G D C

GDC ENGINEERING INC.

SPECIALIZING IN WASTE MANAGEMENT, SITE RESTORATION AND THERMAL TREATMENT

SITE ASSESSMENT REPORT

COMMONWEALTH OIL REFINING COMPANY, INC.
PONCE, PUERTO RICO

Submitted To:

COAST ENVIRONEERS, INC.
TWO UNITED PLAZA
8550 UNITED PLAZA BLVD., SUITE 702
BATON ROUGE, LOUISIANA 70809

Prepared By:

GDC ENGINEERING INC.
822 NEOSHO AVENUE
BATON ROUGE, LOUISIANA 70802

PROJECT NO. 93-558

AUGUST 31, 1994

Rev. 8/31/94

G D
C

TABLE OF CONTENTS

1.0 INTRODUCTION

2.0 FIELD INVESTIGATION PROCEDURES

2.1 LAGOONS AND SLOP OIL TANKS SAMPLING METHODOLOGY

2.1.1 Eastern Oil Lagoon
2.1.2 Western Lagoons
2.1.3 Slop Oil Tanks

2.2 GROUNDWATER INVESTIGATION METHODOLOGY

2.2.1 Monitor Well Installation
2.2.2 Monitor Well Development
2.2.3 Water Level Measurements
2.2.4 Soil Sample Collection
2.2.5 Groundwater Sample Collection
2.2.6 Surveying

2.3 SAMPLE PRESERVATION AND DOCUMENTATION
2.4 DECONTAMINATION AND CONTAMINATION REDUCTION
2.5 FIELD AND LABORATORY QUALITY CONTROL SAMPLES

2.5.1 Eastern Lagoon Field and Laboratory Quality Control Samples
2.5.2 Western Lagoons and Slop Oil Tanks Field and Laboratory Quality Control Samples
2.5.3 Groundwater Investigation Field and Laboratory Quality Control Samples

3.0 QUALITY ASSURANCE/QUALITY CONTROL

3.1 FIELD EQUIPMENT CALIBRATION
3.2 FIELD DATA MANAGEMENT
3.3 LABORATORY DATA MANAGEMENT
3.4 DATA VALIDATION

G D C

TABLE OF CONTENTS
(continued)

4.0 SITE ASSESSMENT ANALYTICAL RESULTS

4.1 EASTERN OIL LAGOON RESULTS
4.2 OXIDATION LAGOON RESULTS
4.3 COOLING WATER EAST LAGOON RESULTS
4.4 COOLING WATER WEST LAGOON RESULTS
4.5 AERATION LAGOON RESULTS
4.6 SLOP OIL TANK RESULTS
4.7 SOIL BORINGS AND GROUNDWATER RESULTS

5.0 CONCLUSIONS

TABLES

TABLE 1 TABULATED FIELD DATA
EASTERN OIL LAGOON SAMPLING SUMMARY

TABLE 2 EASTERN OIL LAGOON BORING/TEST PIT
LITHOLOGIC/PHYSICAL DESCRIPTIONS

TABLE 3 WESTERN LAGOONS AND SLOP OIL TANKS SAMPLE
LOG AND HEAD SPACE READINGS

TABLE 4 GROUNDWATER PURGING AND FIELD SAMPLING DATA

TABLE 5 EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST

TABLE 6 EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

TABLE 7 EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 8 OXIDATION LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
APPENDIX IX LIST

G D C

TABLE OF CONTENTS
(continued)

TABLES, continued

TABLE 9 OXIDATION LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

TABLE 10 OXIDATION LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 11 COOLING WATER EAST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)

TABLE 12 COOLING WATER EAST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

TABLE 13 COOLING WATER EAST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 14 COOLING WATER WEST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)

TABLE 15 COOLING WATER WEST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURES (TCLP)

TABLE 16 COOLING WATER WEST LAGOON RESULTS
SOIL/SLUDGE/WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 17 AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST

TABLE 18 AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

G D C

TABLE OF CONTENTS
(continued)

TABLES, continued

TABLE 19 AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 20 SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST

TABLE 21 SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

TABLE 22 SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

TABLE 23 GROUNDWATER INVESTIGATION SOIL BORING RESULTS
TARGET ANALYTE LIST (TAL) METALS

TABLE 24 GROUNDWATER INVESTIGATION SOIL BORING RESULTS
TPHC

TABLE 25 GROUNDWATER RESULTS
APPENDIX IX LIST

TABLE 26 COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST

FIGURES

FIGURE 1 SITE LOCATION MAP

FIGURE 2 EASTERN LAGOON SAMPLING

FIGURE 3 SAMPLE/SOUNDING LOCATIONS COOLING WATER EAST LAGOON

G D C

TABLE OF CONTENTS
(continued)

FIGURES, continued

FIGURE 4 SAMPLE/SOUNDING LOCATIONS COOLING WATER WEST LAGOON

FIGURE 5 SAMPLE/SOUNDING LOCATIONS OXIDATION LAGOON

FIGURE 6 SAMPLE/SOUNDING LOCATIONS AERATION LAGOON

FIGURE 7 MONITORING WELL LOCATIONS WESTERN LAGOON AREA

FIGURE 8 MONITORING WELL LOCATIONS EASTERN OIL LAGOON AREA

FIGURE 9 POTENTIOMETRIC MAP EASTERN OIL LAGOON AREA

FIGURE 10 POTENTIOMETRIC MAP WESTERN LAGOON AREA

FIGURE 11 SURVEY PLOT EASTERN OIL LAGOON

FIGURE 12 SURVEY PLOT WESTERN LAGOON

APPENDICES

APPENDIX A PHOTOGRAPHS
APPENDIX B BORING LOGS
APPENDIX C WELL CONSTRUCTION DIAGRAMS
APPENDIX D CASE NARRATIVES
APPENDIX E LABORATORY ANALYTICAL RESULTS
APPENDIX F WESTON DATA VALIDATION REPORT
APPENDIX G INCHCAPE DATA VALIDATION REPORT
APPENDIX H COOLING WATER LAGOONS STATISTICAL ANALYSES
APPENDIX I INCHCAPE GROUNDWATER DATA REVIEW

1.0 INTRODUCTION

The "Site Assessment Work Plan for Specified Waste Handling Units at the Commonwealth Oil Refining Company, Inc. (CORCO)" (May 1992) was implemented as an initial step to determine closure methodology for seven specified solid waste management units at the facility in Ponce, Puerto Rico. The site assessment was in response to the settlement agreement between CORCO and the United States Environmental Protection Agency (EPA). The solid waste management units are five lagoons and two tanks. The five lagoons include the Eastern Oil Lagoon and the four Western Lagoons which are comprised of two non-contact Cooling Water Lagoons (East and West), an Aeration Lagoon, and an Oxidation Lagoon. The two tanks are aboveground slop oil tanks (1008 and 1030). The location of these two areas are shown on Figure 1. This report addresses the sampling activities of these units.

Roy F. Weston, Inc. (WESTON) performed the Eastern Oil Lagoon assessment activities during the period between December 7 and December 11, 1992. The activities included an assessment of the thickness, areal extent and chemical and physical characteristics of the sludge. Additionally, the physical and chemical characteristics of the underlying native soil were assessed. Sludge and soil samples were obtained from both hand-augered borings and test pits. Laboratory analyses were performed by WESTON's Lionville laboratory. WESTON submitted a preliminary report to CORCO, dated April 30, 1993, documenting the Eastern Lagoon sampling activities and laboratory results. CORCO submitted the Eastern Lagoon Assessment report to the EPA Region II with a

letter dated May 12, 1993. The Eastern Lagoon Assessment report was deficient in several areas. The EPA provided specific comments in Enclosure I of the August 18, 1993 letter. WESTON responded to the EPA comments in a letter format dated September 7, 1993.

Coast Environeers, Inc. (CEI) of Baton Rouge, Louisiana was contracted by CORCO to 1) incorporate all responses to EPA comments in a Site Assessment report for the Eastern Oil Lagoon sampling; 2) execute the sampling of the four Western Lagoons; 3) execute the sampling of two Slop Oil Tanks; 4) conduct soil boring/monitor well installation at the Eastern Lagoon and Western Lagoon Areas; and 5) sample soils and groundwaters at the Eastern Lagoon and Western Lagoon Areas. GDC Engineering Inc. (GDC) was subcontracted by CEI to provide sampling and reporting services for the Site Assessment. Inchcape Testing Services, Inc. (Inchcape) performed analytical testing and provided the analytical data packages for the project.

The assessment activities associated with the Western Lagoons and Slop Oil Tanks were conducted by GDC between October 13, 1993 and November 8, 1993. The activities included volume estimation and chemical/physical characterization of NAPLs, waters, sludges, and soils at the Western Lagoons and Slop Oil Tanks.

GDC conducted the soil boring/monitor well program of the groundwater assessment during the periods November 30, 1993, and December 17, 1993, and January 10 and 14, 1994. The work consisted of the drilling and sampling of eight soil borings and the installation, development, surveying, water level measurements, sampling, and analysis of eight monitor wells.

The field work and analytical testing for the Eastern Oil Lagoon was conducted by WESTON. All sections of this report, which address the assessment activities at the Eastern Oil Lagoon, are based solely on information provided to CEI and GDC from WESTON's investigation. The data from which the Eastern Oil Lagoon discussions were developed include the original WESTON report, the responses to EPA comments, and the analytical data package. The portions of the report which discuss the Western Lagoons, Slop Oil Tanks, and Groundwater Investigation are based on the field activities, observations, and analytical data obtained by GDC. Field activities, deviations from the Work Plan, analytical results, and conclusions are documented herein.

2.0 FIELD INVESTIGATION PROCEDURES

The field investigation procedures for the Eastern Oil Lagoon, Western Lagoons, Slop Oil Tanks, and groundwater assessment are described in the following subsections. Appendix A includes photographs documenting these activities.

2.1 LAGOONS AND SLOP OIL TANKS SAMPLING METHODOLOGY

As part of the site assessment, the volumes of sludge and liquid in the five lagoons and two tanks were measured and estimated. From this data, the sludge thickness, sludge phases and the relative depth of each phase was determined. Additionally, the sludge and underlying soil, where applicable, in each lagoon and the sludge in each tank were sampled and analyzed. Where present, water and NAPL were also sampled and analyzed. These analytical results were used to determine the chemical and physical characteristics of the wastes.

2.1.1 Eastern Oil Lagoon

Sampling Procedures

A four-node grid system was used to determine sampling locations for the Eastern Oil Lagoon as illustrated in Figure 2. It should be noted that samples obtained from each boring were believed to be sludge samples, as indicated on the chain-of-custody records, since the sludge/soil interface was difficult to distinguish by hand augering. As a result, two test pits were excavated to determine the interface. Observations made from the test pits indicate that the sludge deposition coincides with the line of sparse vegetation and that the sludge thins in an easterly direction and is non-existent in the eastern most portion of the lagoon.

The hand-augered borings at the eastern grid nodes (EL-NE and EL-SE) indicated that gray-brown, silty-clay soil was present from the ground surface to the bottom of the borings (approximately six to seven feet), and that no sludge was present. However, in an effort to determine if a sludge/soil interface existed, the upper three feet of the borings were not sampled. Composite samples representative of native subsoil at each location were collected (EL-NE-1 and EL-SE-1). EL-NE-1 was collected from 3.2 to 5.5 feet, and EL-SE-1 was obtained from 3.5 to 7.0 feet. Groundwater was encountered in EL-SE at a depth of approximately four feet below land surface. Head space readings measured by a Microtip photoionization instrument indicated little evidence of the presence of volatile organics, with readings ranging from 0-8 ppm in each borehole.

The hand-augered borings, EL-NW and EL-SW, at the western grid nodes encountered a black sludge primarily in the upper three feet of each boring. Composite samples of the underlying soil, EL-NW-1 (3.5 to 8.0 feet) and EL-SW-1 (3.5 to 5.5 feet), appeared stained to varying degrees, but consisted of the silty-clay soil that was characteristic of the eastern portion of the lagoon. The depth of visual staining was difficult to ascertain with hand augering, but appeared to be gradational. Field screening with a HNu indicated that volatile organics were present in the soils with readings ranging between 100 and 200 ppm in each of the western borings. The groundwater in EL-NW was at a depth of four feet below land surface.

Based on the above findings, and since the collection of analytical samples had begun at a depth of three feet in each boring, pure sludge samples had not been collected for analysis although the soil samples EL-NE-1, EL-SE-1, EL-NW-1, and EL-SW-1 were inaccurately marked as sludge matrices on the chain-of-custody records. To confirm the sludge/soil profile and obtain sludge samples, it was necessary to excavate two test pits at both the western and eastern extent of the sludge material. Figure 2 illustrates the location of both test pits in relation to the borings.

Test Pit EL-SW (Test Pit A) was excavated to a depth of 2.5 feet and confirmed the existence and depth of sludge in the western portion of the lagoon. The black sludge was relatively dry and exhibited no stratification. Therefore, in accordance with the Work Plan, composite sludge samples were collected. A discrete sludge sample for VOC analysis was obtained at a depth of 1.5 feet and a composite sludge sample was collected at an interval of 1.5 to 2.0 feet and designated as EL-SW-2. Since a sludge sample was not collected from boring EL-NW initially, a discrete sludge sample for VOC analysis from a depth of 0.5 feet and a composite sludge sample from the depth interval 0.5 to 1.0 feet were obtained and called EL-NW-2 from a boring adjacent to the original EL-NW boring location.

In the eastern portion of the lagoon, a discrete sludge sample for VOC analysis and a composite sludge sample were collected from Test Pit EL-S (Test Pit B) and labeled as EL-S-1. In addition, a discrete soil sample for VOC analysis and composite soil sample were obtained from the underlying soil and marked as EL-S-2.

Table 1 summarizes the Eastern Lagoon sampling by listing sample depths, sample descriptions, and field screening readings. Detailed lithologic and physical descriptions are presented in Table 2.

Volume Estimation

The Eastern Oil Lagoon is an unlined lagoon with dimensions of 280 feet by 280 feet. Based on four hand-augered borings and the two excavated test pits, the lagoon contains sludge that is approximately three feet thick at its western boundary and pinches out to only several inches at approximately the midpoint of the lagoon. As shown in the generalized cross-section (Figure 2), it appears as though a wedge of sludge exists primarily in the western half of the lagoon and that the eastern half of the lagoon is native soil. Based on the measurements obtained from the augered borings, the test pits, and observations made during the sampling activities, the Eastern Oil Lagoon contains an average thickness of two feet of sludge over one-half of the lagoon surface area (78,000 square feet). The estimated sludge volume is 2,900 cubic yards.

The relatively heavy vegetation present in the eastern half of the lagoon is consistent with the absence of sludge material. Figure 2 shows in plan view the approximate demarcation line between the heavy vegetation and the stressed or sparse vegetation within the lagoon. This demarcation line also coincides with the boundary between areas of the lagoon that apparently contain sludge versus the areas that do not.

2.1.2 Western Lagoons

Sampling Procedures

To determine sampling locations, a four-node grid system was developed for each of the Western Lagoons by dividing the length and width of the lagoon into thirds. The sampling locations are illustrated in Figures 3 through 6. Grid nodes were marked using flagging attached to ropes which were run in an East and West

direction across each lagoon. Due to the large surface area, this method could not be used to mark the grid nodes in the Oxidation Lagoon. Consequently, grid nodes were visually estimated by sightings on survey flags.

Sample locations were accessed by positioning a boat along the marked grid lines in each lagoon. A Wheaton Grab II sampler with a spring-loaded plunger mechanism was utilized in the collection of water and low-viscosity sludge samples. Heavier, viscous sludges and underlying soils were collected using a Wildco hand corer.

One water sample was obtained from each lagoon. Sludge and soil samples were collected from the four sample locations in the Cooling Water Lagoons and the Oxidation Lagoon. The work plan indicated that the Aeration Lagoon was concrete-lined. Therefore, soil samples from the Aeration Lagoon were not included in the sampling program and only sludge samples were obtained from the sample locations. Head space readings were measured using an HNu photoionization analyzer (HNu) and recorded in the field logbook. A list of sample names, sample descriptions, and head space readings are presented in Table 3.

The Cooling Water Lagoons were originally sampled on October 27 and October 28, 1993, however, the samples were delayed during transport and were warm when they arrived at Inchcape. Consequently, those samples were discarded and the two Cooling Water Lagoons were re-sampled on November 2 and November 3, 1993.

A thin, oily sheen was visible in portions of all four Western Lagoons and appeared to move about with the prevailing winds. As the sludge in each lagoon was disturbed during the sampling process, an oily sheen rose to the surface. The thickness of the oily film was negligible and did not constitute a NAPL layer.

A light, grayish colored sludge was present in varying thickness in both Cooling Water Lagoons. This gray sludge was the top layer of two distinct sludge stratifications. The second layer was a dark, brownish-black oily sludge, typical of both Cooling Water Lagoons. Because of the limited thickness of the first layer of sludge, the third sample location in the Cooling Water West Lagoon was the only grid node where samples of the gray sludge could be obtained. At this third sample location, the gray sludge layer was six to nine inches thick.

The Aeration Lagoon contained a black sludge that exhibited no stratification. Likewise, the brownish-black sludge in the Oxidation Lagoon was not stratified.

Volume Estimation

Lagoon sludge volumes were estimated by taking soundings at five locations in each lagoon as shown on Figures 3 through 6. Soundings were performed by pushing one-inch by three-inch by eight-foot boards through the sludge until they reached the natural soil.

The Cooling Water East Lagoon is an unlined lagoon with dimensions of 384 feet by 314 feet. The lagoon contains eleven inches of water, while the average thickness of sludge in the lagoon is 3.5 feet. The Cooling Water East Lagoon is estimated to contain 827,000 gallons of water and 15,400 cubic yards of sludge.

The Cooling Water West Lagoon dimensions are 384 feet by 320 feet. The average sludge thickness is 2.8 feet, based on five soundings. The water in this unlined lagoon is approximately 23.2 inches deep. It is estimated that the Cooling Water West Lagoon contains 1.77 million gallons of water and 12,700 cubic yards of sludge.

The Oxidation Lagoon is an unlined trapezoidal-shaped impoundment having a surface area of 330,990 square feet. Soundings indicate that the average thickness of sludge in this lagoon is 2.02 feet and that the water in this lagoon is approximately 18.4 inches deep. This lagoon is estimated to contain 3.8 million gallons of water and 24,700 cubic yards of sludge.

The Aeration Lagoon has concrete-lined side slopes and a partially concrete-lined bottom (below the nine aerators) and has a surface area of 116,736 square feet. The accumulated sludge in this lagoon has an average thickness of 3.8 inches with an estimated volume of 1,300 cubic yards. The water in the Aeration Lagoon is approximately eight inches in depth with an estimated volume of 582,000 gallons.

2.1.3 Slop Oil Tanks

Sampling Procedures

Tank 1008 contains 1.5 feet of liquid and three feet of sludge. The liquid in this tank was sampled using a clean glass container attached to a teflon-lined cable. This was necessary since the height of each tank roof above the ground was 32 feet. The liquid sample was labeled as a NAPL matrix because of its dark, oily appearance. The Tank 1008 sludge samples were collected with an Eckman sampler lowered into the tank on a teflon-lined cable since the sludge contained a high percentage of solids. Tank 1030 contains approximately 2.5 feet of sludge and was sampled using a clean glass container attached to a rod. Samples were

labeled with the tank number and matrix type. Head space readings taken using an HNu were recorded in the field logbook. Sample names, descriptions, and head space readings for the two Slop Oil Tanks are included on Table 3. TCLP, waste characteristics, and total petroleum hydrocarbons were not analyzed on samples from Tank 1008. Therefore, additional samples were obtained from both tanks on January 13, 1994 for these analyses.

Volume Estimation

Tank 1008 and Tank 1030 were accessed from sampling ports on their roofs. Soundings were performed by attaching wooden rods (one-inch by three-inch by eight-foot boards) to rigid piping and lowering them through the sludge to the bottom of the tank. Measurements of sludge thickness were obtained from the stains on the wooden rods.

Tank 1008 is 32 feet in height with a diameter of 60 feet. Tank 1008 contains approximately 1.5 feet of liquid and three feet of sludge. Estimated volumes for Tank 1008 are 31,700 gallons of water and 63,400 gallons (314 cubic yards) of sludge. Tank 1030 has a diameter of 111 feet and is 32 feet in height. Tank 1030 contains 2.5 feet of sludge with no appreciable volume of water. It is estimated that the sludge volume in Tank 1030 is 181,000 gallons (896 cubic yards).

2.2 GROUNDWATER INVESTIGATION METHODOLOGY

To determine the possible impact to groundwater from the Eastern Oil Lagoon and the Western Lagoon area, eight monitor wells were installed at the locations shown in Figures 7 and 8. Monitor wells EL-1 through EL-4 were installed around the Eastern Oil Lagoon and monitor wells WL-1 through WL-4 were constructed around the Western Lagoons. In both the Eastern Lagoon and Western Lagoon areas, the northern most monitor well locations were anticipated to be upgradient of the lagoons being assessed and were located to determine background soil and groundwater characteristics. The three downgradient wells were located in the areas around the lagoons where groundwater

impact would be detected. The wells were drilled and installed by Caribbean Soil Testing Company, Inc., San Juan, Puerto Rico.

2.2.1 Monitor Well Installation

An Acker trailer-mounted drill rig with 6.25-inch hollow-stem augers was used to advance a 10.5-inch borehole for well construction. Each boring was sampled with a 2-foot long split spoon sampler, driven in advance of the auger according to ASTM (D-1586) Standard Penetration Test. Continuous soil samples were obtained, to the extent possible, characterized, and screened with an OVA and HNu by the field geologist. OVA readings were recorded on the detailed boring logs which are included in Appendix B as Figures B-1 through B-8.

The lithology of the soils encountered in borings EL-1, EL-2, EL-3, and EL-4 (to a depth of 30 to 35 feet) consists of clays (CH), elastic silts (MH) and sandy clays (SC) overlaying a thick stratum of unconsolidated sands (SC) and gravely sands (SP). Field screening of soils with the OVA and HNu meters did not detect any organic vapors in the Eastern Lagoon area. Initial groundwater levels ranged between five and eight feet below ground surface.

The lithology of the soils encountered in borings WL-2, WL-3, and WL-4 (to a depth of 30 to 35 feet) consists of clays (CH), elastic silts (MH) and sandy clays (SC), overlaying unconsolidated sands and gravels. In boring WL-1, the lithology of the soils consists of clayey gravel (GC) overlaying silty clay and clay. The sands and gravels found in all other borings in both the Eastern Oil Lagoon and Western Lagoon areas were not encountered in WL-1, which was terminated at 16 feet below land surface.

Low level organic vapors were detected during the field screening of borings WL-2, WL-3, and WL-4 with concentrations ranging between 5 and 80 ppm. Higher levels were detected in boring WL-1 with concentrations ranging from 5 to greater than 1,000 ppm. Hydrocarbon staining of the soils was evident in WL-1 from a depth of five feet to the water table at eight feet. The water-saturated soils beneath the potentiometric surface contained visible hydrocarbons to a depth of 12 feet. Evidence of hydrocarbons were found in the eight to ten foot interval of the soils in boring WL-2. Initial groundwater levels in the Western Lagoon borings ranged between four and eight feet below the ground surface.

The designated upgradient monitor wells, WL-1 and EL-1, were drilled and installed first and second, respectively. This was followed by the drilling and installation of EL-2, EL-3, EL-4, WL-2, WL-3, and WL-4. In monitor well WL-1, a confining layer of clay was encountered from approximately 13 feet below ground surface. In accordance with the work plan, the boring should be advanced to a minimum depth of ten feet below the water table or into the first primary confining layer. For this reason, the boring was completed at 16 feet and the well was screened from four feet below ground surface to 14 feet below ground surface. At all other locations, this confining clay layer was not encountered. Rather, unconsolidated sand and gravel with heaving characteristics was common.

During the soil sampling of boring EL-1 at a depth of approximately 14 feet, the sand and gravel in this strata heaved into the hollow-stem augers resulting in mechanical difficulties. Consequently, sampling ceased and boring EL-1 was redrilled approximately three feet from the original location for monitor well construction.

Heaving problems were also experienced in boring EL-2 at an approximate depth of 30 feet and the sampling was discontinued. In order to install the well materials, the borehole was advanced approximately three feet lower than the designated depth to allow for heaving. An attempt was made to install a 20-foot screen, however, the heaving precluded the complete installation of the well screen. Consequently, a ten foot section of well screen was removed, leaving only ten feet of screen in monitor well EL-2. To prevent heaving problems in the remaining borings, the augers were advanced at least ten feet below the intended bottom of the well, allowing space for heaving of the unconsolidated materials.

