

GRIBI Associates*Geological and Environmental Consulting Services*

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FACSIMILE TRANSMITTAL

Date: JULY 17, 2003

To: SCOTT SEERY
ALAMEDA COUNTY
ENVIRONMENTAL HEALTH

Fax No.: (510)337-9335

From: JIM GRIBI
Phone: (707)748-7743
Fax: (707)748-7763Number of pages, including this transmittal page:

Scott,

Attached please find a workplan for Corwood Car Wash. Hard copy to follow.

Please give me a call if you have questions or comments.

Thanks!

Jim

GRIBI Associates

Geological and Environmental Consulting Services

July 16, 2003

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Scott Seery

Subject: Workplan to Conduct Additional Site Characterization Activities
Corwood Car Wash UST Site
6973 Village Parkway, Dublin, California
GA Project No. 106-02-04

Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan on behalf of the R. L. Woodward Industries, Inc. for the underground storage tank (UST) site located at 6973 Village Parkway in Dublin, California (see Figure 1 and Figure 2). This workplan proposes the drilling and sampling of two soil borings south from removed UST components at the site. The goal of proposed soil boring activities will be to provide further vertical and lateral assessment of groundwater conditions in an expected downgradient (southerly) direction in order to address regulatory site closure.

SITE BACKGROUND

The subject property is located on the southeast corner of the intersection of Lewis Avenue and Village Parkway in Dublin, California. Currently, the site is occupied by an automobile car wash. Corwood Car Wash previously operated two unleaded gasoline USTs, located in a common excavation cavity on the northwest side of the site. The UST system was apparently installed in about 1968, and it is our understanding that diesel fuel was also stored in the USTs at some time in the distant past. In March 1991, the UST system was completely retrofitted with state-of-the-art leak prevention and monitoring devices, including interior tank linings, overfill/overspill protection, and a sophisticated leak detection monitoring system.

Previous investigations at the site included: (1) The drilling and sampling of several borings in the early 1990s immediately adjacent to project site USTs; (2) The installation of three groundwater monitoring wells, MW-1, MW-2, and MW-3, at the site in 1993; and (3) Monitoring of the three project site wells in June 1993 and in October 1995. Results of these investigations indicated some residual diesel-range hydrocarbons in subsurface soils immediately surrounding the project site USTs, but only low concentrations of diesel-range hydrocarbons in groundwater in downgradient (south-southeast) well MW-2, with no significant concentrations of Benzene. Note that soil and groundwater samples from these investigations were not analyzed for MTBE. Based on results of

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these previous investigations, regulatory site closure was granted for this site in 1996. The three groundwater monitoring wells were subsequently decommissioned by pressure grouting.

On January 31, 2000, both project site USTs were removed from the site in accordance with Alameda County Department of Environmental Health requirements. In addition, approximately 3,800 gallons of hydrocarbon-impacted groundwater was pumped from the excavation cavity for offsite disposal. Also, approximately 350 tons of hydrocarbon-impacted soil, primarily backfill material, was excavated and removed from the site. After backfilling with clean imported pea gravel, the UST excavation cavity and piping and dispenser excavations were re-surfaced with concrete to match existing surface grade.

Results from soil and groundwater samples collected from the UST removal cavity, together with previous results from soil and groundwater investigations conducted at the site, seem to suggest that although some releases, primarily diesel, occurred from the USTs, these releases remained in the backfill sands for the most part and did not migrate appreciably into native silts and clays surrounding the USTs. Two grab water samples collected from the open UST cavity contained relatively high levels of both diesel- and gasoline-range hydrocarbons, with detections of both Benzene and MTBE. However, given that these samples were collected from an open pit while excavation activities were occurring, we do not believe that these results are representative of true groundwater conditions beneath the site.

Soil samples collected adjacent to removed fuel dispensers indicated no significant releases adjacent to the former west dispenser, and moderate levels of diesel-range hydrocarbons, with no significant level of gasoline-range hydrocarbons, adjacent to the former east fuel dispenser. Given that diesel was only stored in the USTs in the distant past, as well as the apparent aged quality of the gasoline-range hydrocarbons in the east dispenser soil samples, it appears that releases associated with the project site USTs and fuel dispensers occurred in the distant past, prior to UST system upgrades, which included installing secondary containment beneath each dispenser.

