<RDL	940
Carbazole	<RDL	940
Chrysene	<RDL	940
Di-n-butylphthalate	<RDL	940
Di-n-octylphthalate	<RDL	940
Dibenz(a,h)anthracene	<RDL	940
Dibenzofuran	<RDL	940
Diethylphthalate	<RDL	940
Dimethylphthalate	<RDL	940
Fluoranthene	<RDL	940
Fluorene	<RDL	940
Hexachlorobenzene	<RDL	940
Hexachlorobutadiene	<RDL	940
Hexachlorocyclopentadiene	<RDL	940
Hexachloroethane	<RDL	940
Indeno(1,2,3-cd)pyrene	<RDL	940
Isophorone	<RDL	940

n-Nitroso-di-n-propylamine	<RDL	940
n-Nitrosodiphenylamine	<RDL	940
Naphthalene	<RDL	940
Nitrobenzene	<RDL	940
Pentachlorophenol	<RDL	940
Phenanthrene	<RDL	940
Phenol	<RDL	940
Pyrene	<RDL	940

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	4,300	250
1,1,2,2-Tetrachloroethane	<RDL	250
1,1,2-Trichloroethane	<RDL	250
1,1-Dichloroethane	340	250
1,1-Dichloroethene	<RDL	250
1,2-Dichloroethane	<RDL	250
1,2-Dichloroethene (Total)	<RDL	250
1,2-Dichloropropane	<RDL	250
2-Butanone	25,000	25000
2-Hexanone	<RDL	2500
4-Methyl-2-pentanone	9,000	2500
Acetone	83,000	25000
Benzene	<RDL	250
Bromodichloromethane	<RDL	250
Bromoform	<RDL	250
Bromomethane	<RDL	250
Carbon Disulfide	<RDL	250
Carbon Tetrachloride	720	250
Chlorobenzene	<RDL	250
Chloroethane	<RDL	250
Chloroform	<RDL	250
Chloromethane	<RDL	250
cis-1,3-Dichloropropene	<RDL	250
Dibromochloromethane	<RDL	250
Ethylbenzene	1,100	250
Methylene Chloride	19,000	2500
Styrene	<RDL	250
Tetrachloroethene	2,700	250
Toluene	7,200	250
trans-1,3-Dichloropropene	<RDL	250
Trichloroethene	7,100	250
Vinyl Chloride	<RDL	100
Xylenes (Total)	5,400	250

ANALYSIS: X_Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X_VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	96	0
4-Bromofluorobenzene	95	0
Toluene-d8	99	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62050 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/11/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: LIQUID

Client Sample ID: 10

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	270	0.50
Antimony	4.0	0.50
Arsenic	<RDL	0.50
Barium	52	0.50
Beryllium	0.082	0.030
Cadmium	0.67	0.050
Calcium	920	2.0
Chromium	38	0.50
Cobalt	3.5	0.10
Copper	120	0.50
Iron	2,600	1.0
Lead	67	0.50
Magnesium	170	0.50
Manganese	45	0.50
Nickel	36	0.10
Potassium	74	2.0
Selenium	1.1	0.50
Silver	<RDL	0.50

Sodium	1,000	10
Thallium	0.56	0.50
Vanadium	0.16	0.10
Zinc	470	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/24/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	100
Aroclor-1221	<RDL	200
Aroclor-1232	<RDL	200
Aroclor-1242	<RDL	100
Aroclor-1248	<RDL	100
Aroclor-1254	<RDL	100
Aroclor-1260	<RDL	100

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/24/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	10
4,4'-DDE	<RDL	10
4,4'-DDT	<RDL	20
Aldrin	<RDL	10
alpha-BHC	<RDL	10
alpha-Endosulfan	<RDL	10
beta-BHC	<RDL	10
beta-Endosulfan	<RDL	10
delta-BHC	<RDL	10
Dieldrin	<RDL	10
Endosulfan sulfate	<RDL	10
Endrin	<RDL	10
Endrin aldehyde	<RDL	10
gamma-BHC (Lindane)	<RDL	10
Heptachlor	<RDL	10
Heptachlor epoxide	<RDL	10
Methoxychlor	<RDL	50
Total Chlordane (Technical)	<RDL	100
Toxaphene	<RDL	500

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	900
1,2-Dichlorobenzene	<RDL	900
1,3-Dichlorobenzene	<RDL	900
1,4-Dichlorobenzene	<RDL	900

