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REPORT
OF
PHASE II ENVIRONMENTAL SITE ASSESSMENT

PHASE II ENVIRONMENTAL SITE ASSESSMENT:
SUBSURFACE INVESTIGATION FOR REGULATED SUBSTANCES
Yakima Goodwill Industries Site
222 South 3rd Street
Yakima, Washington

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PHASE II ENVIRONMENTAL SITE ASSESSMENT: SUBSURFACE INVESTIGATION FOR REGULATED SUBSTANCES YAKIMA GOODWILL INDUSTRIES SITE PROJECT NO: 194-1969 and 194-1969-1 JULY, 1994

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EXECUTIVE SUMMARY

Huntingdon Engineering and Environmental has completed Phase II environmental site assessment activities for the Yakima Goodwill Industries site located at 222 South 3rd Street in Yakima, Washington. The purpose of the investigation was to assess the conditions of site subsoils and groundwater for the possible presence of gasoline type petroleum compounds, volatile organic compounds, and semi-volatile organic compounds. The evaluation was limited to collecting and analyzing subsoil, sediment, and groundwater samples for targeted compounds associated with previous and current on-site and off-site land use activities. Assessment findings are summarized as follows:

Monitoring well MW-1 was completed near the former location of a gasoline UST. Representative subsoil and groundwater samples were collected and analyzed for compounds associated with regular gasoline. The subsoil sample collected at 5.0 feet BGS contained concentrations of TPH-G at 2.5 mg/kg, total xylenes at 0.017 mg/kg, and lead at 60.0 mg/kg. Trace levels of TPH-G were also detected in groundwater collected from MW-1 at a concentration of 0.3 mg/l. Laboratory data indicates TPH-G, xylenes and lead concentrations were below WDOE Method A action levels for subsoil and groundwater.

A grated sump is located in the retail store's production area. This sump appears to have been located beneath a vehicle wash rack when the facility was used as an automobile dealership/body shop. Sediment samples were collected from the sump and analyzed for TRPH and volatile organic compounds. TRPH and fifteen (15) volatile organic compounds were present in the sediment sample. Although several of the detected volatile organic compounds do not have established action levels, two compounds were determined to be at concentrations greater than WDOE action levels. TRPH and vinyl chloride concentrations were detected at 15,000 mg/kg and 0.450 mg/kg, respectively. TRPH concentrations of 15,000 mg/kg exceed the WDOE Method A action level of 200 mg/kg. Vinyl chloride concentrations of 0.450 mg/kg exceed the WDOE Method B carcinogenic action level of 0.435 mg/kg. Although the volatile organic contamination appears relatively low, the high TRPH concentrations in the sump may be indicative of waste oil which commonly contains elevated concentrations of polychlorinated biphenyls (PCBs) and heavy metals.

Corehole CH-4 was completed through the northern wall of the basement shower area in order to characterize potential leakage from the sump. Soil samples were collected and analyzed for TRPH, tetrachloroethene, and chloroform. Concentrations of TRPH and tetrachloroethene were 160 mg/kg and 3.3 mg/kg, respectively. Tetrachloroethene concentrations of 3.3 mg/kg exceed the WDOE Method A action level of 0.5 mg/kg. Although TRPH was detected in the soil, concentrations were below the WDOE Method A action level of 200 mg/kg. Concentrations of chloroform, if present, were below the quantitation limits of the analytical method. Due to the elevated levels of TRPH and tetrachloroethene detected in subsoils beneath the sump, it appears that sump integrity may have been compromised and is a likely source of subsurface contamination.

Coreholes CH-1 and CH-2 were drilled near the location of the former dry cleaning machine. CH-1 was placed in the floor slab of the first floor and CH-2 was placed in the east basement wall of the boiler room. Corehole CH-3 was drilled in the floorslab of the basement storage room located near the southwest corner of the building. These coreholes were drilled in order to characterize potential contamination sources associated with the former dry cleaning operations conducted at the site. Soil samples were collected and analyzed for tetrachloroethene and chloroform. Concentrations of tetrachloroethene and chloroform in soil samples collected from CH-1 and CH-3, if present, were below the quantitation limits of the analytical methods. Concentrations of tetrachloroethene in the soil sample collected from CH-2 were detected at 0.010 mg/kg. Based on the analytical results for the soil sample collected from CH-2, tetrachloroethene appears to have minimally impacted the soils in this area.

Groundwater samples were collected from two on-site monitoring wells (MW-1 and MW-2) and from three off-site monitoring wells (LW-1, LW-3, and LW-4). Groundwater samples were analyzed for tetrachloroethene and chloroform. Tetrachloroethene was detected in the groundwater samples from monitoring wells MW-1 and MW-2 at concentrations of 0.012 mg/l and 0.014 mg/l, respectively. These concentrations exceed the WDOE Method A action level of 0.005 mg/l for tetrachloroethene in groundwater. Concentrations of tetrachloroethene in the groundwater samples from monitoring wells LW-1, LW-3, and LW-4, if present, were below the quantitation limits of the analytical method. These monitoring wells were located in the apparent upgradient groundwater flow direction. Based on the analytical results for the collected groundwater samples, tetrachloroethene appears to have originated from the site. Chloroform was detected in

all of the collected groundwater samples. Chloroform concentrations ranged from 0.011 mg/l to 0.015 mg/l. The highest concentration was found in the off-site monitoring well LW-3. Although chloroform concentrations were below the WDOE Method B noncarcinogenic action level of 0.08 mg/l, the carcinogenic action level of 0.007 mg/l was exceeded. Based on the analytical results for the collected groundwater samples, chloroform appears to be widespread and not originating from the site.

In conclusion, the site specific objectives have been achieved for this project. The following summarizes our principal findings:

- Compounds associated with regular gasoline were detected in subsoils and groundwater in the area of the former UST but at concentrations below WDOE Method A action levels.

- Chloroform was detected in groundwater collected from on-site and upgradient off-site monitoring wells; chloroform concentrations exceed WDOE Method B carcinogenic action levels.

- TRPH and fifteen (15) volatile organic compounds were present in sump sediment. Concentrations of TRPH and vinyl chloride in the sediment exceeded WDOE action levels. Elevated levels of TRPH were detected in subsoils beneath the sump, but at concentrations below WDOE action levels.

- Tetrachloroethene was detected in soil samples collected from beneath the building slab. Concentrations of tetrachloroethene in subsoils beneath the sump exceeded WDOE Method A action levels. The sump is a likely contamination source, because TRPH and tetrachloroethene levels in soil beneath the sump were also elevated. This reasoning is further substantiated by the presence of tetrachloroethene in the on-site groundwater and its non-detection in groundwater samples collected from upgradient off-site monitoring wells.

- Tetrachloroethane concentrations in groundwater at the site exceeded WDOE Method A action levels.

The Model Toxics Control Act (WAC 173-340, section 300, part 2) states that any owner or operator who has information that a hazardous substance has been released to the environment at the owner or operator's facility shall report such information to WDOE within 90 days of discovery. Because tetrachloroethene concentrations in soil and groundwater and chloroform concentrations in groundwater exceed established action levels, agency notification is required.

1.0 PROJECT DESCRIPTION

1.1 Introduction

At the request of the City of Yakima, Huntingdon Engineering and Environmental (Huntingdon), has completed phase II subsurface investigation activities at the Yakima Goodwill Industries site (hereafter referred to as the site) in Yakima, Washington. This report presents the assessment findings on the potential impact previous or current on-site and off-site land use activities may have had on subsoil and groundwater at the site. This investigation was initiated in accordance with our proposal dated March 23, 1994, and a change order dated May 17, 1994.

1.2 Purpose and Scope

The purpose of the investigation was to assess the conditions of site subsoils and groundwater for the possible presence of gasoline type petroleum compounds, volatile organic compounds, and semi-volatile organic compounds. In order to accomplish this goal, the project was divided into two stages. Stage One encompassed a cursory subsurface investigation to identify areas of potential concern. Site specific objectives for Stage One included: 1) evaluating the presence of gasoline type petroleum hydrocarbons and lead in the subsoil and groundwater near the former location of a gasoline underground storage tank (UST), 2) assessing historic and current disposal practices by analyzing on-site sump sediment for total petroleum hydrocarbons and volatile organic compounds and downgradient groundwater for selected volatile and semi-volatile organic compounds, and 3) determining site specific groundwater conditions for volatile organic compounds associated with former on-site practices. Stage Two was initiated to further characterize regulated substances discovered during Stage One. Site specific objectives for Stage Two included: 1) characterizing subsoils beneath the sump for total recoverable petroleum hydrocarbons, tetrachloroethene, and chloroform, 2) evaluating subsoils beneath the concrete slab near the former location of the dry cleaning machine and beneath the southern basement area for tetrachloroethene and chloroform, and 3) analyzing the groundwater from on-site and off-site monitoring wells for tetrachloroethene and chloroform to establish upgradient and downgradient concentration profiles.

The following tasks were conducted for this assessment:

- ◇ A drill rig was mobilized to the site to drill two exploratory borings. The borings were drilled to depths of about 24 feet below grade surface (BGS) and were completed as monitoring wells following Washington State guidelines. The drill cuttings and split-

spoon samples were examined for signs of contamination and selected samples retained for laboratory analysis.

◇ A coring unit was mobilized to the site to cut four holes through concrete slabs and walls inside the Goodwill Industries building. A hand auger/trowel was used to obtain soil samples from beneath the building. The soil was examined for signs of contamination and selected samples were retained for laboratory analysis.

◇ Sediment samples were collected from the sump within the Goodwill Industries building for volatile organic vapor screening and laboratory analysis. The sediment was removed and stored in a 55-gallon drum for future disposal.

◇ Groundwater samples were collected from on-site and off-site monitoring wells for laboratory analysis.

◇ This report was prepared to summarize our findings and conclusions.

1.3 Project Background

Results of a phase I environmental site assessment conducted on the site indicated four circumstances which may have led to adverse environmental conditions at the site. These circumstances included an on-site UST, the past on-site use of dry cleaning solvents, the presence of regulated substances in the groundwater of an adjacent upgradient site, and location of the site within the boundaries of the Yakima Railroad Area.

In October 1991, an insufficient subsurface characterization occurred during the removal of an on-site UST. Based on our review of Washington State Department of Ecology (WDOE) UST records, personal interviews, and the decommissioning consultant's revised UST removal report, a regular gasoline UST was removed from the property. However, subsoils collected from the tank basin were characterized for petroleum compounds heavier than diesel fuel. If the tank was used for gasoline storage, then WDOE UST site assessment guidelines at the time of the tank removal required that subsoils encountered in the tank basin be characterized for gasoline-range petroleum hydrocarbons and lead.

Regulated materials such as tetrachloroethene (used as a degreaser and/or dry cleaning solvent) and petroleum products have historically been used at the site. A review of City of Yakima Polk directories indicated that several automobile dealerships conducted business at the site between the years of 1942 and 1964. Although our research did not indicate a release, prior disposal

practices were not established. Several drains and a sump are located within the Goodwill Industries building and may have acted as conduits to the subsurface.

An abandoned automobile facility, Prestige Buick, is located on an adjacent property west of the site in the upgradient direction. In January 1989, Ecology and Environment conducted a site inspection at the facility for the Environmental Protection Agency (EPA). At the time of the inspection, no evidence of past on-site release or disposal of hazardous substances was identified and EPA deferred additional characterization to WDOE. In early 1992, eight USTs were removed from the property and one UST was decommissioned in-place. Soil and test pit water sampled in conjunction with the UST decommissioning were reported to contain levels of oil and/or potential waste oil constituents; some were reported at levels that exceeded WDOE soil action levels. In October 1992, Landau and Associates installed and sampled four groundwater monitoring wells on the property. Groundwater data indicated that concentrations of tetrachloroethene and chloroform exceeded WDOE action levels. Methylene chloride, di-n-butyl phthalate, and acetone were also detected in the water (Landau, 1992). On October 20, 1993, WDOE issued a "No Further Action" statement for the property after reviewing available remediation documentation.

The site is located within the eastern margin of the Yakima Railroad Area. The Yakima Railroad Area is a mile-wide corridor extending from Lincoln Avenue on the north to Union Gap in southeastern Yakima. Groundwater within this area has been contaminated by tetrachloroethene.

In order to address the above issues, we suggested that subsurface sampling be conducted at the site. A proposal was prepared outlining the appropriate scope of work and approved by the City of Yakima for implementation.

2.0 SITE CHARACTERISTICS

2.1 Site Description

The site is located at 222 South 3rd Street near the intersection of East Spruce Street in Yakima, Washington 98901. The site is composed of parcel 19131931439 as recorded in documents on file with the Yakima County Assessor. An approximate legal description for the site is Lots 7 thru 16, Block 53, North Yakima, southeast quarter of the northwest quarter of section 19, township 13 north, range 19 east of the Willamette Meridian, Yakima County, Washington. Based on the United States Geological Survey (USGS) 7.5 minute series topographic map of the area (Yakima West Quadrangle), the latitude is 46 degrees 35 minutes 57 seconds and the longitude is 120 degrees 30 minutes 5 seconds. The approximate location is depicted in Figure 1, the Site Location Map (Appendix 1).

2.1.1 Description of Site Structures

The subject site is currently developed with a retail store and storage area. The two level 19,250 ft^2 retail store is constructed from masonry and stone block and contains a partial basement. A single level 1,200 ft^2 storage structure of masonry block construction is located near the east-northeast margin of the site. Specific aspects of the site are shown in Figure 2, the Site Plan (Appendix 1).

2.1.2 Roads and Easements

The subject site is bounded by South 3rd Street on the east, East Spruce Street on the south, and an alley to the west. A paved asphalt parking area is located north of the retail store. Easements were not identified at the site from our cursory review of City of Yakima engineering documents.

2.1.3 Improvements and Utilities

Utilities at the site include water, sanitary sewer, electrical, and natural gas. Potable water supplies and sanitary sewer services are provided by the City of Yakima. A water line is located east of the site along South 3rd Street. A sewer line is located west of the site beneath the alley. Septic tanks were not observed at the site. Natural gas services are provided by Cascade Natural Gas. Gas meters were located on the west outside walls of the retail store and storage structure. Electricity and electrical utilities are provided by Pacific Power and Light.

2.2 Geology

The City of Yakima is situated on the western margin of the Columbia River Plateau physiographic province and near the eastern foothills of the Cascade Range. The Cascade Range and adjacent highlands are primarily composed of basalts and andesites. The Columbia Plateau is comprised of a series of flood basalts which cover most of central and eastern Washington. The basalt flows of the Columbia Basalt Group are Miocene in age, forming an extensive volcanic plateau (Camp et. al., 1982). The Columbia River flood basalts are overlain by alluvial deposits within the study area.

The predominant surficial soil type at the site has been classified as a Naches Loam by the United States Department of Agriculture. This soil formed in old alluvium on stream terraces and in valleys (USDA, 1985).

The subsurface profile over most of the site consists of a layer of silty gravel (fill material) extending to depths ranging from about 0.15 to 10.0 feet. The silty gravels are underlain by dense basalt gravels of alluvial origin. Individual subsurface layers are described in more detail on the Boring Logs in Appendix 2.

Topography at the site is level. Elevations at the site range between 1,060 and 1,080 feet above mean sea level. The average annual precipitation of about 7 to 9 inches supports various grasses (USDA, 1985).

2.3 Hydrology

The nearest surface water is the southeasterly flowing Yakima River. The Yakima River is located about 1.3 miles east of the site. Groundwater was encountered at a depth of about 17.0 feet BGS. An easterly groundwater flow direction was established at the site from groundwater data collected during field activities. The groundwater flow direction is noted on Figure 2 (Appendix 1).

3.0 ENVIRONMENTAL ASSESSMENT FINDINGS

3.1 Stage One

3.1.1 Field Activities and Observations

On April 8, 11, and 12, 1994, a field investigation was performed in an attempt to identify environmental concerns at the site. Exploration sites were selected at suspect locations to reveal potential contamination as identified from the phase I environmental site assessment (see Section 1.3).

Borings and Monitoring Well Construction

Monitoring well MW-1 was completed near the former location of a gasoline UST. Monitoring well MW-2 was completed in an apparent downgradient position in the sidewalk area near the southern boundary of the site. The wells were installed in borings drilled with an air-rotory drill rig. Borings were advanced through the overburden soils with a 6-inch inside diameter (I.D.) ODEX drilling tool. Subsoils were collected using a 3-inch I.D. split spoon sampler driven into the subsurface strata using a 140-pound hammer falling 30 inches. The split spoon sampler was decontaminated with an Alconox wash between sampling events to prevent possible cross-contamination of subsoil samples. The borings were then converted into monitoring wells and installed in accordance with WDOE guidelines. Wells were constructed with 2 inch diameter 0.020 schedule 40 PVC screen and casing. Drill cuttings removed from the borings were stored on-site in a 55-gallon drum.

Sump Observations

A grated sump is located in the retail store's production area (Figure 3 of Appendix 1). This sump appears to have been located beneath a vehicle wash rack when the facility was used as an automobile dealership/body shop. The sump is constructed of concrete with a concrete base. A portion of the sump, measuring 9.0 ft. x 1.0 ft. x 1.15 ft. deep, is covered with a metal grate. Rinsate water discharges into a 2.25 ft. x 2.75 ft. x 2.6 ft. deep collection basin at the west end of the sump. A cast iron pipe protruding from the south wall of the sump allows water to discharge to the sanitary sewer. Cracks and/or other openings in the concrete were not visually detected. About 7.5 ft^3 of saturated, black sediment was observed at the base of the sump's collection basin.

Volatile Organic Vapor Screening

Sump sediment and subsoil samples collected from MW-1 and MW-2 (at intervals of 5, 10, 15, and 20 feet BGS) were screened in the field for volatile organic compounds. Volatile organic vapor monitoring procedures consisted of scanning collected samples with a PID, Microtip Model 102, for the detection of volatile organic compounds. Headspace samples were prepared by placing representative subsoil samples in a clean glass container, covering the container with aluminum foil, sealing the container, and allowing the sample to warm to approximately 75 degrees F. The sample headspace (air trapped in uppermost portion of container) was measured with the PID to detect volatile organic compounds. The PID was calibrated in the field with 100 part per million (ppm) isobutylene test gas prior to measuring collected samples. This methodology is considered representative of in-situ conditions, but is dependent on field conditions, including the chemical nature of the suspect contaminant and weather conditions.

Headspace measurements ranged from 0.0 to 101.0 ppm for subsoils collected from MW-1. The 101.0 ppm reading was detected in subsoils collected at 5.0 feet BGS. Headspace measurements ranged from 19.4 to 25.0 ppm for subsoil samples collected from MW-2. Readings of 25.0 ppm were detected in samples collected at 15.0 and 20.0 feet BGS. An elevated reading of 2,788 ppm was detected in a sediment sample collected from the sump. Volatile organic vapor monitoring results are shown on the Boring Logs in Appendix 2 and are summarized in Table 1 (Appendix 3). Screening results were used to assist field personnel in evaluating subsoil conditions and are not to be interpreted as actual contaminant concentrations.

Subsoil and Sump Sediment Sampling

Representative subsoil and sediment samples were collected from MW-1 and the sump. Subsoil samples were collected at depths of 5.0, 15.0, and 20.0 feet BGS. The subsoil and sediment samples were placed in glass sample jars with teflon lids provided by the laboratory and were assigned sample numbers. The samples were placed in coolers with ice for temporary storage and were submitted for analysis to our analytical lab in Billings, Montana.

Excavated subsoils and sump sediment were physically examined for evidence of regulated substance contamination. No noticeable signs of contamination such as odor and/or discoloration were observed in MW-1 and MW-2. The sump sediment had an oily appearance and putrid odor.

Groundwater Sampling

On April 11, 1994, water level measurements were collected from MW-1 and MW-2 to provide information on the local groundwater flow direction. With City of Yakima permission, additional water level measurements were collected from an off-site well (LW-4) located in the alley west of the site. MW-1 and MW-2 were purged of greater than three casing volumes of water before sampling. The purge water was stored on-site in a 55-gallon drum. After allowing water levels to stabilize, groundwater samples were collected with disposable polyethylene bailers. Samples were collected between groundwater contact and 2 feet below the water's surface. Samples were transferred to precleaned glass containers supplied by the laboratory and were assigned sample numbers. The samples were placed in coolers with ice for temporary storage and were submitted for rush analysis to our laboratory in Billings, Montana.

A faint petroleum sheen was noted on purge water from MW-1, but no noticeable odor was detected. The presence of petroleum sheens and/or odors are suggestive of water impacted by petroleum products.

3.1.2 Analytical Methods

Guided by WDOE documentation regarding off-site characterization activities at the Prestige Buick facility and the Yakima Goodwill Industries UST removal report, analytical methods were selected to isolate petroleum hydrocarbons and organic compounds that could be present at the site.

Subsoils collected at 5.0 feet BGS in MW-1, were submitted for laboratory analysis. The sample was analyzed for total petroleum hydrocarbons modified for gasoline (WTPH-G, EPA Method 8015), total lead (Atomic Absorption, EPA Method 7421) and for benzene, toluene, ethylbenzene, and xylenes (BTEX, EPA Method 8020). The sediment sample collected from the sump was analyzed for total recoverable petroleum hydrocarbons (WTPH-418.1 modified) and volatile organic compounds (VOCs, EPA Method 8260).

Groundwater samples collected from MW-1 were analyzed for total petroleum hydrocarbons modified for gasoline (WTPH-G, EPA Method 8015), BTEX compounds (EPA Method 602), and total lead (Atomic Absorption, EPA Method 7421). Groundwater samples collected from MW-2 were analyzed for volatile organic compounds (VOCs, EPA Method 8260) and semi-volatile organic compounds (SVOCs, EPA Method 8270).

3.1.3 Analytical Results

Several volatile organic compounds, petroleum hydrocarbons, and lead were detected at the site. Analytical results for detected compounds are summarized in Tables 2, 3, 4, and 5 (Appendix 3). Analytical laboratory reports and chain-of-custody documentation are included in Appendix 4.

Monitoring Well MW-1

Laboratory results (Table 2) show that total petroleum hydrocarbons as gasoline (TPH-G), xylenes, and lead were detected in the subsoil. The subsoil sample collected at 5.0 feet BGS contained concentrations of TPH-G at 2.5 mg/kg, total xylenes at 0.017 mg/kg, and total lead at 60.0 mg/kg. In all three cases, contaminant concentrations were below WDOE Method A action levels. The remaining BTEX compounds, if present, were at concentrations below the quantitation limits of the analytical method.

Trace levels of TPH-G were also detected in the groundwater sample collected from MW-1 at a concentration of 0.3 mg/l (Table 3). Again, this concentration was below the WDOE Method A action level. Concentrations of BTEX compounds and lead, if present, were below the quantitation limits of the analytical method.

Monitoring Well MW-2

Laboratory results (Table 4) show that two volatile organic compounds were detected in the groundwater sample collected from MW-2. Chloroform and tetrachloroethene were present at concentrations of 0.019 mg/l and 0.046 mg/l, respectively. Although chloroform concentrations were below the WDOE Method B noncarcinogenic action level, the carcinogenic action level of 0.007 mg/l was exceeded. The detected tetrachloroethene exceeded the WDOE Method A action level of 0.005 mg/l. The remaining volatile and semi-volatile organic compounds targeted by analytical methods 8260 and 8270, if present, were at concentrations below the quantitation limits.

Sump

Laboratory results (Table 5) show that total recoverable petroleum hydrocarbons (TRPH) and fifteen (15) volatile organic compounds were present in the sediment sample. Although several of the detected volatile organic compounds do not have established action levels, two compounds were determined to be at concentrations greater than WDOE action levels. TRPH and vinyl chloride concentrations were detected at 15,000 mg/kg and 0.450 mg/kg, respectively. The

WDOE Method A action level for TRPH is 200.0 mg/kg and the WDOE Method B carcinogenic action level for vinyl chloride is 0.435 mg/kg. The remaining volatile organic compounds targeted by analytical method 8260, if present, were at concentrations below the quantitation limits.

3.2 Stage Two

3.2.1 Field Activities and Observations

On May 21, 24, and 27, 1994, additional field investigations were performed to further characterize regulated substances discovered during Stage One. At the request of the City of Yakima, we screened on-site and off-site groundwater for tetrachloroethene and chloroform. Due to former on-site activities and because tetrachloroethene and chloroform were detected in on-site groundwater, we also characterized subsoils beneath the Goodwill Industries building for these compounds as well. Because high levels of TRPH were detected in sump sediment, we screened subsoils beneath the sump for TRPH to determine sump integrity.

Subsurface Soil Sampling

In an attempt to locate potential sources of tetrachloroethene and chloroform, four subsoil samples were collected from beneath the Goodwill Industries building for laboratory analysis. Coreholes CH-1 and CH-2 were drilled near the location of the former dry cleaning machine. CH-1 was placed in the floor slab of the first floor and CH-2 was placed in the east basement wall of the boiler room. Corehole CH-3 was drilled in the floorslab of the basement storage room located near the southwest corner of the building. In order to characterize potential leakage from the sump, corehole CH-4 was completed through the northern wall of the basement in the shower area. All coreholes were drilled with a coring unit equipped with a 12 inch diameter bit supplied by Pro-cut Concrete Cutting. Overburden soils were removed with a clean trowel/shovel or a 3-inch diameter hand auger. Subsoil samples retained for laboratory analysis were collected within about 2 feet of the cored surface. All sampling equipment was decontaminated with an Alconox wash between sampling events to prevent possible cross-contamination of soil samples. When sampling was complete, the coreholes were patched with concrete. Soil discoloration and odors suggestive of regulated substance contamination were not observed. Corehole locations are shown on Figure 2 (Appendix 1).

Sump Observations

Approximately 7.5 ft^3 of sediment was removed from the sump. This material was placed in a 55-gallon drum and stored on-site. During the cleaning activities, strong odors were noted requiring proper respiratory equipment.

Volatile Organic Constituent Screening

Sump sediment and subsoil samples collected from CH-1, 2, 3, and 4 were screened in the field for volatile organic compounds. Headspace measurements ranged from 8.0 to 19.0 ppm for subsoils collected from the coreholes. The 19.0 ppm readings were detected in subsoils collected from CH-3 and CH-4. During sump cleaning activities, background PID measurements ranged from 60.0 to 260.0 ppm. Volatile organic vapor monitoring results are shown on the Boring Logs in Appendix 2 and are summarized in Table 1 (Appendix 3).

Groundwater Sampling

On May 24, 1994, groundwater samples were collected from two on-site and three off-site monitoring wells. The wells were purged of greater than three casing volumes of water before sampling. The purge water was stored on-site in 55-gallon drums. Sheens and/or odors suggestive of water impacted by regulated substances were not observed. After allowing water levels to stabilize, groundwater samples were collected with disposable polyethylene bailers. Samples were collected between groundwater contact and 2 feet below the water's surface. Samples were transferred to precleaned glass containers supplied by the laboratory and were assigned sample numbers. The samples were placed in coolers with ice for temporary storage and were submitted for rush analysis to our laboratory in Billings, Montana. Trip blanks and field duplicate samples were incorporated with the groundwater sampling activities for quality control measures.

3.2.2 Analytical Methods

Soil samples collected from the coreholes were analyzed for tetrachloroethene and chloroform (VOCs, EPA Method 8260). Due to the highly elevated TRPH concentrations detected in the sump sediment, the soil sample collected from corehole CH-4 was analyzed for total recoverable petroleum hydrocarbons (WTPH-418.1 modified) to determine if there was leakage from the sump.

Groundwater samples collected from all monitoring wells were analyzed for tetrachloroethene and chloroform (VOCs, EPA Method 8260).

3.2.3 Analytical Results

Tetrachloroethene and chloroform were detected in subsoils and groundwater at the site. Analytical results are summarized in Tables 6 and 7 (Appendix 3). Analytical laboratory reports and chain-of-custody documentation are included in Appendix 4.

Subsurface Soils

Laboratory results (Table 6) show that tetrachloroethene was found in subsoil samples from coreholes CH-2 and CH-4 at concentrations of 0.01 mg/kg and 3.3 mg/kg, respectively. Although detected, concentrations of tetrachloroethene in subsoils collected from CH-2 were below WDOE Method A action levels. Concentrations of tetrachloroethene in subsoils collected from CH-4 exceeded WDOE Method A action levels for tetrachloroethene in soil. The subsoil samples from both CH-2 and CH-4 were collected at a depth of about 8.0 feet below the location of the former dry cleaning machine and sump. Concentrations of tetrachloroethene in the remaining subsoil samples, if present, were below the quantitation limits of the analytical method.

Laboratory results (Table 6) also show that chloroform was not detected in any of the collected subsoil samples. In all cases, chloroform concentrations were below the quantitation limits of the analytical method.