On March 3, 2000, Gribi Associates drilled and sampled two soil borings, IB-1 and IB-2, at the site using direct-push coring equipment. Both soil and grab groundwater samples from IB-1, located in an expected downgradient (south-southeast) direction from the former east dispenser island, contained detectable levels of both gasoline- and diesel-range hydrocarbons. In addition, the grab groundwater sample from IB-2, located in an expected downgradient (south-southeast) direction from the former fuel USTs, contained detectable levels of both gasoline- and diesel-range hydrocarbons. However, the laboratory chromatograms for these samples seem to show that the gasoline-range hydrocarbon results in these samples are primarily due to interference from diesel-range hydrocarbons. Thus, soil and groundwater impacts relative the former Corwood Car Wash UST system appear to be primarily related to past diesel releases. Given that diesel was only stored in the USTs in the distant past (probably in the early to mid-1970s), it appears that the majority of releases associated with the USTs occurred in the distant past, prior to UST system upgrades which included installing interior fiberglass linings in both of the USTs.

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The only exception to this appeared to be the detection of a low level (0.53 ppm) of MTBE in the IB-2 grab groundwater sample. This MTBE detection was significantly lower than MTBE levels of 5.4 ppm and 1.7 ppm encountered in grab groundwater samples collected from the former UST excavation cavity during tank removal activities. These results seem to suggest minimal downgradient migration of MTBE.

In January 2001, Gribi Associates conducted additional investigation activities at the site that included: (1) The drilling and sampling of two soil borings, IB-3 and IB-4, on the south side of the site using direct-push coring equipment; (2) The collection of one soil vapor sample, VS-1, beneath the car wash cashier's kiosk; and (3) The drilling, installation, and sampling of one groundwater monitoring well, MW-1, at the site. Both soil and groundwater analytical results from this and previous investigations indicate that low-permeability silts and clays beneath the site have resulted in limited impacts to soil and groundwater from past UST-related hydrocarbon releases at the site. The only hydrocarbon constituent detected in downgradient borings IB-3 and IB-4, located near the south project site property line, was low levels of Methyl Tertiary Butyl Ether (MTBE) in grab groundwater samples from these borings. The grab groundwater sample from the easterly boring IB-3, located downgradient (south-southeast) from the former east fuel dispenser, contained 0.390 parts per million (ppm) of MTBE. The grab groundwater sample from the west boring IB-4, located downgradient from the former project site USTs, contained 0.084 ppm of MTBE. These levels of MTBE are relatively low and do not indicate a widespread MTBE problem. This conclusion is bolstered somewhat by the apparent downgradient natural attenuation of MTBE, from 1.7 ppm and 1.8 ppm in the respective former east dispenser and UST areas, to 0.390 ppm and 0.084 ppm in respective downgradient borings IB-3 and IB-4.

The soil vapor sample, VS-1, collected beneath the cashier's kiosk at about three feet in depth contained levels of gasoline constituents that are well below established Risk-Based Screening Levels (RBSLs) for vapors at three feet in depth (*Application of Risk-Based Screening Levels and Decision Making at Sites With Impacted Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, August 2000, Table E-2). Vapor sample VS-1 contained only 16 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of Benzene, and the RBSL for soil gas immediately below a building floor (commercial receptors, fine grained soils) is ~~280,000~~ $\mu\text{g}/\text{m}^3$.

280

The monitoring well MW-1 was sampled on January 8, 2001, July 27, 2001, and February 5, 2003. Laboratory analytical results from these sampling events show a significant decrease in gasoline-range hydrocarbons, with the MTBE concentration in the MW-1 groundwater samples falling more than 92 percent since January 2001, from 1.70 parts per million (ppm) in January 2001 to 0.13 ppm in February 2003. We believe that this decrease is the result of the combined effect of previous source removal (UST removal and overexcavation) activities conducted in early 2000 and subsequent natural attenuation processes. Also, these results, as well as previous soil and groundwater hydrocarbon results for the site, indicate that the original mass of hydrocarbons released was relatively small.