The well materials consist of clean, threaded, two-inch diameter, flush-jointed stainless steel riser pipe with a 10- to 20-foot continuously wound screen (0.010-inch slot) and a one-foot sump. The screened interval was extended to two feet above the water table. The length of the screen was governed by the depth of the soil boring, the water bearing interval, and the heave potential. Filter sand (6/20) was placed in the annulus to approximately one foot above the top of the screen. Approximately one foot of bentonite pellets were added above the sand pack and allowed to hydrate overnight. The annular space above the bentonite seal was grouted to the ground surface using a Portland cement/bentonite mixture.

Well completions consisted of four-inch diameter steel protective casings with locking caps and a two feet by two feet by six inch deep surface concrete pad. Four steel guard posts were placed around monitor wells in traffic areas.

The monitor well construction diagrams are included in Appendix C as Figures C-1 through C-8.

2.2.2 Monitor Well Development

A minimum of 24 hours after installation, on December 16 and 17, 1994, all monitor wells were developed using surge block, bailing, and pumping methods. Development consisted of alternately surging the screened interval using a surge block and bailing water from the well until the water was nearly sediment free. A stainless steel and Teflon surge block, attached to PVC pipe, was utilized to manually surge the wells. After surging and bailing, the wells were pumped using an electric submersible pump. Clean polyethylene tubing was connected to the pump using stainless steel clamps. The pump, with attached tubing, was lowered into the well with Teflon coated stainless steel cable.

During development, the groundwater pH, temperature, and conductivity were measured at regular intervals. Pumping continued for approximately one hour and until the readings stabilized over three successive five minute intervals. The development data is included on the monitor well construction diagrams in Appendix C.

2.2.3 Water Level Measurements

Water level measurements were taken from each monitor well on March 11, 1994, using an electronic water level indicator. Potentiometric maps for both the Eastern Oil Lagoon and Western Lagoon areas were constructed to determine the direction of groundwater flow. The potentiometric map of the Eastern Oil Lagoon area indicates that the groundwater flow direction is to the south (Figure 9). The groundwater flow direction in the Western Lagoon area is toward the southwest (Figure 10). Since monitor well WL-1 was not screened in the same zone as WL-2, WL-3, and WL-4, the water level data from WL-1 was not used to interpret the potentiometric surface in the Western Lagoon area. According to the potentiometric surface in the Western Lagoon area, monitor well WL-4 is upgradient of the Western Lagoons.

2.2.4 Soil Sample Collection

Two soil samples were collected for analytical testing from both designated upgradient wells during soil boring activities. The first sample was collected from the zero to two-foot interval and the second sample was a composite from two feet to a depth just above the water table. The two samples from boring WL-1 were collected on December 3, 1993, from zero to two feet and from the two to eight-foot interval (groundwater was initially encountered at eight feet). On December 7, 1993, two soil samples were collected from boring EL-1 from zero to two feet

below the surface and from two to six feet (groundwater was initially encountered at six feet). Compositing of soils was accomplished using decontaminated stainless steel bowls and spatulas.

2.2.5 Groundwater Sample Collection

Groundwater samples were collected from each of the monitor wells between January 11, 1994, and January 13, 1994, and analyzed for full Appendix IX constituents. Sampling occurred 24 days after the wells were developed to allow the groundwater system to reach equilibrium before sampling. Wells were sampled in an order reflective of the suspected level of contamination. Wells having low levels of contamination were sampled prior to those that have medium to high levels. The monitor wells were sampled in the following order: EL-1, EL-2, EL-3, EL-4, WL-4, WL-2, WL-3, and WL-1.

Prior to purging and upon opening the well cap, the headspace in each well was measured with a HNu for organic vapors. Water levels and total well depths were measured using a decontaminated electronic oil/water probe. The oil/water probe was also used to detect the presence of hydrocarbons and measure the thickness when present. A bottom filling teflon bailer was lowered to the base of the well, withdrawn, and inspected for the presence of dense non-aqueous-phase liquids (DNAPL).

A floating product layer of less than one-inch was detected in monitor well WL-1 only. However, the product was not of sufficient thickness to sample. DNAPL was not found in any of the monitor wells.

Each well was purged with a decontaminated teflon bailer. A minimum of three well volumes were removed from each well before sampling. The volume of standing water in the casing was determined by subtracting the static water surface from the total casing depth. During purging, temperature, pH, and organic vapors were measured. Conductivity readings were not taken due to a misinterpretation of equipment capabilities. Final measurements were taken after sample collection. Table 4 documents the organic vapor readings, purged volumes, and stabilization readings.

Groundwater samples were collected after the readings stabilized using a decontaminated teflon bailer and teflon coated stainless steel cable. The bailer was lowered carefully one to two feet below the water column of the well and withdrawn to retrieve the sample and transferred directly into the appropriate sample containers provided by the laboratory.

VOC samples were collected immediately after purging and sealed in a container with no headspace. The remaining Appendix IX samples were collected in the following order: extractable organics (BNA), total metals (unfiltered), dissolved metals (filtered), cyanide, sulfide, pesticides/PCB, chlorinated herbicides, organophosphorus pesticides, dioxins, and furans.

Groundwater samples collected for dissolved metals were field filtered through a 0.45-micron filter using a Nalgene disposable filter system prior to being preserved with undiluted nitric acid. Since conditions prohibited filtration at the well site, filtration was performed within one hour of sample collection in a more controlled environment.

2.2.6 Surveying

Monitor wells installed in the Eastern Oil Lagoon and Western Lagoon areas were surveyed for elevation relative to mean sea level (MSL) to the nearest 0.01 foot by Edgardo Camacho Garcia, License No. 7502. The wells were horizontally located to an accuracy of one foot as shown on Figures 11 and 12.

2.3 SAMPLE PRESERVATION AND DOCUMENTATION

Sample containers, volumes, preservation, and holding times were as specified in SW-846. At the time of collection, samples were placed in labeled sample containers and all pertinent information was recorded in the field logbook. Chain-of-custody records were utilized to properly document the samples in accordance with the Work Plan. All samples were recorded on the chain-of-custody, sealed with custody tape, and shipped in coolers to the laboratory for analysis. Sample packaging for the Eastern Lagoon, however, deviated from the Work Plan in that custody tape was not used on sample containers.

2.4 DECONTAMINATION AND CONTAMINATION REDUCTION

All drilling, testing, sampling, and associated equipment that could have potentially come in contact with downhole equipment or sample medium was decontaminated. Decontamination procedures were as follows:

1. Washed with clean water and detergent using a brush. Equipment was steam cleaned with a hot pressure washer, as necessary, to remove debris.
2. Rinsed with tap water.
3. Washed with 10 percent nitric acid (trace metal grade) solution.
4. Rinsed thoroughly with HPLC-grade water.
5. Rinsed with pesticide-grade acetone.
6. Rinsed thoroughly with HPLC-grade water (at least five times the volume of solvent used in Step 5).
7. Allowed to air dry.

It should be noted that with the approval of the EPA (letter dated December 3, 1993), the auger and drill stem for the drilling rig were decontaminated by steam pressure washing only.

All decontamination of field equipment was conducted within the confines of a decontamination box constructed on-site. The box was constructed of timber and lined with heavy-duty visqueen and designed to drain to one area from which wastewater could be removed and drummed. A photograph of the decontamination setup is included in Appendix A.

Between sampling points, all non-disposable sampling equipment was decontaminated and wrapped in foil for transportation. Visqueen was used to wrap the drill stem and augers. Surgical gloves were worn during all lagoon, tank, borings, and monitor well sampling and monitor well development and purging activities. Visqueen was placed around the wells during all development, purging, and sampling activities.

Solvent rinsates were not placed in the pit, but were collected in separate containers for disposal. Cuttings and debris were containerized in drums.

2.5 FIELD AND LABORATORY QUALITY CONTROL SAMPLES

For the lagoon, tank, and groundwater sampling, the Quality Assurance/Quality Control (QA/QC) procedure included collecting one field duplicate for every ten samples. Field blanks were collected daily during sampling, or for every ten samples collected, whichever was more frequent. As described in the Work Plan, field blanks were equipment rinse samples taken as HPLC-grade water was poured over decontaminated field sampling equipment. Trip blanks were to be included in each cooler which contained aqueous VOA samples or for every 20 aqueous VOA samples, whichever was more frequent. Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples were analyzed for each group of samples with similar matrix types, or for every 20 samples received, whichever was more frequent.

2.5.1 Eastern Lagoon Field and Laboratory Quality Control Samples

Field and laboratory quality control samples consisting of field blanks, duplicates, and matrix spike/matrix spike duplicates were collected during sampling activities at the Eastern Oil Lagoon. Trip blank samples were not required since aqueous samples were not collected. The duration of the sampling effort was two days, therefore, a field blank was obtained each day. One duplicate sample, EL-NW-1(DUP) was collected, and a total of four MS/MSD samples were analyzed.

2.5.2 Western Lagoons and Slop Oil Tanks Field and Laboratory Quality Control Samples

Field and laboratory quality control samples, consisting of field blanks, duplicates, trip blanks, and matrix spike/matrix spike duplicates, were collected during sampling activities at the Western Lagoons and Slop Oil Tanks. Trip blanks originated at the laboratory and accompanied the field samples in every cooler during transport. One duplicate sample was taken for each of the four lagoons One MS/MSD sample was collected for every 20 samples of each matrix type. A total of three MS/MSD samples were collected for analyses, representing three matrices (soil, sludge, and water).

2.5.3 Groundwater Investigation Field and Laboratory Quality Control Samples

Soil samples collected were analyzed for Target Analyte List (TAL) metals and total petroleum hydrocarbons (TPHC). Two field blank samples (equipment rinsate from the downhole equipment) were collected during the soil sampling events. These samples were also analyzed for TAL metals and TPHC. Trip blank samples were not required since aqueous samples were not collected.

The sampling program for the groundwater samples included the Appendix IX compounds. Duplicate groundwater samples were collected from the Western Lagoon area (WL-5 duplicates WL-3) and Eastern Oil Lagoon area (EL-5 duplicates EL-3). These samples were also analyzed for the Appendix IX constituents. Three field blanks (equipment rinsate from Teflon bailers) were collected during the groundwater sampling activities. Since insufficient sample quantity was collected for field blanks, only the volatile and semi-volatile portion of the Appendix IX compounds were analyzed. Trip blanks were included in two of the groundwater shipments.

3.0 QUALITY ASSURANCE/QUALITY CONTROL

3.1 FIELD EQUIPMENT CALIBRATION

The reliability of field measurements is dependent upon the calibrations of all field instruments. During the Site Assessment activities, all instruments used in the field were calibrated daily using manufacturer's guidelines. These instruments included:

- HNu Photoionization Analyzer (HNu)
- Organic Vapor Analyzer (OVA)
- pH Meter/Temperature Probe

3.2 FIELD DATA MANAGEMENT

Field data was collected and recorded in a bound field logbook. All field log entries were dated and were made as descriptive as possible so that particular instances could be recalled without reliance on the data collector's memory. Upon completion of each phase of the Site Assessment, the field data was reduced into tabular form whenever possible. Actual field sampling and measurement data are documented in Tables 1 through 4. Finalized boring logs and monitor well construction details were also developed from field notes and are presented in Appendix B and Appendix C, respectively.

3.3 LABORATORY DATA MANAGEMENT

The laboratory logged in all samples received and assigned an identification number to each sample. The laboratory also documented the processing of the samples and maintains on file all of the raw data, laboratory notebooks, and other documentation. Case narratives provide information, including notable problems with matrices, reanalysis, unusual events, descriptions of any problems encountered in processing the samples, and deviations from QA/QC objectives.

For the Eastern Oil Lagoon, case narratives were prepared for each of the following parameter groups:

- Volatiles
- Semi-volatiles
- Dioxins/Furans
- Organophosphate Pesticides
- Pesticide/PCB
- Inorganics/Waste Characteristics
- Chlorinated Herbicides
- Metals/TCLP Metals
- TCLP Volatiles
- TCLP Semi-volatiles
- TCLP Pesticides
- TCLP Herbicides
- TPHC

The Western Lagoons, Slop Oil Tanks, and groundwater investigation narratives were prepared for each lot of samples received by the laboratory and are grouped as follows:

- Oxidation Lagoon - Appendix IX (except dioxins/furans), TCLP, Waste Characteristic, TPHC
- Oxidation Lagoon - Appendix IX Dioxins/Furans
- Cooling Water East and West Lagoons - TCL, TCLP, Waste Characteristics, TPHC
- Aeration Lagoon and Slop Oil Tanks - Appendix IX (except Dioxins/Furans), TCLP, Waste Characteristics, TPHC
- Aeration Lagoon and Slop Oil Tanks - Appendix IX Dioxins/Furans (Liquid Samples)
- Aeration Lagoon and Slop Oil Tanks - Appendix IX Dioxins/Furans (Soil and Sludge Samples)
- Soil Borings - TAL Metals, TPHC
- Groundwater - Appendix IX (except Dioxins/Furans)
  Slop Oil Tanks (Second Sampling Event) - TCLP, Waste Characteristics, TPHC
- Groundwater - Appendix IX Dioxins/Furans

These narratives are included in the analytical data packages, but for ease of review, copies of the narratives are enclosed as Appendix D. The data package for the Eastern Oil Lagoon was submitted to the EPA in a previous report and, therefore, has not been enclosed. The data set for the Western Lagoons, Slop Oil Tanks, soil borings, and groundwater investigation are included as Appendix E.

3.4 DATA VALIDATION

The analytical results from both WESTON and Inchcape were validated by personnel not directly involved with the analytical testing. The data validation reports for WESTON's and Inchcape's analytical results are presented as Appendices F and G, respectively. All data was validated with regard to usability according to the quality assurance set forth in the U.S. EPA's National Functional Guidelines for Organic and Inorganic Data Review. Overall, the reported data is considered acceptable and representative with the applied qualifiers.

4.0 SITE ASSESSMENT ANALYTICAL RESULTS

The results of the site assessment analytical testing are presented herein. The entire data set for the Western Lagoons, Slop Oil Tanks, soil borings, and groundwater investigation are included as Appendix E. The data package for the Eastern Oil Lagoon was submitted to the EPA in a previous report and, therefore, has not been enclosed. The results of the Eastern Oil Lagoon analytical analyses are nevertheless discussed in this report.

Preliminary action levels for the CORCO facility were calculated by TRC Environmental Corporation (TRC) using Subpart S of the RCRA Part 264 regulations, and were presented in the "Letter Report Preliminary Action Level Calculations for Surface Soil Commonwealth Oil Refining Company, Incorporated, Penuelas, Puerto Rico." The action levels were developed for contaminants detected at the CORCO facility during the Eastern Oil Lagoon sludge sampling activities.

The results presented in the following sections are compared to regulatory limits as well as action levels as applicable in order to properly assess conditions at the facility. Results for the groundwater samples are also compared to results obtained by the EPA from the split samples.

4.1 EASTERN OIL LAGOON RESULTS

Samples obtained from the Eastern Oil Lagoon were analyzed for Appendix IX constituents, Toxicity Characteristic Leaching Procedure (TCLP), corrosivity, ignitability, reactivity, and total petroleum hydrocarbons (TPH). The analytical results for the Appendix IX constituents are summarized in Table 5. Three sludge samples, EL-SW-2, EL-NW-2, and EL-S-1, contained Appendix IX compounds at concentrations exceeding the TRC soil action levels. TRC action levels for benzene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, HxCDD, HxCDF, PeCDD, and PeCDF were exceeded.

Sample EL-SW-2 was the only sample to exhibit concentrations of benzene in excess of the 24,138 μg/kg TRC action level. EL-SW-2 contained benzene at a concentration of 1,200,000 μg/kg. This sample also exceeded the TRC action levels for the benzo(a)anthracene, benzo(b)fluoranthene and chrysene as well. The results for benzo(a)anthracene and benzo(b)flouranthene are estimated below the detection limit. It should be noted that although they exceed TRC action levels, the reported concentrations for PeCDD and PeCDF are estimated values. The reported concentration of PeCDD is present at a concentration less than the detection limit, and the signal-to-noise rates for PeCDF did not meet the requirements. EL-SW-2 also contained HxCDD and HxCDF at concentrations of 12 μg/kg and 2.9 μg/kg, respectively, which exceed TRC action levels for these compounds.

Sample EL-NW-2 exceeded action levels for benzo(a)anthracene and chrysene, with concentrations of 16,000J μg/kg and 27,000J μg/kg, respectively. Because of elevated detection limits, these quantities were estimated. EL-S-1 exceeded TRC action levels for chrysene, HxCDD, and HxCDF. However, the concentrations for HxCDD and HxCDF were estimated because the surrogate/internal standard recoveries were outside the control limits. The result for chrysene is estimated below the detection limit. None of the native soil samples collected from the Eastern Oil Lagoon contained contaminant concentrations that exceeded the TRC action levels.

The analytical results for the TCLP analyses for the Eastern Oil Lagoon are presented in Table 6. The only regulatory limit exceeded was for benzene in sludge sample EL-SW-2 which had a concentration of 4.4 mg/l. Benzene was not detected in the TCLP analysis of any other soil or sludge sample. Barium was detected in the TCLP analysis for every sample, but at very low levels which did not exceed the regulatory limit. Mercury was found in trace quantities in the TCLP analysis for sample EL-SW-2. The result for mercury is estimated since the matrix spike recoveries were below the limit.

Although the Eastern Oil Lagoon is known to contain a listed hazardous waste (K051), samples from the lagoon were tested for hazardous waste characteristics. The waste characteristics and TPH results for the Eastern Oil Lagoon are given in Table 7. The results of the testing indicated that the samples were neither corrosive, ignitable, nor reactive. The Eastern Lagoon sludge and soil samples evidenced the presence of TPH.

The sludge samples had analytical results that ranged from 150,000 to 200,000 mg/kg TPH. The native soil samples, from 3 to 3.5 feet below land surface, had analytical results that ranged from 32 to 1,800 mg/kg TPH.

The TPH results may appear to be inconsistent with results for volatiles. Weathering could be a factor. Material near the surface may have weathered, changing the characteristics of the sludge from the original state. For example, sample EL-NW-2 was reported as 20 percent petroleum hydrocarbons with a benzene concentration of <83 mg/kg. Sample EL-SW-2 had 17 percent petroleum hydrocarbons with a benzene concentration of 1200 mg/kg. These two samples were obtained from opposite ends of the Eastern Oil Lagoon. While EL-NW-2 shows either low concentrations of volatiles (note the elevated detection limits on Table 5) or no volatiles, it does contain a few semivolatile compounds such as 2-methylnaphthalene and phenanthrene. But, note again the high detection limits for the semivolatile analysis. Sample EL-SW-2 also contains several semivolatile compounds at concentrations above the detection limits. Sample EL-S-1 results are similar to EL-NW-2, having a high TPH and no detected volatiles.

4.2 OXIDATION LAGOON RESULTS

Sludge and soil samples were obtained from four locations in the Oxidation Lagoon and analyzed for Appendix IX constituents, TCLP, ignitability, corrosivity, reactivity, and TPH. A single water sample was tested for Appendix IX compounds.

The results for the Appendix IX analyses are presented in Table 8. All sludge and soil samples exceeded the action level of 0.345 mg/kg for arsenic. Concentrations of arsenic in the Oxidation Lagoon sludges and soils ranged from 1.7 mg/kg to 6.8 mg/kg. The following dioxins and furans were detected in the Oxidation Lagoon sludges and/or soils:

- octachlorinated dibenzo-p-dioxin (OCDD)
- tetrachlorinated dibenzo-p-dioxin (TCDD)
- heptachlorinated dibenzo-p-dioxin (HpCDD)
- tetrachlorinated dibenzofuran (TCDF)
- 1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)
- octachlorinated dibenzofuran (OCDF)
- heptachlorinated dibenzofuran (HpCDF)

No action levels have been calculated for these constituents. However, in general, concentrations were higher in the sludges in comparison to soil concentrations. Only two soil samples detected dioxins or furans. Sample OL-2-SO (soil) contained 0.113 ppb TCDD and 0.137 ppb TCDF. Sample OL-4-SO (soil) had a concentration of 0.134 TCDD. The only Appendix IX volatile compound detected in the water sample, OL-1-W, was dichloromethane at a concentration of 32.5 μg/l. Barium (350 μg/l) and zinc (51 μg/l) were also detected in the water sample.

TCLP analyses results for the Oxidation Lagoon are shown in Table 9. Barium and silver were the only parameters detected. All detected concentrations were well below the regulatory limits for each metal.

Although the Oxidation Lagoon sludges and soils exhibit no hazardous characteristics regarding ignitability and corrositivity, the sludge and soil samples analyzed for reactivity cyanide have been rejected. Hence, a determination of reactivity is inconclusive. The native soil sample TPH results range from 87 to 720 mg/kg. The TPH results of the sludge samples range from 5,300 to 60,900 mg/kg. Table 10 contains the results for hazardous characteristics and TPH analyses.

4.3 COOLING WATER EAST LAGOON RESULTS

The Cooling Water East Lagoon sludges, soils, and water were sampled and analyzed for Target Compound List (TCL) constituents, TCLP, corrosivity, ignitability, reactivity, and TPH. Results of the TCL testing are presented in Table 11 and indicate that arsenic was the only parameter detected above the action levels calculated by TRC. Arsenic concentrations ranging from 4.0 mg/kg to 4.8 mg/kg were present in all four sludge samples (CWE-1-SL, CWE-2-SL, CWE-3-SL, and CWE-4-SL). Soil sample CWE-3-SO, with an arsenic concentration of 6.7 mg/kg, was the only soil sample that detected the presence of arsenic. The single water sample, CWE-1-W, did not contain arsenic.

TCLP results for the Cooling Water East Lagoon are shown in Table 12. Sludge sample CWE-4-SL was the only sample to exceed a regulatory limit. Results for the TCLP analysis on CWE-4-SL indicated a benzene concentration of 0.525 mg/l, which slightly exceeds the regulatory limit of 0.5 mg/l for benzene. Benzene was detected in the other three sludge samples in the Cooling Water East Lagoon as well, but not at concentrations

which exceeded regulatory limits. A statistical analysis using the simple random method was performed as described in SW-846 Chapter 9. Based on an 80 percent confidence interval, the resulting upper limit was below the regulatory threshold for benzene. Therefore, the evaluation of sludges in the Cooling Water East Lagoon using the simple random method indicates that the sludges are non-hazardous. Statistical calculations are presented in Appendix H. Benzene was not detected in the TCLP analyses on any of the soil samples. Barium and silver were also detected in the TCLP analyses but at levels well below regulatory limits.

TPH and waste characteristics analytical results are presented in Table 13 for the Cooling Water East Lagoon. It is concluded from the waste characteristic testing that the soils and sludges in this lagoon are neither corrosive nor ignitable. The soil and sludge samples from the Cooling Water East Lagoon analyzed for reactivity cyanide are unusable. Consequently, reactivity cannot be determined for these samples. Soil sample results for TPH range from 2,230 mg/kg to 4,100 mg/kg. TPH results for sludge samples range from 54,000 to 114,000 mg/kg.

4.4 COOLING WATER WEST LAGOON RESULTS

Sludge and soil samples were obtained from four locations in the Cooling Water West Lagoon and analyzed for TCL constituents, TCLP, ignitability, corrosivity, reactivity, and TPH. The third sample location in the Cooling Water West Lagoon exhibited two layers of sludge. The first was a light grayish colored sludge which was approximately six to

nine inches thick in this area. The second sludge layer was the dark, brownish-black oily sludge, typical of both cooling water lagoons. Sample CWW-3-SL-1 represents the gray sludge, while CWW-3-SL-2 consists of the black sludge from the same location. TCL testing results are given in Table 14, and indicate that action levels as calculated by TRC were not exceeded.

A single water sample was analyzed for TCL constituents. TCL results for the water sample, CWW-1-W, indicate the detection of acetone (79.7J µg/l) and chloroform (11 µg/l). This is the only sample from the entire Site Assessment to detect the presence of these two compounds. The associated field blank, FB-CWE, was an equipment rinse sample collected after decontamination of the equipment used at the Cooling Water East Lagoon (which was sampled just prior to the Cooling Water West Lagoon). This field blank contained 130J µg/l acetone and 16.2 µg/l chloroform. The acetone which was detected in the field blank and subsequently in CWW-1-W is most likely a result of the decontamination procedures. The acetone results for CWW-1-W and FB-CWE are estimated because the percent D's were outside the data validation requirement unit for continuous calibrations. If the sampling equipment was not rinsed thoroughly after receiving an acetone rinse, a residue could have remained on the equipment.