Total recoverable petroleum hydrocarbons were detected at concentrations of 160 mg/kg in CH-4 subsoils. These concentrations, however, are below the WDOE Method A action level of 200 mg/kg for TRPH in soil.

Groundwater

Laboratory results (Table 7) show that tetrachloroethene was detected in the groundwater samples from on-site monitoring wells MW-1 and MW-2 at concentrations of 0.012 mg/l and 0.014 mg/l, respectively. These concentrations exceed the WDOE Method A action level of 0.005 mg/l for tetrachloroethene in groundwater. Concentrations of tetrachloroethene in the groundwater samples from the off-site monitoring wells LW-1, LW-3, and LW-4, if present, were below the quantitation limits of the analytical method.

Laboratory results (Table 7) also show that chloroform was detected in all of the collected groundwater samples. Chloroform concentrations ranged from 0.011 mg/l to 0.015 mg/l. The highest concentration was found in the off-site monitoring well LW-3. Although chloroform

concentrations were below the WDOE Method B noncarcinogenic action level of 0.08 mg/l, the carcinogenic action level of 0.007 mg/l was exceeded.

4.0 CONTAMINANT CHARACTERIZATION

4.1 Substances Discovered

Regulated substances were discovered at the site. First, gasoline related compounds were discovered in subsoil and groundwater samples from MW-1. TPH-G, xylenes and lead concentrations were present in subsoil samples from MW-1. Trace levels of TPH-G were also detected in groundwater collected from MW-1. Second, elevated levels of TRPH and fifteen (15) volatile organic compounds were present in the sediment sample collected from the sump. Third, tetrachloroethene was detected in the groundwater samples collected from MW-1 and MW-2 as well as the subsoil samples from CH-2 and CH-4. Finally, chloroform was discovered in all monitoring wells sampled.

4.2 Potential Sources

Most likely, subsoil and groundwater TPH-G, xylenes, and lead contamination at MW-1 resulted from the former UST located at the site. The TRPH and volatile organic compounds detected in the sump sediment are probably the result of former on-site automotive activities (See section 1.3).

The source(s) of tetrachloroethene contamination in groundwater from MW-1 and MW-2 has not been confirmed and can only be speculated upon. First, evidence of tetrachloroethene contamination has been verified for the Yakima Railroad Area. Second, automobile dealerships/body shops and dry cleaning activities have historically operated on-site and within the site vicinity. Tetrachloroethene was used as a dry cleaning solvent and may also have been used as a degreaser in automotive work. Due to the absence of tetrachloroethene in the up-gradient monitoring wells and the presence of compound residues in on-site subsoils and groundwater, the findings of this assessment indicate the tetrachloroethene contamination may have originated from the site.

Chloroform is a chemical used in metal manufacturing, printing, laboratories, and in paint/body shops. Chloroform is also widely distributed in the environment as a direct result of chlorination in potable water supplies. A potential point source of chloroform was not identified for the site because the compound was detected in the upgradient as well as downgradient monitoring wells at relatively similar concentrations and was not detected in site subsoils. Average concentrations

of chloroform in drinking water may range from 0.0003 mg/l to 0.311 mg/l (Atkinson, 1992). The observed chloroform concentrations fall within this range.

4.3 Magnitude of Impact

The magnitude of gasoline related contamination near the former UST site appears to be low. Laboratory data indicates TPH-G, xylenes and lead concentrations are below WDOE Method A action levels for subsoil and groundwater.

The magnitude of TRPH contamination in the sump sediment is high. TRPH concentrations of 15,000 mg/kg exceeds the WDOE Method A action level of 200 mg/kg. Fifteen volatile organic compounds were also detected but, with the exception of vinyl chloride, at concentrations below established action levels. Vinyl chloride concentrations of 0.450 mg/kg exceed the WDOE Method B carcinogenic action level of 0.435 mg/kg. Although the volatile organic contamination appears relatively low, the high TRPH concentrations may be an indication of additional contaminants such as heavy metals. TRPH concentrations in subsoils beneath the sump, although elevated, were below WDOE Method A action levels.

Tetrachloroethene concentrations of 0.012 mg/l and 0.014 mg/l in site groundwater exceeded the WDOE Method A action level of 0.005 mg/l. The current human health risk based concentration in groundwater used by EPA in this region is 0.002 mg/l. As a comparison, tetrachloroethene levels detected in groundwater at the Prestige Buick site in October 1992, ranged between 0.0053 mg/l and 0.0012 mg/l (Landau, 1992). The highest levels of tetrachloroethene detected in groundwater sampled from the Yakima Railroad Area were 0.960 mg/l (Roeder, 1994).

Tetrachloroethene concentrations of 0.010 mg/kg and 3.3 mg/kg were detected in subsoils beneath the store. Tetrachloroethene concentrations of 3.3 mg/kg in soils beneath the on-site sump exceeded the WDOE Method A action level of 0.5 mg/kg. The highest levels of tetrachloroethene detected in soil sampled from the Yakima Railroad Area were 720 mg/kg (Roeder, 1994).

Chloroform concentrations ranging from 0.011 mg/l to 0.015 mg/l exceeded the WDOE Method B carcinogenic action level of 0.007 mg/l. However, this concentration is below the Washington State Department of Health (WDOH) Maximum Contaminant Level (MCL) of 0.10 mg/l established for trihalomethanes. Chloroform is one of four compounds which comprise the total

trihalomethanes suite. The concentrations of each of the trihalomethane compounds (chloroform - synonymous with trichloromethane, dibromochloromethane, bromodichloromethane, and tribromomethane) are added together to determine the MCL level. Levels of chloroform detected in groundwater at the Prestige Buick site in October 1992, ranged between 0.0069 mg/l and 0.0089 mg/l (Landau, 1992).

4.4 Extent of Impact

Petroleum hydrocarbons related to the former gasoline UST appear to be present in minor concentrations between approximately 5 feet BGS and groundwater near MW-1. Analytical analyses, however, indicate that TPH-G, xylenes, and lead concentrations in subsurface media were either below practical detection limits or below WDOE Method A action levels.

The 7.5 ft^3 of contaminated sediment appears limited to the sump located on-site. As described in Section 3.1, cracks and/or other openings in the concrete which may act as a conduit to the subsurface were not visually detected, however, the sump may be the likely contamination source due to elevated TRPH and tetrachloroethene concentrations in soils beneath the sump.

The full extent of tetrachloroethene contamination observed at the site could not be determined by this assessment. However, based on field observations and laboratory results, the tetrachloroethene appears to have migrated down through the subsoil beneath the Goodwill Industries building. After making groundwater contact, the compound was dispersed with the groundwater flow in the downgradient and side-gradient directions as shown by monitoring wells MW-1 and MW-2. The plume of migration apparently begins near the west property line beneath the sump and continues for an undefined distance.

The chloroform contamination appears to be widespread throughout the immediate area. Laboratory results indicate the groundwater beneath the entire site might be impacted to the same degree observed in the off-site and on-site monitoring wells.

5.0 CONCLUSIONS

Huntingdon has completed Phase II subsurface investigation activities at the Yakima Goodwill Industries site in Yakima, Washington. The purpose of the investigation was to assess the conditions of site subsoils and groundwater for the possible presence of gasoline type petroleum compounds, volatile organic compounds, and semi-volatile organic compounds. Site specific objectives were realized as follows:

Stage One - Objective 1
Evaluate the presence of gasoline type petroleum hydrocarbons and lead in the subsoil and groundwater near the former location of a gasoline UST.

- Monitoring well MW-1 was completed near the former location of a gasoline UST. Representative subsoil and groundwater samples were collected and analyzed for compounds associated with regular gasoline.

- The subsoil sample collected at 5.0 feet BGS contained concentrations of TPH-G at 2.5 mg/kg, total xylenes at 0.017 mg/kg, and lead at 60.0 mg/kg. TPH-G was also detected in groundwater collected from MW-1 at a concentration of 0.3 mg/l.

- Laboratory data indicates TPH-G, xylenes and lead concentrations were below WDOE Method A action levels for subsoil and groundwater.

Stage One - Objective 2
Assess historic and current disposal practices by analyzing on-site sump sediment for total petroleum hydrocarbons and volatile organic compounds and downgradient groundwater for selected volatile and semi-volatile organic compounds.

- A grated sump is located in the retail store's production area. This sump appears to have been located beneath a vehicle wash rack when the facility was used as an automobile dealership/body shop. Sediment samples were collected from the sump and analyzed for TRPH and volatile organic compounds.

- Monitoring well MW-2 was completed in the downgradient direction from the site. Groundwater samples were collected from MW-2 and analyzed for volatile and semi-volatile organic compounds.

- TRPH and fifteen (15) volatile organic compounds were present in the sediment sample. Although several of the detected volatile organic compounds do not have established action levels, two compounds were determined to be at concentrations greater than

WDOE action levels. TRPH and vinyl chloride concentrations were detected at 15,000 mg/kg and 0.450 mg/kg, respectively.

- The groundwater sample collected at MW-2 contained concentrations of chloroform and tetrachloroethene at concentrations of 0.019 mg/l and 0.046 mg/l, respectively. Semi-volatile organic compounds were not detected.

- TRPH concentrations of 15,000 mg/kg exceed the WDOE Method A action level of 200 mg/kg. Vinyl chloride concentrations of 0.450 mg/kg exceed the WDOE Method B carcinogenic action level of 0.435 mg/kg. Although the volatile organic contamination appears relatively low, the high TRPH concentrations in the sump may be indicative of waste oil which commonly contains elevated concentrations of polychlorinated biphenyls (PCBs) and heavy metals.

Stage One - Objective 3
Determine groundwater conditions for volatile organic compounds associated with former on-site practices.

- Monitoring well MW-2 was completed in the downgradient direction from the site. Groundwater samples were collected from MW-2 and analyzed for volatile organic compounds.

- The groundwater sample collected at MW-2 contained concentrations of chloroform and tetrachloroethene at concentrations of 0.019 mg/l and 0.046 mg/l, respectively.

- The source(s) of tetrachloroethene contamination in groundwater from MW-2 was not confirmed in Stage One and could only be speculated upon. First, evidence of tetrachloroethene contamination has been verified for the Yakima Railroad Area. The site is located near the perimeter of the impacted corridor and the laboratory results may partially reflect the already confirmed groundwater contamination. Second, tetrachloroethene was known to have been used at the site and may have been released into the subsurface during site activities.

Stage Two - Objective 1
Characterize subsoils beneath the sump for TRPH, tetrachloroethene, and chloroform.

- Corehole CH-4 was completed through the northern wall of the basement in a shower area in order to characterize potential leakage from the sump. Soil samples were collected and analyzed for TRPH, tetrachloroethene, and chloroform.

- Concentrations of TRPH and tetrachloroethene detected in subsoils from CH-4 were 160 mg/kg and 3.3 mg/kg, respectively. Tetrachloroethene concentrations of 3.3 mg/kg exceed the WDOE Method A action level of 0.5 mg/kg. Although TRPH was detected in the soil, concentrations were below the WDOE Method A action level of 200 mg/kg. Concentrations of chloroform, if present, were below the quantitation limits of the analytical method.

- Due to the elevated levels of TRPH and tetrachloroethene detected in subsoils beneath the sump, it appears that sump integrity may have been compromised and is a likely source of subsurface contamination.

Stage Two - Objective 2
Evaluate subsoils beneath the concrete slab near the former location of the dry cleaning machine and beneath the southern basement area for tetrachloroethene and chloroform.

- Coreholes CH-1 and CH-2 were drilled near the location of the former dry cleaning machine. CH-1 was placed in the floor slab of the first floor and CH-2 was placed in the east basement wall of the boiler room. Corehole CH-3 was drilled in the floorslab of the basement storage room located near the southwest corner of the building. These coreholes were drilled in order to characterize potential contamination sources associated with the former dry cleaning operations conducted at the site. Soil samples were collected and analyzed for tetrachloroethene and chloroform.

- Concentrations of tetrachloroethene and chloroform in soil samples collected from CH-1 and CH-3, if present, were below the quantitation limits of the analytical methods.

- Concentrations of tetrachloroethene in the soil sample collected from CH-2 were detected at 0.010 mg/kg.

- Based on the analytical results for the soil sample collected from CH-2, tetrachloroethene appears to have impacted the soils in this area.

Stage Two - Objective 3
Analyze the groundwater from on-site and off-site monitoring wells for tetrachloroethene and chloroform to establish upgradient and downgradient concentration profiles.

- Groundwater samples were collected from two on-site monitoring wells (MW-1 and MW-2) and from three off-site monitoring wells (LW-1, LW-3, and LW-4). Groundwater samples were analyzed for tetrachloroethene and chloroform.

- Tetrachloroethene was detected in the groundwater samples from monitoring wells MW-1 and MW-2 at concentrations of 0.012 mg/l and 0.014 mg/l, respectively. These concentrations exceed the WDOE Method A action level of 0.005 mg/l for tetrachloroethene in groundwater.

- Concentrations of tetrachloroethene in the groundwater samples from monitoring wells LW-1, LW-3, and LW-4, if present, were below the quantitation limits of the analytical method. These monitoring wells were located in the apparent upgradient groundwater flow direction.

- Based on the analytical results for the collected groundwater samples, tetrachloroethene appears to have originated from the site.

- Chloroform was detected in all of the collected groundwater samples. Chloroform concentrations ranged from 0.011 mg/l to 0.015 mg/l. The highest concentration was found in the off-site monitoring well LW-3. Although chloroform concentrations were below the WDOE Method B noncarcinogenic action level of 0.08 mg/l, the carcinogenic action level of 0.007 mg/l was exceeded.

- Based on the analytical results for the collected groundwater samples, chloroform appears to be widespread and not originating from the site.

In conclusion, the site specific objectives have been achieved for this project. The following summarizes our principal findings:

- Compounds associated with regular gasoline were detected in subsoils and groundwater in the area of the former UST but at concentrations below WDOE Method A action levels.

- Chloroform was detected in groundwater collected from on-site and upgradient off-site monitoring wells; chloroform concentrations exceed WDOE Method B carcinogenic action levels. Chloroform was not detected in on-site soils.

- TRPH and fifteen (15) volatile organic compounds were present in sump sediment. Concentrations of TRPH and vinyl chloride in the sediment exceeded WDOE action levels.

- Tetrachloroethene was detected in soil samples collected from beneath the building slab. Concentrations of tetrachloroethene in subsoils beneath the sump exceeded WDOE Method A action levels. The sump is a likely contamination source, because TRPH and tetrachloroethene levels in soil beneath the sump were also elevated. This reasoning is further substantiated by the presence of tetrachloroethene in the on-site groundwater and its non-detection in groundwater samples collected from upgradient off-site monitoring wells.

- Tetrachloroethane concentrations in groundwater at the site exceeded WDOE Method A action levels.

The Model Toxics Control Act (WAC 173-340, section 300, part 2) states that any owner or operator who has information that a hazardous substance has been released to the environment at the owner or operator's facility shall report such information to WDOE within 90 days of discovery. Because tetrachloroethene concentrations in soil and groundwater and chloroform concentrations groundwater exceed established action levels, agency notification is required.

6.0 LIMITATIONS

The environmental assessment for the site was performed in accordance with generally accepted industry methods for the evaluation and appraisal of environmentally sound land use practices. Huntingdon does not and cannot conclusively state that the site contains no hazardous material, petroleum products, or other latent conditions beyond those observed during the specific scope of services.

These studies and the report have been prepared on behalf of and for the exclusive use of the City of Yakima and their assigns, for their use in an environmental evaluation of the site. The report has been prepared in accordance with generally accepted hydrogeologic practices. No other warranty, expressed or implied, is made.

Prepared and submitted by:

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Geologist

Reviewed by:

Gerald G. Harper
Division Manager

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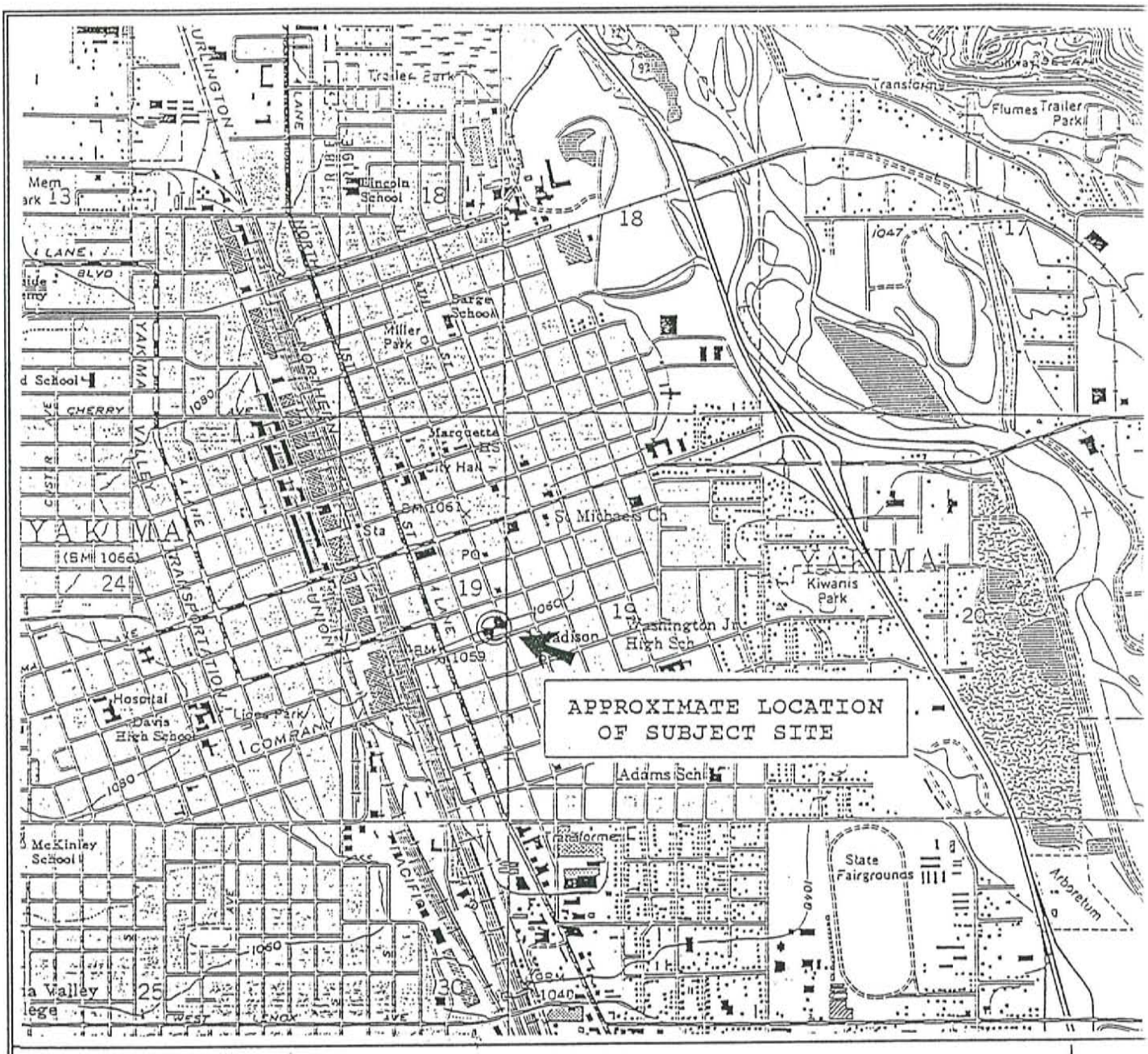
APPENDIX 1

Figures



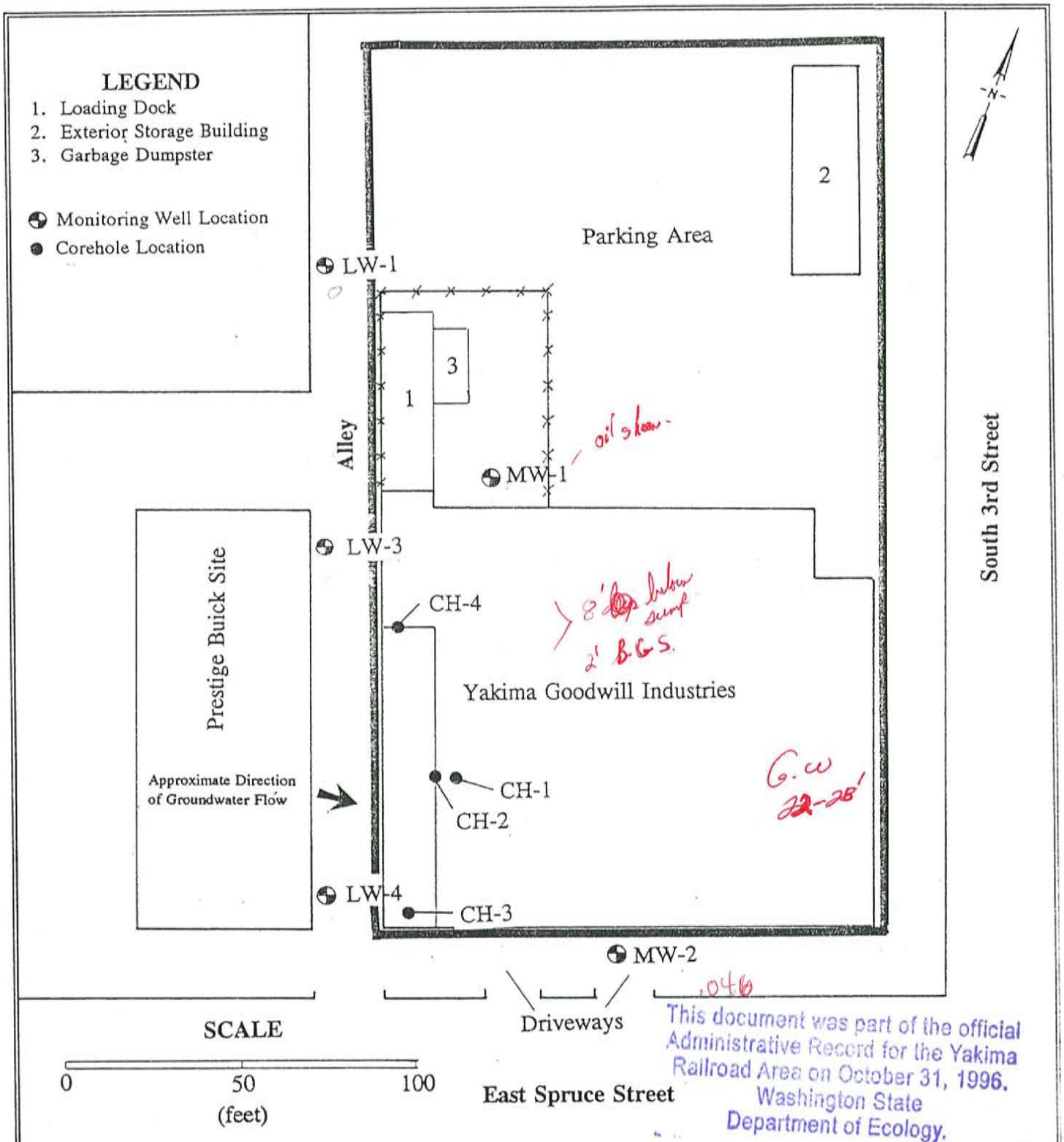
HUNTINGDON

Job No.: 194-1969

Site Location Map

USGS 7.5 Minute Series (Yakima East and West Quadrangles)
Phase II Environmental Site Assessment
Yakima Goodwill Industries Site
Yakima, Washington

DATE:	Mounted By:	Reviewed By:	SCALE:	FIGURE NO.
1985	JB	GH	As Shown	1

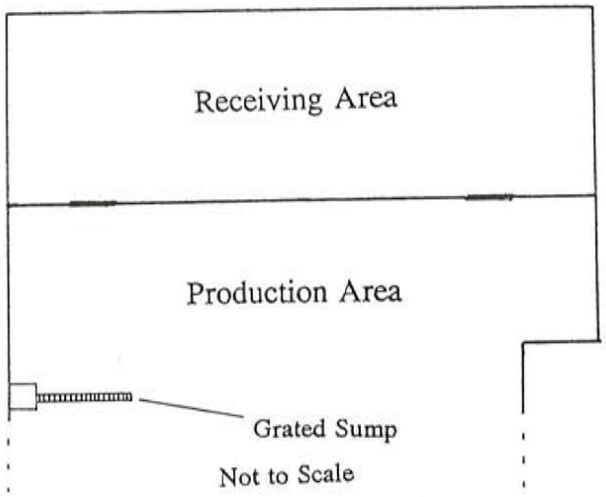


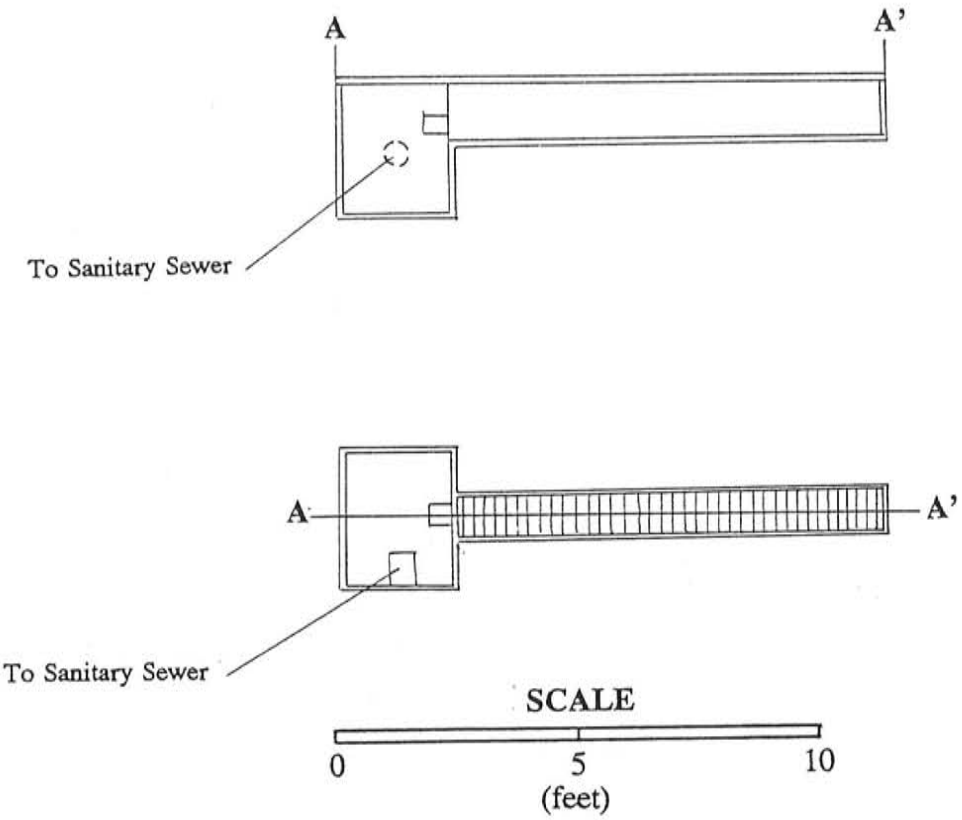
HUNTINGDON

Job No.: 194-1969

Site Plan
Phase II Environmental Site Assessment
Yakima Goodwill Industries Site
222 South 3rd Street
Yakima, Washington

DATE:	DRAWN BY:	REVIEWED BY:	SCALE:	FIGURE NO.
4/94	JB	GH	As Shown	2





HUNTINGDON Job No.: 194-1969	Interior Sump Diagram Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington				
	DATE: 4/94	MOUNTED BY: JB	REVIEWED BY: GH	SCALE: As Shown	FIGURE NO. 3

APPENDIX 2

Boring Logs

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969 BORING NO: B-1/MW-1/ABJ993 PAGE: 1 of 2

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON

TYPE: SCHRAM ROTADRILL SOIL: ROTARY ODEX ROCK: N/A

DRILLED BY: ENVIRONMENTAL WEST EXPLORATION LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - 0' GROUNDWATER - 17.05 BGS

DATE: STARTED - 4/11/94 COMPLETED - 4/11/94

CASING: SLOT SIZE - .020 DIAMETER - 2" SCH 40 PVC

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION
0	Asphalt, 0'-0.15'								Flush MH
1	Silty GRAVEL; Grey; Slightly Moist; Loose; Non-Plastic;	GP	Fill	N/A					Conc.
2									
3									Bent.
4									
5				9	S/1	SP-3"	101	0.0	
6									
7									
8									
9									
10	GRAVEL with silt; Grey; Slightly Moist; Very Dense; Non-plastic; (Basalt gravel)	GW	Alluvial	62	10/1	SP-2"	0.0	0.0	
11									Sand
12									
13									TOS
14									
15	GRAVEL; Grey; Moist; Very Dense; Non-Plastic; (Basalt gravel)	GP	Alluvial	>50	15/1	SP-3"	0.0	0.0	
16									