In May 2002, Alameda County Department of Environmental Health requested that a sensitive receptors survey be conducted as a requirement to evaluate this site for regulatory closure. Results

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of this survey (*Sensitive Receptor Survey*, Gribi Associates, May 17, 2002) indicate that there are no water supply wells within at least a 1,500 foot radius from the project site and that the nearest surface water body is more than 700 feet distant from the site. Our review of nearby well logs at Zone 7 has shown that there are no groundwater production wells anywhere near this site (Zone 7 production wells are miles to the south and east and are several hundred feet deep). Weighing these conditions against the limited soil and groundwater impacts, as well as the significant degree of source removal conducted during UST removal activities and the low permeability silts and clays present beneath the site, we believe that this site clearly should be designated as a low risk site and should be granted regulatory closure.

On January 31, 2003, the Alameda County Department of Environmental Health issued a letter directing additional investigative activities at the site, and requested that an investigative workplan be submitted by March 17, 2003. On March 7, 2003, Gribi Associates issued a quarterly groundwater monitoring report (*Report of Groundwater Monitoring Conducted On February 5, 2003, March 7, 2003*), again requesting regulatory closure for this site due to the demonstrated lack of significant soil and groundwater hydrocarbon impacts. Soil hydrocarbon impacts, as shown on Figure 3, are very limited, with the highest concentrations adjacent to the former east dispenser island and no soil hydrocarbon impacts at the downgradient (south) property boundary. Groundwater hydrocarbon impacts, as shown on Figure 4, are limited primarily to MTBE, and these MTBE impacts are clearly attenuating, both with respect to distance (decrease from WS-2 to IB-2 to IB-4) and time (92 percent decrease in MW-1 from January 2001 to February 2003).

On May 8, 2003, Mr. Jim Gribi of Gribi Associates received an email from Mr. Scott Seery of your office stating that he was "mulling over" the Corwood Carwash file and that he could not find a copy of the May 17, 2002 Sensitive Receptors Survey in County files. Mr. Gribi promptly mailed a copy of the Sensitive Receptors Survey to Mr. Seery. On June 17, 2003, Alameda County Department of Environmental Health issued a Notice of Violation for failure to submit the requested investigative workplan, and requested that the workplan be submitted by July 17, 2003.

PROJECT APPROACH

Groundwater laboratory analytical data has clearly demonstrated that lateral MTBE groundwater impacts have attenuated significantly in a downgradient (south-southeast) direction. In order to further test this hypothesis, this workplan proposes to drill and sample one soil boring on the adjacent south Midas Muffler property. In order to assess possible deeper MTBE groundwater impacts, this offsite boring will be extended to about 40 feet in depth, and an additional boring will be drilled on the project site, immediately south-southeast from the former UST cavity. At least two depth-discrete grab groundwater samples will be collected from each boring.

2 borings proposed

If results from this investigation indicate that lateral MTBE groundwater impacts are attenuated significantly and that there are no significant MTBE groundwater impacts in deeper grab groundwater samples, then we expect Alameda County Department of Environmental Health to recommend regulatory closure for this site.

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WORKPLAN ELEMENTS

The proposed soil boring investigation will include the following workplan elements. All activities will be conducted in accordance with applicable local, State, and Federal guidelines and statutes.

Prefield Activities

Prior to implementing this workplan, written approval will be obtained from the Alameda County Department of Environmental Health, and site access approval will be obtained from the adjacent south property owner/tenant. Also, a soil boring installation permit will be obtained from Alameda County Zone 7 Water Agency, and 48-hour notification will be given to Alameda County Department of Environmental Health. In addition, proposed boring locations will be marked with white paint, and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. Also, a private underground utility locator will clear proposed boring locations and will locate buried utilities at the site. Prior to initiating drilling activities, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

Location of Borings

Proposed soil boring locations are shown on Figure 4. Based on the expected south-southeasterly groundwater flow beneath the site, one of the borings will be sited immediately south-southeast from the former UST excavation cavity and another boring will be sited further south-southeast on the adjacent south Midas Muffler property.

Drilling and Sampling of Borings

The two investigative soil borings will be drilled to approximately 45 feet in depth using direct-push hydraulically-driven soil coring equipment. From surface down to about 20 feet in depth, continuous soil cores will be collected in a clear plastic acetate tube, nested inside a stainless steel core barrel. After each four-foot core barrel is brought to the surface and exposed, the core will be examined, logged, and field screened for hydrocarbons by a qualified geologist using sight and smell. Following completion, the two investigative borings will be grouted to match existing grade using a cement/sand slurry. Soil cuttings generated during this investigation will be stored onsite in sealed DOT-approved containers.