2,4,5-Trichlorophenol	<RDL	900
2,4,6-Trichlorophenol	<RDL	900
2,4-Dichlorophenol	<RDL	900
2,4-Dimethylphenol	<RDL	900
2,4-Dinitrophenol	<RDL	900
2,4-Dinitrotoluene	<RDL	900
2,6-Dinitrotoluene	<RDL	900
2-Chloronaphthalene	<RDL	900
2-Chlorophenol	<RDL	900
2-Methylnaphthalene	<RDL	900
2-Methylphenol	<RDL	900
2-Nitroaniline	<RDL	900
2-Nitrophenol	<RDL	900
3,3'-Dichlorobenzidine	<RDL	900
3-Nitroaniline	<RDL	900
4,6-Dinitro-2-methylphenol	<RDL	900
4-Bromophenyl phenyl ether	<RDL	900
4-Chloro-3-methylphenol	<RDL	900
4-Chloroaniline	<RDL	900
4-Chlorophenyl phenyl ether	<RDL	900
4-Methylphenol	<RDL	900
4-Nitroaniline	<RDL	900
4-Nitrophenol	<RDL	900
Acenaphthene	<RDL	900
Acenaphthylene	<RDL	900
Anthracene	<RDL	900
Benzo(a)anthracene	<RDL	900
Benzo(a)pyrene	<RDL	900
Benzo(b)fluoranthene	<RDL	900
Benzo(g,h,i)perylene	<RDL	900
Benzo(k)fluoranthene	<RDL	900
bis(2-Chloroethoxy)methane	<RDL	900
bis(2-Chloroethyl)ether	<RDL	900
bis(2-Chloroisopropyl)ether	<RDL	900
bis(2-Ethylhexyl)phthalate	1,500	900
Butyl benzyl phthalate	<RDL	900
Carbazole	<RDL	900
Chrysene	<RDL	900
Di-n-butylphthalate	<RDL	900
Di-n-octylphthalate	<RDL	900
Dibenz(a,h)anthracene	<RDL	900
Dibenzofuran	<RDL	900
Diethylphthalate	<RDL	900
Dimethylphthalate	<RDL	900
Fluoranthene	<RDL	900
Fluorene	<RDL	900
Hexachlorobenzene	<RDL	900
Hexachlorobutadiene	<RDL	900
Hexachlorocyclopentadiene	<RDL	900
Hexachloroethane	<RDL	900
Indeno(1,2,3-cd)pyrene	<RDL	900
Isophorone	<RDL	900

n-Nitroso-di-n-propylamine	<RDL	900
n-Nitrosodiphenylamine	<RDL	900
Naphthalene	<RDL	900
Nitrobenzene	<RDL	900
Pentachlorophenol	<RDL	900
Phenanthrene	<RDL	900
Phenol	<RDL	900
Pyrene	<RDL	900

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	5,300	2500
1,1,2,2-Tetrachloroethane	<RDL	2500
1,1,2-Trichloroethane	<RDL	2500
1,1-Dichloroethane	<RDL	2500
1,1-Dichloroethene	<RDL	2500
1,2-Dichloroethane	<RDL	2500
1,2-Dichloroethene (Total)	<RDL	2500
1,2-Dichloropropane	<RDL	2500
2-Butanone	130,000	25000
2-Hexanone	<RDL	25000
4-Methyl-2-pentanone	270,000	250000
Acetone	310,000	250000
Benzene	13,000	2500
Bromodichloromethane	<RDL	2500
Bromoform	<RDL	2500
Bromomethane	<RDL	2500
Carbon Disulfide	<RDL	2500
Carbon Tetrachloride	<RDL	2500
Chlorobenzene	<RDL	2500
Chloroethane	<RDL	2500
Chloroform	<RDL	2500
Chloromethane	<RDL	2500
cis-1,3-Dichloropropene	<RDL	2500
Dibromochloromethane	<RDL	2500
Ethylbenzene	220,000	25000
Methylene Chloride	2,000,000	250000
Styrene	<RDL	2500
Tetrachloroethene	230,000	25000
Toluene	2,500,000	250000
trans-1,3-Dichloropropene	<RDL	2500
Trichloroethene	72,000	2500
Vinyl Chloride	<RDL	1000
Xylenes (Total)	950,000	25000

ANALYSIS: X Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/24/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	See Narrative	0
Tetrachloro-m-xylene	See Narrative	0