In this lagoon, the TCLP analyses results shown in Table 15, indicate that the regulatory limit of 0.5 mg/l for benzene was exceeded by only one sample, CWW-3-SL-2 with a concentration of 0.590 mg/l. Benzene was detected in all other sludge samples from the

Cooling Water West Lagoon, but at concentrations below the regulatory limit. A statistical analysis using the simple random method was performed as described in SW-846 Chapter 9. Based on an 80 percent confidence interval, the resulting upper limit was below the regulatory threshold for benzene. Therefore, the evaluation of sludges in the Cooling Water West Lagoon using the simple random method indicates that the sludges are non-hazardous. Statistical calculations are presented in Appendix H. Soil sample CWW-3-SO, with a benzene concentration of 0.14J mg/l, was collected at the same location as sludge sample CWW-3-SL-2, and was the only soil sample to detect benzene in the TCLP analysis. Since sample CWW-3-SO was analyzed outside the holding time, the result is estimated. Barium, chromium, and silver were also detected in the TCLP analyses of the Cooling Water West Lagoon, but concentrations of These metals were below regulatory limits.

Hydrocarbons are present in the Cooling Water West Lagoon as indicated on Table 16. The soil TPH results range from 410 mg/kg to 8,220 mg/kg. TPH results for the sludge samples range from 14,900 mg/kg to 95,700 mg/kg. Although, the soils and sludges of this lagoon are not corrosive or ignitable, reactivity is inconclusive since reactivity cyanide results are unusable. Results of the waste characteristic tests are also presented in Table 16.

4.5 AERATION LAGOON RESULTS

The Aeration Lagoon has concrete-lined side slopes and a partially concrete-lined bottom (below the aerators). Therefore, since gridded sample locations occurred above the lined portion of the impoundment and the work plan did not require soil sampling in the Aeration Lagoon, only sludge samples and a single water sample were obtained. The sludge samples were analyzed for the full Appendix IX constituents, TCLP, ignitability, corrosivity, reactivity, and TPH. The water sample was tested for the Appendix IX constituents.

Table 17 presents the Appendix IX results for the Aeration Lagoon. The TRC action level for arsenic was exceeded by all four sludge samples. Concentrations of arsenic in the sludge ranged from 1.3 mg/kg to 2.1 mg/kg. No other TRC action level was exceeded in the Aeration Lagoon.

The Appendix IX dioxin and furan analyses detected OCDD and TCDF in the Aeration Lagoon sludges. Sample AL-3-SL contained 23.8 ppb OCDD, while AL-4-SL had a concentration of 1.49 ppb TCDF.

The water sample from the Aeration Lagoon, AL-1-W, was analyzed for dioxins and furans as well, and was shown to contain OCDD (38.6 ppt), HpCDD (8.71 ppt), and 1,2,3,4,6,7,8-HpCDD (3.87 ppt). However, the analysis on the associated duplicate sample, DUP-6 (AL-1-W), did not detect the presence of any of these compounds.

Pesticide analyses on both AL-1-W and DUP-6 (AL-1-W) indicated the presence of chlordane at concentrations of 0.06 μg/l and 0.09 μg/l, respectively. However, these concentrations are below the TCLP regulatory limit of 0.03 mg/l for this pesticide. Arsenic and cadmium, which were detected in AL-1-W and DUP-6 (AL-1-W), were present in concentrations below TCLP regulatory limits.

The TCLP analyses results for the Aeration Lagoon sludge samples are given in Table 18. Barium and silver were the only two parameters detected in the sludge TCLP analyses. However, their concentrations were significantly lower than the regulatory limits.

Waste characteristics and total petroleum hydrocarbon results are presented in Table 19. The Aeration Lagoon sludge TPH results range from 24,100 mg/kg to 209,000 mg/kg. The sludges from the Aeration Lagoon are not ignitable or corrosive. Reactivity cyanide results for the Aeration Lagoon sludge samples are unusable. Therefore, reactivity cannot be determined.

4.6 SLOP OIL TANK RESULTS

Two slop oil tanks, Tank 1008 and Tank 1030, were sampled. An oily liquid (labeled as a NAPL sample) and sludge were collected from Tank 1008. Tank 1030 contained only sludge. The liquid sample was analyzed for full Appendix IX constituents, and sludge

samples were tested for Appendix IX constituents, TCLP, corrosivity, ignitability, reactivity, and TPH.

Results of the Appendix IX analyses for both tanks are presented in Table 20. The sludge contains high concentrations of volatile compounds including benzene, ethylbenzene, toluene, and xylene (BTEX). Since sludge samples 1030-1-SL and 1008-1-SL were analyzed outside the holding time, the results are estimated. Semivolatile parameters which were detected include 2-methylnaphthalene and naphthalene. Arsenic was present in the sludges with concentrations of 1.2 mg/kg in Tank 1008 and 0.64 mg/kg in Tank 1030. Several other metals were detected in the sludges, and their concentrations are found in Table 20. The sludge sample from Tank 1008 contained 22.6 ppb HpCDF. This was the only dioxin or furan detected in either of the tank sludges.

The NAPL sample from Tank 1008 also contained BTEX compounds. Since this sample was also analyzed outside the holding time, the results are estimated. Consistent with the sludge samples, 2-methylnaphthalene, naphthalene, and metals were detected in the NAPL sample 1008-1-N. Arsenic, however, was not detected. Several dioxins and furans were detected in the NAPL sample and include 0.989 ppb PeCDD, 0.245 ppb TCDD, 0.649 ppb PeCDF, 2.47 ppb HpCDF, 2.02 ppb HxCDF, and 0.504 ppb TCDF.

TCLP analyses results for the tank sludges indicate that the regulatory limit for benzene was exceeded by both tank sludges. TCLP results are presented in Table 21.

Although the tanks are known to contain a listed hazardous waste (K049), the waste characteristics were analyzed for further information concerning the nature of the sludges. These results are presented in Table 22, as are the results of the TPH analyses. The tank sludges were found to be ignitable, but are not corrosive. The sludge sample 1008-1-SL is not reactive based on reactivity cyanides and sulfides. However, the results for reactivity cyanide for sample 1030-1-SL are unusable and the determination of reactivity for this sample is inconclusive.

4.7 SOIL BORINGS AND GROUNDWATER RESULTS

Soil

In order to assess the site background conditions, soil samples were collected during the drilling of monitoring wells WL-1 and EL-1. These samples were analyzed for Target Analyte List (TAL) metals and TPH. Results of the TAL metals analyses are presented in Table 23.

The arsenic concentration of 5.5 mg/kg in boring WL-1 exceeds the calculated TRC action level of 0.345 mg/kg for arsenic. In addition, samples from soil boring WL-1 were found to contain hydrocarbons ranging from 830 mg/kg to 15,100 mg/kg as indicated in Table 24.

Boring EL-1 did not exceed any calculated TRC action levels. In addition, hydrocarbons were not detected in EL-1.

Groundwater

To assess potential groundwater impact, groundwater samples were collected from the monitoring wells in the Western Lagoon and Eastern Oil Lagoon areas. These samples were analyzed for Appendix IX compounds including total and dissolved metals, and the results of analyses are included in Table 25. These results were compared to EPA Drinking Water and Health Advisories (December 1993) and are discussed below. Maximum Contaminant Levels (MCL) were used as action levels for groundwater constituents. Where a MCL was not available, the Health Advisories Lifetime Value was used.

The volatile analyses indicated that four groundwater action levels were exceeded. In the area of the Eastern Oil Lagoon, monitor well EL-1 contained 10.3 μg/l of trichloroethylene (MCL=5 μg/l), while EL-3 showed 13.1 μg/l of vinyl chloride (MCL=2 μg/l). In the Western Lagoon area, WL-1 was shown to contain 1,2-dichloroethane (MCL=5 μg/l) and benzene (MCL=5 μg/l) at concentrations of 725 μg/l and 47,900 μg/l, respectively.

One semi-volatile constituent, naphthalene, exceeded the action limit of 20 μg/l in WL-1 with a concentration of 227 μg/l.

In both the Western Lagoon and Eastern Oil Lagoon areas, several metals were present at levels which exceeded the MCLs. In every well chromium, thallium, and lead concentrations exceeded the action levels. Concentrations of chromium (MCL=100 μ/l)

ranged from 140 μg/l to 540 μg/l. Thallium (MCL=2 μg/l) ranged from 130 μg/l to 1600 μg/l. Lead (MCL=15μg/l) was detected at concentrations ranging from 15.2 μg/l to 39.6 μg/l. The duplicate sample of WL-3, however, indicated that the concentration of lead was below the MCL.

The action level of 100 μg/l for nickel was exceeded in all wells with the exception of WL-4. Nickel concentrations up to 300 μg/l were detected.

The MCL of 5 μg/l for cadmium was exceeded by WL-1, WL-2, and WL-3. Although cadmium was not detected in the Eastern Oil Lagoon area monitor wells, the duplicate sample of EL-3 showed a concentration of 9 μg/l.

Arsenic was found in concentrations which exceeded the action level of 50 μg/l in five wells. EL-3, EL-4, WL-1, WL-2, and WL-3 had concentrations of arsenic ranging from 61.8 μg/l to 152 μg/l. WL-2 was found to slightly exceed the action level of 100 μg/l for silver, while WL-1 contained barium at levels which slightly exceeded the MCL of 2000 μg/l.

Dissolved metals analyses indicated that the Western Lagoon area wells exceeded the action level of 5 μg/l for cadmium and 2 μg/l for thallium. Two Eastern Oil Lagoon area wells, EL-2 and EL-3, slightly exceeded the MCL for cadmium.

It is noteworthy that in the analytical results for several metals, the concentration of dissolved metals is greater than the total metal concentration. This is attributed to the

fact that the sample used for testing total metals underwent a digestion process which may have eliminated any chemical or physical interferences that existed. The field-filtered dissolved metals samples had no digestion process. Therefore, any interferences which existed remained in the sample.

In addition, WL-4 was the only well to detect a pesticide. Delta BHC was found in this sample at a concentration of 0.09 μg/l.

No dioxins or furans were detected in the groundwater samples.

EPA collected split samples of the groundwater samples obtained at the site. EPA's results generally agreed with those reported in the preceding paragraphs, however, a few discrepancies exist between results obtained by Inchcape and EPA.

Inchcape reviewed all groundwater data discrepancies by reviewing sampling holding times, initial and continuing calibration verifications, and laboratory blanks to confirm Quality Assurance and the results. A summary of Inchcape's data review is included as Appendix I. This summary offers a detailed discussion of each analysis that conflicted with EPA results.

The discrepancies are categorized in the following manner:

- Inchcape result is lower than EPA result.
- Inchcape result is higher than EPA result.

- Inchcape result is less than detection limit, while EPA's result is below detection limit but an estimated quantity was recorded.

Both EPA and Inchcape test results are presented in Table 26 with discrepancies noted by category. There were several cases where EPA quantified a compound which was below detection and Inchcape did not. For example, Inchcape's result for benzene on sample EL-3 showed <5.0 µg/l. The EPA result was also below the detection limit, but quantified as 2.9J µg/l. This occurred for the most part in the volatile and semivolatile analyses.

The majority of the discrepancies (either Inchcape's results were lower than EPA's or more often, Inchcape's results were higher than EPA's results) occurred in the total metals analyses. This also occurred in a few of the volatiles and semivolatiles results. Discrepancies were found to be functions of the detection limits and interferences (background, chemical, or matrix).

In general, Inchcape found that there were no problems which would cause an inaccurate quantification. A few of the analyses showed interferences, either background, chemical, or matrix, which could affect results.

GDC

5.0 CONCLUSIONS

CEI and GDC conducted the Site Assessment of the four Western Lagoons and two Slop Oil Tanks at the CORCO facility in Ponce, Puerto Rico. WESTON completed the assessment of the Eastern Oil Lagoon. The assessment was performed in response to the Settlement Agreement between CORCO and the EPA. The scope of work performed included:

- Characterizing the nature and volume of contaminants in five lagoons;
- Characterizing the nature and volume of contaminants in two slop oil tanks; and,
- Investigating and characterizing the soil and groundwater surrounding the five lagoons.

The four Western Lagoons (aggressive biological treatment units and noncontact, once-through oil refinery cooling waters) contain a listed hazardous waste (K048), the waste classification was directed toward analyzing for TCLP and other characteristics to support the contention in a delisting petition pursuant to 40 CFR § 260.22 that the waste should not be classified as hazardous. Although benzene was detected slightly above the regulatory limit in one sludge sample taken from each of the Cooling Water Lagoons, statistical analyses indicate that the two lagoons are not hazardous. The simple random method was performed in accordance with SW-846 Chapter 9. Based on an 80 percent confidence interval, the resulting upper limit was below the regulatory threshold for benzene.

The Eastern Oil Lagoon and Slop Oil Tanks 1008 and 1030 contain listed hazardous waste, K051 API Separator and K049 Slop Oil, respectively. The Eastern Oil Lagoon, in addition to containing a listed waste, is characteristically hazardous for benzene based on TCLP analytical results.

The soil boring/monitor well program results for both the Eastern Oil and Western Lagoons indicate that several metals and isolated volatiles were detected slightly above EPA Drinking Water and Health Advisories with the exception of monitor well WL-1. Results of groundwater samples from this well indicate that groundwater degradation has occurred in WL-1 which may originate from another source. Most of the compounds detected above the advisories in all wells except WL-1 were also detected in the upgradient wells (EL-1 and WL-4).

Based on the above, conclusions are as follows:

- The data indicates that there is no significant degradation of the groundwater from the Eastern Oil Lagoon, Oxidation Lagoon, Cooling Water East Lagoon, or from the Cooling Water West Lagoon. A limited risk analysis utilizing validated Site Assessment analytical results will be submitted to determine if remedial action is required for the groundwater in the vicinity of the Eastern Oil Lagoon and Western Lagoons. The degradation of the groundwater in monitor well WL-1 will be addressed in the Phase I Subsurface Oil Investigation.

- The appropriate closure method will be determined based on the results of the waste characterization, sampling, and applicable regulatory requirements.

TABLE 1

TABULATED FIELD DATA
EASTERN OIL LAGOON SAMPLING SUMMARY

Sample Designation	Sample Depth (ft)		Sample Description	Field Screening Readings (PID
	VOC	OTHER		
EL-NW-1 EL-NW-1(DUP) (Boring)	3.0 - 3.5*	3.5 - 8.0 composite	Silty clay natural soil	≈100 ppm
EL-SW-1 (Boring)	3.2 - 3.5*	3.5 - 5.5 composite	Silty clay natural soil	≈200 ppm
EL-SE-1 (Boring)	3.5	3.5 - 7.0 composite	Silty clay natural soil	0 ppm, some slight H_2S odor
EL-NE-1 (Boring)	3.2	3.2 - 5.5 composite	Silty clay natural soil	8.8 (off auger) 0 ppm background
EL-SW-2 (Test Pit A)	≈1.5	1.5 - 2.0 composite	Sludge black, sticky, strong odor	255 ppm from test pit
EL-NW-2 (Boring)	0.5	0.5 - 1.0 composite	Sludge black, sticky, strong odor	≈100 ppm
EL-S-1 (Test Pit B)	0 - 0.3*	0 - 0.3 composite	Sludge black, sticky, strong odor	---
EL-S-2 (Test Pit B) MS & MSD collected	0.5	0.5 - 0.9 composite	Silty clay natural soil	---

* For EL-NW-1, EL-NW-1(DUP), EL-SW-1, and EL-S-1 discrete VOC samples were obtained from the sample intervals indicated on Table 1.

TABLE 2

EASTERN OIL LAGOON BORING/TEST PIT
LITHOLOGIC/PHYSICAL DESCRIPTIONS

Boring Logs

BORING ID	TOTAL DEPTH (FT BGS)	INTERVAL (FT BGS)	DESCRIPTION		COMMENTS
			TEXTURE	COLOR	
ELNW	8.0	0-3.0	sludge	black	Microtip readings ~ 100 ppm; water at approximately 4 ft bgs
		3.0-8.0	silty clay	olive gray brown	
ELSW	5.5	0-3.0	sludge	black	Microtip readings ~ 200 ppm
		3.0-5.5	silty clay	olive gray brown	
ELSE	7.0	0-7.0	silty clay	gray brown	Water at approx. 4 ft bgs; slight H2S odor
ELNE	5.5	0-5.5	silty clay	gray brown	Microtip readings ~ 8 ppm (from auger)

Test Pit Logs

TEST PIT ID	TOTAL DEPTH (FT BGS)	INTERVAL (FT BGS)	DESCRIPTION		COMMENTS
			TEXTURE	COLOR	
ELSW (A)	2.5	0-2.0	sludge	black	"sticky"; strong odor; some black staining
		2.0-2.5	silty clay	olive gray brown	
ELS (B)	0.9	0-0.3	sludge	black	"sticky"; strong odor
		0.3-0.9	silty clay	olive gray brown	

FT BGS = feet below ground surface
ppm = parts per million

TABLE 3

WESTERN LAGOONS AND SLOP OIL TANKS
SAMPLE LOG AND HEAD SPACE READINGS

SAMPLE ID	DESCRIPTION	PARAMETERS						HEAD SPACE READING (ppm)	INTERVAL
		APP. IX	TCLP	HWC	TPH	TCL VOA	TCL TAL		
OL-1-W	WATER	X						0	0-1.5'
DUP-3	WATER	X						--	0-1.5'
OL-1-SO	GRAY CLAY	X	X	X	X			40	3-4'
OL-1-SL	BROWNISH-BLACK SLUDGE	X	X	X	X			50	1.5-3'
OL-2-SO	GRAY CLAY	X	X	X	X			20	4-5'
OL-2-SL	BROWNISH-BLACK SLUDGE	X	X	X	X			80	2-4'
OL-3-SL	BROWNISH-BLACK SLUDGE	X	X	X	X			70	1.5-3.5'
OL-3-SO	GRAY CLAY	X	X	X	X			46	3.5-4.5'
OL-4-SO	GRAY CLAY	X	X	X	X			20	4.5-5.5'
OL-4-SL	BROWNISH-BLACK SLUDGE	X	X	X	X			50	1.5-4'
FB-OL	RINSEATE					X		--	--
CWE-3-SO	GRAY CLAY		X	X	X		X	200	4-5'
CWE-3-SL	BLACK SLUDGE		X	X	X		X	180	1-4'
CWE-4-SL	BLACK SLUDGE		X	X	X		X	85	1-3.5'
CWE-4-SO	GRAY CLAY		X	X	X		X	120	3.5-4.5'
CWE-1-SL	BLACK SLUDGE		X	X	X		X	500	1-3.5'
CWE-1-SO	GRAY CLAY		X	X	X		X	150	3.5-4.5'
CWE-1-W	WATER		X	X	X		X	0	.5-1'
DUP-4	BLACK SLUDGE					X	X	--	1-3.5'
CWE-1-W-MS/MSD	WATER		X	X	X		X	--	.5-1'
CWE-2-SO	GRAY CLAY		X	X	X		X	220	3.5-4.5'
CWE-2-SL	BLACK SLUDGE					X		300	1-3.5'
FB-CWE	RINSEATE							--	--

TABLE 3

WESTERN LAGOONS AND SLOP OIL TANKS
SAMPLE LOG AND HEAD SPACE READINGS
(CONTINUED)

SAMPLE ID	DESCRIPTION	PARAMETERS						HEAD SPACE READING (ppm)	INTERVAL
		APP-IX	TCLP	HWC	TPH	TCL VOA	TCL TAL		
CWW-4-SO	GRAY CLAY		X	X	X		X	110	5.5-6.5'
CWW-3-SL-1	LIGHT GRAY CREAMY SLUDGE		X	X	X		X	145	2-3'
CWW-3-SO	GRAY CLAY		X	X	X		X	180	5-6'
CWW-3-SL-2	BLACK SLUDGE		X	X	X		X	145	3-5'
CWW-1-W	WATER					X	X	2	0-2'
CWW-1-SO	GRAY CLAY		X	X	X		X	56	4.5-5.5'
CWW-1-SL	BLACK SLUDGE		X	X	X		X	220	2-4.5'
DUP-5	GRAY CLAY		X	X	X		X	--	4.5-5.5'
CWW-2-SO	GRAY CLAY		X	X	X		X	200	5-6'
CWW-2-SL	BLACK SLUDGE		X	X	X		X	220	2.5-5'
CWW-2-SO-MS/MSD	GRAY CLAY		X	X	X		X	--	5-6'
FB-CWW	RINSEATE					X		--	--
DUP-6	WATER	X						--	--
AL-1-W	WATER	X						--	0-1'
AL-1-SL	BLACK SLUDGE	X	X	X	X			5	0-1'
AL-2-SL	BLACK SLUDGE	X	X	X	X			70	1-1.5'
AL-2-SL-MS/MSD	BLACK SLUDGE	X	X	X	X			50	1.5-2'
AL-3-SL	BLACK SLUDGE	X	X	X	X			--	1.5-2'
AL-4-SL	BLACK SLUDGE	X	X	X	X			90	.5-1'
1030-1-SL	BLACK RUNNY SLUDGE	X	X	X	X			56	.5-1'
1008-1-N	BLACK LIQUID	X	X	X	X			100	29-31.5'
CWW-4-SL	BLACK SLUDGE	X	X	X	X			110	27-28.5'
1008-1-SL	BLACK RUNNY SLUDGE	X						110	2-5.5'
		X	X	X	X		X	75	28.5-31.5'

TABLE 4
GROUNDWATER PURGING AND FIELD SAMPLING DATA

EASTERN LAGOON

DESCRIPTION	EL-1		EL-2		EL-3		EL-4	
	pH	TEMP	pH	TEMP	pH	TEMP	pH	TEMP
INITIAL	7.17	27.8	7.07	26.8	7.44	27.3	7.41	27.2
DURING PURGING	7.19	27.4	7.11	28.1	7.48	27.3	7.39	26.8
AFTER 3 VOLUMES	7.17	27.4	7.14	28.3	7.51	27.3	7.42	26.8
AFTER 4 VOLUMES	7.14	27.4			7.50	27.4	7.42	26.7
AFTER SAMPLING	7.22	27.8	7.18	28.5	7.51	27.1	7.42	26.6
MW OVA SCREEN (PPM)	0.5		180		>1000		180	
WATER DEPTH (FT)	9.88		16.34		9.35		10.75	
WELL DEPTH (FT)	25		30.5		27		22	
VOLUME REMOVED (GAL)	11.04		6.90		12.42		8.28	

WESTERN LAGOON AREA

DESCRIPTION	WL-1		WL-2		WL-3		WL-4	
	pH	TEMP	pH	TEMP	pH	TEMP	pH	TEMP
INITIAL	7.04	27.2	7.25	29.5	6.85	28.4	8.00	29.5
DURING PURGING	7.07	27.6	7.20	29.4	6.90	28.5	7.72	28.7
AFTER 3 VOLUMES	7.08	28.0	7.18	29.3	6.90	28.5	7.75	28.4
AFTER 4 VOLUMES	7.07	28.0	7.19	29.4			7.70	28.8
AFTER 5 VOLUMES							7.69	28.8
AFTER SAMPLING	6.96	27.4	7.16	29.7	6.80	28.7	7.74	28.5
MW OVA SCREEN (PPM)	>1000		>1000		180		>1000	
WATER DEPTH (FT)	8.80		9.64		6.93		5.40	
WELL DEPTH (FT)	15		26		26		24	
VOLUME REMOVED (GAL)	3.04		8.28		9.66		9.66	

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORYI.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
VOLATILES									
Chloromethane	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Bromomethane	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Vinyl Chloride	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Chloroethane	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Methylene Chloride	<6	<6	UJ	<6	5J	<520000	<83000	<35000	<6
Acetone	35J	27J	UJ	<13	5J	<300000J	<170000	<70000	<130
Carbon Disulfide	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
1,1-Dichloroethene	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
1,1-Dichloroethane	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
1,2-Dichloroethene (Total)	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
Chloroform	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
1,2-Dichloroethane	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
2-Butanone	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
1,1,1-Trichloroethane	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Carbon Tetrachloride	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Vinyl Acetate	<13	<12	UJ	<13	UJ	<1000000	<170000	<70000	<13
Bromodichloromethane	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
1,2-Dichloropropane	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
cis-1,3-Dichloropropene	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Trichloroethene	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Dibromochloromethane	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
1,1,2-Trichloroethane	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Benzene	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
trans-1,3-Dichloropropene	<6	<6	UJ	<6	UJ	<520000	<83000	<35000	<6
Bromoform	<6	<6	UJ	<13	<13	<1000000	<170000	<70000	<13
4-Methyl-2-Pentanone	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
2-Hexanone	<13	<12	UJ	<6	<6	<520000	<83000	<35000	<6
Tetrachloroethene	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
1,1,2,2-Tetrachloroethane	<6	<6	UJ	<6	<6	1700000	<83000	<35000	3J
Toluene	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
Chlorobenzene	<6	<6	UJ	<6	<6	960000	<83000	<35000	<6
Ethylbenzene	<6	<6	250J	<6	<6	<520000	<83000	<35000	<6
Styrene	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
Xylene (Total)	<6	<6	UJ	<6	<6	4200000	<83000	<35000	<6
Acrolein	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Acrylonitrile	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Trichlorofluoromethane	<6	<6	UJ	<6	<6	<520000	<83000	<35000	<6
Dichlorodifluoromethane	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Acetonitrile	<26	<24	UJ	<26	<26	<2100000	<330000	<140000	<26
Iodomethane	<13	<12	UJ	<13	<13	<1000000	<170000	<70000	<13
Propionitrile (Ethyl Cyanide)	<65	<60	UJ	<65	<65	<5200000	<83000	<350000	<65
3-Chloropropene	<26	<24	UJ	<26	<26	<2100000	<330000	<140000	<26
Methacrylonitrile	<26	<24	UJ	<26	<26	<2100000	<330000	<140000	<26
Dibromomethane	<13	<12	UJ	<13	UJ	<1000000	<170000	<70000	<13