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969 BORING NO: B-1/MW-1/ABJ993 PAGE: 2 of 2

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	BACKFILL COMPLETION
17									
18									
19									S.W
20	GRAVEL; Grey; Saturated; Very Dense; Non-Plastic; (Basalt gravel)	GP	Alluvial	>50	20/1	SP-3"	5.5	0.0	
21									
22									
23									BOC @ 23.28'
24	————Bottom of Boring @ 24' BGS————								
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969 BORING NO: B-2/MW-2/ABJ994 PAGE: 1 of 2

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON

TYPE: SCHRAM ROTADRILL SOIL: ROTARY ODEX ROCK: N/A

DRILLED BY: ENVIRONMENTAL WEST EXPLORATION LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - 0' GROUNDWATER - 16.88 BGS

DATE: STARTED - 4/11/94 COMPLETED - 4/11/94

CASING: SLOT SIZE - .020 DIAMETER - 2" SCH 40 PVC

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION
0	Concrete, 0'-0.42'								Flush MH
1	Silty GRAVEL; Grey; Slightly Moist; Very Dense; Non-Plastic;	GP	Fill	N/A					Conc.
2									
3									Bent.
4									
5	GRAVEL; Grey; Slightly Moist; Very Dense; Non-Plastic;			>50	5/1	SP-2"	19.4	0.0	
6									
7									
8									
9									
10	Silty GRAVEL; Grey; Moist; Very Dense; Non-plastic; (Basalt gravel)	GP	Alluvial	>50	10/1	SP-2"	24.0	0.0	
11									Sand
12									
13									TOS
14									
15	GRAVEL; Grey; Wet; Very Dense; Non-Plastic; (Basalt gravel)	GP	Alluvial	>50	15/1	SP-2"	25.0	0.0	
16									

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969 BORING NO: B-2/MW-2/ABJ994 PAGE: 2 of 2

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	BACKFILL COMPLETION
17									
18									
19									
20	GRAVEL; Grey; Saturated; Medium Dense; Non-Plastic; (Basalt gravel)	GP	Alluvial	18	20/1	SP-2"	25.0	0.0	
21									
22									
23									BOC @ 23.50'
24	---------Bottom of Boring @ 24' BGS----------								
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969-1 COREHOLE NO: CH-1 PAGE: 1 of 1

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON
Concrete Slab Beneath Former Dry Cleaning Machine

DRILL TYPE: N/A SOIL: HAND AUGER ROCK: N/A

DRILLED BY: JUSTIN BOLLES / HND LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - N/A GROUNDWATER - NOT ENCOUNTERED

DATE: STARTED - 5-21-94 COMPLETED - 5-21-94

CASING: DIAMETER - N/A SLOT SIZE - N/A

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION	
0	Concrete Floor Slab, 0'- 0.36' Silty GRAVEL, brown, dry, very dense, well graded, non-plastic	GM	Fill	N/A						
1	PID and LAB samples collected at 1.4' BGS						14.1			
2	PID and LAB samples collected at 2.0' BGS ----------Bottom of Corehole @ 2.0' BGS----------						8.0			
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969-1 COREHOLE NO: CH-2 PAGE: 1 of 1

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON
BOILER ROOM - East Basement Wall Beneath Former Location of Dry Cleaning Machine (approximately 8.0 feet BGS)

DRILL TYPE: N/A SOIL: SHOVEL/WRECKING BAR ROCK: N/A

DRILLED BY: JUSTIN BOLLES / HND LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - N/A GROUNDWATER - NOT ENCOUNTERED

DATE: STARTED - 5-21-94 COMPLETED - 5-21-94

CASING: DIAMETER - N/A SLOT SIZE - N/A

FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION	
0	Concrete Wall, 0'- 0.5' Silty GRAVEL, brown, dry, very dense, well graded, non-plastic, cobbles from 0.1' - 0.6' (rounded)	GM	Fill	N/A						
1	PID Headspace Behind Concrete Wall						13.2			
2	PID and LAB samples collected at 2.0' ----------Lateral Extent of Corehole @ 2.0' ----------						14.8			
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969-1 COREHOLE NO: CH-3 PAGE: 1 of 1

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON
SOUTH BASEMENT STORAGE ROOM - Concrete Floor Slab Near South-Center of Room

DRILL TYPE: N/A SOIL: SHOVEL/WRECKING BAR ROCK: N/A

DRILLED BY: JUSTIN BOLLES / HND LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - N/A GROUNDWATER - NOT ENCOUNTERED

DATE: STARTED - 5-21-94 COMPLETED - 5-21-94

CASING: DIAMETER - N/A SLOT SIZE - N/A

DEPTH IN FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION
0	Concrete Floor Slab, 0'- 0.33' Sandy GRAVEL, brown, slightly moist, very dense, well graded, non-plastic, cobbles from 0.1' - 0.6' (rounded) PID and LAB samples collected at 0.65' BGS	GM	Fill	N/A			19.0		
1	PID and LAB samples collected at 1.4' BGS ----------Bottom of Corehole @ 1.4' BGS----------						12.1		
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

BORING LOG

PROJECT: PHASE II ENVIRONMENTAL SITE ASSESSMENT

JOB NO.: 194-1969-1 COREHOLE NO: CH-4 PAGE: 1 of 1

LOCATION: YAKIMA GOODWILL INDUSTRIES, 222 SOUTH 3RD STREET, YAKIMA, WASHINGTON
NORTH BASEMENT STORAGE ROOM / SHOWER AREA - North Basement Wall Beneath Grated Sump

DRILL TYPE: N/A SOIL: SHOVEL/WRECKING BAR ROCK: N/A

DRILLED BY: PAUL DANIELSON / HND LOGGED BY: JUSTIN BOLLES / HND

ELEVATION: SURFACE - N/A GROUNDWATER - NOT ENCOUNTERED

DATE: STARTED - 5-27-94 COMPLETED - 5-27-94

CASING: DIAMETER - N/A SLOT SIZE - N/A

FEET	CLASSIFICATION AND DESCRIPTION	SYMBOL	GEOLOGIC ORIGIN	N or CR	SAMPLE NO.	SAMPLE TYPE	ORGANIC VAPOR PID (ppm)	ORGANIC VAPOR bkgd (ppm)	WELL COMPLETION	
0	Concrete Wall, 0'- 0.66' GRAVEL with Sand, brown, dry, very dense, well graded, non-plastic, cobbles from 0.1' - 0.6' (rounded)	GW	Fill	N/A						
1										
2	PID and LAB samples collected at 2.2' ----------Lateral Extent of Corehole @ 2.2'----------						19.0			
3										
4										
5										
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13										
14										

APPENDIX 3

Tables

TABLE 1
Volatile Organic Vapor Monitoring Results

Sample Location	Instrument Background Reading (ppm)[1]	Instrument Reading (ppm)
MW-1		
5.0 feet BGS[2]	0.0	101.0
10.0 feet BGS	0.0	0.0
15.0 feet BGS	0.0	0.0
20.0 feet BGS	0.0	5.5
MW-2		
5.0 feet BGS	0.0	19.4
10.0 feet BGS	0.0	24.0
15.0 feet BGS	0.0	25.0
20.0 feet BGS	0.0	25.0
Grated Sump		
Collection Basin	0.0	2,788
CH-1		
1.4 feet BGS	0.0	14.1
2.0 feet BGS	0.0	8.0
CH-2		
Headspace Behind Concrete Wall	0.0	13.2
Lateral Extent - 2.0 feet	0.0	14.8
CH-3		
0.65 feet BGS	0.0	19.0
1.4 feet BGS	0.0	12.1
CH-4		
Lateral Extent - 2.2 feet	0.0	19.0

Notes: 1 ppm = parts per million.
2 BGS = below grade surface.

TABLE 2
Summary of Subsoil Analytical Results (mg/kg[1])
Sample No. 48941040A5MW1 (MW-1, 5.0 ft. BGS).

Analyte	Measured Value	Action Level (A, B, or C)[2]
Total petroleum hydrocarbons as gasoline	2.5	100.0 (A)
Benzene	<0.005	0.5 (A)
Ethylbenzene	<0.005	20.0 (A)
Toluene	<0.005	40.0 (A)
Total xylenes	0.017	20.0 (A)
Lead	60.0	250.0 (A)

Notes: 1 Soil sample results are reported as a dry weight basis in milligrams per kilogram (mg/kg).
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.

TABLE 3
Summary of Groundwater Analytical Results (mg/l[1])
Sample No. 41194240PMW1 (MW-1).

Analyte	Measured Value	Action Level (A, B, or C)[2]
Total petroleum hydrocarbons as gasoline	0.3	1.0 (A)
Benzene	<0.001	0.005 (A)
Ethylbenzene	<0.001	0.030 (A)
Toluene	<0.001	0.040 (A)
Total xylenes	<0.003	0.020 (A)
Lead	<0.005	0.005 (A)

Notes: 1 Milligrams per liter or parts per million.
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.

TABLE 4
Summary of Groundwater Analytical Results (mg/l[1])
Sample No. 41194320PMW2 (MW-2).

Analyte	Measured Value	Action Level (A, B, or C)[2]
Chloroform	**0.019**	0.08 (Noncarc-B)[3] 0.007 (Carc-B)[4]
Tetrachloroethene	**0.046**	0.005 (A)

Notes:
1 Milligrams per liter or parts per million.
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
3 Noncarcinogenic - the level defined for developing noncancerous type illnesses in humans.
4 Carcinogenic - the level defined for developing cancer during a lifetime of exposure.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.
Bold type indicates that measured value exceeded MTCA Action Level.

TABLE 5
Summary of Sediment Analytical Results (mg/kg[1])
Sample No. 4894300PSS (Sump)

Analyte	Measured Value	Action Level (A, B, or C)[2]
Total recoverable petroleum hydrocarbons (TRPH)	**15,000**	200.0 (A)
t-Butylbenzene	0.180	No Action Level Established
1,4-Dichlorobenzene	0.680	41.7 (Carc-B)[3]
1,1-Dichloroethene	0.110	720 (Noncarc-B)[4] 1.67 (Carc-B)
c-1,2-Dichloroethene	670	800 (Noncarc-B)
t-1,2-Dichloroethene	2.40	1,600 (Noncarc-B)
Ethylbenzene	0.089	20.0 (A)
Isopropylbenzene	0.030	No Action Level Established
Naphthalene	0.320	320 (Noncarc-B)
n-Propylbenzene	0.077	No Action Level Established
Tetrachloroethene	0.062	0.5 (A)
Toluene	0.056	40.0 (A)
1,2,4-Trimethylbenzene	0.670	No Action Level Established
1,3,5-Trimethylbenzene	0.600	No Action Level Established
Vinyl chloride	**0.450**	0.435 (Carc-B)
Total xylenes	0.5	20.0 (A)

Notes:
1 Sample results are reported as a dry weight basis in milligrams per kilogram (mg/kg).
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
3 Carcinogenic - the level defined for developing cancer during a lifetime of exposure.
4 Noncarcinogenic - the level defined for developing noncancerous type illnesses in humans.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.
Bold type indicates that measured value exceeded MTCA action level.

TABLE 6
Summary of Subsoil Analytical Results (mg/kg[1])

Analyte	Measured Value	Action Level (A, B, or C)[2]
Corehole 1 Sample No. 52194245PCH120 (2.0 ft. BGS).		
Chloroform	<0.005	800 (Noncarc-B)[3] 164 (Carc-B)[4]
Tetrachloroethene	<0.005	0.5 (A)
Corehole 2 Sample No. 52194330PCH220 (Lateral Extent 2.0 ft.).		
Chloroform	<0.005	800 (Noncarc-B) 164 (Carc-B)
Tetrachloroethene	0.010	0.5 (A)
Corehole 3 Sample No. 52194430PCH314 (1.4 ft. BGS).		
Chloroform	<0.005	800 (Noncarc-B) 164 (Carc-B)
Tetrachloroethene	<0.005	0.5 (A)
Corehole 4 Sample No. 52794130PCH4 (Lateral Extent 2.2 ft.).		
Total recoverable petroleum hydrocarbons (TRPH)	160	200 (A)
Chloroform	<0.005	800 (Noncarc-B) 164 (Carc-B)
Tetrachloroethene	**3.3**	0.5 (A)

Notes:
1 Soil sample results are reported as a dry weight basis in milligrams per kilogram (mg/kg).
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
3 Noncarcinogenic - the level defined for developing noncancerous type illnesses in humans.
4 Carcinogenic - the level defined for developing cancer during a lifetime of exposure.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.

TABLE 7 Summary of Groundwater Analytical Results (mg/l[1])		
Analyte	Measured Value	Action Level (A, B, or C)[2]
MW-1 Sample No. 52494250PMW1		
Chloroform	**0.012**	0.08 (Noncarc-B)[3] 0.007 (Carc-B)[4]
Tetrachloroethene	**0.012**	0.005 (A)
MW-2 Sample No. 52494320PMW2		
Chloroform	**0.011**	0.08 (Noncarc-B) 0.007 (Carc-B)
Tetrachloroethene	**0.014**	0.005 (A)
LW-1 Sample No. 52494430PLW1		
Chloroform	**0.014**	0.08 (Noncarc-B) 0.007 (Carc-B)
Tetrachloroethene	<0.0005	0.005 (A)
LW-3 Sample No. 52494415PLW3		
Chloroform	**0.015**	0.08 (Noncarc-B) 0.007 (Carc-B)
Tetrachloroethene	<0.0005	0.005 (A)
LW-4 Sample No. 52494350PLW4		
Chloroform	**0.013**	0.08 (Noncarc-B) 0.007 (Carc-B)
Tetrachloroethene	<0.0005	0.005 (A)

Notes:
1 Milligrams per liter or parts per million.
2 The most stringent MTCA Action Level as adopted by the Washington State Department of Ecology.
3 Noncarcinogenic - the level defined for developing noncancerous type illnesses in humans.
4 Carcinogenic - the level defined for developing cancer during a lifetime of exposure.
A (<) sign indicates the value reported was the practical detection limit of the analytical method. Concentrations, if present, below this were not quantifiable.
Bold type indicates that measured value exceeded MTCA action level.

APPENDIX 4

Analytical Laboratory Reports and Chain-of-Custody Documentation

Huntingdon
(Formerly Chen-Northern, Inc.)
600 South 25th Street
P O Box 30615
Billings, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: ATTN: JUSTIN BOLLES
HUNTINGDON ENGINEERING &
ENVIRONMENTAL, INC.
P O BOX 2601
TRI-CITIES WA 99302

DATE: April 20, 1994
JOB NUMBER: 87-921
SHEET: 1 of 13
INVOICE NO.: 026606

REPORT OF: Soil and Water Analysis - Yakima Goodwill Industries (194-1969)

SAMPLE IDENTIFICATION:

On April 13, 1994, these soil and water samples (laboratory numbers 150583 through 150586) were received in our laboratory for analysis. The samples were analyzed for volatile organics in accordance with Federal Register Volume 49 No. 209, Method 602 - Purgeable Aromatics and Environmental Protection Agency Manual SW-846, *Test Methods for Evaluating Solid Waste*, Third Edition, November 1986; Method 8020 and Method 8260. The semivolatile analysis was done in accordance with SW-846, Method 8270.

The total petroleum hydrocarbon determinations were made in accordance with Method 8015 from SW-846, Environmental Protection Agency Method 418.1, and the State of Washington, Department of Ecology Method WTPH-G. The lead analysis was conducted in accordance with SW-846, Method 6010.

The condition of the samples upon receipt at the laboratory is noted on the attached sample receipt checklist.

The test results are shown on the followings pages. Chromatograms are attached for your reference.

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

Reviewed by David Council

Attachments: Chromatograms
Sample Receipt Checklist

rmr

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 150583 5,3.8.
Sample Name: 48941040A8MW1
Sample Date: 04/08/94
Collected by: JUSTIN BOLLES
Time Sampled: 1040
Sample Type: SOIL

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Moisture	4.9	%	04/14/94
METALS			
Lead as Pb (Total)	60	mg/kg	04/15/94
MISCELLANEOUS			
Data File Number-Volatiles	Fc435		
Data File Number-TPH Gasoline	Rc435		
PETROLEUM HYDROCARBONS (8015)			
Petroleum Hydrocarbons as Gasoline as rec'd	2.4	mg/kg	04/14/94
Petroleum Hydrocarbons as Gasoline dry basis	2.5	mg/kg	04/14/94
VOLATILE AROMATICS			
Benzene as rec'd	<5	µg/kg	04/14/94
Benzene dry basis	<5	µg/kg	04/14/94
Ethylbenzene as rec'd	<5	µg/kg	04/14/94
Ethylbenzene dry basis	<5	µg/kg	04/14/94
Toluene as rec'd	<5	µg/kg	04/14/94
Toluene dry basis	<5	µg/kg	04/14/94
Total Xylenes as rec'd	16	µg/kg	04/14/94
Total Xylenes dry basis	17	µg/kg	04/14/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 150584
Sample Name: 4894300PSS
Sample Date: 04/08/94
Collected by: JUSTIN BOLLES
Time Sampled: 1500
Sample Type: SOIL

PARAMETER	MEASURED VALUE		DATE ANALYZED
8260 (as received basis)			
Benzene	<50	µg/kg	04/15/94
Bromobenzene	<25	µg/kg	04/15/94
Bromochloromethane	<25	µg/kg	04/15/94
Bromodichloromethane	<25	µg/kg	04/15/94
Bromoform	<25	µg/kg	04/15/94
Bromomethane	<50	µg/kg	04/15/94
n-Butylbenzene	<25	µg/kg	04/15/94
sec-Butylbenzene	<25	µg/kg	04/15/94
t-Butylbenzene	180	µg/kg	04/15/94
Carbon Tetrachloride	<50	µg/kg	04/15/94
Chlorobenzene	<25	µg/kg	04/15/94
Chloroethane	<25	µg/kg	04/15/94
Chloroform	<25	µg/kg	04/15/94
Chloromethane	<25	µg/kg	04/15/94
2-Chlorotoluene	<25	µg/kg	04/15/94
4-Chlorotoluene	<25	µg/kg	04/15/94
Dibromochloromethane	<25	µg/kg	04/15/94
1,2-Dibromo-3-chloropropane	<125	µg/kg	04/15/94
1,2-Dibromoethane	<25	µg/kg	04/15/94
Dibromomethane	<50	µg/kg	04/15/94
1,2-Dichlorobenzene	<25	µg/kg	04/15/94
1,3-Dichlorobenzene	<25	µg/kg	04/15/94
1,4-Dichlorobenzene	680	µg/kg	04/15/94
Dichlorodifluoromethane	<25	µg/kg	04/15/94
1,1-Dichloroethane	<25	µg/kg	04/15/94
1,2-Dichloroethane	<50	µg/kg	04/15/94
1,1-Dichloroethene	110	µg/kg	04/15/94
c-1,2-Dichloroethene	670,000*	µg/kg	04/15/94
t-1,2-Dichloroethene	2400	µg/kg	04/15/94
1,2-Dichloropropane	<25	µg/kg	04/15/94
1,3-Dichloropropane	<25	µg/kg	04/15/94
2,2-Dichloropropane	<200	µg/kg	04/15/94
1,1-Dichloropropene	<25	µg/kg	04/15/94
Ethylbenzene	89	µg/kg	04/15/94
Hexachlorobutadiene	<50	µg/kg	04/15/94
Isopropylbenzene	30	µg/kg	04/15/94
Isopropyltoluene	<25	µg/kg	04/15/94

* based on a 1:6250 dilution

PARAMETER	MEASURED VALUE		DATE ANALYZED
Methylene chloride	<125	µg/kg	04/15/94
Naphthalene	320	µg/kg	04/15/94
n-Propylbenzene	77	µg/kg	04/15/94
Styrene	<25	µg/kg	04/15/94
1,1,1,2-Tetrachloroethane	<25	µg/kg	04/15/94
1,1,2,2-Tetrachloroethane	<25	µg/kg	04/15/94
Tetrachloroethene	62	µg/kg	04/15/94
Toluene	56	µg/kg	04/15/94
1,2,3-Trichlorobenzene	<25	µg/kg	04/15/94
1,2,4-Trichlorobenzene	<25	µg/kg	04/15/94
1,1,1-Trichloroethane	<25	µg/kg	04/15/94
1,1,2-Trichloroethane	<25	µg/kg	04/15/94
Trichloroethene	<25	µg/kg	04/15/94
Trichlorofluoromethane	<25	µg/kg	04/15/94
1,2,3-Trichloropropane	<25	µg/kg	04/15/94
1,2,4-Trimethylbenzene	670	µg/kg	04/15/94
1,3,5-Trimethylbenzene	600	µg/kg	04/15/94
Vinyl chloride	450	µg/kg	04/15/94
Total xylenes	500	µg/kg	04/15/94
INORGANICS			
Moisture	65.7	%	04/14/94
MISCELLANEOUS			
Data File Number-Volatiles	I0415941015, 0414941013		
PETROLEUM HYDROCARBONS (418.1)			
Recoverable Petroleum Hydrocarbons as rec'd	5200	mg/kg	04/14/94
Recoverable Petroleum Hydrocarbons dry basis	15,000	mg/kg	04/14/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4	158*	%	04/15/94
Toluene-d8	104	%	04/15/94
4-Bromofluorobenzene	98	%	04/15/94

* The surrogate spike recovery was above established limits. The sample was reanalyzed with similar results, indicating a probable matrix interference.

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 150585
Sample Name: 41194240PMW1
Sample Date: 04/11/94
Collected by: JUSTIN BOLLES
Time Sampled: 1440
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
METALS			
Lead as Pb (Total)	<0.005	mg/l	04/15/94
MISCELLANEOUS			
Data File Number-Volatiles	Fc443		
Data File Number-TPH Gasoline	Rc440		
PETROLEUM HYDROCARBONS (8015)			
Petroleum Hydrocarbons as Gasoline	0.3	mg/l	04/14/94
VOLATILE ORGANIC COMPOUNDS			
Benzene	<1	µg/l	04/14/94
Ethylbenzene	<1	µg/l	04/14/94
Toluene	<1	µg/l	04/14/94
Total Xylenes	<3	µg/l	04/14/94

Client Name: HUNTINGDON - TRI-CITIES, WA
Project No.: 87-921
Laboratory No.: 150586
Sample Name: 41194320PMW2
Sample Date: 04/11/94
Collected by: JUSTIN BOLLES
Time Sampled: 1520
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
8260			
Benzene	<2	µg/l	04/14/94
Bromobenzene	<1	µg/l	04/14/94
Bromochloromethane	<1	µg/l	04/14/94
Bromodichloromethane	<1	µg/l	04/14/94
Bromoform	<1	µg/l	04/14/94
Bromomethane	<2	µg/l	04/14/94
n-Butylbenzene	<1	µg/l	04/14/94
sec-Butylbenzene	<1	µg/l	04/14/94
t-Butylbenzene	<1	µg/l	04/14/94
Carbon Tetrachloride	<2	µg/l	04/14/94
Chlorobenzene	<1	µg/l	04/14/94
Chloroethane	<1	µg/l	04/14/94
Chloroform	19	µg/l	04/14/94
Chloromethane	<1	µg/l	04/14/94
2-Chlorotoluene	<1	µg/l	04/14/94
4-Chlorotoluene	<1	µg/l	04/14/94
Dibromochloromethane	<1	µg/l	04/14/94
1,2-Dibromo-3-chloropropane	<5	µg/l	04/14/94
1,2-Dibromoethane	<1	µg/l	04/14/94
Dibromomethane	<2	µg/l	04/14/94
1,2-Dichlorobenzene	<1	µg/l	04/14/94
1,3-Dichlorobenzene	<1	µg/l	04/14/94
1,4-Dichlorobenzene	<1	µg/l	04/14/94
Dichlorodifluoromethane	<1	µg/l	04/14/94
1,1-Dichloroethane	<1	µg/l	04/14/94
1,2-Dichloroethane	<2	µg/l	04/14/94
1,1-Dichloroethene	<1	µg/l	04/14/94
c-1,2-Dichloroethene	<1	µg/l	04/14/94
t-1,2-Dichloroethene	<1	µg/l	04/14/94
1,2-Dichloropropane	<1	µg/l	04/14/94
1,3-Dichloropropane	<1	µg/l	04/14/94
2,2-Dichloropropane	<8	µg/l	04/14/94
1,1-Dichloropropene	<1	µg/l	04/14/94
Ethylbenzene	<1	µg/l	04/14/94
Hexachlorobutadiene	<2	µg/l	04/14/94
Isopropylbenzene	<1	µg/l	04/14/94
Isopropyltoluene	<1	µg/l	04/14/94

Client Name: HUNTINGDON - TRI-CITIES, WA
Project No.: 87-921
Laboratory No.: 150586
Sample Name: 41194320PMW2
Sample Date: 04/11/94
Collected by: JUSTIN BOLLES
Time Sampled: 1520
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
Methylene chloride	<5	µg/l	04/14/94
Naphthalene	<1	µg/l	04/14/94
n-Propylbenzene	<1	µg/l	04/14/94
Styrene	<1	µg/l	04/14/94
1,1,1,2-Tetrachloroethane	<1	µg/l	04/14/94
1,1,2,2-Tetrachloroethane	<1	µg/l	04/14/94
Tetrachloroethene	46	µg/l	04/14/94
Toluene	<1	µg/l	04/14/94
1,2,3-Trichlorobenzene	<1	µg/l	04/14/94
1,2,4-Trichlorobenzene	<1	µg/l	04/14/94
1,1,1-Trichloroethane	<1	µg/l	04/14/94
1,1,2-Trichloroethane	<1	µg/l	04/14/94
Trichloroethene	<1	µg/l	04/14/94
Trichlorofluoromethane	<1	µg/l	04/14/94
1,2,3-Trichloropropane	<1	µg/l	04/14/94
1,2,4-Trimethylbenzene	<1	µg/l	04/14/94
1,3,5-Trimethylbenzene	<1	µg/l	04/14/94
Vinyl chloride	<1	µg/l	04/14/94
Total xylenes	<1	µg/l	04/14/94
8270			
Acenaphthene (SV)	<20	µg/l	04/14/94
Acenaphthylene (SV)	<20	µg/l	04/14/94
Anthracene (SV)	<20	µg/l	04/14/94
Benzo[a]anthracene (SV)	<20	µg/l	04/14/94
Benzo[b]fluoranthene (SV)	<20	µg/l	04/14/94
Benzo[k]fluoranthene (SV)	<20	µg/l	04/14/94
Benzoic acid (SV)	<100	µg/l	04/14/94
Benzo[g,h,i]perylene (SV)	<20	µg/l	04/14/94
Benzo[a]pyrene (SV)	<20	µg/l	04/14/94
Benzyl alcohol (SV)	<40	µg/l	04/14/94
Bis(2-chloroethoxy)methane (SV)	<20	µg/l	04/14/94
Bis(2-chloroethyl)ether (SV)	<20	µg/l	04/14/94
Bis(2-chloroisopropyl)ether (SV)	<20	µg/l	04/14/94
Bis(2-ethylhexyl)phthalate (SV)	<20	µg/l	04/14/94
4-bromophenyl phenyl ether (SV)	<20	µg/l	04/14/94
Butylbenzylphthalate (SV)	<20	µg/l	04/14/94
Carbazole (SV)	<20	µg/l	04/14/94
4-Chloroaniline (SV)	<40	µg/l	04/14/94
4-Chloro-3-methylphenol (SV)	<40	µg/l	04/14/94