ANALYSIS: X VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	97	0
4-Bromofluorobenzene	87	0
Toluene-d8	103	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/22/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	See Narrative	0
2-Fluorobiphenyl	See Narrative	0
2-Fluorophenol	See Narrative	0
Nitrobenzene-d5	See Narrative	0
p-Terphenyl-d14	See Narrative	0
Phenol-d5	See Narrative	0

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LABORATORY REPORT

Accura Sample ID #: AB62051 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99

Client Contact: PAULA MACLAREN Date Received: 2/12/99

Client Project Number: UNDISCLOSED Date Reported: 3/4/99

Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: SOIL

Client Sample ID: METHOD BLANK

ANALYSIS: Cyanide Method Ref: 9010B/9014

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/22/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Cyanide (Total)	<RDL	0.02

ANALYSIS: Metals - Mercury - TAL Method Ref: 7471A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.5

ANALYSIS: Metals - TAL Method Ref: 3050B/6010B

Date Ext/Dig/Prep: 2/22/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	<RDL	5.0
Antimony	<RDL	5.0
Arsenic	<RDL	5.0
Barium	<RDL	5.0
Beryllium	<RDL	0.3
Cadmium	<RDL	0.5
Calcium	<RDL	20
Chromium	<RDL	5.0
Cobalt	<RDL	1.0
Copper	<RDL	5.0
Iron	<RDL	10
Lead	<RDL	5.0
Magnesium	<RDL	5.0
Manganese	<RDL	5.0
Nickel	<RDL	1.0
Potassium	<RDL	20
Selenium	<RDL	5.0
Silver	<RDL	5.0

Sodium	<RDL	100
Thallium	<RDL	5.0
Vanadium	<RDL	1.0
Zinc	<RDL	100

ANALYSIS: PCB's Method Ref: 3550B/8082

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	20
Aroclor-1221	<RDL	40
Aroclor-1232	<RDL	40
Aroclor-1242	<RDL	20
Aroclor-1248	<RDL	20
Aroclor-1254	<RDL	20
Aroclor-1260	<RDL	20

ANALYSIS: Pesticides Method Ref: 3550B/8081A

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	2
4,4'-DDE	<RDL	2
4,4'-DDT	<RDL	4
Aldrin	<RDL	2
alpha-BHC	<RDL	2
alpha-Endosulfan	<RDL	2
beta-BHC	<RDL	2
beta-Endosulfan	<RDL	2
delta-BHC	<RDL	2
Dieldrin	<RDL	2
Endosulfan sulfate	<RDL	2
Endrin	<RDL	2
Endrin aldehyde	<RDL	2
gamma-BHC (Lindane)	<RDL	2
Heptachlor	<RDL	2
Heptachlor epoxide	<RDL	2
Methoxychlor	<RDL	10
Total Chlordane (Technical)	<RDL	20
Toxaphene	<RDL	100

ANALYSIS: SVOC's - TCL Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 2/25/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	330
1,2-Dichlorobenzene	<RDL	330
1,3-Dichlorobenzene	<RDL	330
1,4-Dichlorobenzene	<RDL	330

2,4,5-Trichlorophenol	<RDL	330
2,4,6-Trichlorophenol	<RDL	330
2,4-Dichlorophenol	<RDL	330
2,4-Dimethylphenol	<RDL	330
2,4-Dinitrophenol	<RDL	1700
2,4-Dinitrotoluene	<RDL	330
2,6-Dinitrotoluene	<RDL	330
2-Chloronaphthalene	<RDL	330
2-Chlorophenol	<RDL	330
2-Methylnaphthalene	<RDL	330
2-Methylphenol	<RDL	330
2-Nitroaniline	<RDL	660
2-Nitrophenol	<RDL	330
3,3'-Dichlorobenzidine	<RDL	330
3-Nitroaniline	<RDL	660
4,6-Dinitro-2-methylphenol	<RDL	660
4-Bromophenyl phenyl ether	<RDL	330
4-Chloro-3-methylphenol	<RDL	330
4-Chloroaniline	<RDL	330
4-Chlorophenyl phenyl ether	<RDL	330
4-Methylphenol	<RDL	330
4-Nitroaniline	<RDL	660
4-Nitrophenol	<RDL	660
Acenaphthene	<RDL	330
Acenaphthylene	<RDL	330
Anthracene	<RDL	330
Benzo(a)anthracene	<RDL	330
Benzo(a)pyrene	<RDL	330
Benzo(b)fluoranthene	<RDL	330
Benzo(g,h,i)perylene	<RDL	330
Benzo(k)fluoranthene	<RDL	330
bis(2-Chloroethoxy)methane	<RDL	330
bis(2-Chloroethyl)ether	<RDL	330
bis(2-Chloroisopropyl)ether	<RDL	330
bis(2-Ethylhexyl)phthalate	<RDL	330
Butyl benzyl phthalate	<RDL	330
Carbazole	<RDL	330
Chrysene	<RDL	330
Di-n-butylphthalate	<RDL	330
Di-n-octylphthalate	<RDL	330
Dibenz(a,h)anthracene	<RDL	330
Dibenzofuran	<RDL	330
Diethylphthalate	<RDL	330
Dimethylphthalate	<RDL	330
Fluoranthene	<RDL	330
Fluorene	<RDL	330
Hexachlorobenzene	<RDL	330
Hexachlorobutadiene	<RDL	330
Hexachlorocyclopentadiene	<RDL	330
Hexachloroethane	<RDL	330
Indeno(1,2,3-cd)pyrene	<RDL	330
Isophorone	<RDL	330