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
VOLATILES									
Isobutyl Alcohol	<26	<24	UJ	<26	UJ	<2100000	<330000	<140000	<26
1,2-Dibromoethane	<26	<24	UJ	<26	UJ	<2100000	<330000	<140000	<26
1,1,1,2-Tetrachloroethane	<13	<12	UJ	<13	UJ	<1000000	<170000	<70000	<13
1,2,3-Trichloropropane	<13	<12	UJ	<13	UJ	<1000000	<170000	<70000	<13
trans-1,4-Dichloro-2-Butene	<130	<120	UJ	<130	UJ	R	R	R	<130
1,2-Dibromo-3-Chloropropane	<26	<24	UJ	<26	<26	<2100000	<330000	<140000	<26
2-Chloro-1,3-Butadiene	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
SEMIVOLATILES									
Phenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
bis(2-Chloroethyl)Ether	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Chlorophenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,3-Dichlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,4-Dichlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Benzyl Alcohol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,2-Dichlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Methylphenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
bis(2-Chloroisopropyl)Ether	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
3 &/or 4-Methylphenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitroso-Di-n-Propylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Hexachloroethane	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Nitrobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Isophorone	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Nitrophenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,4-Dimethylphenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Benzoic Acid	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
bis(2-Chloroethoxy)Methane	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,4-Dichlorophenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,2,4-Trichlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Naphthalene	130J	92J	1500J	<420	<430	130000	59000J	21000J	780J
4-Chloroaniline	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Hexachlorobutadiene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
4-Chloro-3-Methylphenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Methylnaphthalene	870	690	3900	<420	<430	290000	360000	120000	5000
Hexachlorocyclopentadiene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,4,6-Trichlorophenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,4,5-Trichlorophenol	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
2-Chloronaphthalene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Nitroaniline	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
Dimethylphthalate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Acenaphthylene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,6-Dinitrotoluene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
3-Nitroaniline	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
Acenaphthene	<430	<390	300J	<420	<430	21000J	44000J	22000J	470J
2,4-Dinitrophenol	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORYI.D.	9212L962-001	9212L962-002	9212L962-003	9212L962-004	9212L962-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMIVOLATILES									
4-Nitrophenol	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
Dibenzofuran	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,4-Dinitrotoluene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Diethylphthalate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
4-Chlorophenyl-Phenylether	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Fluorene	230J	<390	720J	<420	<430	170000	45000J	45000J	1400J
4-Nitroaniline	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
4,6-Dinitro-2-Methylphenol	UJ	<1900	UJ	<2100	<2100	<340000	<550000	<460000	<11000
N-Nitrosodiphenylamine	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
4-Bromophenyl-Phenylether	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Hexachlorobenzene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Pentachlorophenol	UJ	<1900	UJ	<2100	<2100	<340000	<550000	<460000	<11000
Phenanthrene	920J	760	1400J	<420	<430	240000	270000	98000	3600
Anthracene	80J	71J	UJ	<420	<430	9700J	21000J	<92000	<2100
Di-n-Butylphthalate	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	560J
Fluoranthene	94J	98J	UJ	<420	<430	25000J	<110000	<92000	<2100
Pyrene	410J	420	1200J	<420	<430	41000J	80000J	35000J	<2100
Butylbenzylphthalate	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
3,3-Dichlorobenzidine	UJ	<770	UJ	<840	<850	<140000	<220000	<180000	<4200
Benzo(a)Anthracene	50J	55J	UJ	<420	<430	19000J	16000J	<92000	220J
Chrysene	170J	180J	930J	<420	<430	100000	27000J	18000J	510J
Bis(2-Ethylhexyl)Phthalate	110J	120J	UJ	90J	54J	9700J	<110000	<92000	230J
Di-n-Octyl Phthalate	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Benzo(b)Fluoranthene	UJ	<390	UJ	<420	<430	62000J	<110000	<92000	<2100
Benzo(k)Fluoranthene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Benzo(a)Pyrene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Indeno(1,2,3-cd)Pyrene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Dibenzo(a,h)Anthracene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Benzo(g,h,i)Perylene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
1,4-Dioxane	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Methyl Methacrylate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Pyridine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosodimethylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Ethyl Methacrylate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Picoline	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosomethylethylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Methyl Methanesulfonate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosodiethylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Ethyl Methanesulfonate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Aniline	<430	<390	<2200	<420	<430	<340000	<110000	<92000	<2100
Pentachloroethane	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosopyrrolidine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Acetophenone	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosomorpholine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMIVOLATILES									
o-Toluidine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitrosopiperidine	<2100	<1900	<11000	<2100	<2100	<68000	<550000	<460000	<11000
a,a-Dimethylphenethylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,6-Dichlorophenol	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Hexachloropropene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
p-Phenylenediamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
N-Nitroso-Di-n-Butylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Safrole	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,2,4,5-Tetrachlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Isosafrole	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,4-Naphthoquinone	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1,3-Dinitrobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Pentachlorobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
1-Naphthylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Naphthylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2,3,4,6-Tetrachlorophenol	<430	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
1,3,5-Trinitrobenzene	UJ	<390	UJ	<420	<430	<68000	<110000	<92000	<2100
Diallate	UJ	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Phenacetin	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Diphenylamine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
5-Nitro-o-Toluidine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
4-Aminobiphenyl	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Pronamide	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-sec-Butyl-4,6-Dinitrophenol	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
Pentachloronitrobenzene	<2100	<1900	<11000	<2100	<2100	<340000	<550000	<460000	<11000
4-Nitroquinoline-1-Oxide	<850	<770	<4400	<840	<850	<140000	<220000	<180000	<4200
Methapyrilene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Aramite	<850	<770	<4400	<840	<850	<140000	<220000	<180000	<4200
Chlorobenzilate	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
p-Dimethylaminoazobenzene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
3,3'-Dimethylbenzidine	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
2-Acetylaminofluorene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
7,12-Dimethylbenz(a)Anthracene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100
Hexachlorophene	<3800	<3500	<20000	<3800	<3800	UJ	UJ	UJ	UJ
3-Methylcholanthrene	<430	<390	<2200	<420	<430	<68000	<110000	<92000	<2100

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
TOTAL METALS									
Aluminum	NR	NR	NR	NR	NR	NR	NR	NR	NR
Antimony	UJ	UJ	UJ	UJ	UJ	<24.2	<18.9	<16.5	<15.3
Arsenic	1.4J	1.3J	2.0J	3.1J	2.4J	11.7J	4.0J	1.8J	0.89J
Barium	158.0	134.0	211.0	184.0	186.0	169.0	528.0	291.0	126.0
Beryllium	1.4	1.1	1.5	1.4	1.3	17.8	1.7	1.8	0.92
Cadmium	<1.3	<0.72	<0.87	<0.88	<0.99	18.0	<1.6	<1.4	<1.3
Calcium	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chromium	46.1	38.3	47.4	46.5	48.8	294.0	42.5	34.5	25.8
Cobalt	30.2	24.9	34.1	31.2	30.0	140.0	76.0	51.9	21.8
Copper	78.0	63.0	93.3	71.4	68.7	7,320.0	335.0	232.0	59.4
Iron	NR	NR	NR	NR	NR	NR	NR	NR	NR
Lead	5.1J	4.3J	6.4J	5.5J	6.0J	390.0J	99.0J	111.0J	5.0J
Magnesium	NR	NR	NR	NR	NR	NR	NR	NR	NR
Manganese	NR	NR	NR	NR	NR	NR	NR	NR	NR
Mercury	<0.13	<0.12	0.16	<0.13	<0.13	8.56	4.23	0.83	<0.13
Nickel	32.2	25.9	39.8	30.8	30.0	1920.0	230.0	174.0	21.7
Potassium	NR	NR	NR	NR	NR	NR	NR	NR	NR
Selenium	UJ	UJ	UJ	UJ	UJ	UJ	UJ	0.69J	UJ
Silver	<2.6	<1.4	1.8	1.9	5.0	<4.0	<3.1	<2.8	<2.6
Sodium	NR	NR	NR	NR	NR	NR	NR	NR	NR
Thallium	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Tin	<26.3	22.1	24.5	26.2	28.3	60.8	<31.4	<27.5	<25.5
Vanadium	148.0	118.0	172.0	140.0	149.0	3,060.0	251.0	257.0	92.5
Zinc	86.5	71.0	94.2	75.2	76.0	4,630.0	1,060.0	433.0	56.6

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
ORGANOPHOSPHATE PESTICIDES									
Diazinon	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Methyl Parathion	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
O,O,O-Triethyl Phosphorothioat	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Thionazin (Zinophos)	UJ	UJ	UJ	UJ	UJ	UJ	23J	UJ	UJ
Phorate	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Sulfotep	UJ	UJ	UJ	UJ	UJ	UJ	33J	68J	UJ
Disulfoton	UJ	UJ	UJ	UJ	UJ	UJ	NA	NA	NA
Dimethoate	NA	NA	NA	NA	NA	NA	NA	UJ	UJ
Ethyl Parathion	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Famphur (Famophos)	UJ	UJ	UJ	UJ	UJ	350J	870J	1200J	UJ
PESTICIDES									
alpha-BHC	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
beta-BHC	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
delta-BHC	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
gamma-BHC (Lindane)	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
Heptachlor	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
Aldrin	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
Heptachlor Epoxide	<21	<19	<21	<20	<10	UJ	UJ	UJ	<10
Endosulfan I	<21	<19	<21	<20	<10	UJ	UJ	UJ	<20
Dieldrin	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
4,4'-DDE	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
Endrin	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
Endosulfan II	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
4,4'-DDD	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
Endosulfan Sulfate	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
4,4'-DDT	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
Methoxychlor	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Endrin Aldehyde	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
Kepone	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20
alpha-Chlordane	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
gamma-Chlordane	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Toxaphene	<420	<380	<430	<410	<200	UJ	UJ	UJ	<200
Aroclor-1016	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Aroclor-1221	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Aroclor-1232	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Aroclor-1242	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Aroclor-1248	<210	<190	<210	<200	<100	UJ	UJ	UJ	<100
Aroclor-1254	<420	<380	<430	<410	<200	UJ	UJ	UJ	<200
Aroclor-1260	<420	<380	<430	<410	<200	UJ	UJ	UJ	<200
Isodrin	<42	<38	<43	<41	<20	UJ	UJ	UJ	<20

TABLE 5
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
CHLORINATED HERBICIDES									
2,4-D	<26	<24	<27	<25	<26	UJ	UJ	UJ	<26
2,4,5-TP (Silvex)	<13	<12	<13	<13	<13	UJ	UJ	UJ	<13
2,4,5-T	<13	<12	<13	<13	<13	UJ	UJ	UJ	<13
DIOXINS/FURANS									
2,3,7,8-TCDD	<0.1	<0.3	<0.1	<0.1	<0.2	<0.1	UJ	<0.1	<0.1
TCDD	<0.2	<0.3	<0.1	<0.1	<0.3	<0.1	UJ	<0.1	<0.1
PeCDD	<0.3	<0.4	<0.1	<0.3	<0.5	1.8J	UJ	<0.2	<0.1
HxCDD	<0.1	<0.1	<0.1	<0.6	<0.2	12	UJ	0.4J	<0.1
TCDF	<0.2	<0.3	<0.1	<0.1	<0.4	<0.1	UJ	<0.2	<0.1
PeCDF	<0.2	<0.2	<0.1	<0.2	<0.3	0.4J	UJ	<0.1	<0.1
HxCDF	<0.1	<0.1	<0.1	<0.4	<0.1	2.9	UJ	0.2J	<0.1

NOTE: Values which are shaded exceed calculated soil action levels.
NA = Not Applicable
NR = Not Required
B = Analyte is found in the associated blank as well as in the sample.
J = Analyte was positively identified. Reported value may not be accurate or precise.
R = Unusable Result
U J = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.
TCDD = Tetrachlorinated dibenzo-p-dioxin
PeCDD = Pentachlorinated dibenzo-p-dioxin
HxCDD = Hexachlorinated dibenzo-p-dioxin
TCDF = Tetrachlorinated dibenzofuran
PeCDF = Pentachlorinated dibenzofuran
HxCDF = Hexachlorinated dibenzofuran

TABLE 6
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

FIELD I.D.	EL-NW-1	EL-NW-1(DUP)	EL-SW-1	EL-SE-1	EL-NE-1	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
LABORATORY I.D.	9212L982-001	9212L982-002	9212L982-003	9212L982-004	9212L982-005	9212L994-002	9212L994-003	9212L994-004	9212L994-005
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Test Pit A Sludge	Boring Sludge	Test Pit B Sludge	Test Pit B Native Soil
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
VOLATILES									
Vinyl Chloride (0.2 mg/l)	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
1,1-Dichloroethene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform (6 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone (200 mg/l)	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Carbon Tetrachloride (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	4.4	<0.05	<0.05	<0.05
Tetrachloroethene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SEMIVOLATILES									
Pyridine (5 mg/l)	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene (7.5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
o-Cresol (200 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
m & p-Cresol (200 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
Hexachloroethane (3 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
Nitrobenzene (2 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
Hexachlorobutadiene (0.5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol (2 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol (400 mg/l)	<0.5	<0.5	<0.5	<0.5	<0.5	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene (0.13 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
Hexachlorobenzene (0.13 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	UJ	UJ	UJ	UJ
Pentachlorophenol (100 mg/l)	<0.5	<0.5	<0.5	<0.5	<0.5	UJ	UJ	UJ	UJ
METALS									
Arsenic (5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Barium (100 mg/l)	1.290	1.290	1.470	0.842	0.845	0.632	0.778	0.779	0.949
Cadmium (1 mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium (5 mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (5 mg/l)	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Mercury (0.2 mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0014J	UJ	UJ	UJ
Selenium (1 mg/l)	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Silver (5 mg/l)	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ

TABLE 6
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	EL-NW-1 9212L982-001 Native Soil (mg/l)	EL-NW-1(DUP) 9212L982-002 Native Soil (mg/l)	EL-SW-1 9212L982-003 Native Soil (mg/l)	EL-SE-1 9212L982-004 Native Soil (mg/l)	EL-NE-1 9212L982-005 Native Soil (mg/l)	EL-SW-2 9212L994-002 Test Pit A Sludge (mg/l)	EL-NW-2 9212L994-003 Boring Sludge (mg/l)	EL-S-1 9212L994-004 Test Pit B Sludge (mg/l)	EL-S-2 9212L994-005 Test Pit B Native Soil (mg/l)
PESTICIDES/HERBICIDES									
Heptachlor (0.008 mg/l)	<0.00011	<0.00011	<0.00011	<0.00012	<0.00012	<0.00014	<0.00012	<0.0001	<0.00011
alpha-Chlordane (0.03 mg/l)	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0014	<0.0012	<0.001	<0.0011
gamma-Chlordane (0.03 mg/l)	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0014	<0.0012	<0.001	<0.0011
gamma-BHC (Lindane) (0.4 mg/l)	<0.00011	<0.00011	<0.00011	<0.00012	<0.00012	<0.00014	<0.00012	<0.0001	<0.00011
Endrin (0.02 mg/l)	<0.00023	<0.00023	<0.00023	<0.00024	<0.00024	<0.00027	<0.00024	<0.0002	<0.00023
Methoxychlor (10 mg/l)	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0014	<0.0012	<0.001	<0.0011
Toxaphene (0.5 mg/l)	<0.0023	<0.0023	<0.0023	<0.0024	<0.0024	<0.0027	<0.0024	<0.002	<0.0023
Heptachlor Epoxide (0.008 mg/l)	<0.00011	<0.00011	<0.00011	<0.00012	<0.00012	<0.00014	<0.00012	<0.0001	<0.00011
2,4-D (10 mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,4,5-TP Silvex (1 mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2,4,5-T (1 mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

NOTE: Regulatory Limits in parentheses.
Values which are shaded exceed the regulatory limits.
J = Analyte was positively identified. Reported value may not be accurate or precise.
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.

TABLE 7
EASTERN OIL LAGOON RESULTS
NATIVE SOIL AND SLUDGE CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

FIELD I.D. LABORATORY I.D. MATRIX	EL-NW-1 9212L982-001 Native Soil	EL-NW-1(DUP) 9212L982-002 Native Soil	EL-SW-1 9212L982-003 Native Soil	EL-SE-1 9212L982-004 Native Soil	EL-NE-1 9212L982-005 Native Soil	EL-SW-2 9212L994-002 Test Pit A Sludge	EL-NW-2 9212L994-003 Boring Sludge	EL-S-1 9212L994-004 Test Pit B Sludge	EL-S-2 9212L994-005 Test Pit B Native Soil
WASTE CHARACTERISTICS									
pH Extract (UNITS)	8.3	8.7	8.2	8.9	8.4	8.1	8.3	8.1	8.8
Flashpoint (Deg F)	>140 F*	>130 F*	>128 F*	>153 F*	>125 F*	>112 F*	>128 F*	>125 F*	>130 F*
Cyanide, Reactive (mg/kg)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cyanide, Total (mg/kg)	<1.3	<1.2	<1.3	<1.3	<1.3	1.27	<1.3	<1.3	<1.1
Sulfide, Reactive (mg/kg)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulfide, Total (mg/kg)	<0.33	<0.29	<0.33	<0.32	<0.32	<0.42	<0.31	<0.33	<0.28
TPHC									
Total Hydrocarbons (mg/kg)	160J	290J	1800	32	<5.2	170,000	200,000	150,000	2,800

* Test flame was extinguished at temperature indicated. No flashpoint was observed.
J = Analyte was positively identified. Reported value may not be accurate or precise.

TABLE 8
OXIDATION LAGOON RESULTS
SOIL/ SLUDGE/ WATER CHARACTERIZATION
APPENDIX IX LIST

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
VOLATILES										
Acetone	<12.5	<12.5	<12.5	<12.5	<12.5	<125.0	<12.5	<125.0	<100.0	<100.0
Acetonitrile	<12.5	<12.5	<12.5	<12.5	<12.5	<125.0	<12.5	<125.0	<100.0	<100.0
Acrolein	R	R	R	R	R	R	R	R	R	R
Acrylonitrile	<3.13	<3.13	<3.13	<3.13	<3.13	<31.3	<3.13	<31.3	<5.0	<5.0
Allyl Chloride	<12.5	<12.5	<12.5	<12.5	<12.5	<125.0	<12.5	<125.0	<100.0	<100.0
Benzene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Bromodichloromethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Bromoform	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Carbon Disulfide	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Carbon Tetrachloride	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Chlorobenzene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Chloroethane	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<1.25	<12.5	<10.0	<10.0
Chloroform	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Chloroprene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Chlorodibromomethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,2-Dibromo-3-Chloro propane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,2-Dibromoethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
trans-1,4-Dichloro-2-butene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Dichlorodifluoromethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,1-Dichloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,2-Dichloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,1-Dichloroethene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
trans-1,2-Dichloroethylene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,2-Dichloropropane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
cis-1,3-Dichloropropene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
trans-1,3-Dichloropropene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,4-Dioxane	<18.8	<18.8	<18.8	<18.8	<18.8	<188.0	<18.8	<188.0	<150.0	<150.0
Ethylbenzene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Ethyl Methacrylate	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
2-Hexanone	<6.25	<6.25	<6.25	<6.25	<6.25	<62.5	<6.25	<62.5	<50.0	<50.0
Isobutanol	<6.25	<6.25	<6.25	<6.25	<6.25	<62.5	<6.25	<62.5	<50.0	<50.0
Methacrylonitrile	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Methyl Bromide	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<1.25	<12.5	<10.0	<10.0
Methyl Chloride	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<1.25	<12.5	<10.0	<10.0
Methylene Bromide	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Dichloromethane	<0.625	<0.625	<0.625	<0.625	<0.625	<31.3	<0.625	<31.3	32.5	<5.0
Methyl Ethyl Ketone	<12.5	<12.5	<12.5	<12.5	<12.5	<125.0	<12.5	<125.0	<100.0	<100.0
Methyl Iodide	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Methyl Methacrylate	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
4-Methyl-2-Pentanone	<6.25	<6.25	<6.25	<6.25	<6.25	<62.5	<6.25	<62.5	<50.0	<50.0
Propionitrile	R	R	R	R	R	R	R	R	R	R
Styrene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,1,1,2-Tetrachloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0

TABLE 8
OXIDATION LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
VOLATILES										
1,1,2,2-Tetrachloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Tetrachloroethylene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Toluene	<0.625	<0.625	<0.625	<0.625	<0.625	6.39	<0.625	<6.25	<5.0	<5.0
1,1,1-Trichloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,1,2-Trichloroethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Trichloroethylene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Trichlorofluoromethane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
1,2,3-Trichloropropane	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Vinyl Acetate	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	<0.625	<6.25	<5.0	<5.0
Vinyl Chloride	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<1.25	<12.5	<10.0	<10.0
Total Xylene	<0.625	<0.625	<0.625	<0.625	<0.625	<6.25	1.31	<6.25	<5.0	<5.0
TOTAL METALS										
Arsenic	2.0	3.0	1.7	2.4	6.8	1.7	2.0	1.7	<200.0	<200.0
Antimony	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<100.0	<100.0
Barium	38	56	42	53	310	66	170	300	350	350
Beryllium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10.0	<10.0
Cadmium	2.6	2.8	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<10.0	<10.0
Chromium	26	28	21	27	20	23	20	21	<50.0	<50.0
Cobalt	16	18	15	16	19	14	15	23	<50.0	<50.0
Copper	28	30	22	32	43	36	36	57	<20.0	<20.0
Lead	14	19	11	21	24	<8.0	13	18	<40.0	<40.0
Mercury	<0.02	<0.02	<0.02	<0.02	<0.02	0.0599	0.0604	0.0775	<0.2	<0.2
Nickel	19	19	15	16	29	17	20	20	<50.0	<50.0
Selenium	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<200.0	<200.0
Silver	0.56	0.52	0.52	0.52	1.0	<0.4	0.88	0.88	<10.0	<10.0
Thallium	14	5.6	6.4	8.4	12	5.6	8.4	12	<100.0	<100.0
Tin	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<1000.0	<1000.0
Vanadium	70	82	69	88	64	77	72	61	<200.0	<200.0
Zinc	66	61	63	60	170	45	80	130	57	25
SEMIVOLATILES										
p-Chloro-m-Cresol	<1.34	<1.34	<1.34	<1.34	<66.6	<66.6	<66.6	<13.4	<20.0	<20.0
2-Chlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
m & p-Cresol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
o-Cresol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,4-Dichlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,6-Dichlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,4-Dimethylphenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,6-Dinitro-o-Cresol	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
2,4-Dinitrophenol	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
Dinoseb	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorophene	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	<10.0	<10.0
2-Nitrophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0

TABLE 8
OXIDATION LAGOON RESULTS
SOIL/ SLUDGE/ WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
SEMIVOLATILES										
4-Nitrophenol	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
Pentachlorophenol	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
Phenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,3,4,6-Tetrachlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,4,5-Trichlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,4,6-Trichlorophenol	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Acenaphthene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Acenaphthylene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Acetophenone	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2-Acetylaminofluorene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
4-Aminobiphenyl	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Aniline	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
Anthracene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Aramite	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
Benzo(a)Anthracene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Benzo(b)Fluoranthene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Benzo(k)Fluoranthene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Benzo(ghi)Perylene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Benzo(a)Pyrene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Benzyl Alcohol	<1.34	<1.34	<1.34	<1.34	<66.6	<66.6	<66.6	<13.4	<20.0	<20.0
bis(2-Chloroethoxy)Methane	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
bis(2-Chloroethyl)Ether	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
bis(2-Chloroisopropyl)Ether	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
bis(2-Ethylhexyl)Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
4-Bromophenyl Phenyl Ether	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Butyl Benzyl Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
p-Chloroaniline	<1.34	<1.34	<1.34	<1.34	<66.6	<66.6	<66.6	<13.4	<20.0	<20.0
Chlorobenzilate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2-Chloronaphthalene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
4-Chlorophenyl Phenyl Ether	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Chrysene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Diallate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Dibenzo(a,h)Anthracene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Dibenzofurans	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Di-n-Butyl Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
m-Dichlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
o-Dichlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
p-Dichlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
3,3'-Dichlorobenzidine	<1.34	<1.34	<1.34	<1.34	<66.6	<66.6	<66.6	<13.4	<20.0	<20.0