Client Name: HUNTINGDON - TRI-CITIES, WA
Project No.: 87-921
Laboratory No.: 150586
Sample Name: 41194320PMW2
Sample Date: 04/11/94
Collected by: JUSTIN BOLLES
Time Sampled: 1520
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
2-Chloronaphthalene (SV)	<20	µg/l	04/14/94
2-Chlorophenol (SV)	<20	µg/l	04/14/94
4-Chlorophenyl phenyl ether (SV)	<20	µg/l	04/14/94
Chrysene (SV)	<20	µg/l	04/14/94
Dibenzo[a,h]anthracene (SV)	<20	µg/l	04/14/94
Dibenzofuran (SV)	<20	µg/l	04/14/94
Diethylphthalate (SV)	<20	µg/l	04/14/94
1,2-Dichlorobenzene (SV)	<20	µg/l	04/14/94
1,3-Dichlorobenzene (SV)	<20	µg/l	04/14/94
1,4-Dichlorobenzene (SV)	<20	µg/l	04/14/94
3,3'-Dichlorobenzidine (SV)	<40	µg/l	04/14/94
2,4-Dichlorophenol (SV)	<20	µg/l	04/14/94
2,4-Dinitrotoluene (SV)	<20	µg/l	04/14/94
2,4-Dimethylphenol (SV)	<20	µg/l	04/14/94
Dimethylphthalate (SV)	<20	µg/l	04/14/94
4,6-Dinitro-2-methylphenol (SV)	<100	µg/l	04/14/94
2,4-Dinitrophenol (SV)	<100	µg/l	04/14/94
Di-n-Butylphthalate (SV)	<20	µg/l	04/14/94
2,6-Dinitrotoluene (SV)	<20	µg/l	04/14/94
Di-n-octylphthalate (SV)	<20	µg/l	04/14/94
Fluoranthene (SV)	<20	µg/l	04/14/94
Fluorene (SV)	<20	µg/l	04/14/94
Hexachlorobenzene (SV)	<20	µg/l	04/14/94
Hexachlorobutadiene (SV)	<20	µg/l	04/14/94
Hexachlorocyclopentadiene (SV)	<20	µg/l	04/14/94
Hexachloroethane (SV)	<20	µg/l	04/14/94
Indeno(1,2,3-c,d)pyrene (SV)	<20	µg/l	04/14/94
Isophorone (SV)	<20	µg/l	04/14/94
2-Methylnaphthalene (SV)	<20	µg/l	04/14/94
2-Methylphenol o-cresol (SV)	<20	µg/l	04/14/94
4-Methylphenol p-cresol (SV)	<20	µg/l	04/14/94
Naphthalene (SV)	<20	µg/l	04/14/94
2-Nitroaniline (SV)	<100	µg/l	04/14/94
3-Nitroaniline (SV)	<100	µg/l	04/14/94
4-Nitroaniline (SV)	<40	µg/l	04/14/94
Nitrobenzene (SV)	<20	µg/l	04/14/94
2-Nitrophenol (SV)	<20	µg/l	04/14/94
4-Nitrophenol (SV)	<100	µg/l	04/14/94
N-Nitrosodimethylamine (SV)	<40	µg/l	04/14/94
N-Nitrosodiphenylamine (SV)	<20	µg/l	04/14/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 150586
Sample Name: 41194320PMW2
Sample Date: 04/11/94
Collected by: JUSTIN BOLLES
Time Sampled: 1520
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
N-Nitrosodi-n-propyl amine (SV)	<20	µg/l	04/14/94
Pentachlorophenol (SV)	<100	µg/l	04/14/94
Phenanthrene (SV)	<20	µg/l	04/14/94
Phenol (SV)	<20	µg/l	04/14/94
Pyrene (SV)	<20	µg/l	04/14/94
Pyridine (SV)	<20	µg/l	04/14/94
1,2,4-Trichlorobenzene (SV)	<20	µg/l	04/14/94
2,4,5-Trichlorophenol (SV)	<20	µg/l	04/14/94
2,4,6-Trichlorophenol (SV)	<20	µg/l	04/14/94
MISCELLANEOUS			
Data File Number-Semivolatiles	0414941004		
Data File Number-Volatiles	0414941004		
SEMIVOLATILE SURROGATE SPIKE RECOVERY			
2-Fluorophenol	58	%	04/14/94
Phenol-d6	41	%	04/14/94
Nitrobenzene-d5	63	%	04/14/94
2-Fluorobiphenyl	62	%	04/14/94
2,4,6-Tribromophenol	54	%	04/14/94
Terphenyl-d14	74	%	04/14/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4	99	%	04/14/94
Toluene-d8	105	%	04/14/94
4-Bromofluorobenzene	96	%	04/14/94

Client Name: **HUNTINGDON - TRI-CITIES WA**
Project No.: 87-921
Sample Name: LABORATORY BLANK 4-14-94
Sample Date: NOT APPLICABLE
Collected by: NOT APPLICABLE
Time Sampled: NOT APPLICABLE
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS:			
Data File Number-Volatiles	0414941010		
VOLATILE ORGANIC COMPOUNDS:			
Benzene	<2	µg/l	04/14/94
Bromobenzene	<1	µg/l	04/14/94
Bromochloromethane	<1	µg/l	04/14/94
Bromodichloromethane	<1	µg/l	04/14/94
Bromoform	<1	µg/l	04/14/94
Bromomethane	<2	µg/l	04/14/94
n-Butylbenzene	<1	µg/l	04/14/94
sec-Butylbenzene	<1	µg/l	04/14/94
t-Butylbenzene	<1	µg/l	04/14/94
Carbon Tetrachloride	<2	µg/l	04/14/94
Chlorobenzene	<1	µg/l	04/14/94
Chloroethane	<1	µg/l	04/14/94
Chloroform	<1	µg/l	04/14/94
Chloromethane	<1	µg/l	04/14/94
2-Chlorotoluene	<1	µg/l	04/14/94
4-Chlorotoluene	<1	µg/l	04/14/94
Dibromochloromethane	<1	µg/l	04/14/94
1,2-Dibromo-3-chloropropane	<5	µg/l	04/14/94
1,2-Dibromoethane	<1	µg/l	04/14/94
Dibromomethane	<2	µg/l	04/14/94
1,2-Dichlorobenzene	<1	µg/l	04/14/94
1,3-Dichlorobenzene	<1	µg/l	04/14/94
1,4-Dichlorobenzene	<1	µg/l	04/14/94
Dichlorodifluoromethane	<1	µg/l	04/14/94
1,1-Dichloroethane	<1	µg/l	04/14/94
1,2-Dichloroethane	<2	µg/l	04/14/94
Cis-1,2-Dichloroethene	4	µg/l	04/14/94
1,1-Dichloroethene	<1	µg/l	04/14/94
Trans-1,2-Dichloroethene	<1	µg/l	04/14/94
1,2-Dichloropropane	<1	µg/l	04/14/94
1,3-Dichloropropane	<1	µg/l	04/14/94
2,2-Dichloropropane	<8	µg/l	04/14/94
1,1-Dichloropropene	<1	µg/l	04/14/94

Client Name: **HUNTINGDON - TRI-CITIES WA**
Project No.: 87-921
Sample Name: LABORATORY BLANK 4-14-94
Sample Date: NOT APPLICABLE
Collected by: NOT APPLICABLE
Time Sampled: NOT APPLICABLE
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
Ethylbenzene	<1	µg/l	04/14/94
Hexachlorobutadiene	<2	µg/l	04/14/94
Isopropylbenzene	<1	µg/l	04/14/94
Isopropyltoluene	<1	µg/l	04/14/94
Methylene chloride	<5	µg/l	04/14/94
Naphthalene	<1	µg/l	04/14/94
n-Propylbenzene	<1	µg/l	04/14/94
Styrene	<1	µg/l	04/14/94
1,1,1,2-Tetrachloroethane	<1	µg/l	04/14/94
1,1,2,2-Tetrachloroethane	<1	µg/l	04/14/94
Tetrachloroethene	<1	µg/l	04/14/94
Toluene	<1	µg/l	04/14/94
1,2,3-Trichlorobenzene	<1	µg/l	04/14/94
1,2,4-Trichlorobenzene	<1	µg/l	04/14/94
1,1,1-Trichloroethane	<1	µg/l	04/14/94
1,1,2-Trichloroethane	<1	µg/l	04/14/94
Trichloroethene	<1	µg/l	04/14/94
Trichlorofluoromethane	<1	µg/l	04/14/94
1,2,3-Trichloropropane	<1	µg/l	04/14/94
1,2,4-Trimethylbenzene	<1	µg/l	04/14/94
1,3,5-Trimethylbenzene	<1	µg/l	04/14/94
Vinyl chloride	<1	µg/l	04/14/94
Total xylenes	<1	µg/l	04/14/94
SURROGATE SPIKE RECOVERY:			
1,2-Dichloroethane-d4	106	%	04/14/94
Toluene-d8	111	%	04/14/94
4-Bromofluorobenzene	98	%	04/14/94

Client Name: HUNTINGDON - TRI-CITIES WA
Project No.: 87-921
Sample Name: LABORATORY BLANK 4-15-94
Sample Date: NOT APPLICABLE
Collected by: NOT APPLICABLE
Time Sampled: NOT APPLICABLE
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS:			
Data File Number-Volatiles	0415941009		
VOLATILE ORGANIC COMPOUNDS:			
Benzene	<2	µg/l	04/15/94
Bromobenzene	<1	µg/l	04/15/94
Bromochloromethane	<1	µg/l	04/15/94
Bromodichloromethane	<1	µg/l	04/15/94
Bromoform	<1	µg/l	04/15/94
Bromomethane	<2	µg/l	04/15/94
n-Butylbenzene	<1	µg/l	04/15/94
sec-Butylbenzene	<1	µg/l	04/15/94
t-Butylbenzene	<1	µg/l	04/15/94
Carbon Tetrachloride	<2	µg/l	04/15/94
Chlorobenzene	<1	µg/l	04/15/94
Chloroethane	<1	µg/l	04/15/94
Chloroform	<1	µg/l	04/15/94
Chloromethane	<1	µg/l	04/15/94
2-Chlorotoluene	<1	µg/l	04/15/94
4-Chlorotoluene	<1	µg/l	04/15/94
Dibromochloromethane	<1	µg/l	04/15/94
1,2-Dibromo-3-chloropropane	<5	µg/l	04/15/94
1,2-Dibromoethane	<1	µg/l	04/15/94
Dibromomethane	<2	µg/l	04/15/94
1,2-Dichlorobenzene	<1	µg/l	04/15/94
1,3-Dichlorobenzene	<1	µg/l	04/15/94
1,4-Dichlorobenzene	<1	µg/l	04/15/94
Dichlorodifluoromethane	<1	µg/l	04/15/94
1,1-Dichloroethane	<1	µg/l	04/15/94
1,2-Dichloroethane	<2	µg/l	04/15/94
Cis-1,2-Dichloroethene	<1	µg/l	04/15/94
1,1-Dichloroethene	<1	µg/l	04/15/94
Trans-1,2-Dichloroethene	<1	µg/l	04/15/94
1,2-Dichloropropane	<1	µg/l	04/15/94
1,3-Dichloropropane	<1	µg/l	04/15/94
2,2-Dichloropropane	<8	µg/l	04/15/94
1,1-Dichloropropene	<1	µg/l	04/15/94

Client Name: **HUNTINGDON - TRI-CITIES WA**
Project No.: 87-921
Sample Name: LABORATORY BLANK 4-15-94
Sample Date: NOT APPLICABLE
Collected by: NOT APPLICABLE
Time Sampled: NOT APPLICABLE
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
Ethylbenzene	<1	µg/l	04/15/94
Hexachlorobutadiene	<2	µg/l	04/15/94
Isopropylbenzene	<1	µg/l	04/15/94
Isopropyltoluene	<1	µg/l	04/15/94
Methylene chloride	7	µg/l	04/15/94
Naphthalene	<1	µg/l	04/15/94
n-Propylbenzene	<1	µg/l	04/15/94
Styrene	<1	µg/l	04/15/94
1,1,1,2-Tetrachloroethane	<1	µg/l	04/15/94
1,1,2,2-Tetrachloroethane	<1	µg/l	04/15/94
Tetrachloroethene	<1	µg/l	04/15/94
Toluene	<1	µg/l	04/15/94
1,2,3-Trichlorobenzene	<1	µg/l	04/15/94
1,2,4-Trichlorobenzene	<1	µg/l	04/15/94
1,1,1-Trichloroethane	<1	µg/l	04/15/94
1,1,2-Trichloroethane	<1	µg/l	04/15/94
Trichloroethene	<1	µg/l	04/15/94
Trichlorofluoromethane	<1	µg/l	04/15/94
1,2,3-Trichloropropane	<1	µg/l	04/15/94
1,2,4-Trimethylbenzene	<1	µg/l	04/15/94
1,3,5-Trimethylbenzene	<1	µg/l	04/15/94
Vinyl chloride	<1	µg/l	04/15/94
Total xylenes	<1	µg/l	04/15/94
SURROGATE SPIKE RECOVERY:			
1,2-Dichloroethane-d4	118	%	04/15/94
Toluene-d8	117	%	04/15/94
4-Bromofluorobenzene	97	%	04/15/94

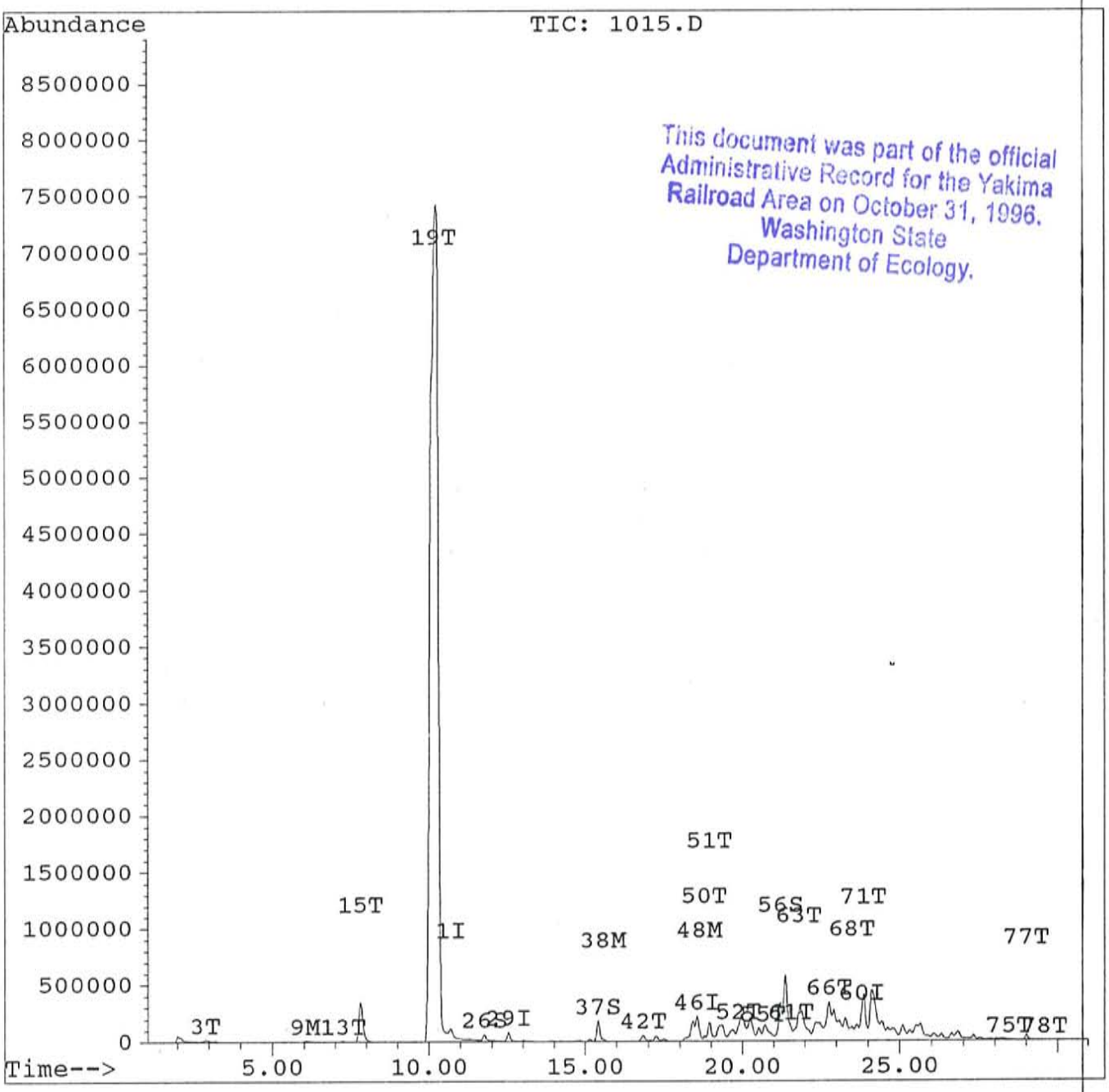
ATTACHMENTS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\041594\1015.D
Acq Time : 15 Apr 94 6:15 pm
Sample : 150584 1 gm soil
Misc :
Quant Time: Apr 18 9:26 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\I041594.M
Title : 8260 and append 9
Last Update : Fri Apr 15 13:47:36 1994
Response via : Multiple Level Calibration

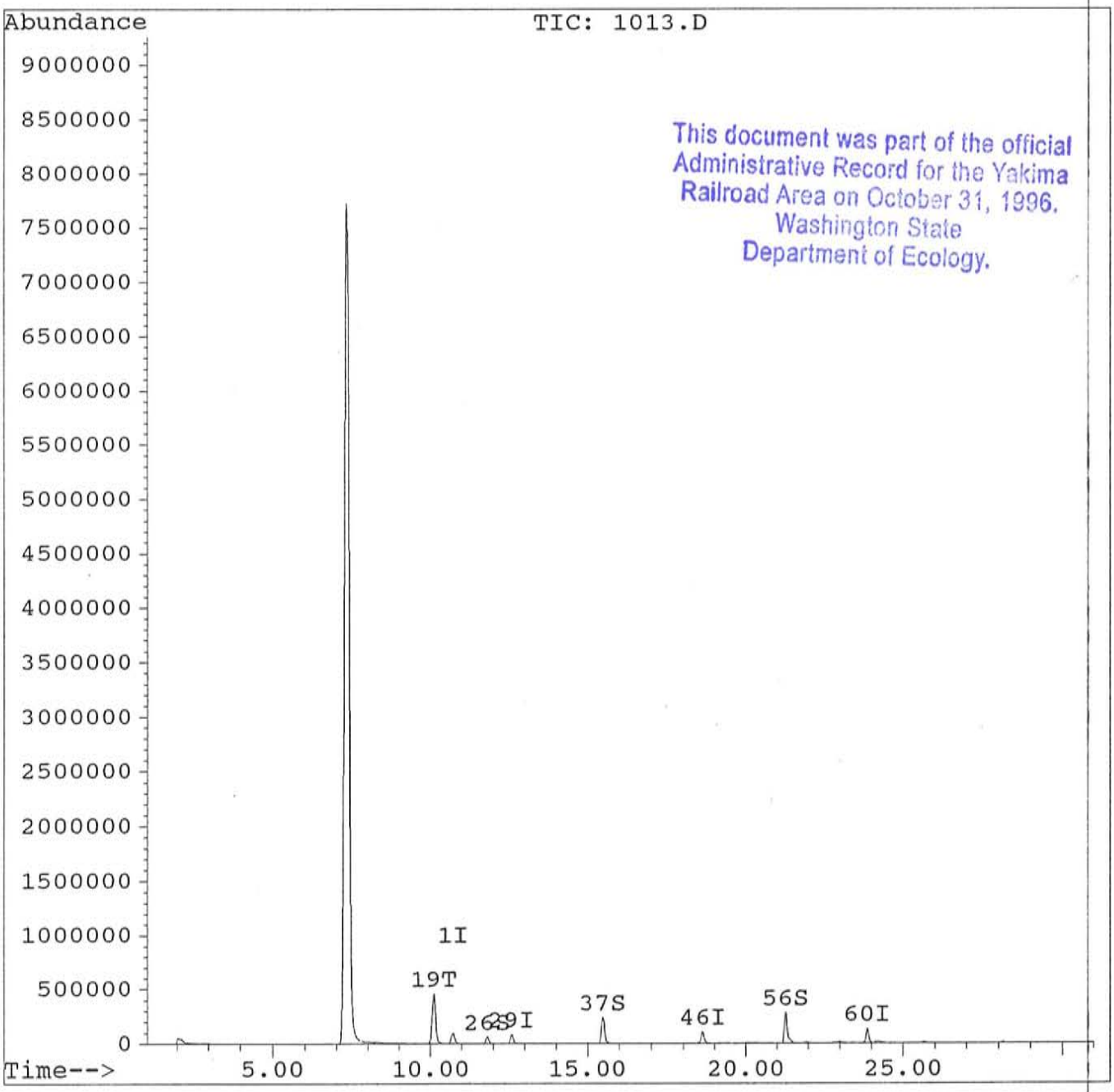


Quantitation Report

Data File : C:\HPCHEM\1\DATA\041494\1013.D
Acq Time : 14 Apr 94 5:17 pm
Sample : 150584 10ul 4gm/10ml
Misc :
Quant Time: Apr 15 8:16 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\041494.M
Title : 8260 and append 9
Last Update : Thu Apr 14 12:37:37 1994
Response via : Single Level Calibration

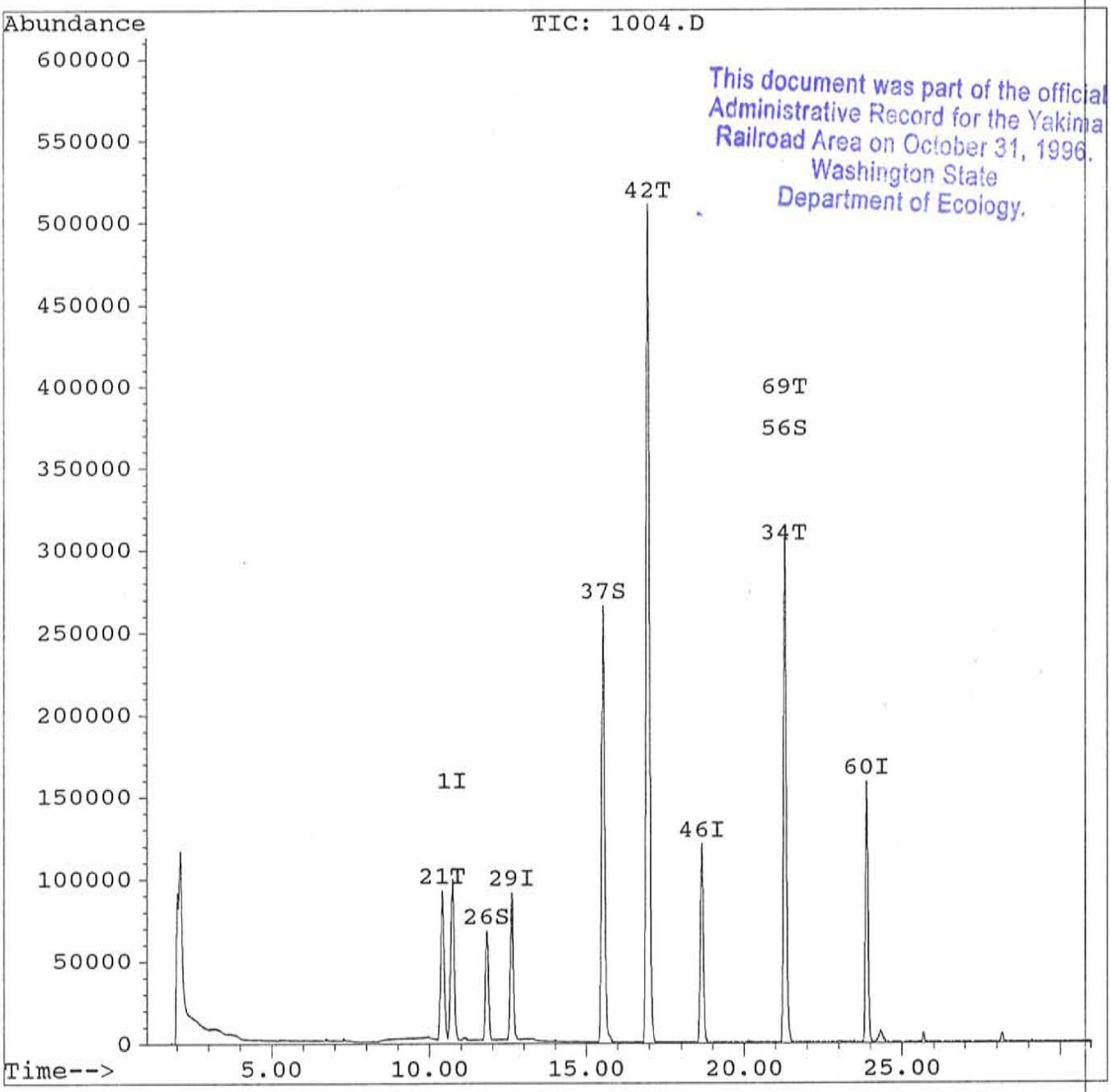


Quantitation Report

Data File : C:\HPCHEM\1\DATA\041494\1004.D
Acq Time : 14 Apr 94 11:01 am
Sample : 150586 25 ml
Misc :
Quant Time: Apr 14 12:52 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\041494.M
Title : 8260 and append 9
Last Update : Thu Apr 14 12:37:37 1994
Response via : Single Level Calibration

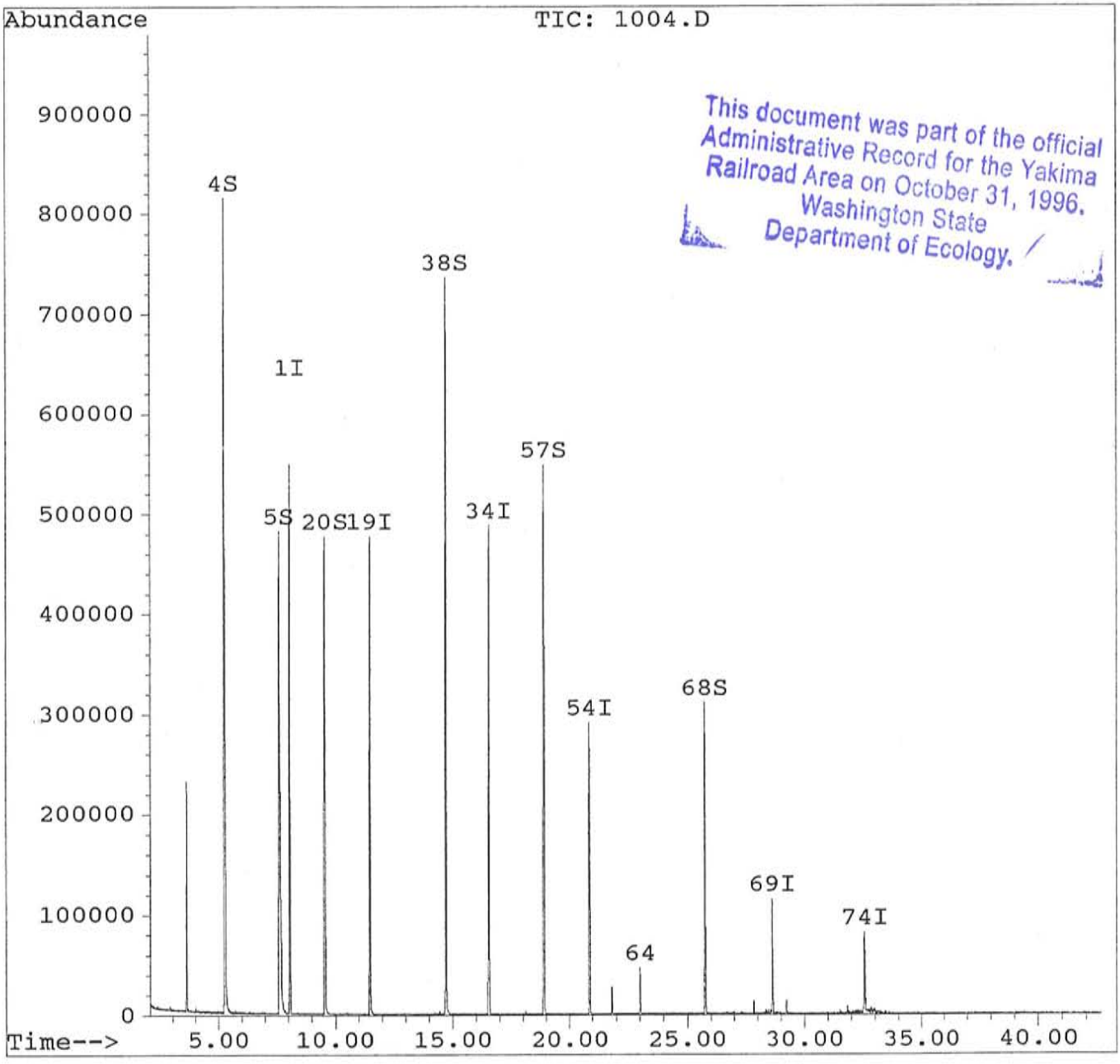


Quantitation Report

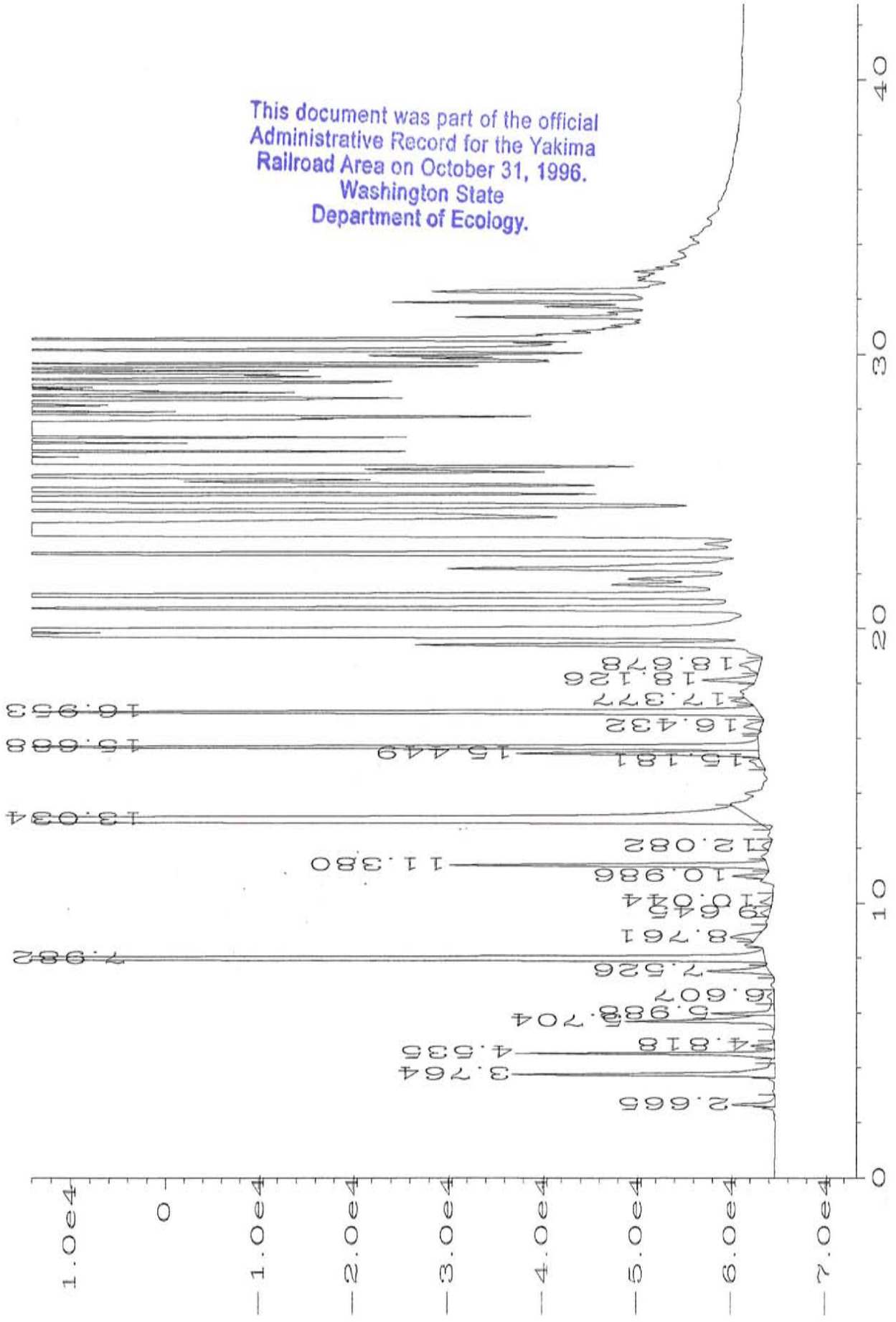
Data File : C:\HPCHEM\1\DATA\S041494\1004.D
Acq Time : 14 Apr 94 4:07 pm
Sample : 150486 1:2
Misc :
Quant Time: Apr 14 16:51 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