n-Nitroso-di-n-propylamine	<RDL	330
n-Nitrosodiphenylamine	<RDL	330
Naphthalene	<RDL	330
Nitrobenzene	<RDL	330
Pentachlorophenol	<RDL	660
Phenanthrene	<RDL	330
Phenol	<RDL	330
Pyrene	<RDL	330

ANALYSIS: VOC's - TCL Method Ref: 8260B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	5
1,1,2,2-Tetrachloroethane	<RDL	5
1,1,2-Trichloroethane	<RDL	5
1,1-Dichloroethane	<RDL	5
1,1-Dichloroethene	<RDL	5
1,2-Dichloroethane	<RDL	5
1,2-Dichloroethene (Total)	<RDL	5
1,2-Dichloropropane	<RDL	5
2-Butanone (MEK)	<RDL	50
2-Hexanone	<RDL	50
4-Methyl-2-pentanone (MIBK)	<RDL	50
Acetone	<RDL	50
Benzene	<RDL	5
Bromodichloromethane	<RDL	5
Bromoform	<RDL	5
Bromomethane	<RDL	5
Carbon disulfide	<RDL	10
Carbon tetrachloride	<RDL	5
Chlorobenzene	<RDL	5
Chloroethane	<RDL	5
Chloroform	<RDL	5
Chloromethane	<RDL	5
cis-1,3-Dichloropropene	<RDL	5
Dibromochloromethane	<RDL	5
Ethylbenzene	<RDL	5
Methylene chloride	<RDL	10
Styrene	<RDL	5
Tetrachloroethene	<RDL	5
Toluene	<RDL	5
trans-1,3-Dichloropropene	<RDL	5
Trichloroethene	<RDL	5
Vinyl chloride	<RDL	5
Xylenes (Total)	<RDL	5

ANALYSIS: X Pest/PCB QC Surrogates Method Ref: 3550B/8081/2

Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/19/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	124	0
Tetrachloro-m-xylene	112	0

ANALYSIS: X VOC QC Surrogates Method Ref: 8260B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	96	0
4-Bromofluorobenzene	94	0
Toluene-d8	99	0

ANALYSIS: X SVOC QC Surrogates (Soils) Method Ref: 3550B/8270C

Date Ext/Dig/Prep: 2/23/99 Date Analyzed: 2/25/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	91	0
2-Fluorobiphenyl	80	0
2-Fluorophenol	60	0
Nitrobenzene-d5	70	0
p-Terphenyl-d14	78	0
Phenol-d5	72	0

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LABORATORY REPORT

Accura Sample ID #: AB62052 **Accura Project #: 19695**

Client: Tetra Tech Nus -Norcross Date Sampled: 2/10/99
Client Contact: PAULA MACLAREN Date Received: 2/12/99
Client Project Number: UNDISCLOSED Date Reported: 3/4/99
Client Project Name: GOINS OIL, CLEVELAND, TN Sample Matrix: LIQUID
Client Sample ID: METHOD BLANK

ANALYSIS: Metals - Mercury (Misc Solids) Method Ref: 7471A
Date Ext/Dig/Prep: 2/17/99 Date Analyzed: 2/17/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Mercury	<RDL	0.25