Subsurface soils will be sampled at approximately five-foot intervals starting at five feet in depth and extending down to about 20 feet in depth. After the sample and core barrel are raised to the surface, each sample was collected as follows: (1) The filled acetate tube will be exposed for visual examination; (2) The selected sample interval will be collected by cutting the sample and acetate plastic tubing to the desired length (typically about six inches); (3) The ends of the selected sample will be quickly wrapped with Teflon sheets or aluminum foil, capped with plastic end caps, labeled and wrapped tightly with tape; and (4) The sealed soil sample will be labeled and immediately placed in cold storage for transport to the analytical laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample

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collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. Cleaning rinseate will be contained onsite in a sealed drum pending laboratory results.

Two grab groundwater sampling attempts will be made for each boring, one at about 10 to 20 feet in depth and another at about 35 to 45 feet in depth. The first grab groundwater sample will be collected from the open boring, and the second grab groundwater sample will be collected using a hydropunch-type sampler. The open hole grab groundwater sample will be collected by placing 1-1/4-inch diameter well casing in the boring. The hydropunch-type groundwater sampling method involves pushing a four-foot screened section sheathed in an outer casing to the desired depth, and then retracting the outer casing to expose the screened interval. With both sampling methods, groundwater will then be sampled using a clean small diameter bailer, and poured directly into laboratory-supplied containers. Each sample container will then be tightly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.

Laboratory Analysis of Soil and Water Samples

Approximately six soil samples and four groundwater samples will be analyzed for the following parameters:

USEPA 8015M Total Petroleum Hydrocarbons as Gasoline (TPH-G)
USEPA 8020/602 Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
USEPA 8260B Oxygenates (TBA, MTBE, DIPE, ETBE, and TAME)

All analyses will be conducted by a State-certified analytical laboratory with two-week turnaround on results.

Preparation of Summary Report

A report of findings will be prepared for submittal to Alameda County Department of Environmental Health. This report will describe all investigative methods and results, and will include tabulated laboratory analytical results, as well as laboratory reports and chain-of-custody records. The site plan will also include a delineation of site utilities.

PROJECT SCHEDULE

Prior to beginning proposed workplan activities, it will be necessary to obtain approval of project costs from the State UST Cleanup Fund. Once Alameda County Department of Environmental Health and Fund approvals have been obtained, completion of proposed workplan activities can be expected within about eight weeks.

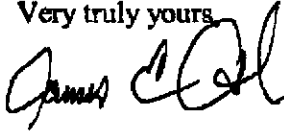
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REGULATORY SITE CLOSURE

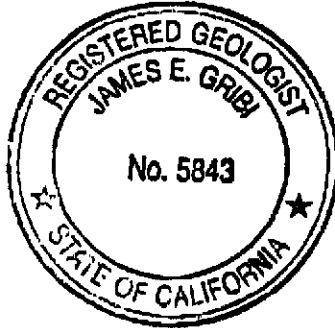
If results from this investigation indicate that lateral MTBE groundwater impacts are attenuated significantly and that there are no significant MTBE groundwater impacts in deeper grab groundwater samples, then we expect Alameda County Department of Environmental Health to recommend regulatory closure for this site.

We appreciate the opportunity to present this workplan for your review. Please contact us if you have questions or require additional information.