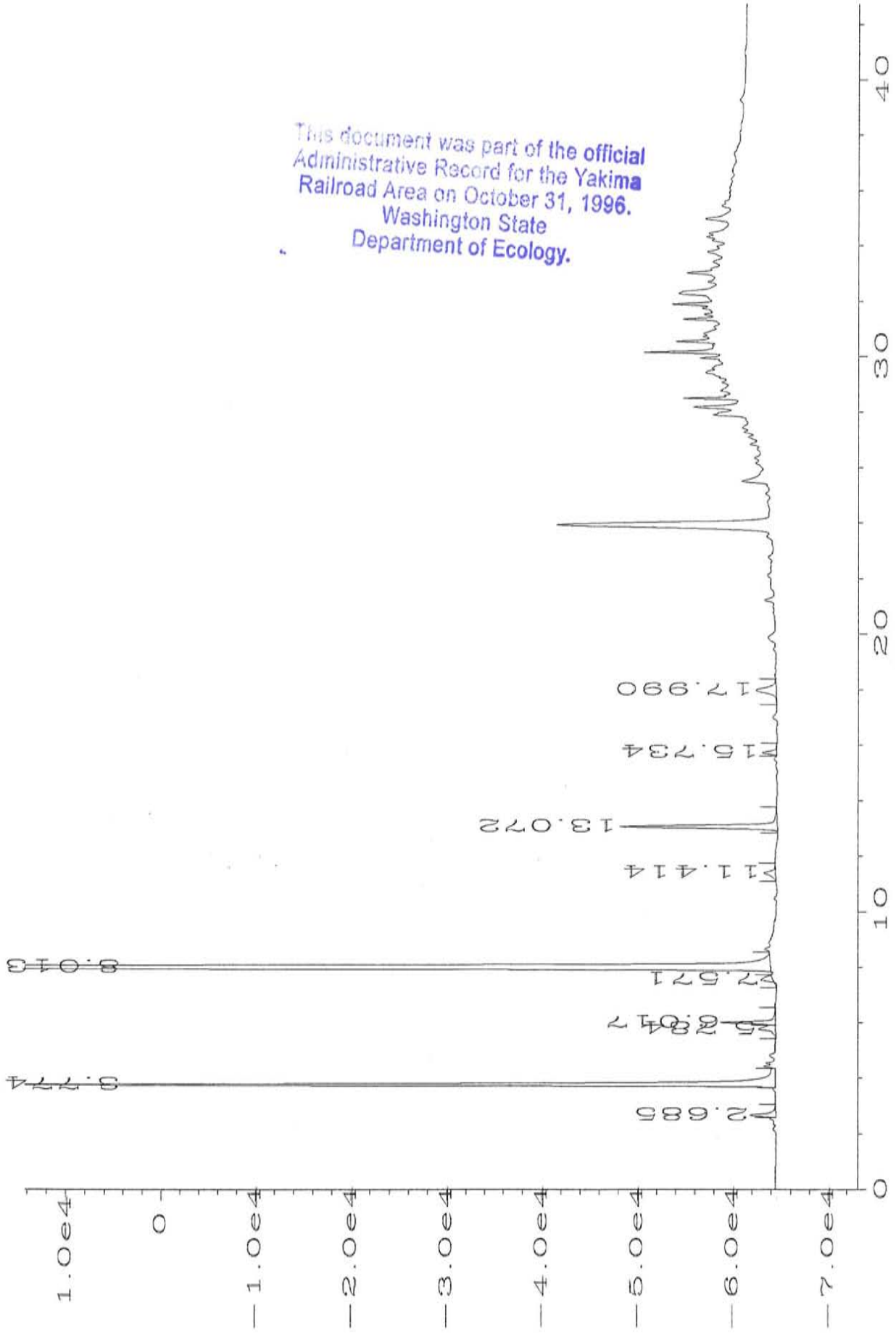
Method : C:\HPCHEM\1\METHODS\S041494.M
Title : bna8270
Last Update : Thu Apr 14 15:20:22 1994
Response via : Single Level Calibration



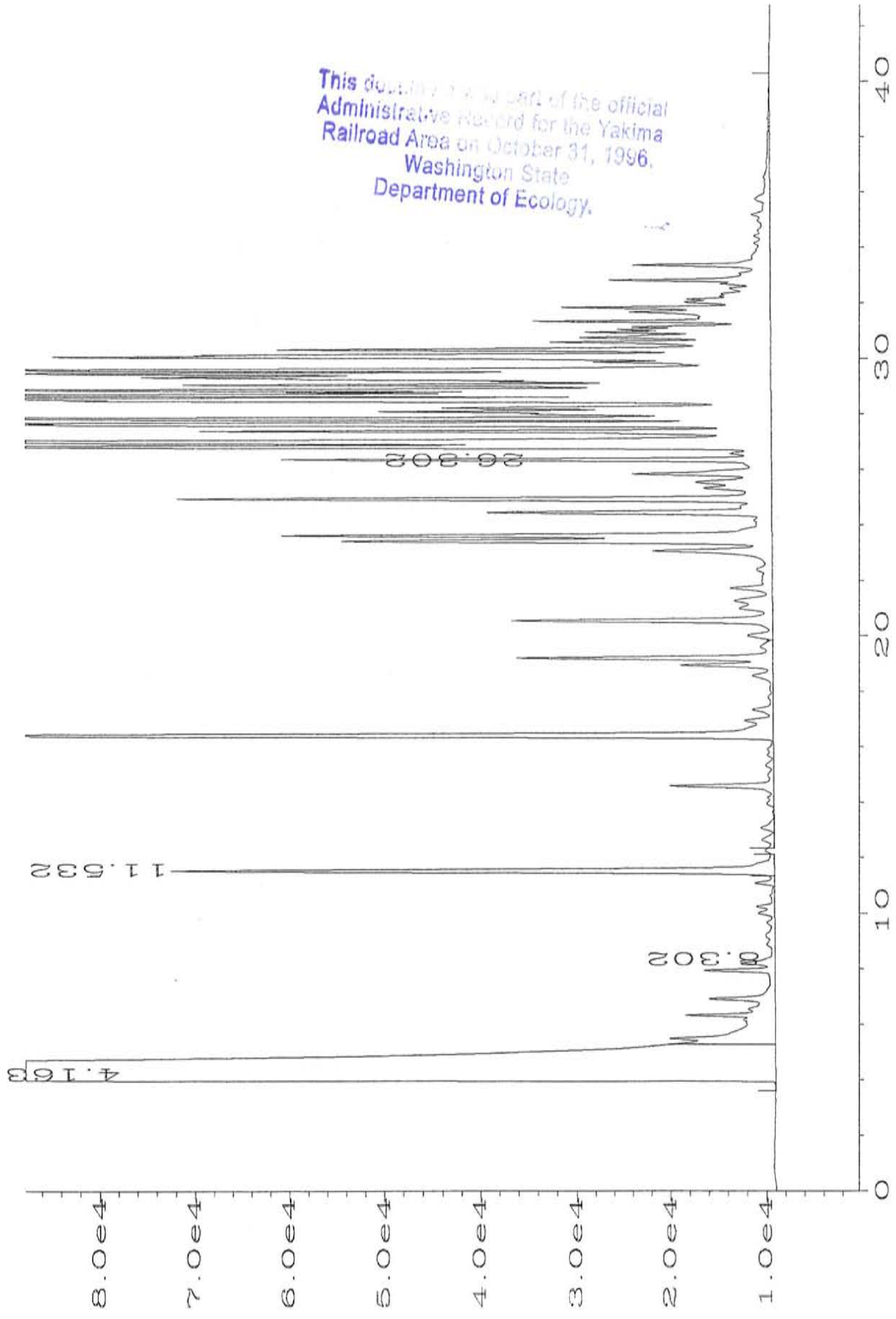
Sig. 1 in C:\HPCHEM\1\DATA\NV-FC435.D



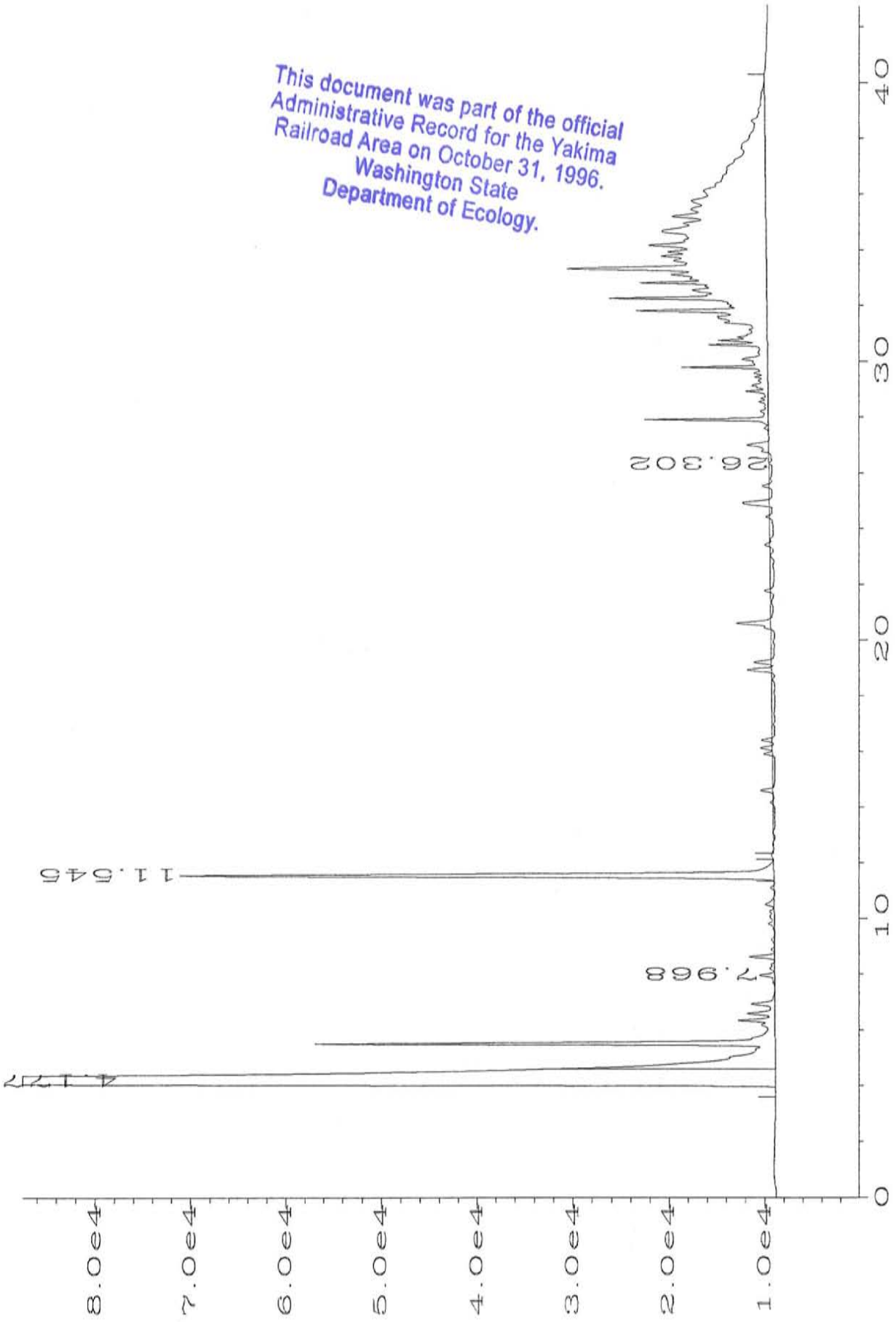
Sig. 1 in C:\HPCHEM\1\DATA\NV-Fc443.D



Sig. 2 in C:\HPCHEM\1\DATA\NV-RC435.D



Sig. 2 in C:\HPCHEM\1\DATA\NV-Rc440.D



CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers · Environmental Scientists

- [ ] Chen-Northern, Inc., Division
- [ ] Thomas-Hartig & Associates, Inc., Division
- [ ] Schaefer Dixon Associates, Inc., Division
- [ ] Herzog Associates, Inc., Division

Project or Site Name: Yakima Company Industries
Project Number: 114-1761
Sampler Name (Printed): [illegible]

Contact or Report to: [illegible]
Contact Address or Location: [illegible]
Sampler Signature: [illegible]

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	WTPH-G	BTEX 8020	LEAD 7421	WTPH 418.1	VOC 8240	BTEX602	[illegible]	Semi-VOC 8270	NOTES	LAB NUMBER
4-8-94	1040A	48941040AS MW1	Grab	Soil	1	X	X	X						MW-1 Std. Jars 1-8oz	150583
4-8-94	300P	4894300PSS	Grab	Soil	2				X	X				Sump 2-8oz	84
4-11-94	240P	41194240PMW1	Grab	H_2O	9	X		X			X			7 - 40mL VOAs 2 - Poly Bottles	85
4-11-94	320P	41194320PMW2	Grab	H_2O	7					X			X	2 - 1L Amber 5 - 40mL VOAs	86

1 VOA of each broken in shipment
Metals OK < 2
Cooler temp 9°C

Relinquished by:	Date	Time	Received by:
[illegible signature]	4-12-94	5:00P	Carrier Fed Ex
~~Relinquished by:~~	4/13/94	0930	[signature]
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
SHIPPED FEDERAL EXPRESS
* Sample #- 4894104OAS MW1 Please conduct WTPH-G and BTEX [illegible] Analysis first. If enough sample run LEAD 7421
* 8270 must pick up Di-n-butylphthalate
RUSH 72 Hour if at all possible

Huntingdon
(Formerly Chen-Northern, Inc.)
600 South 25th Street
P O Box 30615
Billings, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: ATTN: JUSTIN BOLLES
HUNTINGDON ENGINEERING &
ENVIRONMENTAL, INC.
P O BOX 2601
TRI-CITIES WA 99302

JUN 10 1994

DATE: June 3, 1994
JOB NUMBER: 87-921
SHEET: 1 of 11
INVOICE NO.: 025317

REPORT OF: Water Analysis - City of Yakima Goodwill Industries (194-1969-1)

SAMPLE IDENTIFICATION:

On May 26, 1994, these water samples (laboratory numbers 151814 through 151822) were received in our laboratory for analysis. The samples were analyzed for volatile organics in accordance with Environmental Protection Agency Manual SW-846, *Test Methods for Evaluating Solid Waste, Third Edition, November 1986; Method 8260*.

The condition of the samples upon receipt at the laboratory is noted on the attached sample receipt checklist.

The test results are shown on the following pages. Chromatograms are attached for your reference.

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

Reviewed by David Cornell

Attachments: Sample Receipt Checklist
Chromatograms

rmr

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151814
Sample Name: #52494250PMW1
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1450
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941006		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	12	µg/l	05/27/94
Tetrachloroethene	12	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	114	%	05/27/94
Toluene-d8 (Surrogate)	102	%	05/27/94
4-Bromofluorobenzene (Surrogate)	101	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151815
Sample Name: 52494320PMW2
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1520
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941009		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	11	µg/l	05/27/94
Tetrachloroethene	14	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	119	%	05/27/94
Toluene-d8 (Surrogate)	103	%	05/27/94
4-Bromofluorobenzene (Surrogate)	103	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151816
Sample Name: 52494330PJB1
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1530
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941010		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	12		05/27/94
Tetrachloroethene	16		05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	120	%	05/27/94
Toluene-d8 (Surrogate)	116	%	05/27/94
4-Bromofluorobenzene (Surrogate)	110	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151817
Sample Name: 52494350PLW4
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1550
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941011		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	13	µg/l	05/27/94
Tetrachloroethene	<0.5	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	118	%	05/27/94
Toluene-d8 (Surrogate)	108	%	05/27/94
4-Bromofluorobenzene (Surrogate)	102	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151818
Sample Name: 52494415PLW3
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1615
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941004		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	15	µg/l	05/27/94
Tetrachloroethene	<0.5	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	113	%	05/27/94
Toluene-d8 (Surrogate)	99	%	05/27/94
4-Bromofluorobenzene (Surrogate)	100	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151819
Sample Name: 52494430PLW1
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1630
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941012		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	14	µg/l	05/27/94
Tetrachloroethene	<0.5	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	112	%	05/27/94
Toluene-d8 (Surrogate)	107	%	05/27/94
4-Bromofluorobenzene (Surrogate)	100	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151820
Sample Name: TRIP BLANK
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: NONE GIVEN
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941013		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	<1	µg/l	05/27/94
Tetrachloroethene	<0.5	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	105	%	05/27/94
Toluene-d8 (Surrogate)	103	%	05/27/94
4-Bromofluorobenzene (Surrogate)	101	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151821
Sample Name: DUPLICATE 151814 #52494250PMW1
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1450
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS			
Data File Number-Volatiles	0527941008		
VOLATILE ORGANIC COMPOUNDS			
Chloroform	13	µg/l	05/27/94
Tetrachloroethene	15	µg/l	05/27/94
VOLATILE SURROGATE SPIKE RECOVERY			
1,2-Dichloroethane-d4 (Surrogate)	112	%	05/27/94
Toluene-d8 (Surrogate)	101	%	05/27/94
4-Bromofluorobenzene (Surrogate)	102	%	05/27/94

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151822
Sample Name: SPIKE 151818 52494415PLW1
Sample Date: 05/24/94
Collected by: JUSTIN BOLLES
Time Sampled: 1615
Sample Type: WATER

PARAMETER	MEASURED VALUE		METHOD CODE	DATE ANALYZED
MISCELLANEOUS				
Data File Number-Volatiles	0527941007			
VOLATILE ORGANIC COMPOUNDS				
Chloroform	94	%		05/27/94
Tetrachloroethene	104	%		05/27/94
VOLATILE SURROGATE SPIKE RECOVERY				
1,2-Dichloroethane-d4 (Surrogate)	115	%		05/27/94
Toluene-d8 (Surrogate)	106	%		05/27/94
4-Bromofluorobenzene (Surrogate)	106	%		05/27/94

Client Name: **HUNTINGDON BOISE, ID**
Project No.: 87-921
Sample Name: LABORATORY BLANK 5-27-94
Sample Date: NOT APPLICABLE
Collected by: NOT APPLICABLE
Time Sampled: NOT APPLICABLE
Sample Type: WATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
MISCELLANEOUS:			
Data File Number-Volatiles	0527941005		
VOLATILE ORGANIC COMPOUNDS:			
Chloroform	<1	µg/l	05/27/94
Tetrachloroethene	<0.5	µg/l	05/27/94
SURROGATE SPIKE RECOVERY:			
1,2-Dichloroethane-d4	109	%	05/27/94
Toluene-d8	96	%	05/27/94
4-Bromofluorobenzene	96	%	05/27/94

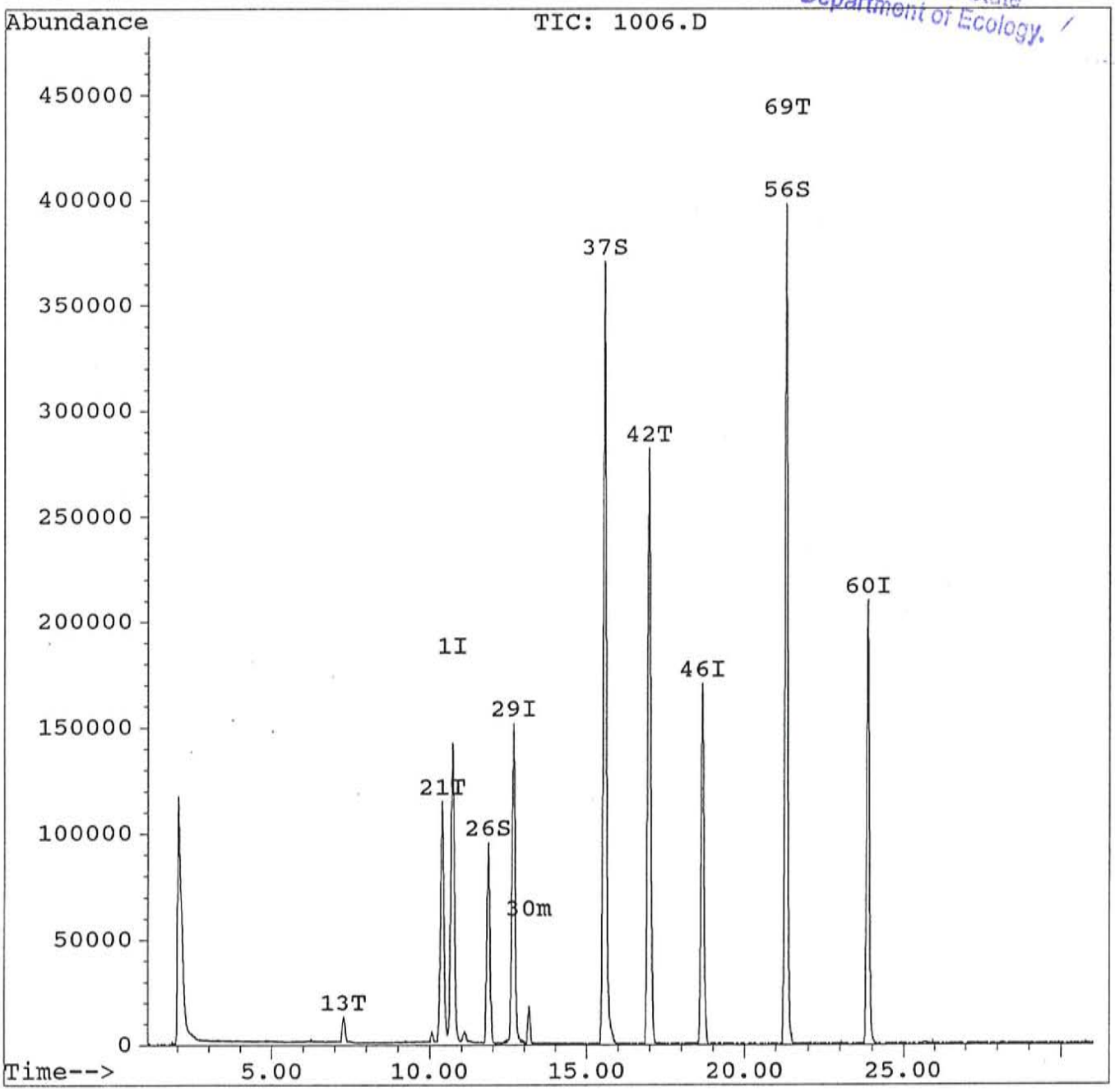
ATTACHMENTS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1006.D
Acq Time : 27 May 94 1:54 pm
Sample : 151814
Misc :
Quant Time: May 27 14:28 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

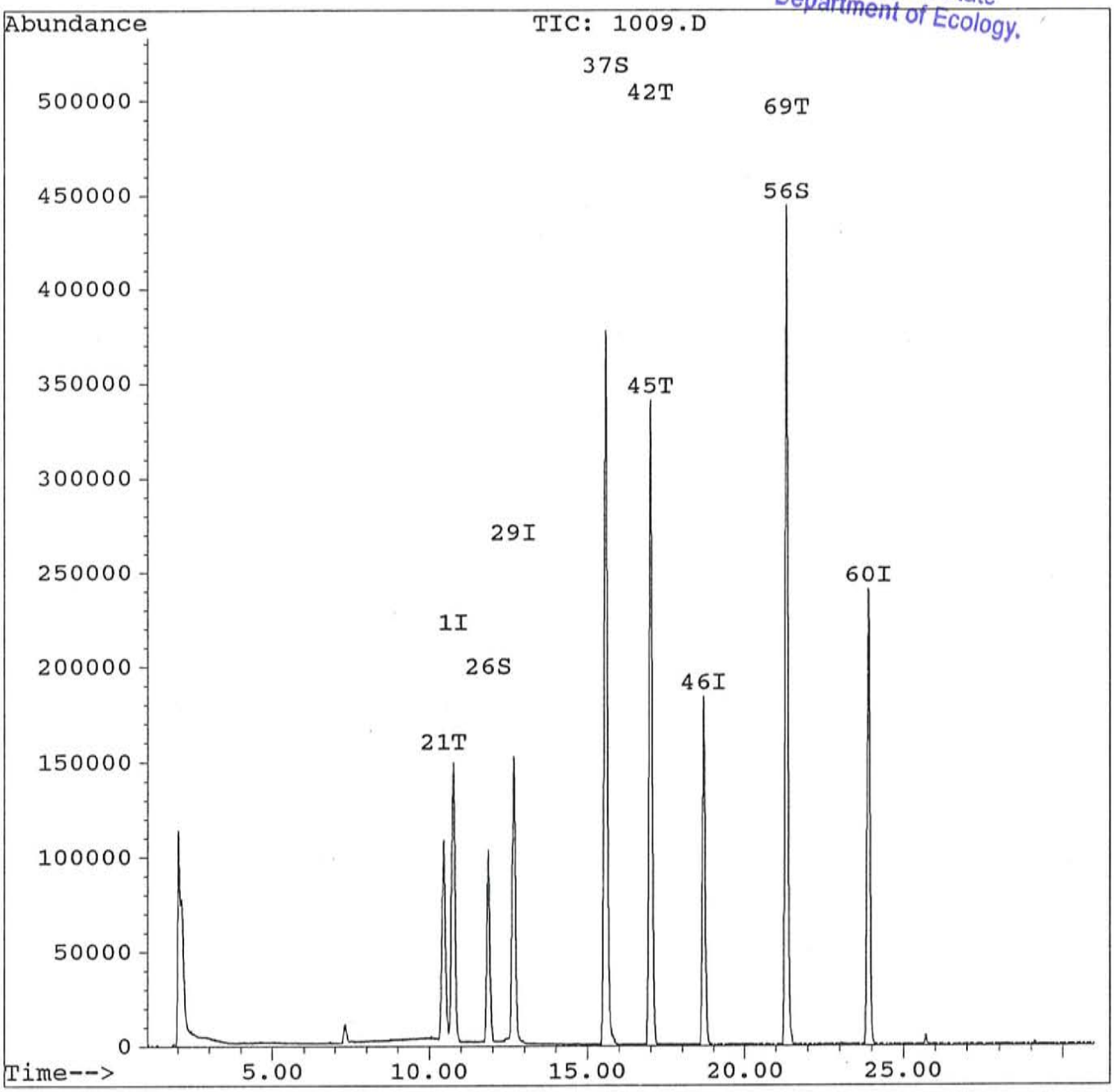


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1009.D
Acq Time : 27 May 94 3:58 pm
Sample : 151815
Misc :
Quant Time: May 27 16:31 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