TABLE 8
OXIDATION LAGOON RESULTS
SOIL/ SLUDGE/ WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
SEMIVOLATILES										
Diethyl Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Dimethoate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
p-(Dimethylamino)Azobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
7,12-Dimethylbenz(a)Anthracene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
3,3'-Dimethyl Benzidine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	R	R
a,a-Dimethylphenethylamine	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	N/A	N/A
Dimethyl Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
m-Dinitrobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,4-Dinitrotoluene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2,6-Dinitrotoluene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Di-n-Octyl Phthalate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Diphenylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Disulfoton	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethyl Methanesulfonate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Famphur	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Fluorene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Hexachlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Hexachloro butadiene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Hexachloro cyclopentadiene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Hexachloro ethane	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Hexachloro propene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Indeno(1,2,3-cd)Pyrene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Isodrin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Isosafrole	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Kepone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methapyrilene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
3-Methyl Cholanthrene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Methyl Methanesulfonate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2-Methylnaphthalene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Methyl Parathion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
1,4-Naphthoquinone	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
1-Naphthylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2-Naphthylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
m-Nitroaniline	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
o-Nitroaniline	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0
p-Nitroaniline	<3.35	<3.35	<3.35	<3.35	<167.0	<167.0	<167.0	<33.5	<50.0	<50.0

TABLE 8
OXIDATION LAGOON RESULTS
SOIL/ SLUDGE/ WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
SEMIVOLATILES										
Nitrobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
4-Nitroquinoline-1-oxide	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosodi-n-butylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosodiethylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosodimethylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosodiphenylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosodipropylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosomethylethylamine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosomorpholine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosopiperidine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
N-Nitrosopyrrolidine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
5-Nitro-o-toluidine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Parathion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Pentachloroethane	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Pentachloronitrobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Phenacetin	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Phenanthrene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
p-Phenylenediamine	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Phorate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Picoline	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Pronamide	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Pyrene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Pyridine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Safrole	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	R	R
1,2,4,5-Tetrachlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
Tetraethyldithiopyrophosphate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<10.0	<10.0
Thionazin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
o-Toluidine	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
1,2,4-Trichlorobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
o,o,o-Triethylphosphorothioate	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	N/A	N/A
sym-Trinitrobenzene	<0.67	<0.67	<0.67	<0.67	<33.3	<33.3	<33.3	<6.7	<10.0	<10.0
2-sec-Butyl-4,6-dinitrophenol	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Ethyl Methacrylate	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Methyl Methacrylate	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ

TABLE 8
OXIDATION LAGOON RESULTS
SOIL/ SLUDGE/WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
PESTICIDES/HERBICIDES										
Aldrin	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Aroclor-1016	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Aroclor-1221	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<2.0	<2.0
Aroclor-1232	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Aroclor-1242	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Aroclor-1248	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Aroclor-1254	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Aroclor-1260	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1.0	<1.0
Alpha-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Beta-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Delta-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Gamma-BHC(Lindane)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Chlordane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
4,4'-DDD	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
4,4'-DDE	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
4,4'-DDT	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Dieldrin	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Endosulfan Sulfate	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Endosulfan I	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Endosulfan II	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Endrin	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Endrin Aldehyde	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.01	<0.01
Heptachlor	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Heptachlor Epoxide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.05	<0.05
Methoxychlor	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	<0.5
Toxaphene	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5.0	<5.0
2,4,5-TP Silvex	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.25	<0.25
2,4,5-T	<0.003	<0.003	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.25	<0.25
2,4-D	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1.5	<1.5

TABLE 8
OXIDATION LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	931102-35	931102-38	931102-39	931102-40	931102-41	931102-42	931102-44	931102-45	931102-33	931102-34
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
DIOXINS/FURANS										
2,3,7,8-TCDD	<0.15	<0.11	<0.089	<0.11	<0.13	<0.14	<0.15	<0.13	<0.78	<0.78
1,2,3,7,8-PeCDD	<0.26	<0.2	<0.16	<0.18	<0.23	<0.25	<0.25	<0.22	<1.4	<1.4
1,2,3,4,7,8-HxCDD	<0.43	<0.32	<0.25	<0.3	<0.37	<0.41	<0.42	<0.36	<2.2	<2.2
1,2,3,6,7,8-HxCDD	<0.22	<0.16	<0.13	<0.15	<0.19	<0.21	<0.21	<0.18	<2.0	<2.0
1,2,3,7,8,9-HxCDD	<0.36	<0.27	<0.22	<0.26	<0.31	<0.35	<0.35	<0.31	<2.3	<2.3
1,2,3,4,6,7,8-HpCDD	<0.44	<0.33	<0.26	<0.31	<0.38	1.5	0.661	<0.37	<2.3	<2.3
Total OCDD	<0.58	<0.43	<0.34	<0.4	16	28	30.7	<0.49	<3.8	<3.8
2,3,7,8-TCDF	<0.13	<0.099	<0.078	<0.092	<0.11	<0.13	<0.13	<0.11	<0.65	<0.65
1,2,3,7,8-PeCDF	<0.2	<0.15	<0.12	<0.14	<0.18	<0.2	<0.2	<0.17	<0.85	<0.85
2,3,4,7,8-PeCDF	<0.21	<0.16	<0.13	<0.15	<0.18	<0.21	<0.21	<0.18	<0.93	<0.93
1,2,3,4,7,8-HxCDF	<0.24	<0.18	<0.14	<0.17	<0.21	<0.23	<0.23	<0.2	<2.0	<2.0
1,2,3,6,7,8-HxCDF	<0.19	<0.14	<0.11	<0.13	<0.16	<0.18	<0.18	<0.16	<2.0	<2.0
2,3,4,6,7,8-HxCDF	<0.35	<0.26	<0.21	<0.24	<0.3	<0.33	<0.34	<0.3	<1.4	<1.4
1,2,3,7,8,9-HxCDF	<0.45	<0.34	<0.27	<0.31	<0.38	<0.43	<0.43	<0.38	<2.2	<2.2
1,2,3,4,6,7,8-HpCDF	<0.36	<0.27	<0.21	<0.25	<0.31	<0.34	<0.35	<0.31	<2.2	<2.2
1,2,3,4,7,8,9-HpCDF	<0.38	<0.29	<0.23	<0.27	<0.33	<0.37	<0.37	<0.33	<1.8	<1.8
OCDF	<0.72	<0.54	<0.43	<0.5	<0.62	0.768	<0.7	<0.61	<2.1	<2.1
Total TCDD	<0.15	0.113	<0.09	0.134	1.14	<0.14	<0.15	0.438	<0.78	<0.78
Total PeCDD	<0.26	<0.2	<0.16	<0.18	<0.23	<0.25	<0.25	<0.22	<1.4	<1.4
Total HxCDD	<0.43	<0.32	<0.25	<0.3	<0.37	<0.41	<0.42	<0.36	<2.3	<2.3
Total HpCDD	<0.44	<0.33	<0.26	<0.31	0.867	1.5	1.42	<0.37	<2.3	<2.3
Total TCDF	<0.13	0.137	<0.08	<0.09	0.506	0.175	1.89	<0.11	<0.65	<0.65
Total PeCDF	<0.21	<0.16	<0.13	<0.15	<0.18	<0.21	<0.21	<0.18	<0.93	<0.93
Total HxCDF	<0.45	<0.34	<0.27	<0.31	<0.38	<0.43	<0.43	<0.38	<2.2	<2.2
Total HpCDF	<0.38	<0.29	<0.23	<0.27	<0.33	0.642	<0.37	<0.33	<2.2	<2.2

NOTE: Values which are shaded exceed calculated soil action levels.
N/A = Not Analyzed
R = Unusable result
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.
TCDD = Tetrachlorinated dibenzo-p-dioxin
PeCDD = Pentachlorinated dibenzo-p-dioxin
HxCDD = Hexachlorinated dibenzo-p-dioxin
HpCDD = Heptachlorinated dibenzo-p-dioxin
OCDD = Octachlorinated dibenzo-p-dioxin
TCDF = Tetrachlorinated dibenzofuran
PeCDF = Pentachlorinated dibenzofuran
HxCDF = Hexachlorinated dibenzofuran
HpCDF = Heptachlorinated dibenzofuran
OCDF = Octachlorinated dibenzofuran

TABLE 9
OXIDATION LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

COMPOUND GROUP/NAME	OL-1-SO 9311020056 (mg/l)	OL-2-SO 9311020057 (mg/l)	OL-3-SO 9311020058 (mg/l)	OL-4-SO 9311020061 (mg/l)	OL-1-SL 9311020064 (mg/l)	OL-2-SL 9311020065 (mg/l)	OL-3-SL 9311020067 (mg/l)	OL-4-SL 9311020070 (mg/l)	OL-1-W 9311020049 (mg/l)	DUP-3 (OL-1-W) 9311020052 (mg/l)
VOLATILES										
Benzene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Carbon Tetrachloride (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Chlorobenzene (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Chloroform (6 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
1,2-Dichloroethane (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
1,1-Dichloroethylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Methyl Ethyl Ketone (200 mg/l)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	NA
Tetrachloroethylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Trichloroethylene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Vinyl Chloride (0.2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
SEMIVOLATILES										
o-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
m & p-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Pentachlorophenol (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4,5-Trichlorophenol (400 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4,6-Trichlorophenol (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
1,4-Dichlorobenzene (7.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4-Dinitrotoluene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachlorobenzene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachloro-1,3-butadiene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachloroethane (3 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Nitrobenzene (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Pyridine (5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
METALS										
Arsenic (5 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA
Barium (100 mg/l)	0.63	1.5	1.0	1.3	2.0	3.9	2.8	1.2	NA	NA
Cadmium (1 mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA
Chromium (5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA
Lead (5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
Mercury (0.2 mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA
Silver (5 mg/l)	<0.01	0.02	<0.01	<0.01	0.02	0.03	0.02	0.01	NA	NA
Selenium (1 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA

TABLE 9
OXIDATION LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

COMPOUND GROUP/NAME	OL-1-SO 9311020056 (mg/l)	OL-2-SO 9311020057 (mg/l)	OL-3-SO 9311020058 (mg/l)	OL-4-SO 9311020061 (mg/l)	OL-1-SL 9311020064 (mg/l)	OL-2-SL 9311020065 (mg/l)	OL-3-SL 9311020067 (mg/l)	OL-4-SL 9311020070 (mg/l)	OL-1-W 9311020049 (mg/l)	DUP-3 (OL-1-W) 9311020052 (mg/l)
PESTICIDES/HERBICIDES										
Chlordane (0.03 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA	NA
2,4-D (10 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA	NA
Endrin (0.02 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Heptachlor Epoxide (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Heptachlor (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Lindane (0.4 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Methoxychlor (10 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA	NA
Toxaphene (0.5 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA	NA
2,4,5-TP Silvex (1 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA	NA

NOTE: Regulatory Limits in parentheses.
NA = Not Applicable

TABLE 10
OXIDATION LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

FIELD I.D.	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL	OL-3-SL	OL-4-SL	OL-1-W	DUP-3 (OL-1-W)
LABORATORY I.D.	9311020056	9311020057	9311020058	9311020061	9311020064	9311020065	9311020067	9311020070	9311020049	9311020052
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Water	Water
WASTE CHARACTERISTICS										
pH Extract (UNITS)	8.9	9.1	9.3	8.6	8.3	8.9	8.5	8.3	NA	NA
Flashpoint (Deg F)	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	NA	NA
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
Cyanide, Total	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0
Cyanide, Reactive	R	R	R	R	R	R	R	R	NA	NA
Sulfide, Total	<2.0	<1.0	<1.0	<1.0	6.8	<1.0	<1.0	4.2	<100.0	<100.0
Sulfide, Reactive	<4.0	93.8	<4.0	<4.0	<4.0	<4.0	<4.0	10.7	NA	NA
TPHC										
Total Hydrocarbons (mg/kg)	720	177	528	87	15300	60900	32300	26500	NA	NA

* Not Ignitable
NA = Not Applicable
R = Unusable result

TABLE 11
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
VOLATILES										
Methyl Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Methyl Bromide	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Vinyl Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Methylene Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Acetone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Carbon Disulfide	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,1-Dichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,1-Dichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
trans-1,2-Dichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chloroform	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,2-Dichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Methyl Ethyl Ketone	<3.13	<31.3	<3.13	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3	<25.0
1,1,1-Trichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Carbon Tetrachloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Vinyl Acetate	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Dichlorobromomethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,2-Dichloropropane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
cis-1,3-Dichloropropene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Trichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chlorodibromomethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,1,2-Trichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Benzene	<0.625	<6.25	<0.625	<6.25	<6.25	10.0J	13.8	<6.25	11.6	<5.0
trans-1,3-Dichloropropene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Bromoform	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
4-Methyl-2-pentanone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
2-Hexanone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Tetrachloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	6.79	<6.25	<5.0
1,1,2,2-Tetrachloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Toluene	<0.625	<6.25	<0.625	<6.25	7.44	25.5J	31.1	12.1	40.4	<5.0
Chlorobenzene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Ethylbenzene	0.750	<6.25	0.95	12.7	11.4	22.5J	40.7	8.15	30.8	<5.0
Styrene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Total Xylene	4.86	23.8	5.74	9.88	91.6	234J	384	110	300	<5.0

TABLE 11
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
SEMIVOLATILES										
Phenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
bis(2-Cloroethyl)Ether	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2-Chlorophenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
1,3-Dichlorobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
1,4-Dichlorobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzyl Alcohol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
1,2-Dichlorobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
o-Cresol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
bis(2-Chloroisopropyl)Ether	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
m & p-Cresol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
N-Nitrosodi-n-propylamine	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Hexachloroethane	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Nitrobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Isophorone	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2-Nitrophenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2,4-Dimethylphenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzoic Acid	<33.3	<33.5	<3.33	<33.3	<66.5	<333.0	<333.0	<165	<165	<50.0
bis(2-Chloroethoxy)Methane	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2,4-Dichlorophenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
1,2,4-Trichlorobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Naphthalene	<6.7	<6.7	<0.67	<6.7	21.3	89.7	<66.7	<33.3	<33.3	<10.0
4-Chloroaniline	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Hexachlorobutadiene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
p-Chloro-m-Cresol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2-Methylnaphthalene	13.3J	<6.7	0.792J	<6.7	121J	431J	296J	185J	208J	<10.0
Hexachlorocyclopentadiene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2,4,6-Trichlorophenol	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2,4,5-Trichlorophenol	<33.3	<33.5	<3.33	<33.3	<13.3	<333.0	<333.0	<165	<165	<50.0
2-Chloronaphthalene	<6.7	<6.7	<0.67	<6.7	<66.5	<66.7	<66.7	<33.3	<33.3	<10.0
2-Nitroaniline	<33.3	<33.5	<3.33	<33.3	<13.3	<333.0	<333.0	<165	<165	<50.0
Dimethyl Phthalate	<6.7	<6.7	<0.67	<6.7	<66.5	<66.7	<66.7	<33.3	<33.3	<10.0
Acenaphthylene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
2,6-Dinitrotoluene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
3-Nitroaniline	<33.3	<33.5	<3.33	<33.3	<13.3	<333.0	<333.0	<165	<165	<50.0
Acenaphthene	<6.7	<6.7	<0.67	<6.7	<66.5	<66.7	<66.7	<33.3	<33.3	<10.0
2,4-Dinitrophenol	<33.3	<33.5	<3.33	<33.3	<13.3	<333.0	<333.0	<165	<165	<50.0
4-Nitrophenol	<33.3	<33.5	<3.33	<33.3	<66.5	<333.0	<333.0	<165	<165	<50.0
Dibenzofurans	<6.7	<6.7	<0.67	<6.7	<66.5	<66.7	<66.7	<33.3	<33.3	<10.0
2,4-Dinitrotoluene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Diethyl Phthalate	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
4-Chlorophenyl Phenyl Ether	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Fluorene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
4-Nitroaniline	<33.3	<33.5	<3.33	<33.3	<66.5	<333.0	<333.0	<165	<165	<50.0

TABLE 11
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
SEMIVOLATILES										
4,6-Dinitro-o-Cresol	<33.3	<33.5	<3.33	<33.3	<66.5	<333.0	<333.0	<166	<166	<50.0
N-Nitrosodiphenylamine	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
4-Bromophenyl Phenyl Ether	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Hexachlorobenzene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Pentachlorophenol	<33.3	<33.5	<3.33	<33.3	<66.5	<333.0	<333.0	<165	<165	<50.0
Phenanthrene	<6.7	<6.7	<0.67	<6.7	25.3	76.5	67.6	42.8	44.5	<10.0
Anthracene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Di-n-Butyl Phthalate	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Fluoranthene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Pyrene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Butyl Benzyl Phthalate	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
3,3'-Dichlorobenzidine	<13.4	<33.5	<1.34	<13.4	<26.6	<134	<134	<134	<134	<20.0
Benzo(a)anthracene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Chrysene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
bis(2-Ethylhexyl)Phthalate	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Di-n-Octyl Phthalate	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzo(b)fluoranthene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzo(k)fluoranthene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzo(a)Pyrene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Indeno(1,2,3-cd) Pyrene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Dibenzo(a,h)Anthracene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
Benzo(ghi)Perylene	<6.7	<6.7	<0.67	<6.7	<13.3	<66.7	<66.7	<33.3	<33.3	<10.0
TOTAL METALS										
Aluminum	14000	11000	16000	13000	5900	1200	4200	5500	6300	<0.2
Antimony	<10.0	<10.0	<10.0	<10.0	<10.0	<20.0	<10.0	<10.0	<20.0	<0.003
Arsenic	<4.0	<4.0	6.7	<4.0	4.1	<4.0	4.4	4.0	4.6	<0.01
Barium	41	<20.0	35	51	260	52	360	49	270	<0.1
Beryllium	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<4.0	<0.01
Cadmium	<1.2	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	<1.2	<2.4	<0.01
Calcium	6200	4900	24000	17000	43000	47000	58000	75000	83000	22000
Chromium	18	18	18	18	33	<20.0	17	19	28	<0.05
Cobalt	14	11	12	12	13	19	<10.0	<10.0	<20.0	<0.05
Copper	32	25	40	29	92	11	100	89	59	<0.02
Iron	29000	26000	26000	26000	12000	680	9900	8100	13000	130
Lead	14	14	14	12	80	19	31	38	51	<0.005
Magnesium	20000	17000	16000	16000	5700	36000	3600	8500	57000	26000
Manganese	460	400	400	370	140	16	120	120	160	23
Mercury	<0.02	<0.02	<0.02	<0.02	0.0377	0.0374	0.0333	0.0393	0.0492	<0.0002
Nickel	17	11	14	12	53	<20.0	52	20	48	<0.05
Potassium	2600	1100	2800	1900	2200	200	3800	720	1400	11000
Selenium	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<0.003
Silver	0.92	0.92	1.1	1.1	1.4	1.3	1.7	1.9	2.4	<0.01
Sodium	1500	1800	4700	2700	1100	900	1700	5100	2900	210000

TABLE 11
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
TOTAL METALS										
Thallium	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<0.003
Vanadium	82	98	81	94	100	15	120	67	93	<0.2
Zinc	64	41	54	44	380	42	310	160	260	28
PESTICIDES										
Alpha-BHC	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Beta-BHC	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Delta-BHC	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Gamma-BHC (Lindane)	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Heptachlor	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Aldrin	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Heptachlor Epoxide	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Alpha-Endosulfan	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Dieldrin	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
4,4'-DDE	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Endrin	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Beta-Endosulfan	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
4,4'-DDT	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Methoxychlor	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
Endrin Ketone	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.2	<0.1
Alpha-Chlordane	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Gamma-Chlordane	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Toxaphene	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
Aroclor-1016	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1221	<0.07	<0.07	<0.07	<0.07	<0.35	<0.35	<0.35	<0.35	<0.35	<2.0
Aroclor-1232	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1242	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1248	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1254	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1260	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0

NOTE: Values which are shaded exceed calculated soil action levels.
J = Analyte was positively identified. Reported value may not be accurate or precise.

TABLE 12
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
VOLATILES										
Benzene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	0.112	0.265	0.252	0.466	0.525	NA
Carbon Tetrachloride (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Chlorobenzene (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Chloroform (6 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,2-Dichloroethane (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,1-Dichloroethylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Methyl Ethyl Ketone (200 mg/l)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA
Tetrachloroehtylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Trichloroethylene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Vinyl Chloride (0.2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
SEMIVOLATILES										
o-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
m & p-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Pentachlorophenol (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4,5-Trichlorophenol (400 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4,6-Trichlorophenol (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,4-Dichlorobenzene (7.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4-Dinitrotoluene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Hexachloro benzene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Hexachloro-1,3-butadiene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Hexachloro ethane (3 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Nitrobenzene (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Pyridine (5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
METALS										
Arsenic (5 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
Barium (100 mg/l)	1.3	0.55	<0.1	1.2	0.51	5.3	2.5	1.4	4.8	NA
Cadmium (1 mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Chromium (5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Lead (5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	NA
Mercury (0.2 mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA
Selenium (1 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
Silver (5 mg/l)	<0.01	<0.01	<0.01	<0.01	0.01	0.04	0.04	0.03	0.04	NA

TABLE 12
COOLING WATER EAST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
PESTICIDE/HERBICIDE										
Chlordane (0.03 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA
2,4-D (10 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA
Endrin (0.02 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Heptachlor Epoxide (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Heptachlor (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Lindane (0.4 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Methoxychlor (10 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA
Toxaphene (0.5 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA
2,4,5-TP Silvex (1 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA

NOTE: Regulatory Limits in parentheses.
Values which are shaded exceed regulatory limits.
NA = NotApplicable

TABLE 13
COOLING WATER EAST LAGOON RESULTS
SOIL/ SLUDGE/ WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

FIELD I.D.	CWE-1-SO	CWE-2-SO	CWE-3-SO	CWE-4-SO	CWE-1-SL	DUP 4 (CWE-1-SL)	CWE-2-SL	CWE-3-SL	CWE-4-SL	CWE-1-W
LABORATORY I.D.	9311040059	9311040050	9311040043	9311040047	9311040055	9311040053	9311040052	9311040045	9311040048	9311040040
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
WASTE CHARACTERISTICS										
pH Extract (UNITS)	9.3	8.8	8.8	8.6	9.9	9.9	8.9	8.6	9.3	NA
Flashpoint (Deg F)	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	NA
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/l)
Cyanide, Total	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.002
Cyanide, Reactive	R	R	R	R	R	R	R	R	R	NA
Sulfide, Reactive	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	31.2	13.4	<4.0	NA
TPHC										
Total Hydrocarbons (mg/kg)	2930	2480	2230	4100	54000	114000	96300	77800	63000	NA

* Not Ignitable
NA = Not Applicable
R = Unusable result.