Very truly yours,



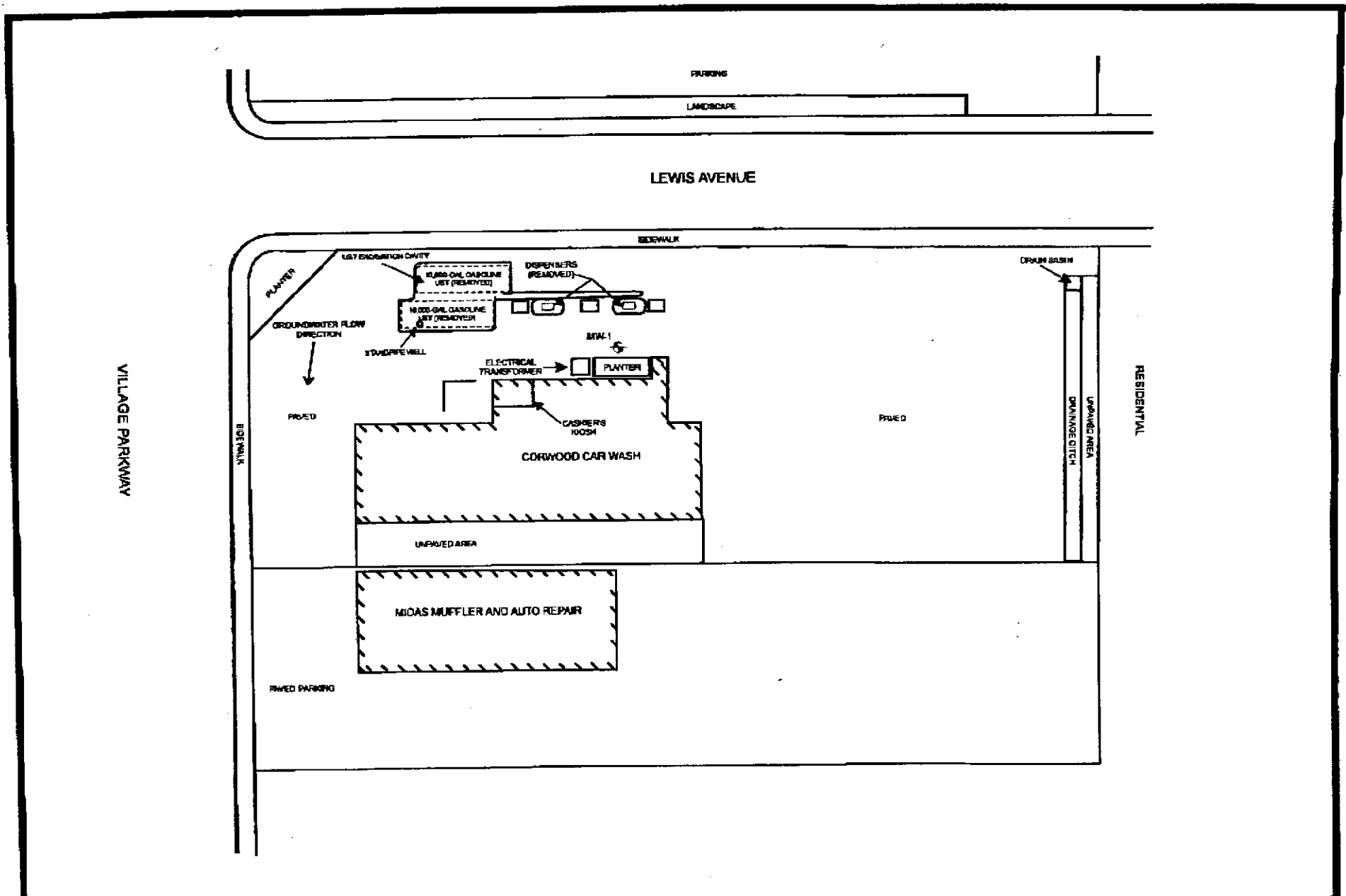
James E. Gribi
Registered Geologist
California No. 5843



JEG:ct
Enclosure

c Mr. Roger Woodward, R. L. Woodward Industries, Inc.