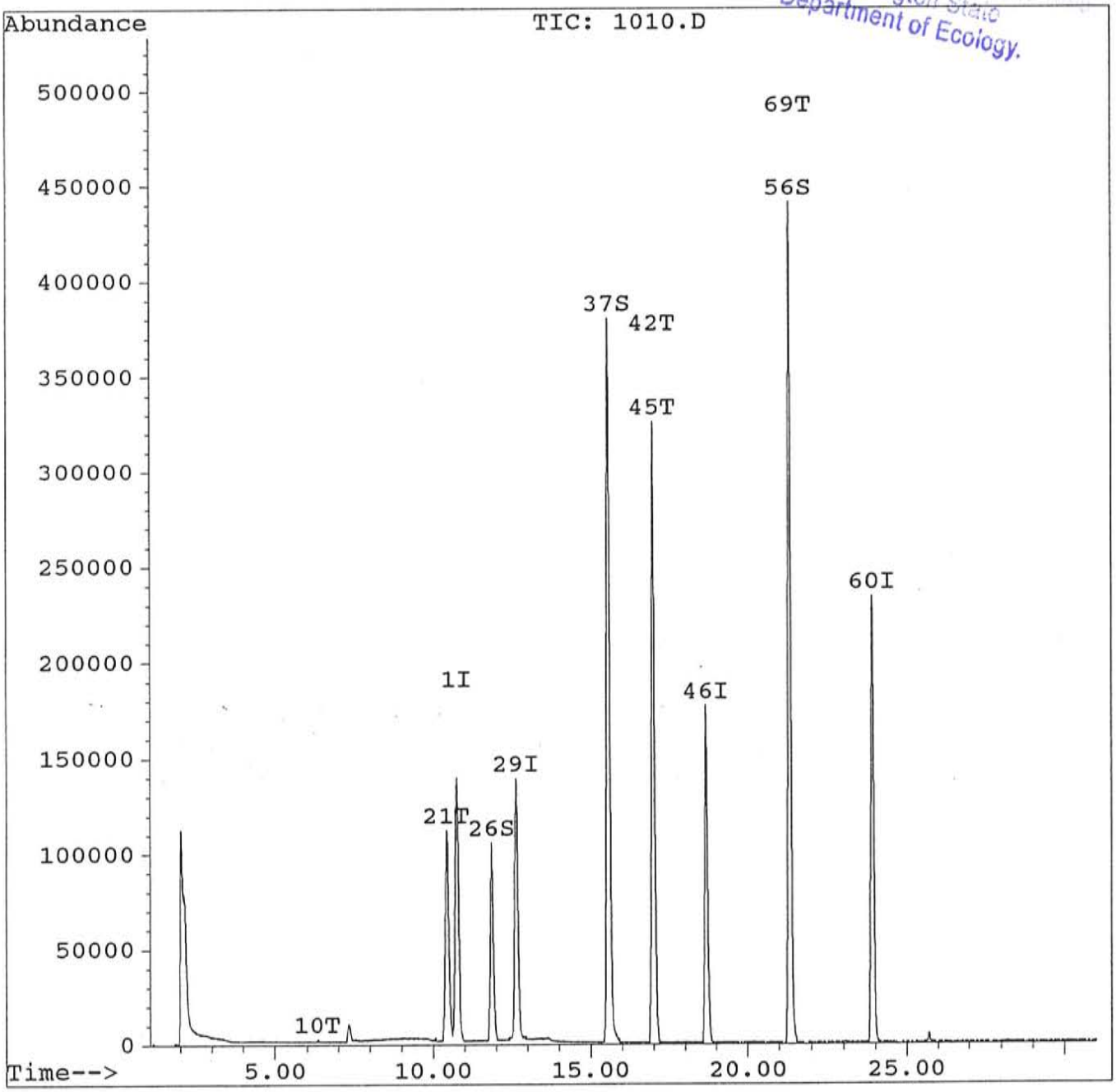


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1010.D
Acq Time : 27 May 94 4:38 pm
Sample : 151816
Misc :
Quant Time: May 27 17:11 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

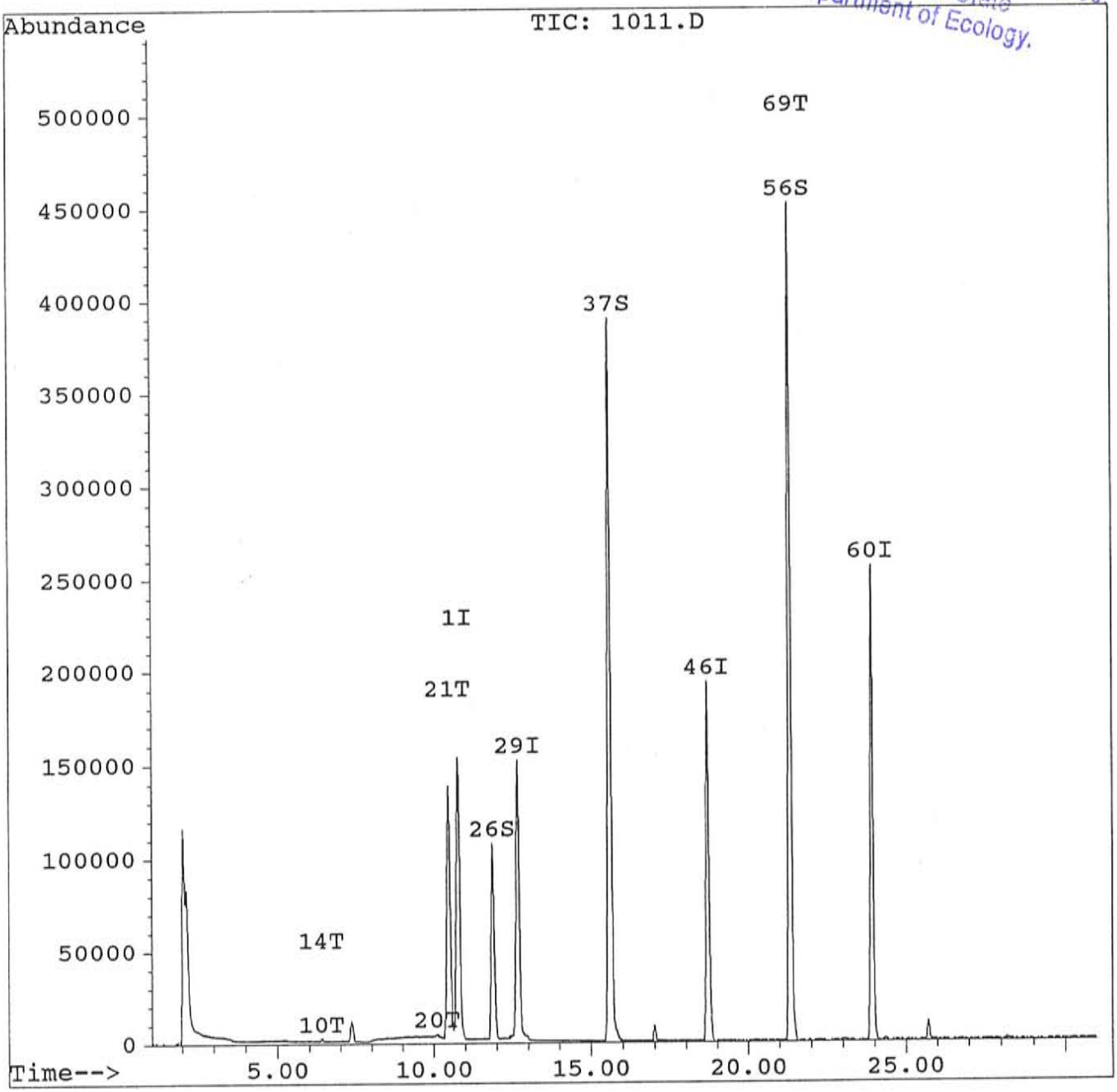


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1011.D
Acq Time : 27 May 94 5:18 pm
Sample : 151817
Misc :
Quant Time: May 27 17:51 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

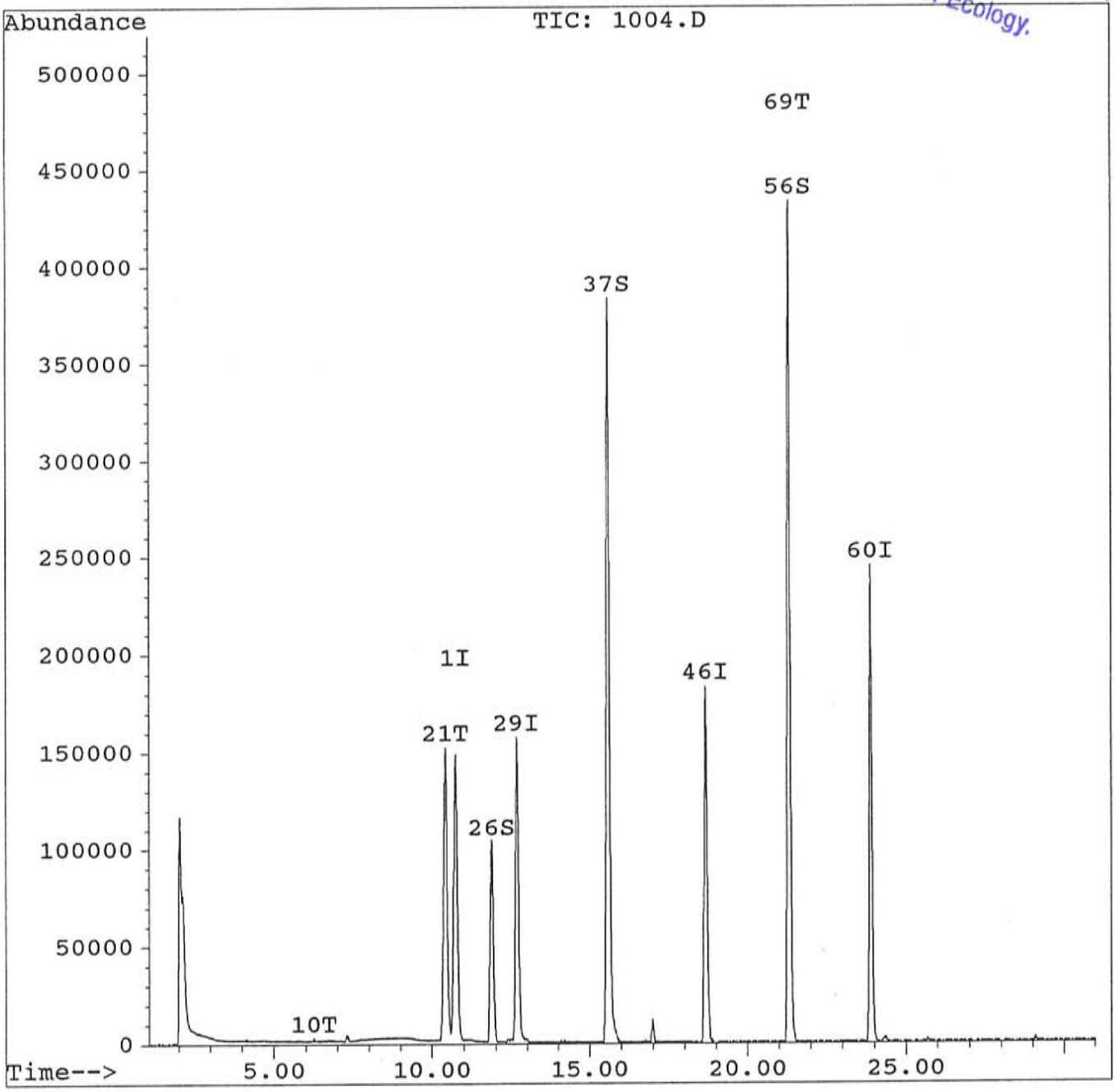


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1004.D
Acq Time : 27 May 94 12:32 pm
Sample : 151818
Misc :
Quant Time: May 27 13:10 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

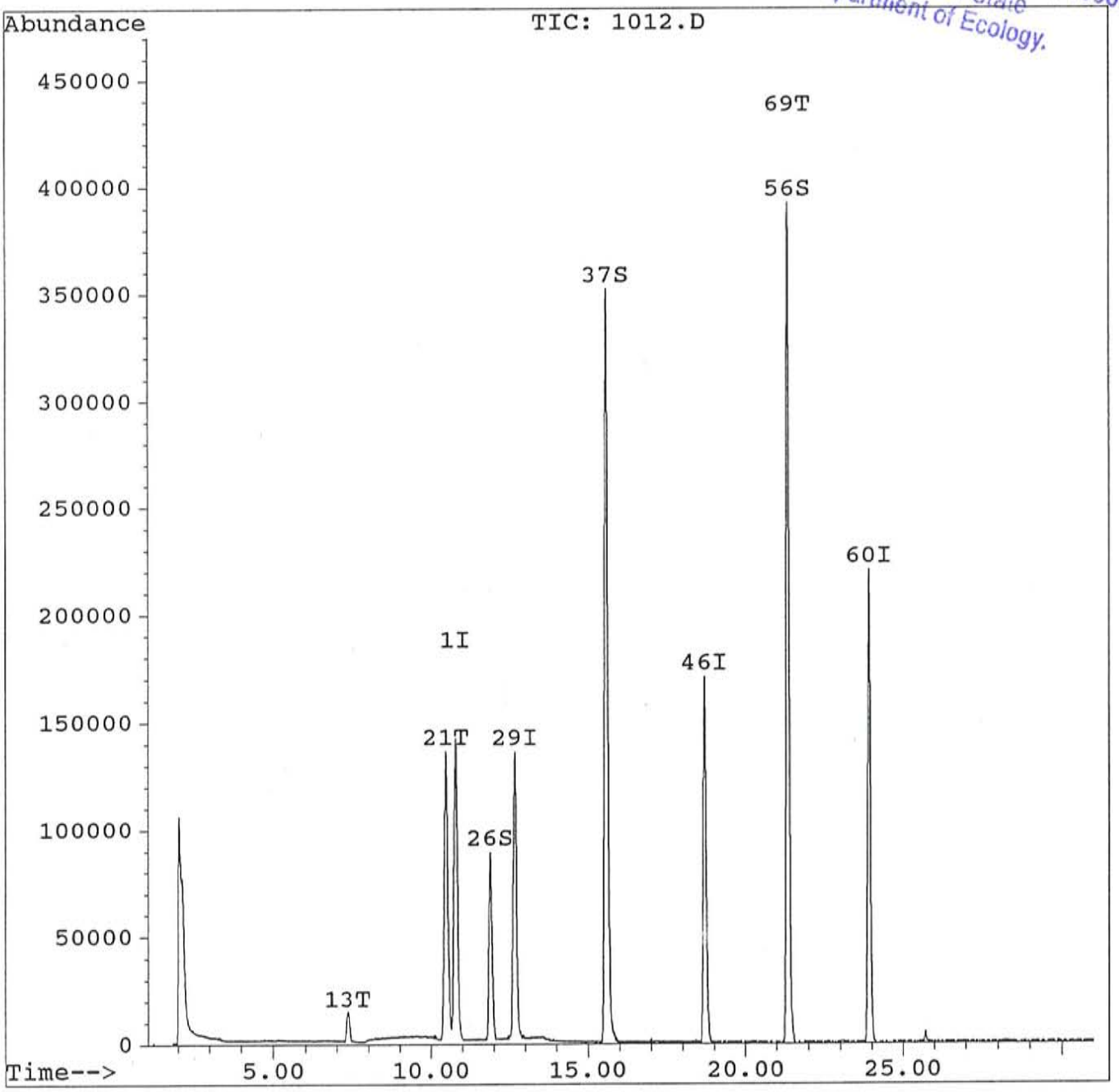


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1012.D
Acq Time : 27 May 94 5:58 pm
Sample : 151819
Misc :
Quant Time: May 27 18:30 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

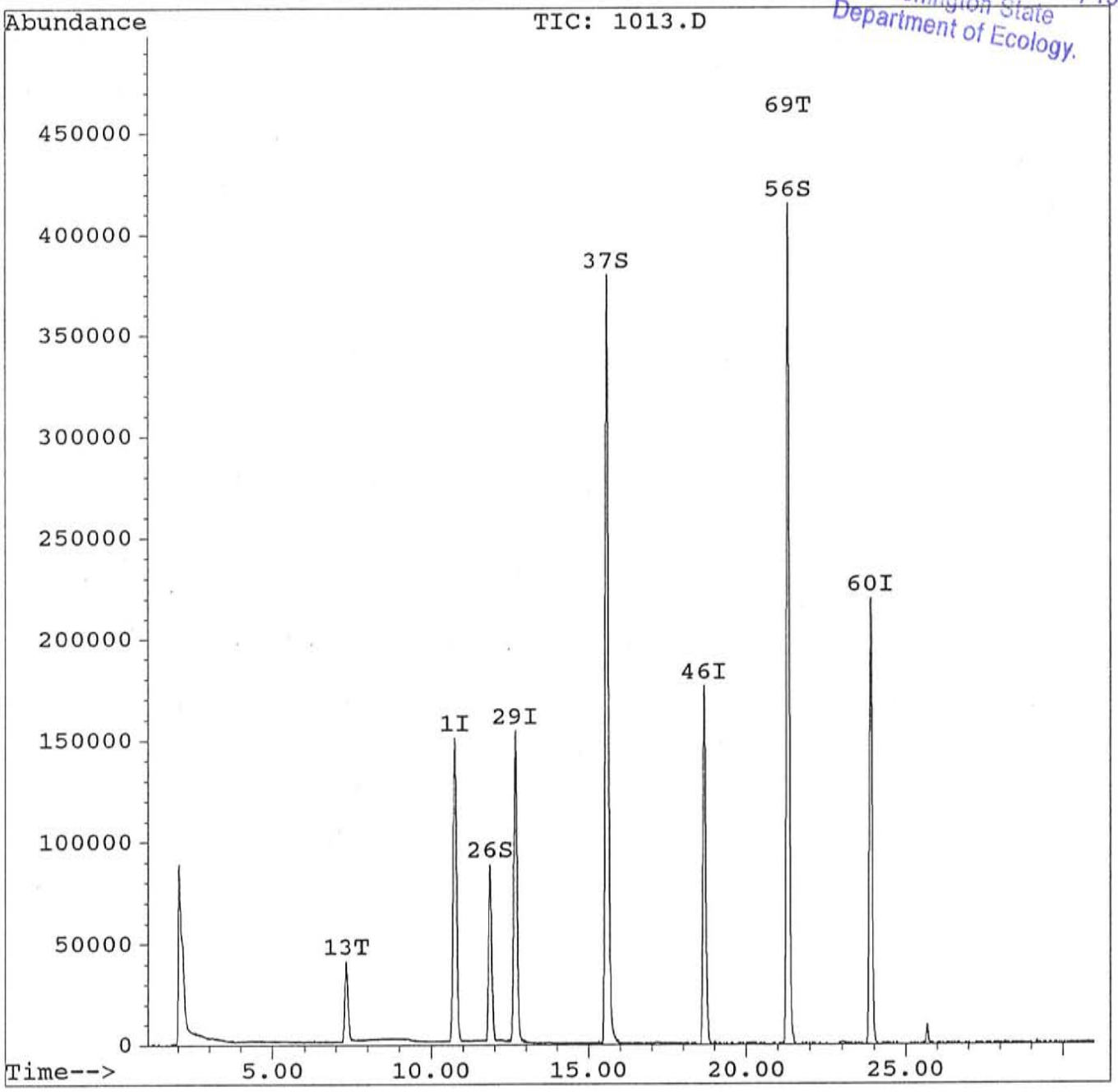


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1013.D
Acq Time : 27 May 94 6:37 pm
Sample : 151820
Misc :
Quant Time: May 27 19:10 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

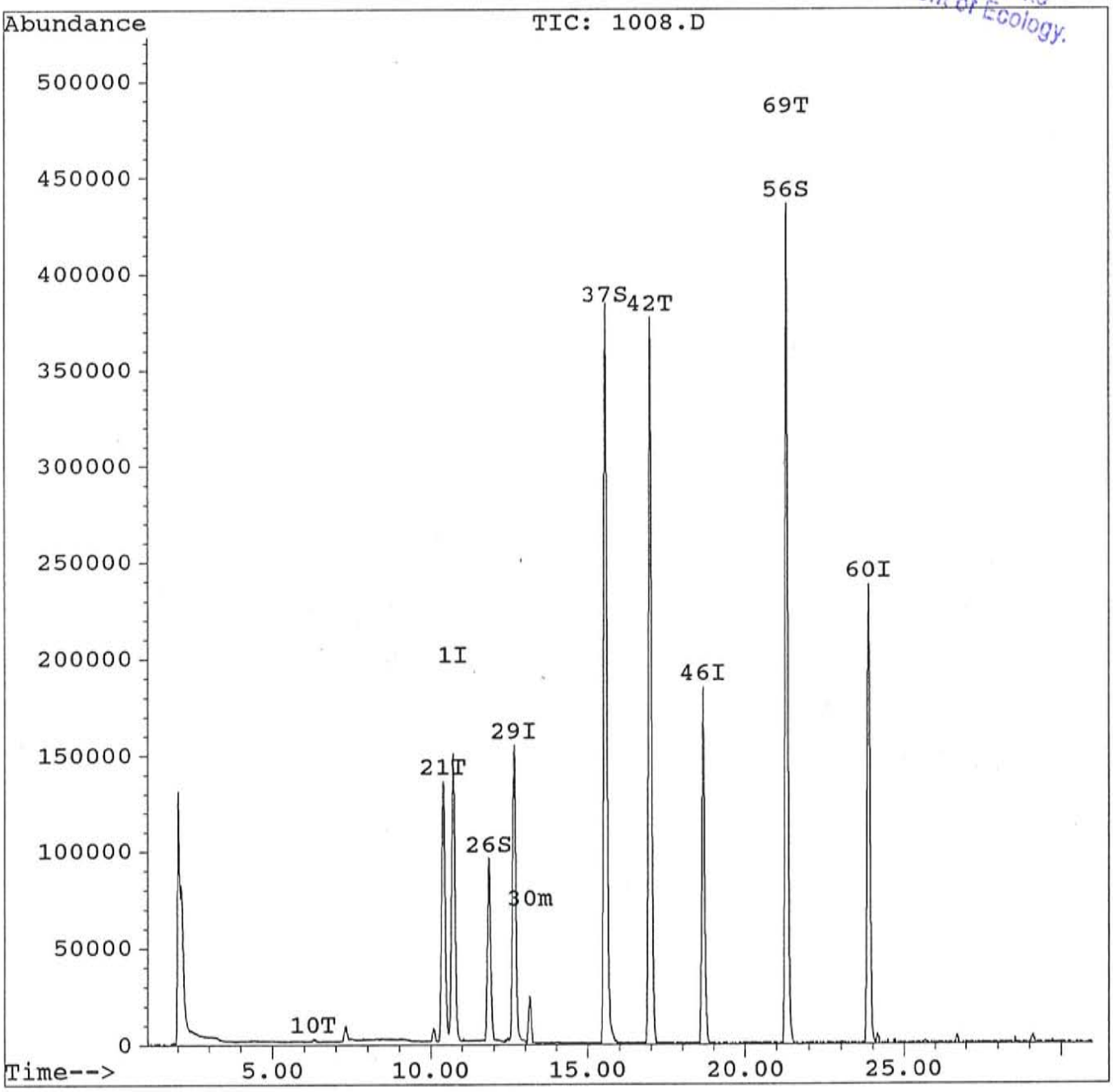


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1008.D
Acq Time : 27 May 94 3:18 pm
Sample : 151821/814 dup
Misc :
Quant Time: May 27 15:51 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

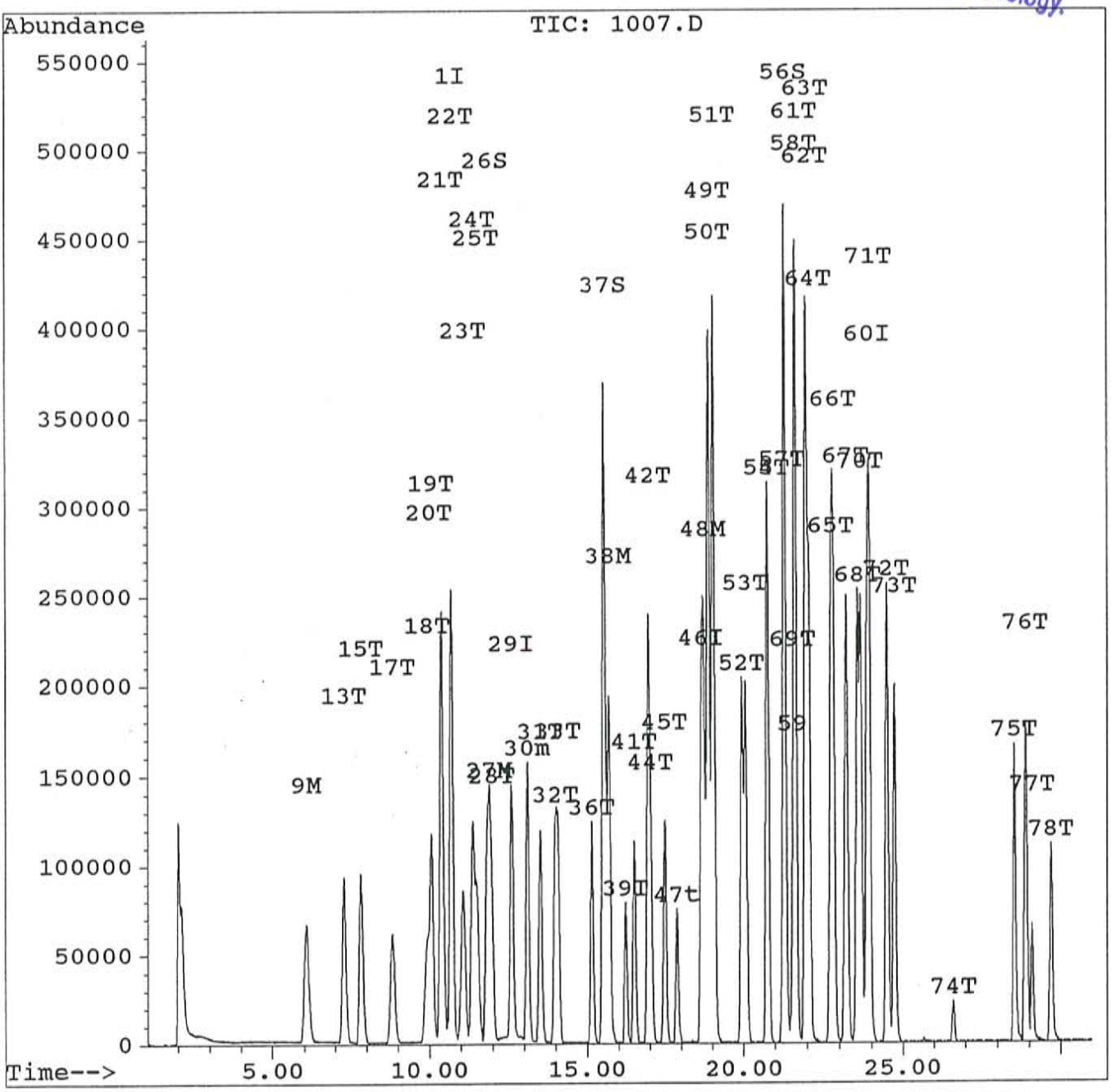


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1007.D
Acq Time : 27 May 94 2:37 pm
Sample : 151822/818 sp
Misc :
Quant Time: May 27 15:10 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Single Level Calibration