ANALYSIS: Metals - TAL (Ashing Method) Method Ref: 3030J/6010B
Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aluminum	<RDL	0.50
Antimony	<RDL	0.50
Arsenic	<RDL	0.50
Barium	<RDL	0.50
Beryllium	<RDL	0.030
Cadmium	<RDL	0.050
Calcium	<RDL	2.0
Chromium	<RDL	0.50
Cobalt	<RDL	0.10
Copper	<RDL	0.50
Iron	<RDL	1.0
Lead	<RDL	0.50
Magnesium	<RDL	0.50
Manganese	<RDL	0.50
Nickel	<RDL	0.10
Potassium	<RDL	2.0
Selenium	<RDL	0.50
Silver	<RDL	0.50
Sodium	<RDL	10
Thallium	<RDL	0.50
Vanadium	<RDL	0.10
Zinc	<RDL	10

ANALYSIS: PCB's by Waste Dilution Method Ref: 3580A/8082

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: ug/Kg

Analyte Name	Analytical Results	Reported Detection Limits
Aroclor-1016	<RDL	1
Aroclor-1221	<RDL	2
Aroclor-1232	<RDL	2
Aroclor-1242	<RDL	1
Aroclor-1248	<RDL	1
Aroclor-1254	<RDL	1
Aroclor-1260	<RDL	1

ANALYSIS: Pesticides by Waste Dilution Method Ref: 3580A/8081A

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
4,4'-DDD	<RDL	0.1
4,4'-DDE	<RDL	0.1
4,4'-DDT	<RDL	0.2
Aldrin	<RDL	0.1
alpha-BHC	<RDL	0.1
alpha-Endosulfan	<RDL	0.1
beta-BHC	<RDL	0.1
beta-Endosulfan	<RDL	0.1
delta-BHC	<RDL	0.1
Dieldrin	<RDL	0.1
Endosulfan sulfate	<RDL	0.1
Endrin	<RDL	0.1
Endrin aldehyde	<RDL	0.1
gamma-BHC (Lindane)	<RDL	0.1
Heptachlor	<RDL	0.1
Heptachlor epoxide	<RDL	0.1
Methoxychlor	<RDL	0.5
Total Chlordane (Technical)	<RDL	1.0
Toxaphene	<RDL	5.0

ANALYSIS: SVOC's - TCL (Waste Dilution) Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: mg/Kg

Analyte Name	Analytical Results	Reported Detection Limits
1,2,4-Trichlorobenzene	<RDL	100
1,2-Dichlorobenzene	<RDL	100
1,3-Dichlorobenzene	<RDL	100
1,4-Dichlorobenzene	<RDL	100
2,4,5-Trichlorophenol	<RDL	100
2,4,6-Trichlorophenol	<RDL	100
2,4-Dichlorophenol	<RDL	100
2,4-Dimethylphenol	<RDL	100

2,4-Dinitrophenol	<RDL	100
2,4-Dinitrotoluene	<RDL	100
2,6-Dinitrotoluene	<RDL	100
2-Chloronaphthalene	<RDL	100
2-Chlorophenol	<RDL	100
2-Methylnaphthalene	<RDL	100
2-Methylphenol	<RDL	100
2-Nitroaniline	<RDL	100
2-Nitrophenol	<RDL	100
3,3'-Dichlorobenzidine	<RDL	100
3-Nitroaniline	<RDL	100
4,6-Dinitro-2-methylphenol	<RDL	100
4-Bromophenyl phenyl ether	<RDL	100
4-Chloro-3-methylphenol	<RDL	100
4-Chloroaniline	<RDL	100
4-Chlorophenyl phenyl ether	<RDL	100
4-Methylphenol	<RDL	100
4-Nitroaniline	<RDL	100
4-Nitrophenol	<RDL	100
Acenaphthene	<RDL	100
Acenaphthylene	<RDL	100
Anthracene	<RDL	100
Benzo(a)anthracene	<RDL	100
Benzo(a)pyrene	<RDL	100
Benzo(b)fluoranthene	<RDL	100
Benzo(g,h,i)perylene	<RDL	100
Benzo(k)fluoranthene	<RDL	100
bis(2-Chloroethoxy)methane	<RDL	100
bis(2-Chloroethyl)ether	<RDL	100
bis(2-Chloroisopropyl)ether	<RDL	100
bis(2-Ethylhexyl)phthalate	<RDL	100
Butyl benzyl phthalate	<RDL	100
Carbazole	<RDL	100
Chrysene	<RDL	100
Di-n-butylphthalate	<RDL	100
Di-n-octylphthalate	<RDL	100
Dibenz(a,h)anthracene	<RDL	100
Dibenzofuran	<RDL	100
Diethylphthalate	<RDL	100
Dimethylphthalate	<RDL	100
Fluoranthene	<RDL	100
Fluorene	<RDL	100
Hexachlorobenzene	<RDL	100
Hexachlorobutadiene	<RDL	100
Hexachlorocyclopentadiene	<RDL	100
Hexachloroethane	<RDL	100
Indeno(1,2,3-cd)pyrene	<RDL	100
Isophorone	<RDL	100
n-Nitroso-di-n-propylamine	<RDL	100
n-Nitrosodiphenylamine	<RDL	100
Naphthalene	<RDL	100
Nitrobenzene	<RDL	100