TABLE 14
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040086	9311040094	9311040087	9311040095	9311040092	9311040088	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
VOLATILES											
Methyl Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Methyl Bromide	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Vinyl Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Methylene Chloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Acetone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Carbon Disulfide	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	79.7J
1,1-Dichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,1-Dichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
trans-1,2-Dichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chloroform	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,2-Dichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	11
Methyl Ethyl Ketone	<3.135	<31.3	<3.13	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3	<31.3	<5.0
1,1,1-Trichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<25.0
Carbon Tetrachloride	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Vinyl Acetate	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Dichlorobromomethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,2-Dichloropropane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
cis-1,3-Dichloropropene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Trichloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chlorodibromomethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
1,1,2-Trichloroethane	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Benzene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
trans-1,3-Dichloropropene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	9.56	10.4	<5.0
Bromoform	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
4-Methyl-2-pentanone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
2-Hexanone	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Tetrachloroethene	<0.625	<6.25	<0.625	<6.25	<6.25	UJ	<6.25	<6.25	<6.25	<6.25	<5.0
1,1,2,2-Tetrachloroethane	<0.625	<6.25	<0.625	<6.25	7.44	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Toluene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Chlorobenzene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	9.12	32.8	15.6	<5.0
Ethylbenzene	<0.625	<6.25	<0.625	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<5.0
Styrene	<0.625	<6.25	<0.625	<6.25	<6.25	14.4	<6.25	10.0	27.2	18.4	<5.0
Total Xylene	<0.625	<6.25	<0.625	26.2	<6.25	62.8	24.1	93.8	263	191	<5.0

TABLE 14
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040085	9311040094	9311040087	9311040095	9311040092	9311040086	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
SEMIVOLATILES											
Phenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
bis(2-Cloroethyl)Ether	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2-Chlorophenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
1,3-Dichlorobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
1,4-Dichlorobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzyl Alcohol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
1,2-Dichlorobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
o-Cresol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
bis(2-Chloroisopropyl)Ether	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
m & p-Cresol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
N-Nitrosodi-n-propylamine	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Hexachloroethane	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Nitrobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Isophorone	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2-Nitrophenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4-Dimethylphenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzoic Acid	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
bis(2-Chloroethoxy)Methane	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4-Dichlorophenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
1,2,4-Trichlorobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Naphthalene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
4-Chloroaniline	<6.7	<0.67	<6.7	<6.7	<0.67	48.0	<33.3	9.6	61.0	<33.3	<10.0
Hexachlorobutadiene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
p-Chloro-m-Cresol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2-Methylnaphthalene	17.9J	1.59J	<6.7	22.4J	5.58J	304J	63.3J	83.2J	421.0J	231.0J	<10.0
Hexachlorocyclopentadiene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4,6-Trichlorophenol	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4,5-Trichlorophenol	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
2-Chloronaphthalene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2-Nitroaniline	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
Dimethyl Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Acenaphthylene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,6-Dinitrotoluene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
3-Nitroaniline	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
Acenaphthene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4-Dinitrophenol	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
4-Nitrophenol	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
Dibenzofurans	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
2,4-Dinitrotoluene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Diethyl Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
4-Chlorophenyl Phenyl Ether	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Fluorene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
4-Nitroaniline	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0

TABLE 14
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040085	9311040094	9311040087	9311040095	9311040092	9311040086	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
SEMIVOLATILES											
4,6-Dinitro-o-Cresol	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
N-Nitrosodiphenylamine	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
4-Bromophenyl Phenyl Ether	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Hexachlorobenzene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Pentachlorophenol	<33.5	<3.35	<33.5	<33.3	<3.33	<166	<166	<33.3	<166	<166	<50.0
Phenanthrene	<6.7	<0.67	<6.7	<6.7	2.27	63.3	<33.3	16.5	78.0	47.4	<10.0
Anthracene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Di-n-Butyl Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Fluoranthene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Pyrene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Butyl Benzyl Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
3,3'-Dichlorobenzidine	<13.4	<1.34	<13.4	<13.4	<1.34	<134	<134	<13.4	<134	<134	<20.0
Benzo(a)anthracene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Chrysene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
bis(2-Ethylhexyl)Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Di-n-Octyl Phthalate	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzo(b)fluoranthene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzo(k)fluoranthene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzo(a)Pyrene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Indeno(1,2,3-cd)Pyrene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Dibenzo(a,h)Anthracene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
Benzo(ghi)Perylene	<6.7	<0.67	<6.7	<6.7	<0.67	<33.3	<33.3	<6.7	<33.3	<33.3	<10.0
TOTAL METALS											
Aluminum	18,000	15,000	11,000	16,000	11,000	4,600	4,700	1,000	9,800	14,000	<0.2
Antimony	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<20.0	<10.0	<10.0	<0.003
Arsenic	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<0.01
Barium	21	86	23	48	16	370	260	64	210	34	<0.1
Beryllium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.01
Cadmium	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.4	<1.2	<1.2	<0.01
Calcium	3,600	10,000	1,890	13,000	6,200	46,000	49,000	47,000	20,000	9,900	26,000
Chromium	23	21	14	21	15	14	47	<20.0	15	17	<0.05
Cobalt	14	15	12	16	12	15	12	26	18	15	<0.05
Copper	41	42	26	42	33	57	51	9.6	34	37	<0.02
Iron	28,000	30,000	18,000	30,000	23,000	7,600	9,400	1,300	17,000	22,000	80
Lead	14	17	11	17	12	31	43	19	16	14	<0.005
Magnesium	13,000	17,000	6,600	22,000	10,000	9,300	6,600	26,000	12,000	11,000	38,000
Manganese	290	480	150	560	280	91	130	16	210	220	<0.02
Mercury	<0.02	<0.02	<0.02	<0.02	<0.02	0.0478	0.0416	0.0318	0.0733	<0.02	<0.0002
Nickel	20	19	13	19	12	25	24	<20.0	15	17	<0.05
Potassium	4,000	4,300	3,400	5,100	280	1,300	830	420	3,900	320	16,000
Selenium	4.8	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	1.4	<1.2	<1.2	<0.003
Silver	0.96	0.80	0.8	0.84	0.60	1.2	1.2	1.2	0.80	0.68	10
Sodium	1,900	1,800	2,700	3,100	6,500	980	1,900	1,200	3,000	4,800	350,000

TABLE 14
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TARGET COMPOUND LIST (TCL)
(CONTINUED)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040085	9311040094	9311040087	9311040095	9311040092	9311040086	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)
TOTAL METALS											
Thallium	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<0.003
Vanadium	81	82	50	80	69	82	62	80	64	69	<0.2
Zinc	75	71	68	67	47	170	230	42	67	64	18
PESTICIDES											
Alpha-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Beta-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Delta-BHC	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Gamma-BHC (Lindane)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Heptachlor	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Aldrin	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Heptachlor Epoxide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Alpha-Endosulfan	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Dieldrin	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
4,4'-DDE	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
Endrin	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
Beta-Endosulfan	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
4,4'-DDT	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
Methoxychlor	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
Endrin Ketone	<0.004	<0.004	<0.004	<0.004	<0.004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1
Alpha-Chlordane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Gamma-Chlordane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Toxaphene	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
Aroclor-1016	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1221	<0.07	<0.07	<0.07	<0.07	<0.07	<0.35	<0.35	<0.35	<0.35	<0.35	<2.0
Aroclor-1232	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1242	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1248	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1254	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0
Aroclor-1260	<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0

J = Analyte was positively identified. Reported value may not be accurate or precise.
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.

TABLE 15
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040086	9311040094	9311040087	9311040095	9311040092	9311040088	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
VOLATILES											
Benzene (0.5 mg/l)	<0.05	<0.05	<0.05	0.140J	<0.05	0.161	0.301	0.095	0.690	0.296	NA
Carbon Tetrachloride (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Chlorobenzene (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Chloroform (6 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,2-Dichloroethane (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,1-Dichloroethylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Methyl Ethyl Ketone (200 mg/l)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA
Tetrachloroehtylene (0.7 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Trichloroethylene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Vinyl Chloride (0.2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
SEMIVOLATILES											
o-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
m & p-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Pentachlorophenol (100 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4,5-Trichlorophenol (400 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4,6-Trichlorophenol (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
1,4-Dichlorobenzene (7.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
2,4-Dinitrotoluene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Hexachlorobenzene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Hexachloro-1,3-butadiene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.05	NA
Hexachloroethane (3 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.05	NA
Nitrobenzene (2 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Pyridine (5 mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
METALS											
Arsenic (5 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
Barium (100 mg/l)	0.74	0.46	5.3	0.80	0.95	0.78	3.6	0.03	2.1	1.1	NA
Cadmium (1 mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Chromium (5 mg/l)	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA
Lead (5 mg/l)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Mercury (0.2 mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA
Selenium (1 mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA
Silver (5 mg/l)	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	0.01	0.01	0.03	NA

TABLE 15
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040085	9311040094	9311040087	9311040095	9311040092	9311040088	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
PESTICIDE/HERBICIDE											
Chlordane (0.03 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA
2,4-D (10 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA
Endrin (0.02 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Heptachlor Epoxide (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Heptachlor (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Lindane (0.4 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	NA
Methoxychlor (10 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	NA
Toxaphene (0.5 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA
2,4,5-TP Silvex (1 mg/l)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA

NOTE: Regulatory Limits in parentheses.
Values which are shaded exceed regulatory limits.
NA = Not Applicable
J = Analyte was positively identified. Reported value may not be accurate or precise.

TABLE 16
COOLING WATER WEST LAGOON RESULTS
SOIL / SLUDGE / WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

FIELD I.D.	CWW-1-SO	DUP 5 (CWW-1-SO)	CWW-2-SO	CWW-3-SO	CWW-4-SO	CWW-1-SL	CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2	CWW-4-SL	CWW-1-W
LABORATORY I.D.	9311040085	9311040094	9311040087	9311040096	9311040092	9311040088	9311040089	9311040090	9311040091	9311040093	9311040096
MATRIX	Native Soil	Native Soil	Native Soil	Native Soil	Native Soil	Sludge	Sludge	Sludge	Sludge	Sludge	Water
WASTE CHARACTERISTICS											
pH Extract (UNITS)	9.6	9.7	8.7	9.2	8.9	9.8	9.5	10.0	10.0	10.0	NA
Flashpoint (Deg F)	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	>230 F*	NA
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/l)
Cyanide, Total	0.2	0.2	<0.2	0.7	0.5	0.5	0.4	0.5	1.0	1.9	<0.004
Cyanide, Reactive	R	R	<0.2	R	R	R	R	R	R	R	NA
Sulfide, Reactive	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	NA
TPHC											
Total Hydrocarbons (mg/kg)	1,305	410	1,540	4,320	8,220	95,700	80,700	14,900	70,800	30,900	NA

* Not ignitable
NA = Not Applicable
R = Unusable result.

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
VOLATILES						
Acetone	<125.0	<12.5	<12.5	<12.5	<100.0	<100.0
Acetonitrile	<125.0	<12.5	<12.5	<12.5	<100.0	<100.0
Acrolein	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Acrylonitrile	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Allyl Chloride	<125.0	<12.5	<12.5	<12.5	<100.0	<100.0
Benzene	<6.25	0.744J	<0.625	<0.625	<5.0	<5.0
Bromodichloromethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Bromoform	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Carbon Disulfide	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Carbon Tetrachloride	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Chlorobenzene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Chloroethane	<12.5	<1.25	<1.25	<1.25	<10.0	<10.0
Chloroform	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Chloroprene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Chlorodibromomethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,2-Dibromo-3-Chloropropane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,2-Dibromoethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
trans-1,4-Dichloro-2-Butene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Dichlorodifluoromethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,1-Dichloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,2-Dichloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,1-Dichloroethene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
trans-1,2-Dichlorothylene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,2-Dichloropropane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
cis-1,3-Dichloropropene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
trans-1,3-Dichloropropene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,4-Dioxane	<188.0	<18.8	<18.8	<18.8	<150.0	<150.0
Ethylbenzene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Ethyl Methacrylate	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
2-Hexanone	<62.5	<62.5	<62.5	<62.5	<50.0	<50.0
Isobutanol	<62.5	<62.5	<62.5	<62.5	<50.0	<50.0
Methacrylonitrile	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Methyl Bromide	<12.5	<1.25	<1.25	<1.25	<10.0	<10.0
Methyl Chloride	<12.5	<1.25	<1.25	<1.25	<10.0	<10.0
Methylene Bromide	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
VOLATILES						
Dichloromethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Methyl Ethyl Ketone	<125.0	<12.5	<12.5	<12.5	<100.0	<100.0
Methyl Iodide	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Methyl Methacrylate	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
4-Methyl-2-Pentanone	<62.5	<6.25	<6.25	<6.25	<50.0	<50.0
Propionitrile	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Styrene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,1,1,2-Tetrachloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,1,2,2-Tetrachloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Tetrachloroethylene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Toluene	17.5	2.82J	<0.625	1.05J	<5.0	<5.0
1,1,1-Trichloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,1,2-Trichloroethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Trichloroethylene	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Trichlorofluoromethane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
1,2,3-Trichloropropane	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Vinyl Acetate	<6.25	<0.625	<0.625	<0.625	<5.0	<5.0
Vinyl Chloride	<12.5	<1.25	<1.25	<1.25	<10.0	<10.0
Total Xylene	26.9	4.91J	0.787J	1.00J	<5.0	<5.0
SEMIVOLATILES						
p-Chloro-m-cresol	UJ	<66.6	<66.6	<66.6	<200.0	<200.0
2-Chlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
m & p-Cresol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
o-Cresol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,4-Dichlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,6-Dichlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,4-Dimethylphenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4,6-Dinitro-o-Cresol	UJ	<166.0	<166.0	<166.0	<500.0	<500.0
2,4-Dinitrophenol	UJ	<166.0	<166.0	<166.0	<500.0	<500.0
Dinoseb	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorophene	UJ	UJ	UJ	UJ	UJ	UJ
2-Nitrophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4-Nitrophenol	UJ	<167.0	<167.0	<167.0	<500.0	<500.0
Pentachlorophenol	UJ	<167.0	<167.0	<167.0	<500.0	<500.0
Phenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
SEMIVOLATILES						
2,3,4,6-Tetrachlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,4,5-Trichlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,4,6-Trichlorophenol	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Acenaphthene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Acenaphthylene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Acetophenone	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2-Acetylaminofluorene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4-Aminobiphenyl	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Aniline	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Aramite	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)Anthracene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Benzo(b)Fluoranthene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Benzo(k)Fluoranthene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Benzo(ghi)Perylene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Benzo(a)Pyrene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Benzyl Alcohol	UJ	<66.6	<66.6	<66.6	<200.0	<200.0
bis(2-Chloroethoxy)Methane	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
bis(2-Chloroethyl)Ether	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
bis(2-Chloroisopropyl)Ether	N/A	N/A	N/A	N/A	N/A	N/A
bis(2-Ethylhexyl)Phthalate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4-Bromophenyl Phenyl Ether	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Butyl Benzyl Phthalate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
p-Chloroaniline	UJ	<66.6	<66.6	<66.6	<200.0	<200.0
Chlorobenzilate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2-Chloronaphthalene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4-Chlorophenyl Phenyl Ether	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Chrysene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Diallate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Dibenzo(a,h)Anthracene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Dibenzofurans	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Di-n-Butyl Phthalate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
m-Dichlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
o-Dichlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
p-Dichlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
3,3'-Dichlorobenzidine	UJ	<66.6	<66.6	<66.6	<200.0	<200.0

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
SEMIVOLATILES						
Diethyl Phthalate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Dimethoate	N/A	N/A	N/A	N/A	N/A	N/A
p-(Dimethylamino)Azobenzene	N/A	N/A	N/A	N/A	N/A	N/A
7,12-Dimethylbenz(a)Anthracene	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dimethyl Benzidine	R	R	R	R	R	R
a,a-Dimethylphenethylamine	UJ	UJ	<33.3	UJ	UJ	UJ
Dimethyl Phthalate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
m-Dinitrobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,4-Dinitrotoluene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2,6-Dinitrotoluene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Di-n-Octyl Phthalate	UJ	<33.3	UJ	<33.3	<100.0	<100.0
Diphenylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Disulfoton	N/A	N/A	N/A	N/A	N/A	N/A
Ethyl Methanesulfonate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Famphur	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Fluorene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Hexachlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Hexachlorobutadiene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Hexachlorocyclopentadiene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Hexachloroethane	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Hexachloropropene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Indeno(1,2,3-cd)Pyrene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Isodrin	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Isosafrole	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Kepone	N/A	N/A	N/A	N/A	N/A	N/A
Methapyrilene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
3-Methyl Cholanthrene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Methyl Methanesulfonate	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2-Methylnaphthalene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Methyl Parathion	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
1,4-Naphthoquinone	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
1-Naphthylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
SEMIVOLATILES						
2-Naphthylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
m-Nitroaniline	UJ	<166.0	<166.0	<166.0	<500.0	<500.0
o-Nitroaniline	UJ	<166.0	<166.0	<166.0	<500.0	<500.0
p-Nitroaniline	UJ	<166.0	<166.0	<166.0	<500.0	<500.0
Nitrobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
4-Nitroquinoline-1-Oxide	R	R	R	R	R	R
N-Nitrosodi-n-Butylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosodiethylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosodimethylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosodiphenylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosodipropylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosomethylethylamine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosomorpholine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosopiperidine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
N-Nitrosopyrrolidine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
5-Nitro-o-Toluidine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Parathion	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Pentachloroethane	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Pentachloronitrobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Phenacetin	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Phenanthrene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
p-Phenylenediamine	UJ	UJ	UJ	UJ	UJ	UJ
Phorate	N/A	N/A	N/A	N/A	N/A	N/A
2-Picoline	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Pronamide	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Pyrene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Pyridine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Safrole	R	R	R	R	R	R
1,2,4,5-Tetrachlorobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
Tetraethyldithiopyrophosphate	N/A	N/A	N/A	N/A	N/A	N/A
Thionazin	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
o-Toluidine	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
1,2,4-Trichlorobenzene						

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
SEMIVOLATILES						
0,0,0-Triethyiphosphorothioate	N/A	N/A	N/A	N/A	N/A	N/A
sym-Trinitrobenzene	UJ	<33.3	<33.3	<33.3	<100.0	<100.0
2-sec-Butyl-4,6-Dinitrophenol	UJ	UJ	UJ	UJ	UJ	UJ
Ethyl Methacrylate	UJ	UJ	UJ	UJ	UJ	UJ
Methyl Methacrylate	UJ	UJ	UJ	UJ	UJ	UJ
TOTAL METALS						
Arsenic	2.1	1.3	1.8	2.1	19.4	20.1
Antimony	<20.0	<20.0	<20.0	<20.0	<500.0	<500.0
Baruim	330	190	36	69	310	280
Beryllium	<2.0	<2.0	<2.0	<2.0	<50.0	<50.0
Cadmium	<2.0	<2.0	<2.0	<2.0	620	580
Cobalt	29	20	<10.0	<10.0	<250.0	<250.0
Copper	96	130	19	55	<100.0	<100.0
Chromium	<10.0	<10.0	<10.0	<10.0	<250.0	<250.0
Lead	23	26	9.2	13	<1.0	<1.0
Mercury	0.0997	0.978	0.19	0.325	<0.2	<0.2
Nickel	26	32	18	40	<250.0	<250.0
Selenium	6.0	6.4	1.6	2.0	<20.0	<20.0
Silver	1.1	0.88	0.88	0.92	130	120
Thallium	8.4	8.4	8.4	10.0	3500	3200
Tin	<40.0	<40.0	<40.0	<40.0	2600	2400
Vanadium	<40.0	42	<40.0	48	470	480
Zinc	150	170	39	100	95	90
PESTICIDES						
Aldrin	<0.01	<0.02	<0.02	<0.02	<0.05	<0.05
Aroclor-1016	<0.2	<0.4	<0.4	<0.4	<1.0	<1.0
Aroclor-1221	<0.35	<0.7	<0.7	<0.7	<2.0	<2.0

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
PESTICIDES						
Aroclor-1232	UJ	<0.4	<0.4	<0.4	<1.0	<1.0
Aroclor-1242	UJ	<0.4	<0.4	<0.4	<1.0	<1.0
Aroclor-1248	UJ	<0.4	<0.4	<0.4	<1.0	<1.0
Aroclor-1254	UJ	<0.4	<0.4	<0.4	<1.0	<1.0
Aroclor-1260	UJ	<0.4	<0.4	<0.4	<1.0	<1.0
Alpha-BHC	UJ	<0.2	<0.2	<0.2	<0.05	<0.05
Beta-BHC	UJ	<0.2	<0.2	<0.2	<0.05	<0.05
Delta-BHC	UJ	<0.2	<0.2	<0.2	<0.05	<0.05
Gamma-BHC(Lindane)	UJ	<0.2	<0.2	<0.2	<0.05	<0.05
Chlordane	UJ	<0.02	<0.02	<0.02	0.06	0.09
4,4'-DDD	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
4,4'-DDE	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
4,4'-DDT	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Dieldrin	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Endosulfan Sulfate	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Endosulfan I	UJ	<0.02	<0.02	<0.02	<0.05	<0.05
Endosulfan II	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Endrin	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Endrin Aldehyde	UJ	<0.04	<0.04	<0.04	<0.1	<0.1
Heptachlor	UJ	<0.02	<0.02	<0.02	<0.05	<0.05
Heptachlor Epoxide	UJ	<0.2	<0.2	<0.2	<0.05	<0.05
Methoxychlor	UJ	<0.2	<0.2	<0.2	<0.5	<0.5
Toxaphene	UJ	<2.0	<2.0	<2.0	<5.0	<5.0
HERBICIDES						
2,4,5-TP Silvex	UJ	<0.003	<0.003	<0.003	<0.25	<0.25
2,4,5-T	UJ	<0.003	<0.003	<0.003	<0.25	<0.25
2,4-D	UJ	<0.02	<0.02	<0.02	<1.5	<1.5

TABLE 17
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	931109-49	931109-50	931109-51	931109-52	931109-47	931109-48
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(ppb)	(ppb)	(ppb)	(ppb)	(ppt)	(ppt)
DIOXINS/FURANS						
2,3,7,8-TCDD	<0.34	<0.32	<0.32	<0.33	<0.77	<0.77
1,2,3,7,8-PeCDD	<0.59	<0.57	<0.57	<0.58	<1.4	<1.4
1,2,3,4,7,8-HxCDD	<0.96	<0.91	<0.91	<0.94	<2.2	<2.2
1,2,3,6,7,8-HxCDD	<0.8	<0.76	<0.76	<0.78	<2.0	<2.0
1,2,3,7,8,9-HxCDD	<0.94	<0.9	<0.9	<0.93	<2.2	<2.2
1,2,3,4,6,7,8-HpCDD	<2.0	<1.9	<1.9	<2.0	3.87	<2.2
Total OCDD	<2.1	<2.0	23.8	<2.0	38.6	<3.8
2,3,7,8-TCDF	<0.28	<0.27	<0.27	<0.27	<0.64	<0.64
1,2,3,7,8-PeCDF	<0.66	<0.63	<0.63	<0.65	<0.84	<0.84
2,3,4,7,8-PeCDF	<0.61	<0.58	<0.58	<0.6	<0.92	<0.92
1,2,3,4,7,8-HxCDF	<1.5	<1.4	<1.4	<1.5	<2.0	<2.0
1,2,3,6,7,8-HxCDF	<0.87	<0.82	<0.82	<0.85	<2.0	<2.0
2,3,4,6,7,8-HxCDF	<1.3	<1.2	<1.2	<1.2	<1.4	<1.4
1,2,3,7,8,9-HxCDF	<0.97	<0.93	<0.93	<0.95	<2.2	<2.2
1,2,3,4,6,7,8-HpCDF	<0.86	<0.82	<0.82	<0.84	<2.2	<2.2
1,2,3,4,7,8,9-HpCDF	<1.3	<1.2	<1.2	<1.3	<1.8	<1.8
OCDF	<2.1	<2.0	<2.0	<2.0	<2.1	<2.1
Total TCDD	<0.34	<0.32	<0.32	<0.33	<0.77	<0.77
Total PeCDD	<0.59	<0.57	<0.57	<0.58	<1.4	<1.4
Total HxCDD	<0.96	<0.91	<0.91	<0.94	<2.2	<2.2
Total HpCDD	<2.0	<1.9	<1.9	<2.0	8.71	<2.2
Total TCDF	<0.28	<0.27	<0.27	1.49	<0.64	<0.64
Total PeCDF	<0.66	<0.63	<0.63	<0.65	<0.92	<0.92
Total HxCDF	<1.5	<1.4	<1.4	<1.5	<2.2	<2.2
Total HpCDF	<1.3	<1.2	<1.2	<1.3	<2.2	<2.2

NOTE: Values which are shaded exceed calculated soil action levels.
N/A = Not Analyzed
J = Analyte was positively identified. Reported value may not be accurate or precise.
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.
R = Unusable Result
TCDD = Tetrachlorinated dibenzo-p-dioxin
PeCDD = Pentachlorinated dibenzo-p-dioxin
HxCDD = Hexachlorinated dibenzo-p-dioxin
HpCDD = Heptachlorinated dibenzo-p-dioxin
OCDD = Octachlorinated dibenzo-p-dioxin

TCDF = Tetrachlorinated dibenzofuran
PeCDF = Pentachlorinated dibenzofuran
HxCDF = Hexachlorinated dibenzofuran
HpCDF = Heptachlorinated dibenzofuran
OCDF = Octachlorinated dibenzofuran

TABLE 18
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
VOLATILES						
Benzene (0.5 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Carbon Tetrachloride (0.5 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Chlorobenzene (100 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Chloroform (6 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
1,2-Dichloroethane (0.5 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
1,1-Dichloroethylene (0.7 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Methyl Ethyl Ketone (200 mg/l)	<1.25	<1.25	<1.25	<1.25	NA	NA
Tetrachloroethylene (0.7 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Trichloroethylene (0.5 mg/l)	<0.25	<0.25	<0.25	<0.25	NA	NA
Vinly Chloride (0.2 mg/l)	<0.2	<0.2	<0.2	<0.2	NA	NA
SEMIVOLATILES						
o-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
m & p-Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Cresol (200 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Pentachlorophenol (100 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4,5-Trichlorophenol (400 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4,6-Trichlorophenol (2 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
1,4-Dichlorobenzene (7.5 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
2,4-Dinitrotoluene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachlorobenzene (0.13 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachloro-1,3-butadiene (0.5 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Hexachloroethane (3 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Nitrobenzene (2 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Pyridine (5 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
METALS						
Arsenic (5 mg/l)	<0.2	<0.2	<0.2	<0.2	NA	NA
Barium (100 mg/L)	<0.1	0.17	0.42	0.31	NA	NA
Cadmium (1 mg/l)	<0.01	<0.01	<0.01	<0.01	NA	NA
Chromium (5 mg/l)	<0.05	<0.05	<0.05	<0.05	NA	NA
Lead (5 mg/l)	<0.1	<0.1	<0.1	<0.1	NA	NA