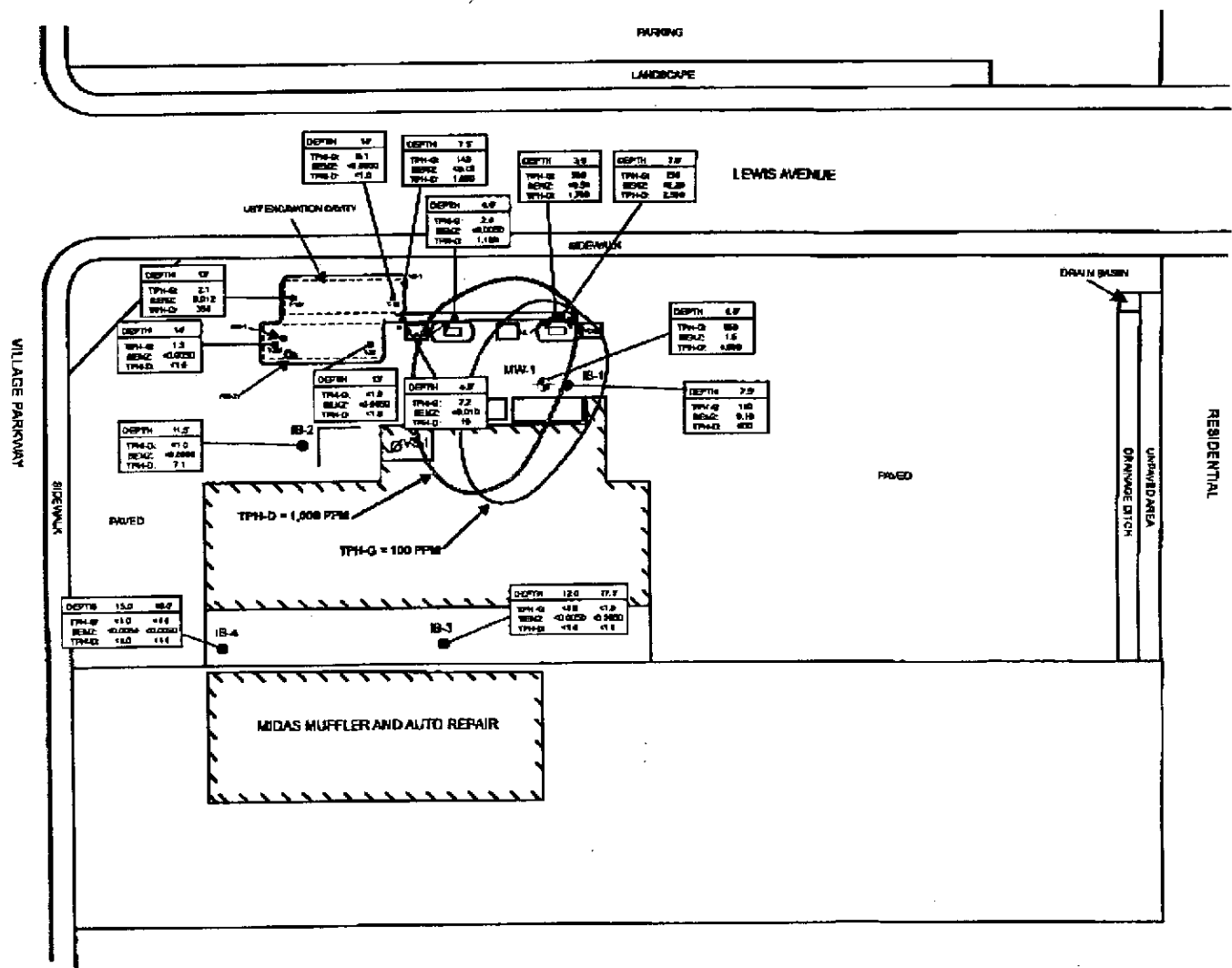
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DESIGNED BY:	CHECKED BY:
DRAWN BY: JEG	SCALE:
PROJECT NO: 105-02-04	