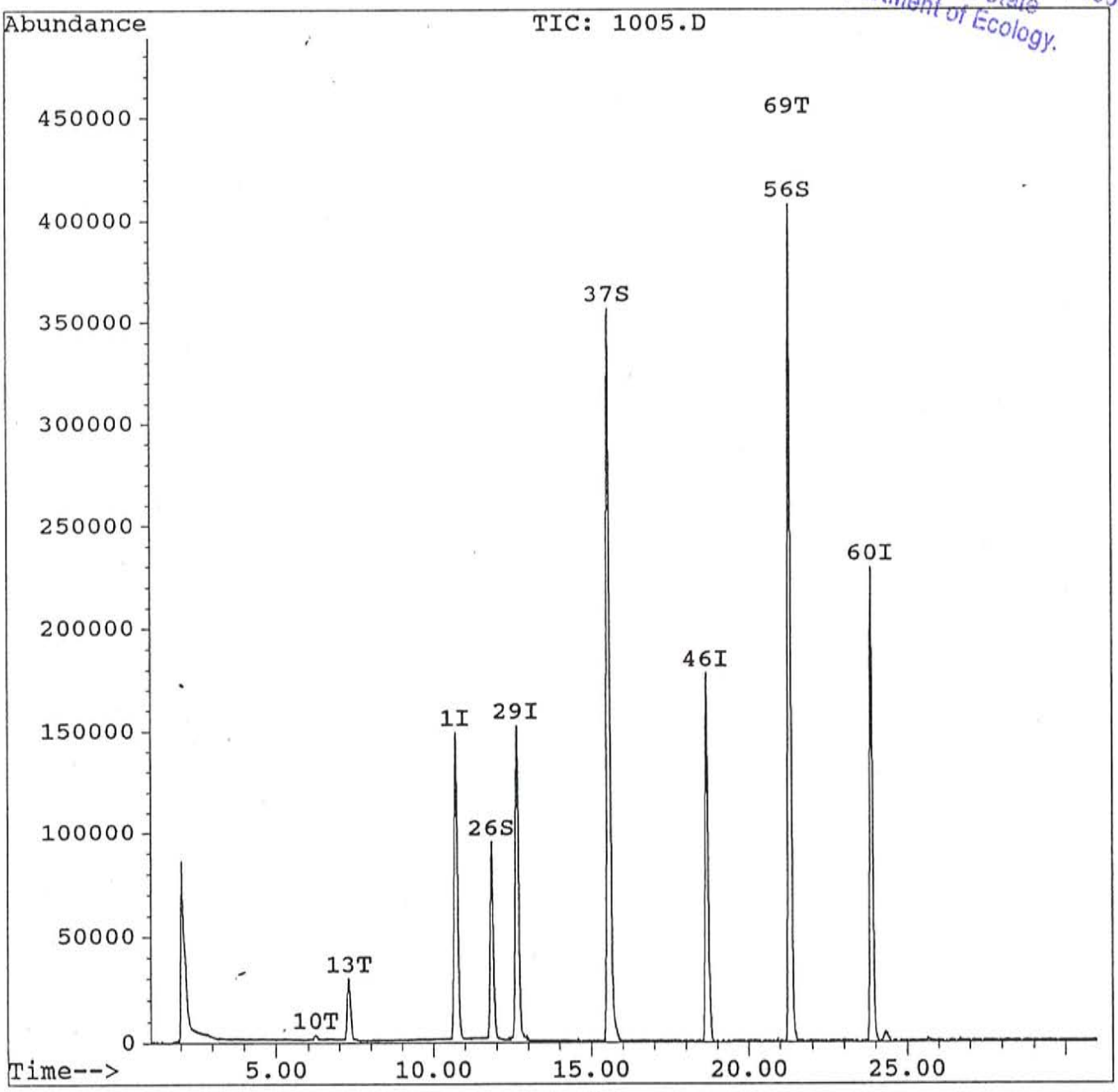


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052794A\1005.D
Acq Time : 27 May 94 1:13 pm
Sample : blk 5/27 re
Misc :
Quant Time: May 27 13:47 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Multiple Level Calibration



City of Yakima
Yakima Goodwill Industries
Project or Site Name

114-116-1
Project Number

Justin Cules
Sampler Name (Printed)

CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers Environmental Scientists

- [x] Chen-Northern, Inc., Division
- [ ] Thomas-Hartig & Associates, Inc., Division
- [ ] Schaefer Dixon Associates, Inc., Division
- [ ] Herzog Associates, Inc., Division

Justin Cules
Contact or Report to

Tri-Cities, WA
Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED 8260	NOTES	LAB NUMBER
5-24-94	2:50P	#52494250PMW1	GRAB	H_2O	2	X	HCl Pres	151814
5-24-94	3:20P	52494 320P MW2	GRAB	H_2O	2	X	HCl Pres	15
5-24-94	3:30P	52494 330P JB1	GRAB	H_2O	2	X	HCl Pres	16
5-24-94	3:50P	52494 350P LW4	GRAB	H_2O	2	X	HCl Pres	17
5-24-94	4:15P	52494415PLW3	GRAB	H_2O	2	X	HCl Pres	18
5-24-94	4:30P	52494 430P LW1	GRAB	H_2O	2	X	HCl Pres	19
5-24-94	—	TRIP BLANK	—	H_2O	2	X		20
							DP 151814 #52494250 PMW1 5/24 1450	21
							SP 151818 #52494415PLW3 5/24 1615	22

Relinquished by:	Date	Time	Received by:
	5-25-94	3:50P	Carrier/Fed X
~~Relinquished by:~~	Date	Time	Received by:
	5/26/94	1200	K Cleveland
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
Analyze only for chloroform and tetrachloroethylene (tetrachloroethene)

RUSH!

Cooler temp 11°C

This document was part of the official Administrative Record for the Yakima Railroad Area on October 31, 1996. Washington State Department of Ecology.

Huntingdon
(Formerly Chen-Northern, Inc.)
600 South 25th Street
P O Box 30615
Billings, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: ATTN: JUSTIN BOLLES
HUNTINGDON ENGINEERING &
ENVIRONMENTAL, INC.
P O BOX 2601
TRI-CITIES WA 99302

JUN 10 1994

DATE: June 3, 1994
JOB NUMBER: 87-921
SHEET: 1 of 3
INVOICE NO.: 025302

REPORT OF: Soil Analysis - Yakima Goodwill Industries (194-1969-1)

SAMPLE IDENTIFICATION:

On May 24, 1994, these soil samples (laboratory numbers 151744 through 151746) were received in our laboratory for analysis. The samples were analyzed for volatile organics in accordance with Environmental Protection Agency Manual SW-846, *Test Methods for Evaluating Solid Waste*, Third Edition, November 1986; Method 8260.

The condition of the samples upon receipt at the laboratory is noted on the attached sample receipt checklist.

The test results are shown on the following pages. Chromatograms are attached for your reference.

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

Reviewed by David Cornish

Attachment: Chromatograms
Sample Receipt Checklist

mc

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151744
Sample Name: 52194245PCH120
Sample Date: 05/21/94
Collected by: JUSTIN BOLLES
Time Sampled: 1445
Sample Type: SOIL

PARAMETER	MEASURED VALUE		DATE ANALYZED
8260			
Data File Number-Volatiles	0526941009		
Chloroform	<5	µg/kg	05/26/94
Tetrachloroethene	<5	µg/kg	05/26/94
1,2-Dichloroethane-d4 (Surrogate)	82	%	05/26/94
Toluene-d8 (Surrogate)	82	%	05/26/94
4-Bromofluorobenzene (Surrogate)	80	%	05/26/94

Laboratory No.: 151745
Sample Name: 52194330PCH220
Sample Date: 05/21/94
Collected by: JUSTIN BOLLES
Time Sampled: 1530
Sample Type: SOIL

PARAMETER	MEASURED VALUE		DATE ANALYZED
8260			
Data File Number-Volatiles	0526941010		
Chloroform	<5	µg/kg	05/26/94
Tetrachloroethene	10	µg/kg	05/26/94
1,2-Dichloroethane-d4 (Surrogate)	107	%	05/26/94
Toluene-d8 (Surrogate)	95	%	05/26/94
4-Bromofluorobenzene (Surrogate)	83	%	05/26/94

Client Name: HUNTINGDON - TRI-CITIES, WA
Project No.: 87-921
Laboratory No.: 151746
Sample Name: 52194430PCH314
Sample Date: 05/21/94
Collected by: JUSTIN BOLLES
Time Sampled: 1630
Sample Type: SOIL

PARAMETER	MEASURED VALUE		DATE ANALYZED
8260			
Data File Number-Volatiles	0526941011		
Chloroform	<5	µg/kg	05/26/94
Tetrachloroethene	<5	µg/kg	05/26/94
1,2-Dichloroethane-d4 (Surrogate)	89	%	05/26/94
Toluene-d8 (Surrogate)	81	%	05/26/94
4-Bromofluorobenzene (Surrogate)	80	%	05/26/94

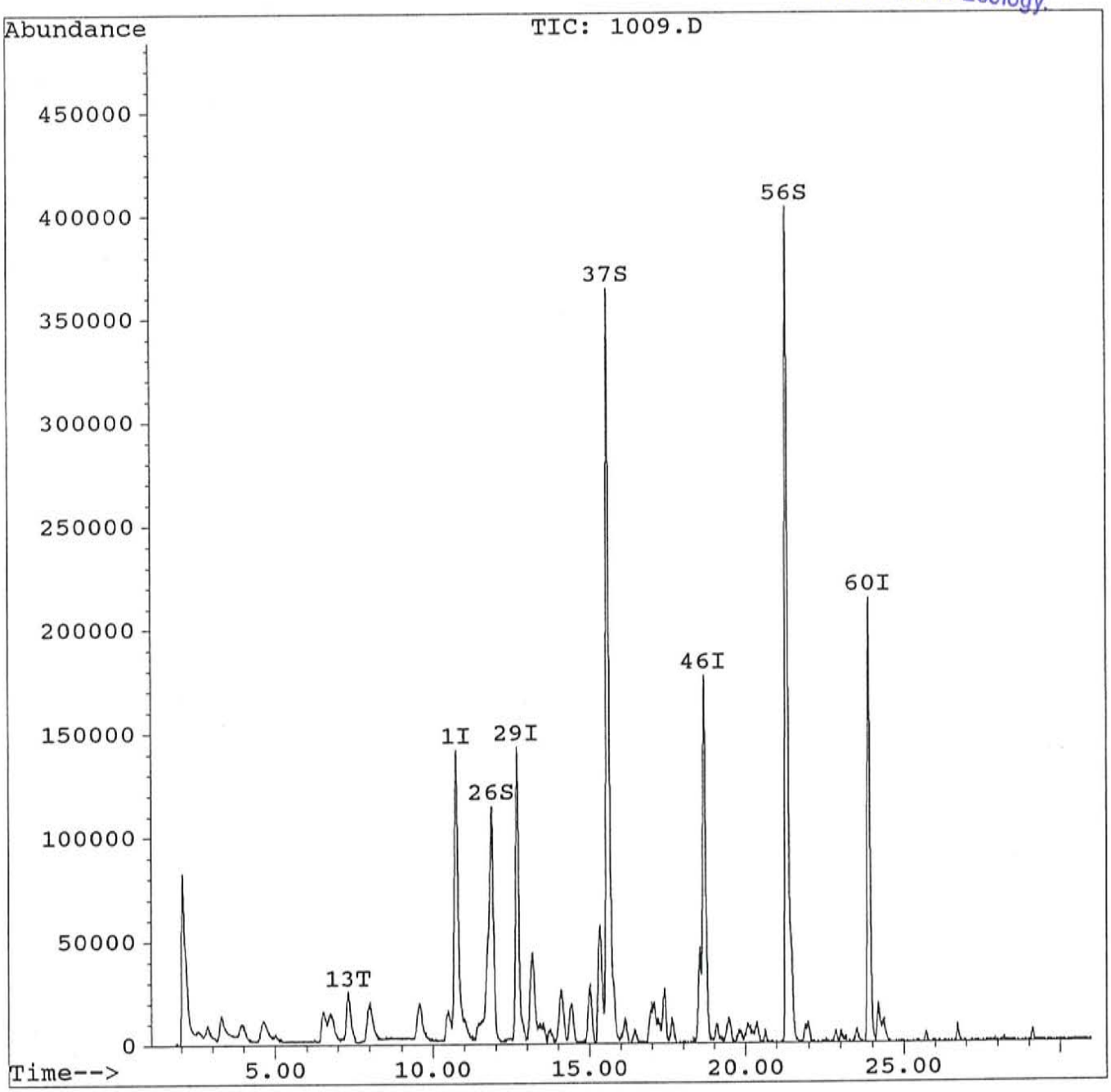
ATTACHMENTS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\052694\1009.D
Acq Time : 26 May 94 2:30 pm
Sample : 151744 5gm
Misc :
Quant Time: May 26 15:18 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052794.M
Title : 8260 and append 9
Last Update : Fri May 27 11:55:32 1994
Response via : Multiple Level Calibration

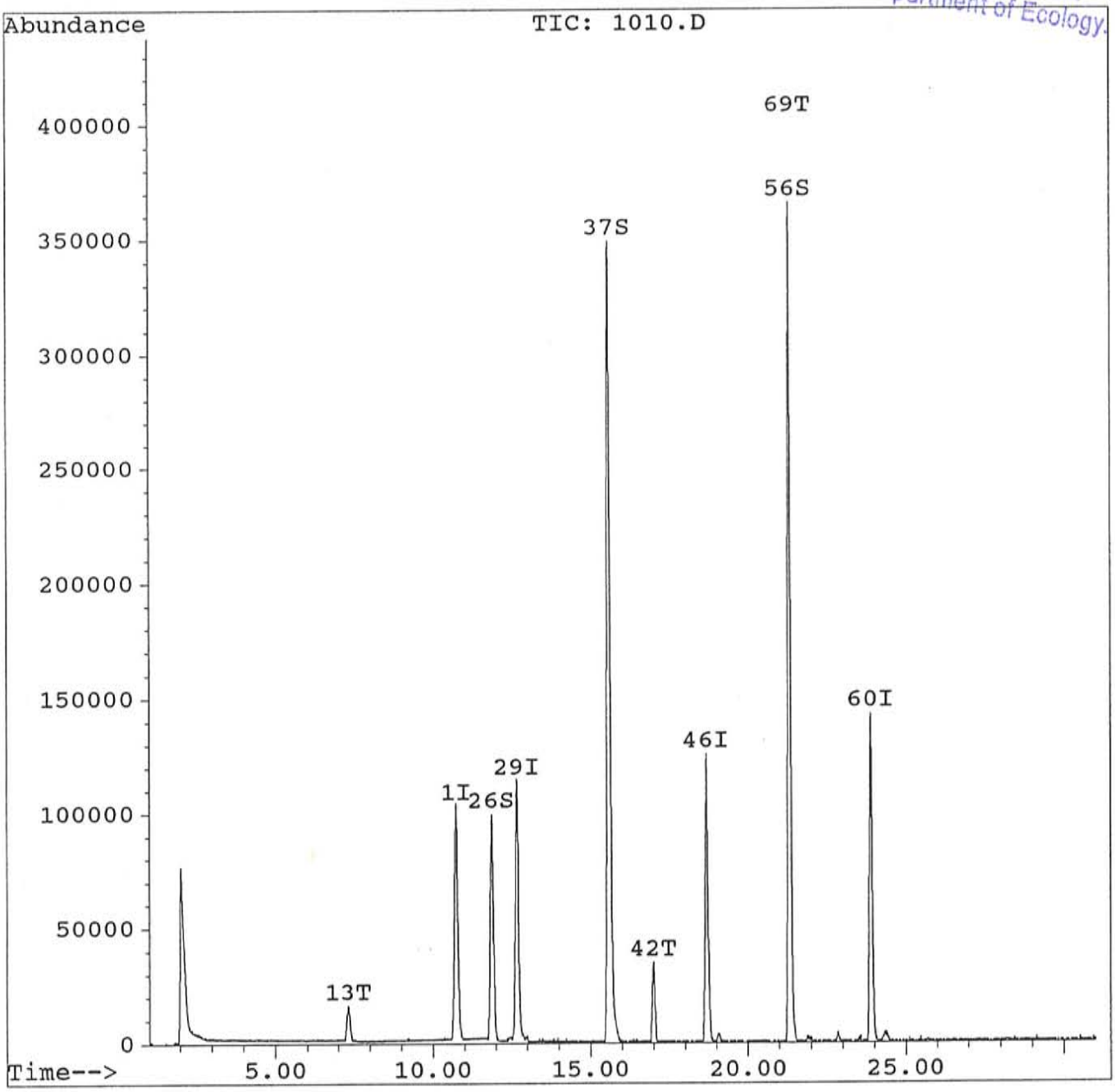


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052694\1010.D
Acq Time : 26 May 94 3:10 pm
Sample : 151745 5gm
Misc :
Quant Time: May 26 15:43 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052694.M
Title : 8260 and append 9
Last Update : Thu May 26 13:15:34 1994
Response via : Multiple Level Calibration

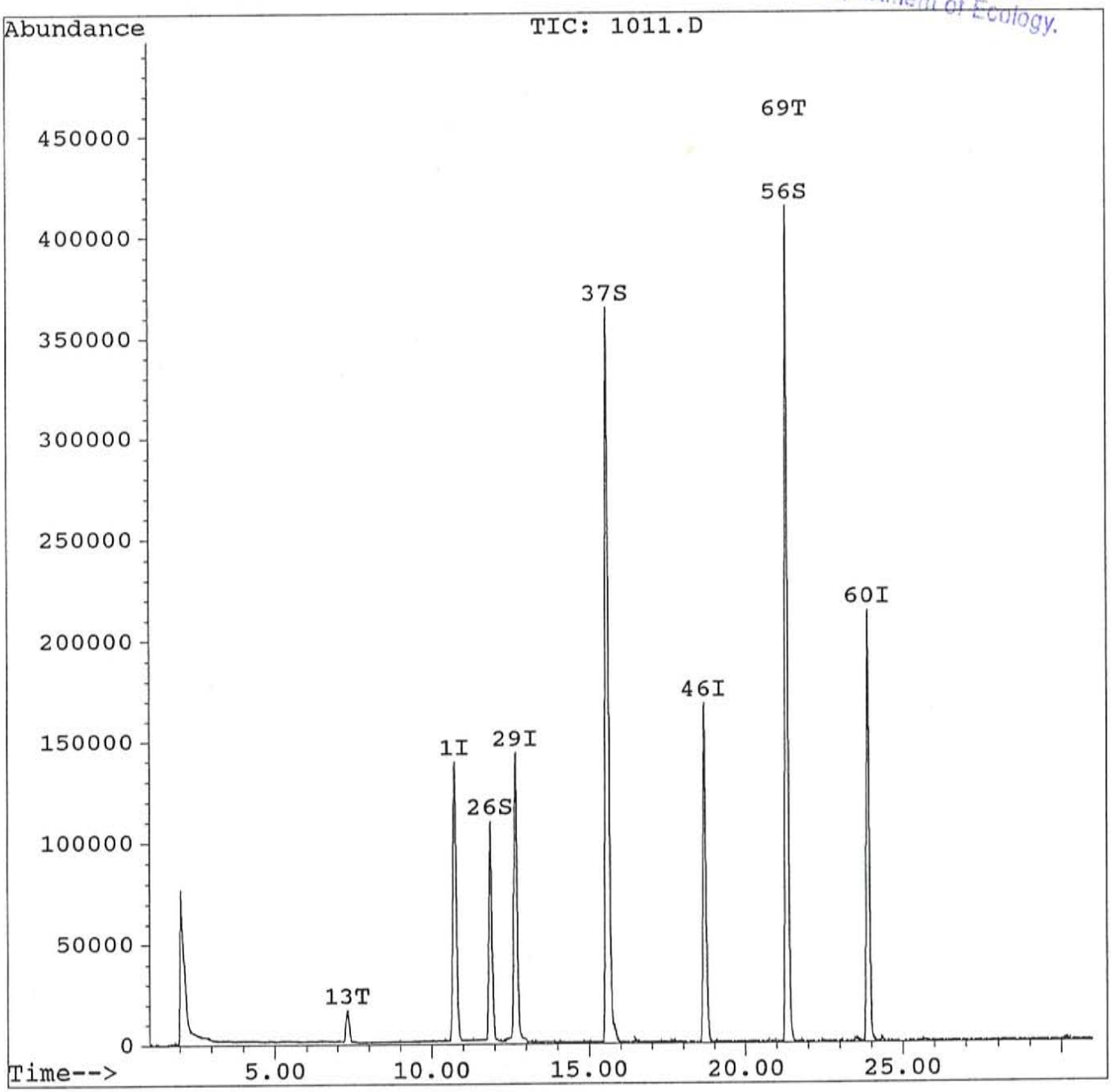


Quantitation Report

Data File : C:\HPCHEM\1\DATA\052694\1011.D
Acq Time : 26 May 94 3:50 pm
Sample : 151746 5gm
Misc :
Quant Time: May 26 17:21 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\052694.M
Title : 8260 and append 9
Last Update : Thu May 26 13:15:34 1994
Response via : Multiple Level Calibration



Yakima Goodwill Industries PH2

Project or Site Name

194-1769-1

Project Number

Justin Bolles

Sampler Name (Printed)

CHAIN OF CUSTODY RECORD

Huntingdon

Consulting Engineers Environmental Scientists

- [x] Chen-Northern, Inc., Division
- [ ] Thomas-Hartig & Associates, Inc., Division
- [ ] Schaefer Dixon Associates, Inc., Division
- [ ] Herzog Associates, Inc., Division

Justin Bolles

Contact or Report to

Tri-Cities, WA

Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: EPA 8260	NOTES	LAB NUMBER
5-21-94	2:45P	52194245PCH1ZO	GRAB	Soil	1	X	Corehole 1	15174
5-21-94	3:30P	52194330PCH2ZO	GRAB	Soil	1	X	Corehole 2	45
5-21-94	4:30P	52194430PCH3ZO	GRAB	Soil	1	X	Corehole 3	46

	Date	Time	Received by:
Relinquished by:	5-23-94	3:00P	Carrier/Fed X
Relinquished by:	5/24/94	1200	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
Please Analyze for only Chloroform and tetrachloroethylene (tetrachloroethene)

RUSH!

Cooler temp 5°C

Huntingdon
(Formerly Chen-Northern, Inc.)
600 South 25th Street
P O Box 30615
Billings, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: ATTN: JUSTIN BOLLES
HUNTINGDON ENGINEERING &
ENVIRONMENTAL, INC.
P O BOX 2601
TRI-CITIES WA 99302

DATE: June 10, 1994
JOB NUMBER: 87-921
SHEET: 1 of 2
INVOICE NO.: 025390

REPORT OF: Soil Analysis - Yakima Goodwill Industries (194-1969-1)

SAMPLE IDENTIFICATION:

On June 1, 1994, this soil sample (laboratory number 151981) was received in our laboratory for analysis. The sample was analyzed for volatile organics in accordance with Environmental Protection Agency Manual SW-846, *Test Methods for Evaluating Solid Waste*, Third Edition, November 1986; Method 8260. The total petroleum hydrocarbon determination was made in accordance with Environmental Protection Agency Method 418.1 and the State of Washington, Department of Ecology, Method WTPH - 418.1.

The condition of the sample upon receipt at the laboratory is noted on the attached sample receipt checklist. The test results are shown on the following pages. Chromatograms are attached for your reference.

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

Reviewed by Denise Jensen

Attachment: Chromatograms
Sample Receipt Checklist

mc

Client Name: **HUNTINGDON - TRI-CITIES, WA**
Project No.: 87-921
Laboratory No.: 151981
Sample Name: 52794130PCH4
Sample Date: 05/27/94
Collected by: PAUL DANIELSON
Time Sampled: 1330
Sample Type: SOIL

PARAMETER	MEASURED VALUE			DATE ANALYZED
8260				
Data File Number-Volatiles	0602941009, 0602941012	*		
Chloroform	<5		µg/kg	06/02/94
Tetrachloroethene	3300	*	µg/kg	06/02/94
1,2-Dichloroethane-d4 (Surrogate)	124	**	%	06/02/94
Toluene-d8 (Surrogate)	90		%	06/02/94
4-Bromofluorobenzene (Surrogate)	65	**	%	06/02/94
INORGANICS				
Moisture	10.2		%	06/09/94
PETROLEUM HYDROCARBONS (418.1)				
Recoverable Petroleum Hydrocarbons as received	140		mg/kg	06/07/94
Recoverable Petroleum Hydrocarbons dry basis	160		mg/kg	06/07/94

* 1:625 dilution.
** The surrogate spike recovery was not within established limits. The sample was reanalyzed with similar results, indicating a probable matrix interference.