TABLE 18
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
UNIT	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
METALS						
Mercury (0.2 mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	NA	NA
Silver (5 mg/L)	0.03	0.02	0.03	0.04	NA	NA
Selenium (1 mg/l)	<0.2	<0.2	<0.2	<0.2	NA	NA
PESTICIDES/HERBICIDES						
Chlordane (0.03 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	NA	NA
2,4-D (10 mg/l)	<0.025	<0.025	<0.025	<0.025	NA	NA
Endrin (0.02 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Heptachlor Epoxide (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Heptachlor (0.008 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Lindane (0.4 mg/l)	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
Methoxychlor (10 mg/l)	<0.0025	<0.0025	<0.0025	<0.0025	NA	NA
Toxaphene (0.5 mg/l)	<0.025	<0.025	<0.025	<0.025	NA	NA
2,4,5-TP Silvex (1 mg/l)	<0.025	<0.025	<0.025	<0.025	NA	NA

NOTE: Regulatory Limits in parentheses.
NA = Not Applicable

TABLE 19
AERATION LAGOON RESULTS
SLUDGE AND WATER CHARACTERIZATION
WASTE CHARACTERISTICS AND TPHC

FIELD I.D.	AL-1-SL	AL-2-SL	AL-3-SL	AL-4-SL	AL-1-W	DUP 6 (AL-1-W)
LABORATORY I.D.	9311090081	9311090089	9311090091	9311090097	9311090073	9311090080
MATRIX	Sludge	Sludge	Sludge	Sludge	Water	Water
WASTE CHARACTERISTICS						
pH Extract (UNITS)	8.0	7.9	7.9	7.9	NA	NA
Flashpoint (Deg F)	>230 F*	>230 F*	>230 F*	>230 F*	NA	NA
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/l)	(ug/l)
Cyanide, Total	1.2	2.0	1.8	0.2	<2.0	3.00
Cyanide, Reactive	R	R	R	R	NA	NA
Sulfide, Total	19.5	52.8	98.2	64.2	<100.0	<100.0
Sulfide, Reactive	88.1	150	68.4	44.3	NA	NA
TPHC						
Total Hydrocarbons (mg/kg)	209,000	160,000	24,100	72,400	NA	NA

* Not ignitable
NA = Not Applicable
R = Unusable Result

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
VOLATILES			
Acetone	<12500	<1250	<12500
Acetonitrile	<12500	<1250	<12500
Acrolein	<625	<62.5	<625
Acrylonitrile	<625	<62.5	<625
Allyl Chloride	<12500	<1250	<12500
Benzene	38200J	15600J	10200J
Bromodichloromethane	<625	<62.5	<625
Bromoform	<625	<62.5	<625
Carbon Disulfide	<625	<62.5	<625
Carbon Tetrachloride	<625	<62.5	<625
Chlorobenzene	<625	<62.5	<625
Chloroethane	<1250	<125	<1250
Chloroform	<625	<62.5	<625
Chloroprene	<625	<62.5	<625
Chlorodibromomethane	<625	<62.5	<625
1,2-Dibromo-3-Chloropropane	<625	<62.5	<625
1,2-Dibromoethane	<625	<62.5	<625
trans-1,4-Dichloro-2-Butene	<625	<62.5	<625
Dichlorodifluoromethane	<625	<62.5	<625
1,1-Dichloroethane	<625	<62.5	<625
1,2-Dichloroethane	<625	<62.5	<625
1,1-Dichloroethene	<625	<62.5	<625
trans-1,2-Dichlorothylene	<625	<62.5	<625
1,2-Dichloropropane	<625	<62.5	<625
cis-1,3-Dichloropropene	<625	<62.5	<625
trans-1,3-Dichloropropene	<625	<62.5	<625
1,4-Dioxane	<18900	<1890	<18900
Ethylbenzene	7650J	2430J	1560J
Ethyl Methacrylate	<625	<62.5	<625
2-Hexanone	<6250	<625	<6250
Isobutanol	<6250	<625	<6250
Methacrylonitrile	<625	<62.5	<625
Methyl Bromide	<1250	<125	<1250
Methyl Chloride	<1250	<125	<1250
Methylene Bromide	<625	<62.5	<625
Dichloromethane	<625	<62.5	<625

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
VOLATILES			
Methyl Ethyl Ketone	<12500	<1250	<12500
Methyl Iodide	<625	<62.5	<625
Methyl Methacrylate	<625	<62.5	<625
4-Methyl-2-Pentanone	<6250	<625	<6250
Propionitrile	<625	<62.5	<625
Styrene	<625	<62.5	<625
1,1,1,2-Tetrachloroethane	<625	<62.5	<625
1,1,2,2-Tetrachloroethane	<625	<62.5	<625
Tetrachloroethylene	<625	<62.5	<625
Toluene	48300J	15400J	12100J
1,1,1-Trichloroethane	<625	<62.5	<625
1,1,2-Trichloroethane	<625	<62.5	<625
Trichloroethylene	<625	<62.5	<625
Trichlorofluoromethane	<625	<62.5	<625
1,2,3-Trichloropropane	<625	<62.5	<625
Vinyl Acetate	<625	<62.5	<625
Vinyl Chloride	<1250	<125	<1250
Total Xylene	41600J	13000J	8750J
SEMIVOLATILES			
p-Chloro-m-cresol	<2000	<334	<334
2-Chlorophenol	<1000	<167	<167
m & p-Cresol	<1000	<167	<167
o-Cresol	<1000	<167	<167
2,4-Dichlorophenol	<1000	<167	<167
2,6-Dichlorophenol	<1000	<167	<167
2,4-Dimethylphenol	<1000	<167	<167
4,6-Dinitro-o-Cresol	<5000	<835	<835
2,4-Dinitrophenol	<5000	<835	<835
Dinoseb	N/A	N/A	N/A
Hexachlorophene	UJ	UJ	UJ
2-Nitrophenol	<1000	<167	<167
4-Nitrophenol	<5000	<835	<835
Pentachlorophenol	<5000	<835	<835

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
SEMIVOLATILES			
Phenol	<1000	<167	<167
2,3,4,6-Tetrachlorophenol	<1000	<167	<167
2,4,5-Trichlorophenol	<1000	<167	<167
2,4,6-Trichlorophenol	<1000	<167	<167
Acenaphthene	<1000	<167	<167
Acenaphthylene	<1000	<167	<167
Acetophenone	<1000	<167	<167
2-Acetylaminofluorene	<1000	<167	<167
4-Aminobiphenyl	<1000	<167	<167
Aniline	<1000	<167	<167
Anthracene	<1000	<167	<167
Aramite	<1000	<167	<167
Benzo(a)Anthracene	<1000	<167	<167
Benzo(b)Fluoranthene	<1000	<167	<167
Benzo(k)Fluoranthene	<1000	<167	<167
Benzo(qhi)Perylene	<1000	<167	<167
Benzo(a)Pyrene	<1000	<167	<167
Benzyl Alcohol	<1000	<167	<167
bis(2-Chloroethoxy)Methane	<2000	<334	<334
bis(2-Chloroethyl)Ether	<1000	<167	<167
bis(2-Chloroisopropyl)Ether	<1000	<167	<167
bis(2-Ethylhexyl)Phthalate	<1000	<167	<167
4-Bromophenyl Phenyl Ether	<1000	<167	<167
Butyl Benzyl Phthalate	<1000	<167	<167
p-Chloroaniline	<1000	<167	<167
Chlorobenzilate	<2000	<334	<334
2-Chloronaphthalene	<1000	<167	<167
4-Chlorophenyl Phenyl Ether	<1000	<167	<167
Chrysene	<1000	<167	<167
Diallate	<1000	<167	<167
Dibenzo(a,h)Anthracene	<1000	<167	<167
Dibenzofurans	<1000	<167	<167
Di-n-Butyl Phthalate	<1000	<167	<167

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
SEMIVOLATILES			
m-Dichlorobenzene	<1000	<167	<167
o-Dichlorobenzene	<1000	<167	<167
p-Dichlorobenzene	<1000	<167	<167
3,3'-Dichlorobenzidine	<2000	<334	<334
Diethyl Phthalate	<1000	<167	<167
Dimethoate	N/A	N/A	N/A
p-(Dimethylamino)Azobenzene	<1000	<167	<167
7,12-Dimethylbenz(a)Anthracene	<1000	<167	<167
3,3'-Dimethyl Benzidine	R	R	R
a,a-Dimethylphenethylamine	UJ	UJ	UJ
Dimethyl Phthalate	<1000	<167	<167
m-Dinitrobenzene	<1000	<167	<167
2,4-Dinitrotoluene	<1000	<167	<167
2,6-Dinitrotoluene	<1000	<167	<167
Di-n-Octyl Phthalate	<1000	<167	<167
Diphenylamine	<1000	<167	<167
Disulfoton	N/A	N/A	N/A
Ethyl Methanesulfonate	<1000	<167	<167
Famphur	N/A	N/A	N/A
Fluoranthene	<1000	<167	<167
Fluorene	<1000	<167	<167
Hexachlorobenzene	<1000	<167	<167
Hexachlorobutadiene	<1000	<167	<167
Hexachlorocyclopentadiene	<1000	<167	<167
Hexachloroethane	<1000	<167	<167
Hexachloropropene	<1000	<167	<167
Indeno(1,2,3-cd)Pyrene	<1000	<167	<167
Isodrin	N/A	N/A	N/A
Isophorone	<1000	<167	<167
Isosafrole	<1000	<167	<167
Kepone	N/A	N/A	N/A
Methapyrilene	<1000	<167	<167
3-Methyl Cholanthrene	<1000	<167	<167

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
SEMIVOLATILES			
Methyl Methanesulfonate	<1000	<167	<167
2-Methylnaphthalene	2176	858	713
Methyl Parathion	N/A	N/A	N/A
Naphthalene	1556	571	464
1,4-Naphthoquinone	<1000	<167	<167
1-Naphthylamine	<1000	<167	<167
2-Naphthylamine	<1000	<167	<167
m-Nitroaniline	<5000	<835	<835
o-Nitroaniline	<5000	<835	<835
p-Nitroaniline	<5000	<835	<835
Nitrobenzene	<1000	<167	<167
4-Nitroquinoline-1-Oxide	R	R	R
N-Nitrosodi-n-Butylamine	<1000	<167	<167
N-Nitrosodiethylamine	<1000	<167	<167
N-Nitrosodimethylamine	<1000	<167	<167
N-Nitrosodiphenylamine	<1000	<167	<167
N-Nitrosodipropylamine	<1000	<167	<167
N-Nitrosomethylethylamine	<1000	<167	<167
N-Nitrosomorpholine	<1000	<167	<167
N-Nitrosopiperidine	<1000	<167	<167
N-Nitrosopyrrolidine	<1000	<167	<167
5-Nitro-o-Toluidine	<1000	<167	<167
Parathion	N/A	N/A	N/A
Pentachlorobenzene	<1000	<167	<167
Pentachloroethane	<1000	<167	<167
Pentachloronitrobenzene	<1000	<167	<167
Phenacetin	<1000	<167	<167
Phenanthrene	<1000	<167	<167
p-Phenylenediamine	UJ	UJ	UJ
Phorate	N/A	N/A	N/A
2-Picoline	<1000	<167	<167
Pronamide	<1000	<167	<167
Pyrene	<1000	<167	<167

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
SEMIVOLATILES			
Pyridine	<1000	<167	<167
Safrole	R	R	R
1,2,4,5-Tetrachlorobenzene	<1000	<167	<167
Tetraethyldithiopyrophosphate	N/A	N/A	N/A
Thionazin	N/A	N/A	N/A
o-Toluidine	<1000	<167	<167
1,2,4-Trichlorobenzene	<1000	<167	<167
o,o,o-Triethylphosphorothioate	<1000	<167	<167
sym-Trinitrobenzene	<1000	<167	<167
2-sec-Butyl-4,6-dinitrophenol	UJ	UJ	UJ
Ethyl Methacrylate	UJ	UJ	UJ
Methyl Methacrylate	UJ	UJ	UJ
TOTAL METALS			
Arsenic	<0.1	1.2	0.64
Antimony	<20.0	<20.0	<20.0
Barium	0.40	5.0	6.8
Beryllium	<2.0	<2.0	<2.0
Cadmium	<2.0	<2.0	<2.0
Chromium	<10.0	<10.0	<10.0
Cobalt	<10.0	<10.0	<10.0
Copper	<4.0	8.8	14
Lead	1.1	13	44
Mercury	<0.02	0.173	0.093
Nickel	<10.0	10	15
Selenium	<0.08	<0.08	<0.08
Silver	<0.4	<0.4	<0.4
Thallium	<0.12	<0.12	<0.12
Tin	63	<40.0	52
Vanadium	<40.0	40	<40.0
Zinc	<2.0	29	39

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/kg)	1008-1-SL 9311090103 Sludge (mg/kg)	1030-1-SL 9311090101 Sludge (mg/kg)
PESTICIDES			
Aldrin	<0.3	<0.02	<0.02
Arodor-1016	<6.0	<0.4	<0.4
Arodor-1221	<10.5	<0.7	<0.7
Arodor-1232	<6.0	<0.4	<0.4
Arodor-1242	<6.0	<0.4	<0.4
Arodor-1248	<6.0	<0.4	<0.4
Arodor-1254	<6.0	<0.4	<0.4
Arodor-1260	<6.0	<0.4	<0.4
Alpha-BHC	<0.3	<0.02	<0.02
Beta-BHC	<0.3	<0.02	<0.02
Delta-BHC	<0.3	<0.02	<0.02
Gamma-BHC(Lindane)	<0.3	<0.02	<0.02
Chlordane	<0.3	<0.02	<0.02
4,4'-DDD	<0.6	<0.04	<0.04
4,4'-DDE	<0.6	<0.04	<0.04
4,4'-DDT	<0.6	<0.04	<0.04
Dieldrin	<0.6	<0.04	<0.04
Endosulfan Sulfate	<0.6	<0.04	<0.04
Endosulfan I	<0.3	<0.02	<0.02
Endosulfan II	<0.6	<0.04	<0.04
Endrin	<0.6	<0.04	<0.04
Endrin Aldehyde	<0.6	<0.04	<0.04
Heptachlor	<0.3	<0.02	<0.02
Heptachlor Epoxide	<0.3	<0.02	<0.02
Methoxychlor	<3.0	<0.2	<0.2
Toxaphene	<30.0	<2.0	<2.0
HERBICIDES			
1,4,5-TP Silvex	<0.03	<0.003	<0.003
1,4,5-T	<0.03	<0.003	<0.003
2,4-D	<0.2	<0.02	<0.02

TABLE 20
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
APPENDIX IX LIST
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 931109-58 NAPL (ppb)	1008-1-SL 931109-62 Sludge (ppb)	1030-1-SL 931109-56 Sludge (ppb)
DIOXINS/FURANS			
2,3,7,8-TCDD	<0.11	<0.34	<0.32
1,2,3,7,8-PeCDD	<0.2	<0.6	<0.55
1,2,3,4,7,8-HxCDD	<0.32	<0.97	<0.89
1,2,3,6,7,8-HxCDD	<0.26	<0.8	<0.74
1,2,3,7,8,9-HxCDD	<0.31	<0.95	<0.87
1,2,3,4,6,7,8-HpCDD	<0.68	<2.1	<1.9
OCDD	R	<2.1	<1.9
2,3,7,8-TCDF	<0.093	<0.28	<0.26
1,2,3,7,8-PeCDF	<0.22	<0.66	<0.61
2,3,4,7,8-PeCDF	<0.2	<0.62	<0.57
1,2,3,4,7,8-HxCDF	<0.5	<1.5	<1.4
1,2,3,6,7,8-HxCDF	<0.29	<0.87	<0.8
2,3,4,6,7,8-HxCDF	<0.42	<1.3	<1.2
1,2,3,7,8,9-HxCDF	<0.32	<0.98	<0.9
1,2,3,4,6,7,8-HpCDF	<0.28	<0.87	<0.79
1,2,3,4,7,8,9-HpCDF	<0.43	<1.3	<1.2
OCDF	R	<2.1	<1.9
Total TCDD	0.245	<0.34	<0.32
Total PeCDD	0.989	<0.6	<0.55
Total HxCDD	<0.32	<0.97	<0.89
Total HpCDD	<0.68	<2.1	<1.90
Total TCDF	0.504	<0.28	<0.26
Total PeCDF	0.649	<0.66	<0.61
Total HxCDF	2.02	<1.5	<1.4
Total HpCDF	2.47	22.6	<1.2

N/A = Not Analyzed
R = Unusable Result
J = Analyte was positively identified. Reported value may not be accurate or precise.
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.
TCDD = Tetrachlorinated dibenzo-p-dioxin
PeCDD = Pentachlorinated dibenzo-p-dioxin
HxCDD = Hexachlorinated dibenzo-p-dioxin
HpCDD = Heptachlorinated dibenzo-p-dioxin
OCDD = Octachlorinated dibenzo-p-dioxin
TCDF = Tetrachlorinated dibenzofuran
PeCDF = Pentachlorinated dibenzofuran
HxCDF = Hexachlorinated dibenzofuran
HpCDF = Heptachlorinated dibenzofuran
OCDF = Octachlorinated dibenzofuran

TABLE 21
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/l)	1008-1-SL 9311090103 Sludge (mg/l)	1030-1-SL 9311090101 Sludge (mg/l)
VOLATILES			
Benzene (0.5 mg/l)	NA	125	89.7
Carbon Tetrachloride (0.5 mg/l)	NA	<5.0	<5.0
Chlorobenzene (100 mg/l)	NA	<5.0	<5.0
Chloroform (6 mg/l)	NA	<5.0	<5.0
1,2-Dichloroethane (0.5 mg/l)	NA	<5.0	<5.0
1,1-Dichloroethylene (0.7 mg/l)	NA	<5.0	<5.0
Methyl Ethyl Ketone (200 mg/l)	NA	<25.0	<25.0
Tetrachloroethylene (0.7 mg/l)	NA	<5.0	<5.0
Trichloroethylene (0.5 mg/l)	NA	<5.0	<5.0
Vinly Chloride (0.2 mg/l)	NA	<5.0	<5.0
SEMIVOLATILES			
O-Cresol (200 mg/l)	NA	0.28	0.18
M&P-Cresol (200 mg/l)	NA	0.19	0.05
Cresol (200 mg/l)	NA	0.47	0.23
Pentachlorophenol (100 mg/l)	NA	<0.05	<0.05
2,4,5-Trichlorophenol (400 mg/l)	NA	<0.05	<0.05
2,4,6-Trichlorophenol (2 mg/l)	NA	<0.05	<0.05
1,4-Dichlorobenzene (7.5 mg/l)	NA	<0.05	<0.05
2,4-Dinitrotoluene (0.13 mg/l)	NA	<0.05	<0.05
Hexachlorobenzene (0.13 mg/l)	NA	<0.05	<0.05
Hexachloro-1,3-Butadiene (0.5 mg/l)	NA	<0.05	<0.05
Hexachloroethane (3 mg/l)	NA	<0.05	<0.05
Nitrobenzene (2 mg/l)	NA	<0.05	<0.05
Pyridine (5 mg/l)	NA	<0.05	<0.05
METALS			
Arsenic (5 mg/l)	NA	<0.2	<0.2
Barium (100 mg/L)	NA	0.58	1.9
Cadmium (1 mg/l)	NA	<0.01	<0.01
Chromium (5 mg/l)	NA	<0.05	<0.05

TABLE 21
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
(CONTINUED)

FIELD I.D. LABORATORY I.D. MATRIX UNIT	1008-1-N 9311090102 NAPL (mg/l)	1008-1-SL 9311090103 Sludge (mg/l)	1030-1-SL 9311090101 Sludge (mg/l)
METALS			
Lead (5 mg/l)	NA	0.24	0.23
Mercury (0.2 mg/l)	NA	<0.0002	<0.0002
Silver (5 mg/L)	NA	0.012	0.014
Selenium (1 mg/l)	NA	<0.2	<0.2
PESTICIDES/HERBICIDES			
Chlordane (0.03 mg/l)	NA	<0.0025	<0.0025
2,4-D (10 mg/l)	NA	<0.025	<0.025
Endrin (0.02 mg/l)	NA	<0.0005	<0.0005
Heptachlor Epoxide (0.008 mg/l)	NA	<0.0005	<0.0005
Heptachlor (0.008 mg/l)	NA	<0.0005	<0.0005
Lindane (0.4 mg/l)	NA	<0.0005	<0.0005
Methoxychlor (10 mg/l)	NA	<0.0025	<0.0025
Toxaphene (0.5 mg/l)	NA	<0.025	<0.025
2,4,5-TP Silvex (1 mg/l)	NA	<0.025	<0.025

NOTE: Regulatory limits in parentheses.
Values which are shaded exceed the regulatory limits.
NA = Not Applicable

TABLE 22
SLOP OIL TANKS
NAPL AND SLUDGE CHARACTERIZATION
WASTE CHARACTERISTICSAND TPHC

FIELD I.D. LABORATORY I.D. MATRIX	1008-1-N 9311090102 NAPL	1008-1-SL 9311090103 Sludge	1030-1-SL 9311090101 Sludge
WASTE CHARACTERISTICS			
pH Extract (UNITS)	NA	7.2	7.3
Flashpoint (Deg F)	NA	AMBIENT*	AMBIENT*
Cyanide (mg/kg)	<0.2	0.2	R
Reactivity Cyanide (mg/kg)	NA	<0.2	<0.2
Sulfide (mg/kg)	1.5	2.5	1.5
Reactivity Sulfide (mg/kg)	NA	4.9	7.0
TPHC			
Total Hydrocarbons (mg/kg)	NA	350,000	291,000

* Ignitable: Room temperature for Flashpoint analysis was 67 degrees Farenheit.
NA = Not Applicable
R = Unusable Result

TABLE 23
GROUNDWATER INVESTIGATION SOIL BORING RESULTS
TARGET ANALYTE LIST (TAL) METALS

FIELD I.D. DEPTH INTERVAL LABORATORY I.D. MATRIX UNIT	WL-1 (0-2') 9312080058 Native Soil (mg/kg)	WL-1 (2'-8') 9312080059 Native Soil (mg/kg)	WL-1 DUP (2'-8') 9312080060 Native Soil (mg/kg)	EL-1 (0-2') 9312080063 Native Soil (mg/kg)	EL-1 (2'-6') 9312080064 Native Soil (mg/kg)
TOTAL METALS AND CONVENTIONALS					
Aluminum	5050	3640	3180	22100	19600
Calcium	264000	261000	256000	14000	28800
Iron	9200	8400	7600	37700	39000
Magnesium	4400	3140	2910	11900	14100
Manganese	190	163	136	1300	950
Potassium	820J	580J	540J	1300J	400J
Antimony	UJ	UJ	UJ	UJ	UJ
Arsenic	<4.0	5.5	5.0	<4.0	<4.0
Barium	<100.0	<100.0	<100.0	110	96
Beryllium	<10.0	<10.0	<10.0	<2.0	<2.0
Cadmium	<10.0	<10.0	<10.0	<2.0	4.4
Chromium	<50.0	<50.0	<50.0	33	35
Cobalt	<50.0	<50.0	<50.0	22	21
Copper	<20.0	<20.0	<20.0	67	60
Lead	15.6	28.0	2.8	6.0	3.2
Mercury	0.0315	<0.02	<0.02	<0.02	0.0354
Nickel	25	<20.0	<20.0	16	17
Selenium	<4.0	<4.0	<4.0	<4.0	4.2
Silver	5.0	5.4	5.5	1.2	1.2
Thallium	1.7J	UJ	UJ	UJ	UJ
Vanadium	<200.0	<200.0	<200.0	119	125
Zinc	51	29	28	67	63
Sodium	1200	2180	2370	230	480
Cyanide	0.1	0.45J	0.45	0.1	<0.1

NOTE: Values which are shaded exceed the calculated soil action levels.
J = Analyte was positively identified. Reported value may not be accurate or precise.
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.