SITE PLAN
CORWOOD CAR WASH
6973 VILLAGE PARKWAY

DATE: 07/16/03	FIGURE: 2
GRIBI Associates	

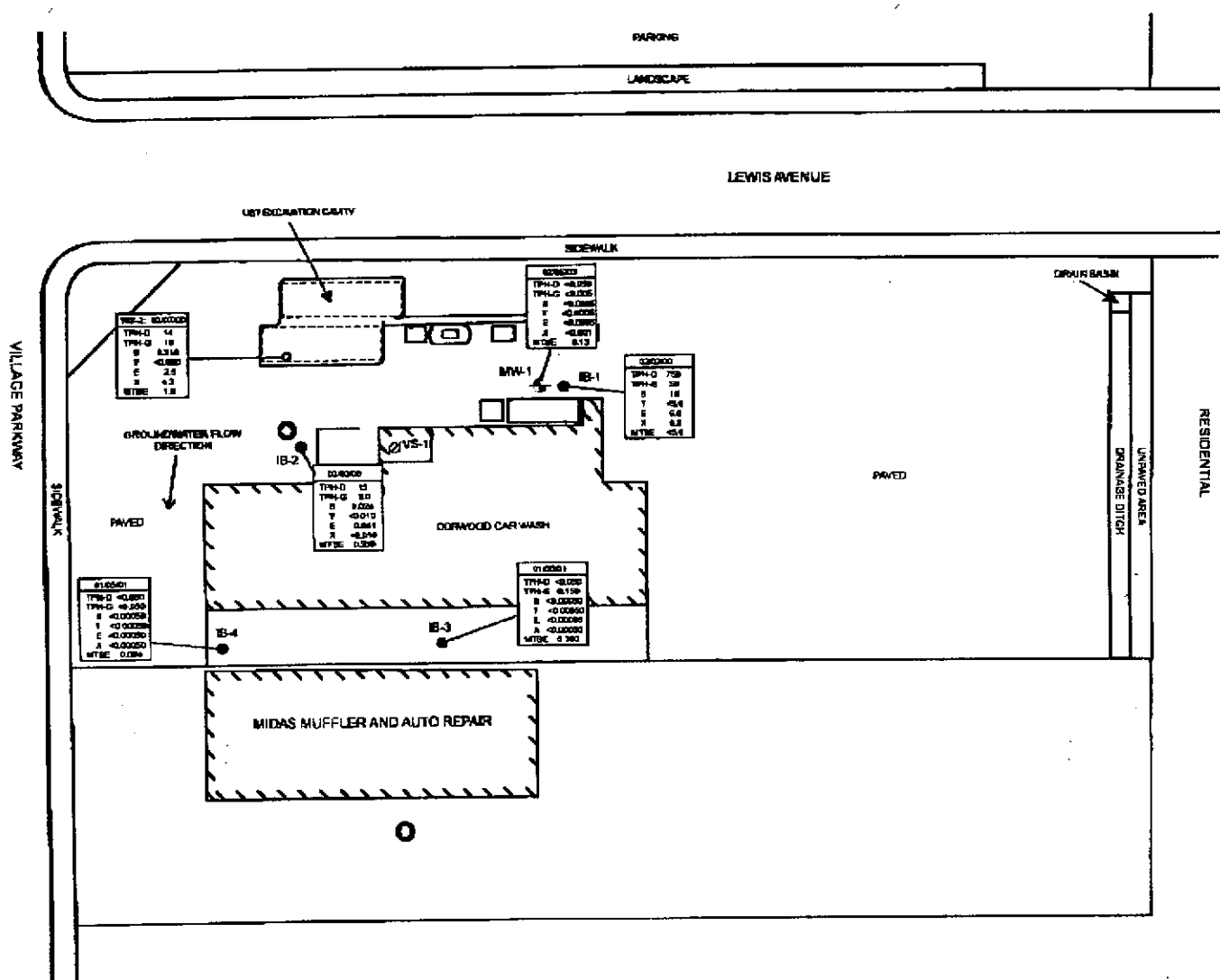


- ⊗ - SOIL VAPOR SAMPLE LOCATION
- ⊕ - GROUNDWATER MONITORING WELL LOCATION
- - INVESTIGATIVE BORING LOCATION



LABORATORY ANALYTICAL DATA IN MG/KG (PARTS PER MILLION).

DESIGNED BY:	CHECKED BY:	SOIL TPH-G, BENZENE, & TPH-D RESULTS CORWOOD CAR WASH 6973 VILLAGE PARKWAY	DATE: 07/16/03	FIGURE: 3
DRAWN BY: JEG	SCALE:		GRIBI Associates	
PROJECT NO: 106-02-04				



- - PROPOSED SOIL BORING LOCATION
- ⊠ - SOIL VAPOR SAMPLE LOCATION
- ⊕ - GROUNDWATER MONITORING WELL LOCATION
- - INVESTIGATIVE BORING LOCATION



LABORATORY ANALYTICAL DATA IN MGLITER (PARTS PER MILLION)

DESIGNED BY:	CHECKED BY:	GROUNDWATER HYDROCARBON RESULTS	DATE: 07/18/03	FIGURE: 4
DRAWN BY: JED	SCALE:		GRIBI Associates	
PROJECT NO: 106-02-04				
		CORWOOD CAR WASH 6973 VILLAGE PARKWAY		