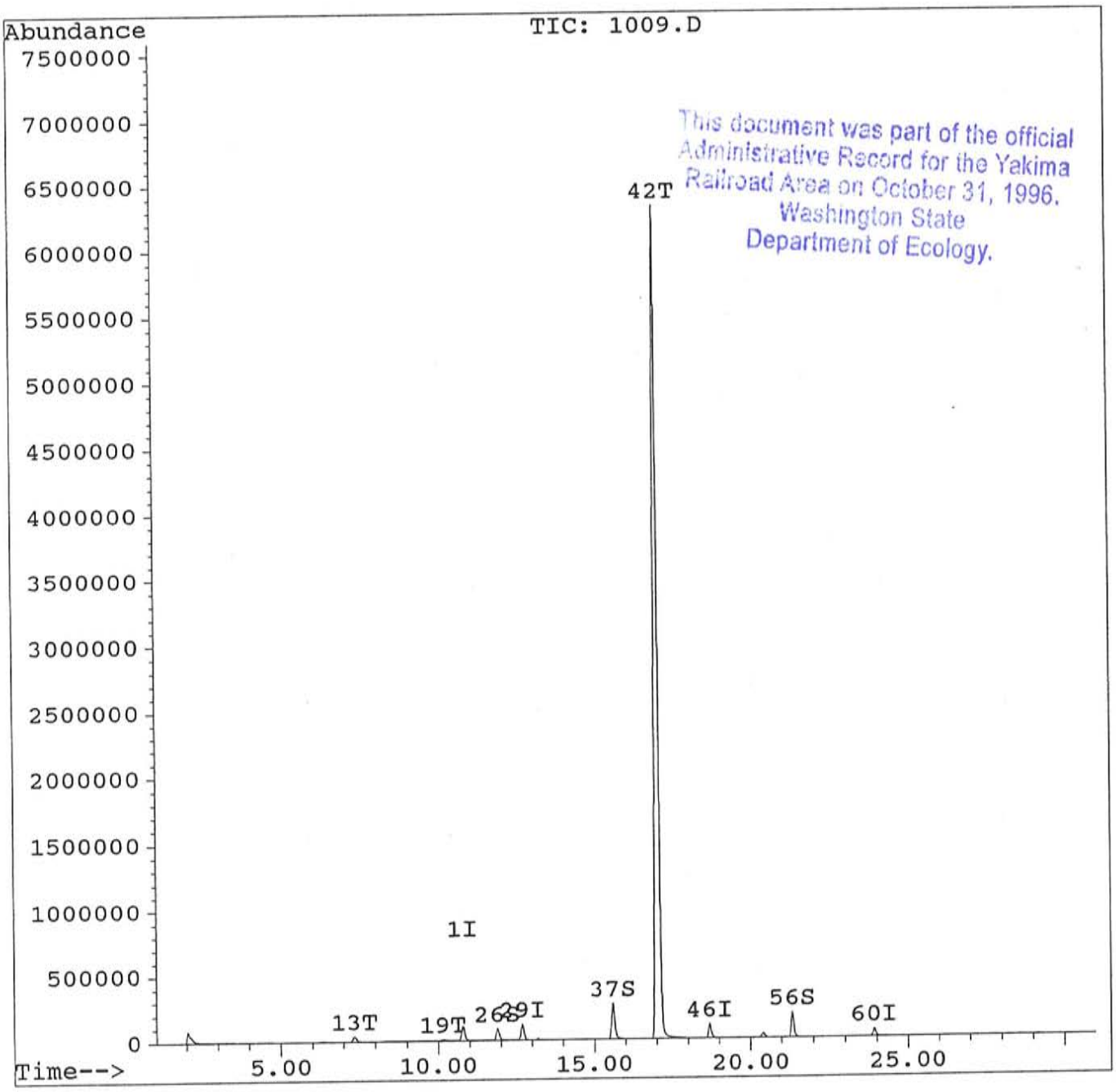
ATTACHMENTS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\060294\1009.D
Acq Time : 2 Jun 94 1:43 pm
Sample : 151981 5 gm re
Misc :
Quant Time: Jun 2 14:25 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\060294.M
Title : 8260 and append 9
Last Update : Thu Jun 02 09:45:28 1994
Response via : Single Level Calibration

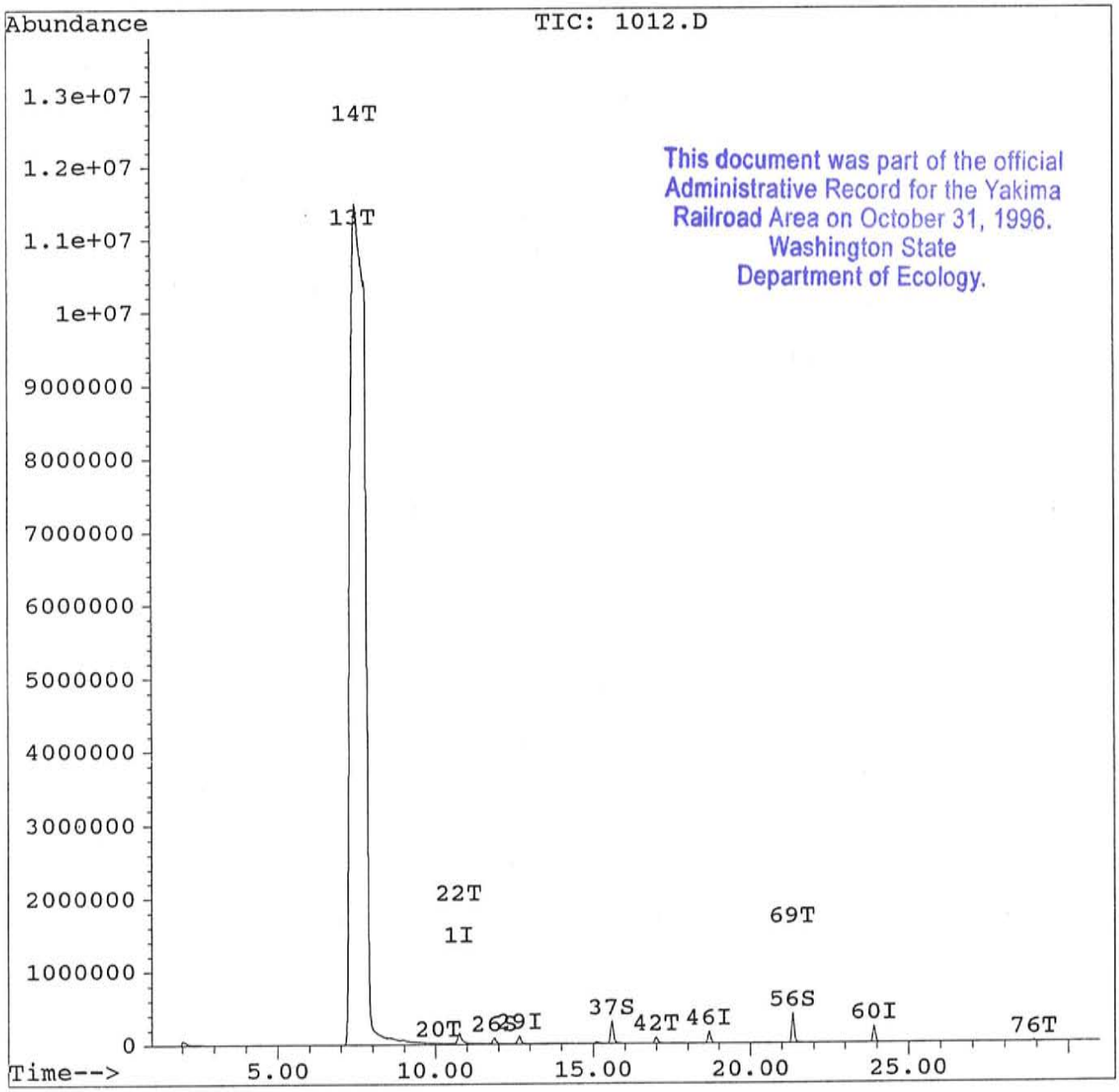


Quantitation Report

Data File : C:\HPCHEM\1\DATA\060294\1012.D
Acq Time : 2 Jun 94 5:27 pm
Sample : 151981 100ul/mlvl
Misc :
Quant Time: Jun 2 18:00 1994

Operator: GHP
Inst : GC/MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\060294.M
Title : 8260 and append 9
Last Update : Thu Jun 02 09:45:28 1994
Response via : Single Level Calibration



CHAIN OF CUSTODY RECORD

Huntingdon
Consulting Engineers · Environmental Scientists

- [X] Chen-Northern, Inc., Division
- [ ] Thomas-Hartig & Associates, Inc., Division
- [ ] Schaefer Dixon Associates, Inc., Division
- [ ] Herzog Associates, Inc., Division

City of Yakima
Yakima Greenwall Industries
Project or Site Name

194-1769-1
Project Number

Paul Danielson
~~Justin Bowles~~ J.B.
Sampler Name (Printed)

Justin Bowles
Contact or Report to

Tri-Cities, WA
Contact Address or Location

Sampler Signature

DATE COLLECTED	TIME COLLECTED	SAMPLE LOCATION OR DESCRIPTION	COMP OR GRAB	SAMPLE MATRIX	NO. OF CONTAINERS	ANALYSIS REQUIRED: WTPH 418.1	8260					NOTES	LAB NUMBER
5-27-94	1:30P	52794130PCH4	Grab	Soil	2	X	X					Core Hole 4	151981

Relinquished by:	Date	Time	Received by:
Justin B.	5-31-94	3:30P	Carrier/Fed X
~~Relinquished by:~~	6/1/94	1830	A. Cleveland
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Remarks:
Analyze 8260 only for chloroform and tetrachloroethylene (tetrachloroethene)

RUSH!

Cooler temp 15°C

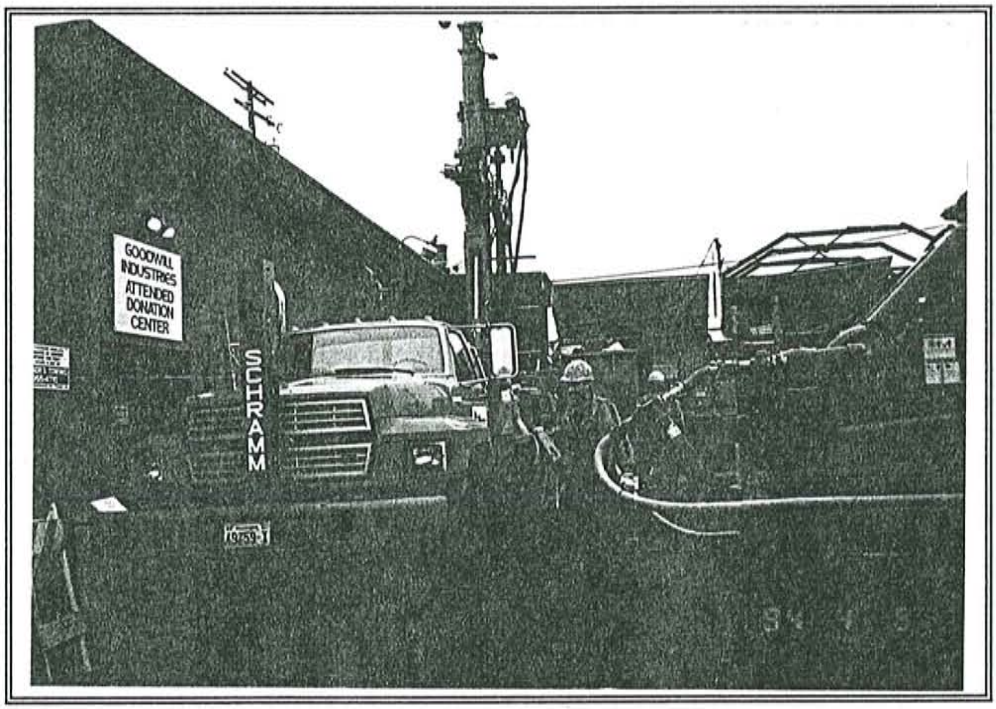
APPENDIX 5

Photographic Records

PHOTOGRAPHER: Justin Bolles

DATE: 4/8/94

VIEW: Drill rig setting up over B-1/MW-1 in receiving area north of the store.

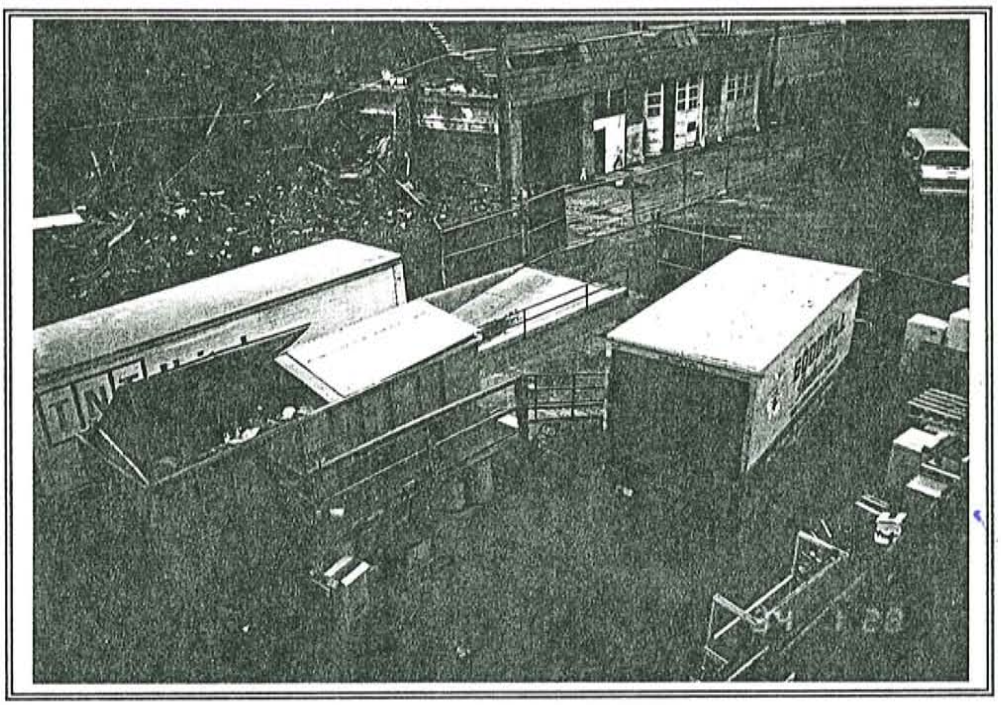


PHOTOGRAPHER: Justin Bolles

DATE: 4/8/94

VIEW: Installing MW-1 in receiving area.

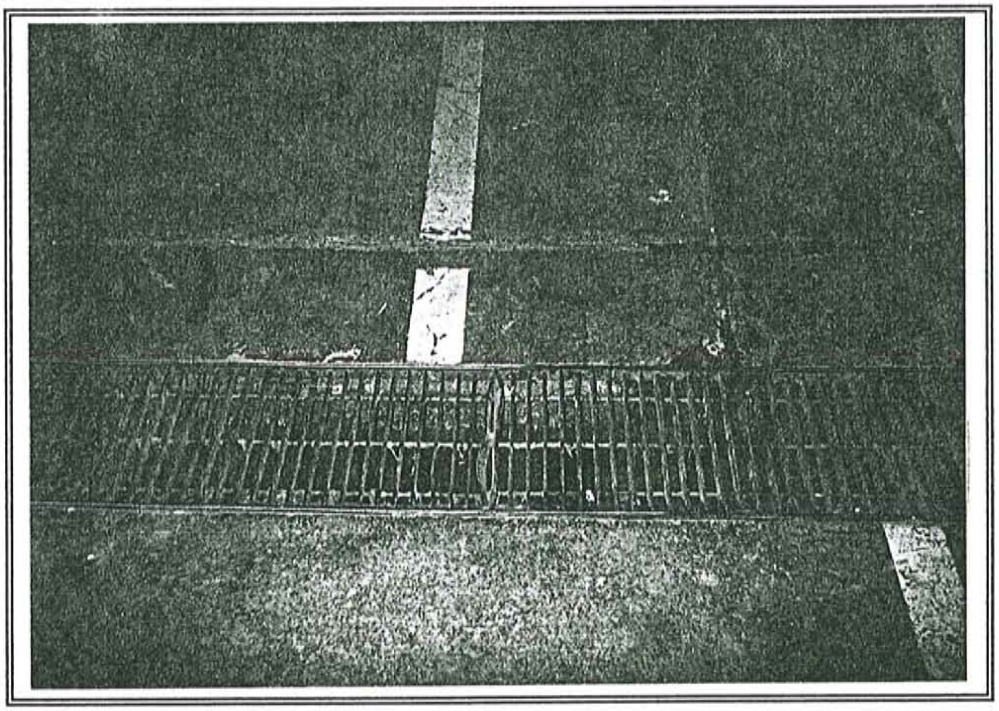
HUNTINGDON Job No.: 194-1969	PHOTOGRAPHIC RECORDS Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 4/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. A



PHOTOGRAPHER: Justin Bolles

DATE: 1/28/94

VIEW: Yakima Goodwill Industries receiving area. Prestige Buick facility is located west of the alley area near the top of the photograph.

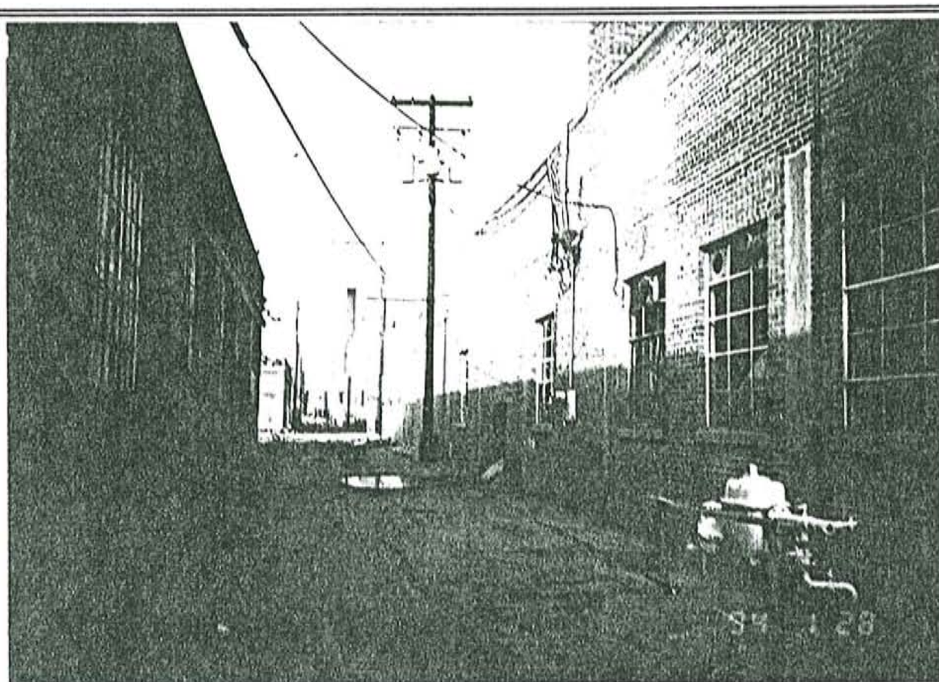


PHOTOGRAPHER: Justin Bolles

DATE: 1/28/94

VIEW: Interior grated sump located in store's production area.

HUNTINGDON Job No.: 194-1969	PHOTOGRAPHIC RECORDS Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 4/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. B



PHOTOGRAPHER: Justin Bolles

DATE: 1/28/94

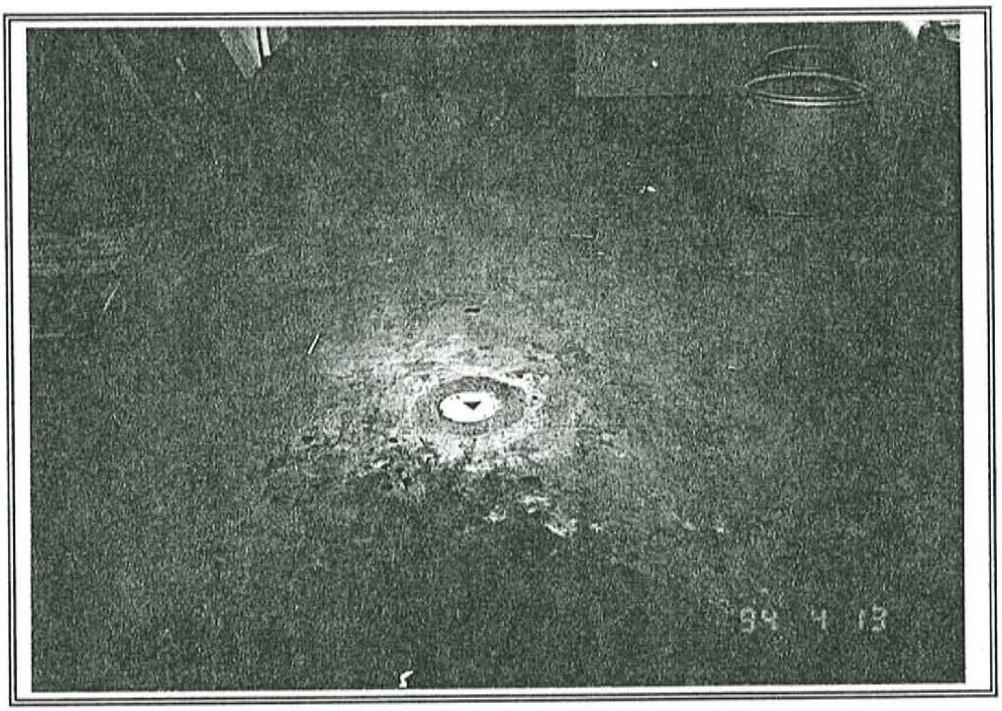
VIEW: Looking northwest up alley from East Spruce Street. Yakima Goodwill Industries site is located on east side of alley. Prestige Buick facility is located on west side of alley.

PHOTOGRAPHER: Justin Bolles

DATE: 4/13/94

VIEW: Monitoring well LW-4.

HUNTINGDON Job No.: 194-1969	**PHOTOGRAPHIC RECORDS** Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 4/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. C



PHOTOGRAPHER: Justin Bolles

DATE: 4/13/94

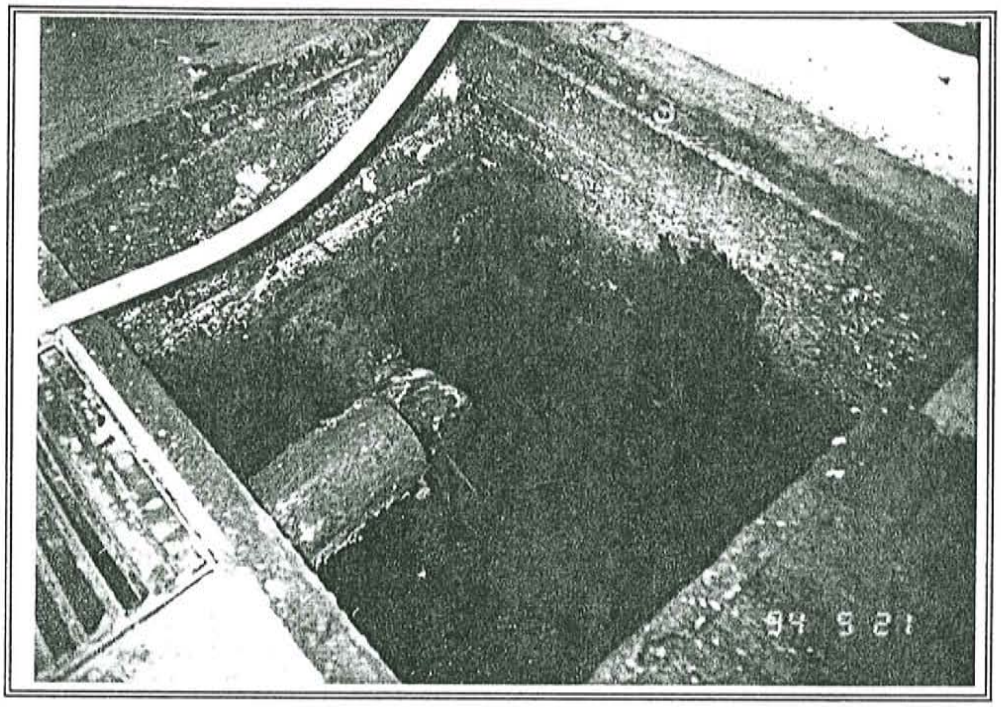
VIEW: Monitoring well MW-1.

PHOTOGRAPHER: Justin Bolles

DATE: 4/13/94

VIEW: Monitoring well MW-2.

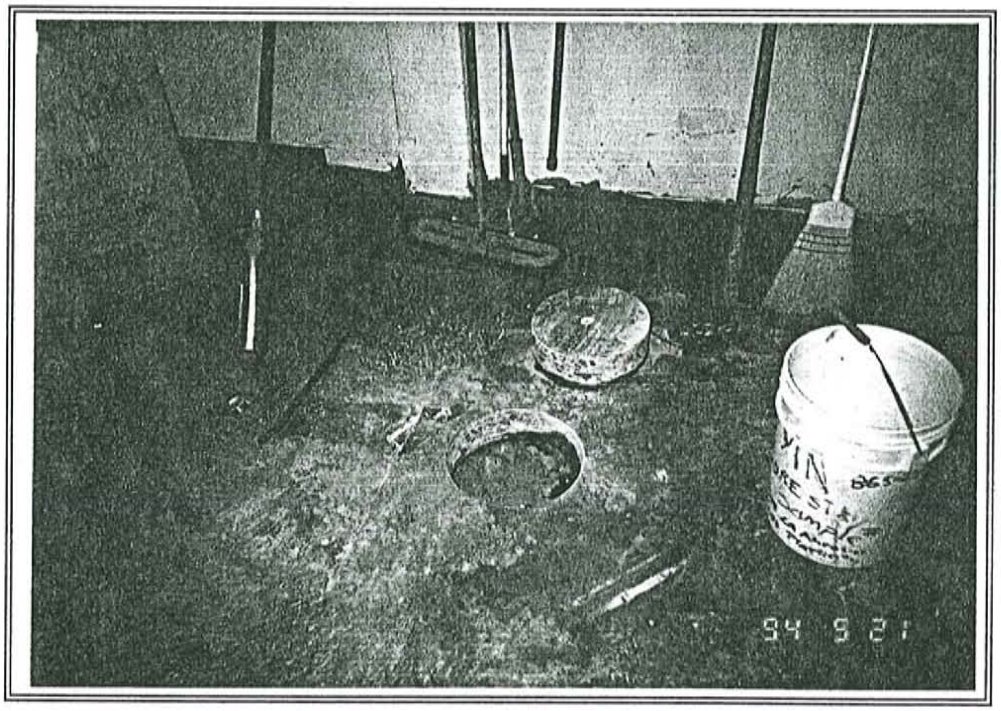
HUNTINGDON Job No.: 194-1969	**PHOTOGRAPHIC RECORDS** Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 4/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. D



PHOTOGRAPHER: Justin Bolles

DATE: 5/21/94

VIEW: Trap of grated sump after removal of sediment.

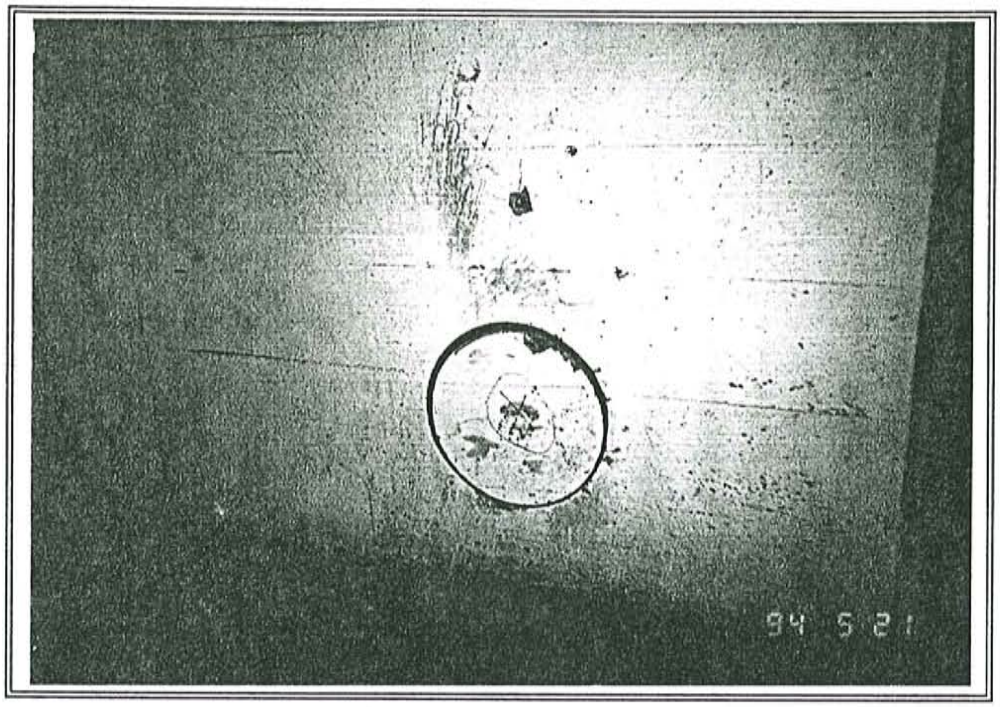


PHOTOGRAPHER: Justin Bolles

DATE: 5/21/94

VIEW: Corehole one located near former location of dry cleaning machine.

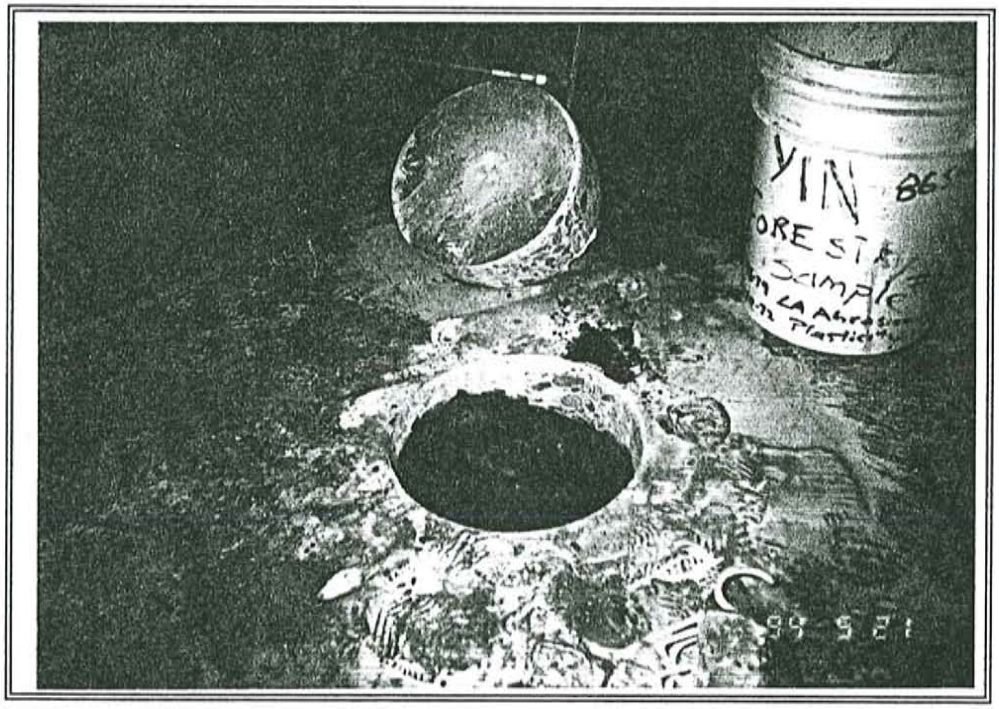
HUNTINGDON Job No.: 194-1969	PHOTOGRAPHIC RECORDS Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 5/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. E



PHOTOGRAPHER: Justin Bolles

DATE: 5/21/94

VIEW: Corehole two located in basement wall beneath location of former dry cleaning machine.



PHOTOGRAPHER: Justin Bolles

DATE: 5/21/94

VIEW: Corehole three located in south basement storage room.

HUNTINGDON Job No.: 194-1969	PHOTOGRAPHIC RECORDS Phase II Environmental Site Assessment Yakima Goodwill Industries Site Yakima, Washington			
	DATE: 5/94	MOUNTED BY: JB	REVIEWED BY: GH	EXHIBIT NO. F