Pentachlorophenol	<RDL	100
Phenanthrene	<RDL	100
Phenol	<RDL	100
Pyrene	<RDL	100

ANALYSIS: VOC's - TCL Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: ug/L

Analyte Name	Analytical Results	Reported Detection Limits
1,1,1-Trichloroethane	<RDL	5
1,1,2,2-Tetrachloroethane	<RDL	5
1,1,2-Trichloroethane	<RDL	5
1,1-Dichloroethane	<RDL	5
1,1-Dichloroethene	<RDL	5
1,2-Dichloroethane	<RDL	5
1,2-Dichloroethene (Total)	<RDL	5
1,2-Dichloropropane	<RDL	5
2-Butanone	<RDL	50
2-Hexanone	<RDL	50
4-Methyl-2-pentanone	<RDL	50
Acetone	<RDL	50
Benzene	<RDL	5
Bromodichloromethane	<RDL	5
Bromoform	<RDL	5
Bromomethane	<RDL	5
Carbon Disulfide	<RDL	5
Carbon Tetrachloride	<RDL	5
Chlorobenzene	<RDL	5
Chloroethane	<RDL	5
Chloroform	<RDL	5
Chloromethane	<RDL	5
cis-1,3-Dichloropropene	<RDL	5
Dibromochloromethane	<RDL	5
Ethylbenzene	<RDL	5
Methylene Chloride	<RDL	5
Styrene	<RDL	5
Tetrachloroethene	<RDL	5
Toluene	<RDL	5
trans-1,3-Dichloropropene	<RDL	5
Trichloroethene	<RDL	5
Vinyl Chloride	<RDL	2
Xylenes (Total)	<RDL	5

ANALYSIS: X Pest/PCB QC Surrogates Waste Method Ref: 3580A/8081/2

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/23/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
Decachlorobiphenyl	118	0
Tetrachloro-m-xylene	117	0

ANALYSIS: X VOC QC Surrogates (Waters) Method Ref: 8260

Date Ext/Dig/Prep: 2/16/99 Date Analyzed: 2/16/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
1,2-Dichloroethane-d4	96	0
4-Bromofluorobenzene	94	0
Toluene-d8	99	0

ANALYSIS: X SVOC Surrogates Waste Dilution Method Ref: 3580A/8270C

Date Ext/Dig/Prep: 2/19/99 Date Analyzed: 2/20/99 Result Units: %

Analyte Name	Analytical Results	Reported Detection Limits
2,4,6-Tribromophenol	117	0
2-Fluorobiphenyl	120	0
2-Fluorophenol	111	0
Nitrobenzene-d5	113	0
p-Terphenyl-d14	114	0
Phenol-d5	114	0

Accura Analytical Laboratory, Inc.

APPENDIX D

TABLE OF WITNESSES

(One Page)

TABLE OF WITNESSES

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Tetra Tech EM Inc.

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March 8, 1999

Mr. Fred Stroud, On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **CERCLA Site Investigation Letter Report**
Goins Waste Oil Site
Cleveland, Bradley County, Tennessee
Technical Direction Document No. 04-9902-0001

Dear Mr. Stroud:

The Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START) is submitting two copies of the CERCLA site investigation letter report generated for the Goins Waste Oils site in Cleveland, Bradley County, Tennessee. If you need additional copies of the report, please contact the START office, and we will be glad to provide you with them. If you have any questions or comments regarding this letter report, please contact me at (770) 717-2300 or Kevin E. Taylor at (404) 225-5518.

Sincerely,

R. Steve Pierce
START Leader

cc: Douglas Thompson, EPA Project Officer (letter only)
Kevin E. Taylor, START Project Manager
START Project Files

contains recycled fiber and is recyclable