TABLE 24
GROUNDWATER INVESTIGATION SOIL BORING RESULTS
TPHC

FIELD I.D. DEPTH INTERVAL LABORATORY I.D. MATRIX	WL-1 (0-2') 9312080058 Native Soil	WL-1 (2'-8') 9312080059 Native Soil	WL-1 DUP (2'-8') 9312080060 Native Soil	EL-1 (0-2') 9312080063 Native Soil	EL-1 (2'-6') 9312080064 Native Soil
TPHC	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Total Hydrocarbons	830	15100	14900	<30.0	<30.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
VOLATILES										
Acetone	<100.0	<100.0	<100.0	<100.0	<100.0	<5000.0	<100.0	<100.0	<100.0	<100.0
Acetonitrile	<100.0	<100.0	<100.0	<100.0	<100.0	<5000.0	<100.0	<100.0	<100.0	<100.0
Acrolein	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Acrylonitrile	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Allyl Chloride	<100.0	<100.0	<100.0	<100.0	<100.0	<5000.0	<100.0	<100.0	<100.0	<100.0
Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	47,900	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Carbon Disulfide	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Carbon Tetrachloride	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Chloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<250.0	<10.0	<10.0	<10.0	<10.0
Chloroform	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Chloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromo-3-Chloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
trans-1,4-Dichloro-2-Butene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	9.9	<5.0	31.8	<5.0	34.8	<250	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,4-Dioxane	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Ethylbenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Ethyl methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	<50.0	<50.0	<50.0	<50.0	<50.0	<2500.0	<50.0	<50.0	<50.0	<50.0
Isobutanol	<50.0	<50.0	<50.0	<50.0	<50.0	<2500.0	<50.0	<50.0	<50.0	<50.0
Methacrylonitrile	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Methyl Bromide	<10.0	<10.0	<10.0	<10.0	<10.0	<500.0	<10.0	<10.0	<10.0	<10.0
Methyl Chloride	<10.0	<10.0	<10.0	<10.0	<10.0	<500.0	<10.0	<10.0	<10.0	<10.0
Methylene Bromide	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
VOLATILES										
Dichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Methyl Ethyl Ketone	<100.0	<100.0	<100.0	<100.0	<100.0	<5000.0	<100.0	<100.0	<100.0	<100.0
Methyl Iodide	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Methyl Methacrylate	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-Pentanone	<50.0	<50.0	<50.0	<50.0	<50.0	<2500.0	<50.0	<50.0	<50.0	<50.0
Propionitrile	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1,1,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethylene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	10.3	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Vinyl Acetate	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	<10.0	<10.0	13.1	<10.0	<10.0	<500.0	<10.0	<10.0	<10.0	<10.0
Total Xylene	<5.0	<5.0	<5.0	<5.0	<5.0	<250.0	<5.0	<5.0	<5.0	<5.0
SEMIVOLATILES										
p-Chloro-m-cresol	<20.0	<20.0	<20.0	<20.0	<20.0	<2500.0	<20.0	<20.0	<100.0	<20.0
2-Chlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
m & p-Cresol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
o-Cresol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,4-Dichlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,6-Dichlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,4-Dimethylphenol	<10.0	<10.0	<10.0	<10.0	<10.0	65.6	<10.0	<10.0	<50.0	<10.0
4,6-Dinitro-o-Cresol	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
2,4-Dinitrophenol	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
Dinoseb	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachlorophene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2-Nitrophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
4-Nitrophenol	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
Pentachlorophenol	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
Phenol	<10.0	<10.0	<10.0	<10.0	<10.0	446	<10.0	<10.0	<50.0	<10.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
SEMIVOLATILES										
2,3,4,6-Tetrachlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,4,5-Trichlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,4,6-Trichlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Acenaphthene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Acenaphthylene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Acetophenone	<10.0	<10.0	<10.0	<10.0	<10.0	77.6	<10.0	<10.0	<50.0	<10.0
2-Acetylaminofluorene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
4-Aminobiphenyl	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Aniline	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Anthracene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Aramite	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzo(a)Anthracene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzo(b)Fluoranthene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzo(k)Fluoranthene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzo(ghi)Perylene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzo(a)Pyrene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Benzyl Alcohol	<20.0	<20.0	<20.0	<20.0	<20.0	<100.0	<20.0	<20.0	<100.0	<20.0
bis(2-Chloroethoxy)Methane	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
bis(2-Chloroethyl)Ether	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
bis(2-Chloroisopropyl)Ether	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
bis(2-Ethylhexyl)Phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	18.1	<10.0	<50.0	<10.0
4-Bromophenyl Phenyl Ether	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Butyl Benzyl Phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
p-Chloroaniline	<20.0	<20.0	<20.0	<20.0	<20.0	<100.0	<20.0	<20.0	<100.0	<20.0
Chlorobenzilate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2-Chloronaphthalene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
4-Chlorophenyl Phenyl Ether	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Chrysene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Diallate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Dibenzo(a,h)Anthracene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Dibenzofurans	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Di-n-Butyl Phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
m-Dichlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
o-Dichlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
p-Dichlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
SEMIVOLATILES										
3,3'-Dichlorobenzidine	<20.0	<20.0	<20.0	<20.0	<20.0	<100.0	<20.0	<20.0	<100.0	<20.0
Diethyl Phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Dimethoate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
p-(dimethylamino)Azobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
7,12-Dimethylbenz(a)Anthracene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
3,3'-Dimethyl Benzidine	R	R	R	R	R	R	R	R	R	R
a,a-Dimethylphenethylamine	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Dimethyl Phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
m-Dinitrobenzene	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2,6-Dinitrotoluene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Di-n-octyl phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Diphenylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Disulfoton	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Ethyl Methanesulfonate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Famphur	R	R	R	R	R	R	R	R	R	R
Fluoranthene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Fluorene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachlorobutadiene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachlorocyclopentadiene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Hexachloropropene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Indeno(1,2,3-cd)Pyrene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Isodrin	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Isophorone	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Isosafrole	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Kepone	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Methapyrilene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
3-Methyl Cholanthrene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Methyl Methanesulfonate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2-Methylnaphthalene	<10.0	<10.0	<10.0	<10.0	<10.0	393.0	21.3	<10.0	<50.0	<10.0
Methyl Parathion	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Naphthalene	<10.0	<10.0	<10.0	<10.0	<10.0	227.0	<10.0	<10.0	<50.0	<10.0
1,4-Naphthoquinone	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
SEMIVOLATILES										
1-Naphthylamine	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
2-Naphthylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
m-Nitroaniline	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
o-Nitroaniline	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
p-Nitroaniline	<50.0	<50.0	<50.0	<50.0	<50.0	<250.0	<50.0	<50.0	<250.0	<50.0
Nitrobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
4-Nitroquinoline-1-Oxide	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosodi-n-Butylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosodiethylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosodimethylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosodiphenylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosodipropylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosomethylethylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosomorpholine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosopiperidine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
N-Nitrosopyrrolidine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
5-Nitro-o-Toluidine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Parathion	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pentachlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pentachloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pentachloronitrobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Phenacetin	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Phenanthrene	<10.0	<10.0	<10.0	<10.0	<10.0	64.8	<10.0	<10.0	<50.0	<10.0
p-Phenylenediamine	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Phorate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
2-Picoline	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pronamide	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pyrene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Pyridine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Safrole	R	R	R	R	R	R	R	R	R	R
1,2,4,5-Tetrachlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Tetraethyldithiopyrophosphate	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
Thionazin	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
o-Toluidine	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
1,2,4-Trichlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0
sym-Trinitrobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<50.0	<10.0	<10.0	<50.0	<10.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
TOTAL METALS AND CONVENTIONALS										
Silver	20	30	20	20	20	80	120	90	50	100
Arsenic	9.3	35.4	61.8	74.0	48.3	152	127	68.6	46.8	76.3
Barium	580	470	620	480	405	2300	920	400	240	420
Beryllium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cadmium	<6.0	<6.0	<6.0	<6.0	15	11	9	9	<6.0	<6.0
Cobalt	110	100	230	170	160	94	100	76	78	75
Copper	400	350	690	500	480	350	530	340	200	350
Chromium	220	220	540	390	390	530	250	210	140	240
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	1.2	<0.2	<0.2
Lead	19.7	18.1	39.6	29.6	31.2	15.9	15.2	17.1	15.6	8.5
Nickel	130	130	300	280	230	250	170	130	86	190
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<4.0
Tin	<1000.0	<1000.0	<1000.0	<1000.0	<1000.0	<1000.0	1320	<1000.0	<1000.0	1220
Antimony	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0
Thallium	130	350	350	350	300	1000	1600	1100	560	1300
Vanadium	660	630	1750	1000	1220	1200	770	570	440	640
Zinc	160	360	820	540	540	500	420	370	220	410
Cyanide	<2.0	<2.0	<2.0	<2.0	<2.0	4.0	<2.0	2.0	2.0	<2.0
Sulfide	<10.0	<10.0	<10.0	22.0	90.0	<10.0	<10.0	<10.0	<10.0	<10.0
DISSOLVED METALS										
Silver	<10.0	<10.0	<10.0	<10.0	<10.0	31	66	55	18	55
Arsenic	<2.5	<2.5	<2.5	2.8	<2.5	34.0	3.6	2.7	4.5	2.7
Barium	380	120	48	46	67	1300	390	185	77	180
Beryllium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Cadmium	<6.0	7	6	<6.0	<6.0	15	29	23	7	28
Cobalt	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Copper	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Chromium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	0.35	<0.2	<0.2	<0.2	0.35
Lead	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<20.0	<20.0	<2.0	<2.0
Tin	<1000.0	<1000.0	<1000.0	<1000.0	<1000.0	<1000.0	1030	<1000.0	<1000.0	1000
Antimony	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0	<100.0

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140055	9401140057	9401140059	9401140061	9401140064	9401140067	9401140069	9401140071	9401140073	9401140075
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
DISSOLVED METALS										
Thallium	<100.0	<100.0	<100.0	<100.0	<100.0	410	1000	930	280	830
Vanadium	51	32	47	46	30	53	86	72	78	80
Zinc	15	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
PESTICIDES										
Aldrin	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aroclor-1016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1221	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1232	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1242	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1248	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1254	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor-1260	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alpha-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Beta-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Delta-BHC	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05
Gamma-BHC(Lindane)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDD	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toxaphene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HERBICIDES										
1,4,4-TP Silvex	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
1,4,4-T	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
1,4-D	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

TABLE 25
GROUNDWATER RESULTS
APPENDIX IX LIST
(CONTINUED)

	EASTERN LAGOON AREA					WESTERN LAGOON AREA				
FIELD I.D.	EL-1	EL-2	EL-3	EL-4	EL-5 (DUP EL-3)	WL-1	WL-2	WL-3	WL-4	WL-5 (DUP WL-3)
LABORATORY I.D.	9401140042	9401140045	9401140046	9401140047	9401140049	9401140050	9401140051	9401140052	9401140053	9401140054
MATRIX	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
UNIT	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)	(ppt)
DIOXINS/FURANS										
2,3,7,8-TCDD	<0.8	<0.75	<0.77	<0.8	<0.76	<0.76	<0.78	<0.8	<0.82	<0.82
Total TCDD	<0.8	<0.75	<0.77	<0.8	<0.76	<0.76	<0.78	<0.8	<0.82	<0.82
Total PeCDD	<1.5	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.5	<1.5
Total HxCDD	<2.3	<2.2	<2.2	<2.3	<2.2	<2.2	<2.3	<2.3	<2.4	<2.4
Total TCDF	<0.67	<0.63	<0.64	<0.67	<0.63	<0.64	<0.65	<0.67	<0.68	<0.68
Total PeCDF	<0.96	<0.89	<0.92	<0.95	<0.91	<0.91	<0.93	<0.95	<0.98	<0.98
Total HxCDF	<2.3	<2.1	<2.2	<2.3	<2.2	<2.2	<2.2	<2.3	<2.3	<2.3

NOTE: Values which are shaded exceed EPA Drinking Water Regulations and Health Advisories (December 1993).
R = Unusable result
UJ = Analyte was not detected above the CRQL. The reported quantitation limit is qualified estimated.
TCDD = Tetrachlorinated dibenzo-p-dioxin
PeCDD = Pentachloronated dibenzo-p-dioxin
HxCDD = Hexachlorinated dibenzo-p-dioxin
TCDF = Tetrachlorinated dibenzofuran
PeCDF = Pentachlorinated dibenzofuran
HxCDF = Hexachlorinated dibenzofuran

TABLE 26
COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST

COMPOUND GROUP/NAME	EL-1 (ug/l)	EPA EL-1 (ug/l)	EL-2 (ug/l)	EPA EL-2 (ug/l)	EL-3 (ug/l)	EPA EL-3 (ug/l)	EL-4 (ug/l)	EPA EL-4 (ug/l)	DUP EL-3 EL-5 (ug/l)	EPA EL-5 (ug/l)
VOLATILES										
Acetone	*<100.0*	*130*	<100.0	<20.0	<100.0	<20.0	<100.0	<20.0	<100.0	<20.0
Vinyl Chloride	<10.0	<10.0	<10.0	<10.0	13.1	7.4 J	<10.0	<10.0	<10.0	5.9 J
Trichloroethylene	10.3	14	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0
Benzene	<5.0	<10.0	<5.0	<10.0	<5.0	2.9 J	<5.0	<10.0	<5.0	5.3 J
1,2, Dichloroethane	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0
Cis 1,2-Dichloroethene	9.9	24J	<5.0	<10.0	31.8	<10.0	<5.0	<10.0	34.8	32J
Ethylbenzene	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0
Xylene (Total)	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0
SEMIVOLATILES										
2,4-Dimethylphenol	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Phenol	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Acetophenone	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	NR
2-Methylnaphthalene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Naphthalene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Phenantherene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Diethyl Phthalate	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	0.2 J
Di-n-Octyl Phthalate	<10.0	<4.0	<10.0	0.9 J	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Bis (2-ethylhexyl) Phthalate	<10.0	<4.0	*<10.0*	*19*	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Acenaphthene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
1,2-Benzanthracene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
3,4-Benzofluoranthene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Benzo(a)pyrene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Chrysene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Dibenzofuran	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Dimethylnaphthalene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
2,3-Dimethylnaphthalene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Ethyl Dimethyl Benzene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Fluoranthene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
2-Methyl Phenol	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
4-Methyl Phenol	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
1-Methyl Naphthalene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Methyldecahydronaphthalene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Pyrene	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0	<10.0	<4.0
Tetrahydrothiophene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0

TABLE 26
COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST
(CONTINUED)

COMPOUND GROUP/NAME	EL-1 (ug/l)	EPA EL-1 (ug/l)	EL-2 (ug/l)	EPA EL-2 (ug/l)	EL-3 (ug/l)	EPA EL-3 (ug/l)	EL-4 (ug/l)	EPA EL-4 (ug/l)	DUP EL-3 EL-5 (ug/l)	EPA EL-5 (ug/l)
SEMIVOLATILES										
Tetrahydrothiophenedioxide	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Trimethylbenzene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
Trimethyolbenzoic acid	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	<4.0
TOTAL METALS										
Silver	20	<10.0	30	<10.0	20	<10.0	20	<10.0	20	<10.0
Aluminum	N/A	141,000	N/A	78,300	N/A	200,500	N/A	158,000	N/A	197,000
Arsenic	9.3	<100.0	35.4	<100.0	61.8	<100.0	74.9	<100.0	48.3	<100.0
Barium	580	<2000.0	470	<2000.0	620	<2000.0	480	<2000.0	405	465
Beryllium	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0
Cadmium	<6.0	<50.0	<6.0	<50.0	<6.0	<50.0	<6.0	<50.0	15	<5.0
Calcium	N/A	183,000	N/A	320,000	N/A	464,000	N/A	601,000	N/A	483,000
Cobalt	110	<500.0	100	<500.0	230	<500.0	170	<500.0	160	174
Copper	400	376	350	<250.0	690	511	500	410	480	522
Chromium	220	189	220	149	540	434	390	327	390	378
Iron	N/A	208,200	N/A	143,400	N/A	377,800	N/A	349,000	N/A	348,000
Mercury	<0.2	0.34	<0.2	<0.2	<0.2	0.28	<0.2	0.29	<0.2	0.45
Magnesium	N/A	84,000	N/A	149,000	N/A	154,000	N/A	174,000	N/A	160,000
Manganese	N/A	4,260	N/A	4,190	N/A	7830	N/A	6,840	N/A	7,930
Potassium	N/A	<50.0	N/A	<50.0	N/A	<50.0	N/A	<50.0	N/A	18,000
Sodium	N/A	67,000	N/A	133,000	N/A	189,000	N/A	162,000	N/A	195,000
Lead	19.7	13	***18.1***	***39***	39.6	<30.0	29.6	<30.0	31.2	47
Nickel	130	<400.0	130	<400.0	300	<400.0	280	<400.0	230	205
Selenium	<2.0	<50.0	<2.0	<50.0	<2.0	<50.0	<2.0	<50.0	***<2.0***	***110***
Tin	<1000.0	N/A	<1000.0	N/A	<1000.0	N/A	<1000.0	N/A	<1000.0	N/A
Antimony	<100.0	<600.0	<100.0	<600.0	<100.0	<600.0	<100.0	<600.0	<100.0	<60.0
Thallium	130	<100.0	350	<100.0	350	<100.0	350	<100.0	300	<100.0
Vanadium	660	735 J	630	<500.0	1,750	1,500J	1,000	1,080 J	1,220	1,450 J
Zinc	160	<400.0	360	<400.0	***820***	***1,210***	***540***	***1,150***	540	558
Cyanide	<2.0	N/A	<2.0	N/A	<2.0	N/A	<2.0	N/A	<2.0	N/A
Sulfide	<10.0	N/A	<10.0	N/A	<10.0	N/A	22.0	N/A	90.0	N/A

TABLE 26
COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST

COMPOUND GROUP/NAME	WL-1 (ug/l)	EPA WL-1 (ug/l)	WL-2 (ug/l)	EPA WL-2 (ug/l)	WL-3 (ug/l)	EPA WL-3 (ug/l)	WL-4 (ug/l)	EPA WL-4 (ug/l)	DUP WL-3 WL-5 (ug/l)
VOLATILES									
Acetone	<5000.0	<10000.0	<100.0	27 J	*<100.0*	*250*	<100.0	<100.0	<100.0
Vinyl Chloride	<500.0	<5000.0	<10.0	<50.0	<10.0	<50.0	<10.0	<50.0	<10.0
Trichloroethylene	<250.0	<5000.0	<5.0	<50.0	<5.0	<50.0	<5.0	<50.0	<5.0
Benzene	47,900	48,000	<5.0	30 J	<5.0	<50.0	<5.0	<50.0	<5.0
1,2, Dichloroethane	<250.0	<5000.0	<5.0	<50.0	<5.0	<50.0	<5.0	<50.0	<5.0
Cis 1,2-Dichloroethene	<250.0	NR	<5.0	NR	<5.0	NR	<5.0	<50.0	<5.0
Ethylbenzene	<250.0	<5000.0	<5.0	18 J	<5.0	<50.0	<5.0	<50.0	<5.0
Xylene (Total)	<250.0	<5000.0	*<5.0*	*76*	<5.0	<50.0	<5.0	<50.0	<5.0
SEMIVOLATILES									
2,4-Dimethylphenol	65.6	32	*<10.0*	*7*	<10.0	<4.0	<50.0	<4.0	<10.0
Phenol	446	260	<10.0	0.3 J	<10.0	<4.0	<50.0	<4.0	<10.0
Acetophenone	77.6	NR	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
2-Methylnaphthalene	393.0	210	21.3	20	<10.0	<4.0	<50.0	<4.0	<10.0
Naphthalene	227.0	63	*<10.0*	*4.4*	<10.0	<4.0	<50.0	<4.0	<10.0
Phenantherene	64.8	64	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Diethyl Phthalate	<50.0	<4.0	<10.0	1.4 J	<10.0	<4.0	<50.0	0.6 J	<10.0
Di-n-Octyl Phthalate	<50.0	<4.0	<10.0	0.4 J	<10.0	<4.0	<50.0	<4.0	<10.0
Bis (2-ethylhexyl) Phthalate	<50.0	<4.0	18.1	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Acenaphthene	*<50.0*	*18*	<10.0	0.6 J	<10.0	<4.0	<50.0	<4.0	<10.0
1,2-Benzanthracene	<50.0	1.4 J	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
3,4-Benzofluoranthene	<50.0	1.3 J	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Benzo(a)pyrene	<50.0	1.0 J	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Chrysene	<50.0	3.6 J	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Dibenzofuran	*<50.0*	*13*	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Dimethylnaphthalene	N/A	55 J	N/A	81 J	N/A	<4.0	N/A	<4.0	N/A
2,3-Dimethylnaphthalene	N/A	<4.0	N/A	140 J	N/A	<4.0	N/A	<4.0	N/A
Ethyl Dimethyl Benzene	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A	28 J	N/A
Fluoranthene	<50.0	3.5 J	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
2-Methyl Phenol	N/A	27	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A
4-Methyl Phenol	N/A	21	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A
1-Methyl Naphthalene	N/A	76 J	N/A	19 J	N/A	<4.0	N/A	<4.0	N/A
Methyldecahydronaphthalene	N/A	14 J	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A
Pyrene	*<50.0*	*7.7*	<10.0	<4.0	<10.0	<4.0	<50.0	<4.0	<10.0
Tetrahydrothiophene	N/A	<4.0	N/A	<4.0	N/A	67 J	N/A	<4.0	N/A

TABLE 26
COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST
(CONTINUED)

FIELD I.D. UNIT	WL-1 (ug/l)	EPA WL-1 (ug/l)	WL-2 (ug/l)	EPA WL-2 (ug/l)	WL-3 (ug/l)	EPA WL-3 (ug/l)	WL-4 (ug/l)	EPA WL-4 (ug/l)	DUP WL-3 WL-5 (ug/l)
SEMIVOLATILES									
Tetrahydrothiophenedioxide	N/A	<4.0	N/A	29 J	N/A	220 J	N/A	<4.0	N/A
Trimethylbenzene	N/A	16 J	N/A	<4.0	N/A	<4.0	N/A	<4.0	N/A
Trimethyolbenzoic acid	N/A	<4.O	N/A	<4.0	N/A	<4.0	N/A	94 J	N/A
TOTAL METALS									
Silver	80	<100.0	120	<100.0	90	<100.0	50	NR	100
Aluminum	N/A	272,000	N/A	198,000	N/A	104,600	N/A	NR	N/A
Arsenic	152	151	127	145	*68.6*	*192*	*46.8*	*113*	76.3
Barium	2,300	2,370	920	<2000.0	400	<2000.0	240	NR	420
Beryllium	<10.0	<5.0	<10.0	<5.0	<10.0	<5.0	<10.0	NR	<10.0
Cadmium	11	<50.0	9	<50.0	9	<50.0	<6.0	NR	<6.0
Calcium	N/A	1,580,000	N/A	2,280,000	N/A	1,090,000	N/A	NR	N/A
Cobalt	94	<500.0	100	<500.0	76	<500.0	78	NR	75
Copper	350	376	530	654	340	271	200	NR	350
Chromium	530	581	250	268	210	176	140	NR	240
Iron	N/A	2,090,600	N/A	309,000	N/A	190,400	N/A	212,000	N/A
Mercury	<0.2	<0.2	0.3	<0.2	1.2	<0.2	<0.2	<0.2	<0.2
Magnesium	N/A	699,000	N/A	152,000	N/A	1,110,000	N/A	233,000	N/A
Manganese	N/A	5,520	N/A	6,450	N/A	2,950	N/A	2,960	N/A
Potassium	N/A	169,000	N/A	424,000	N/A	376,000	N/A	116,000	N/A
Sodium	N/A	4,940,000	N/A	10,900,000	N/A	9,830,000	N/A	2,930,000	N/A
Lead	*15.9*	*66*	*15.2*	*52*	17.1	<30.0	*15.6*	*31*	8.5
Nickel	250	<400.0	170	<400.0	130	<400.0	86	<400.0	190

TABLE 26
COMPARISON OF EPA AND INCHCAPE GROUNDWATER RESULTS
PARTIAL APPENDIX IX LIST
(CONTINUED)

FIELD I.D. UNIT	WL-1 (ug/l)	EPA WL-1 (ug/l)	WL-2 (ug/l)	EPA WL-2 (ug/l)	WL-3 (ug/l)	EPA WL-3 (ug/l)	WL-4 (ug/l)	EPA WL-4 (ug/l)	DUP WL-3 WL-5 (ug/l)
TOTAL METALS									
Selenium	***<2.0***	***93***	***<4.0***	***89***	***<4.0***	***78***	<2.0	<50.0	<4.0
Tin	<1000.0	N/A	1,320	N/A	<1000.0	N/A	<1000.0	N/A	1,220
Antimony	<100.0	<600.0	<100.0	<600.0	<100.0	<600.0	<100.0	<600.0	<100.0
Thallium	1,000	<200.0	1,600	<100.0	1,100	<1000.0	560	<100.0	1,300
Vanadium	1,200	1,460 J	770	1,060J	570	533 J	440	715 J	640
Zinc	500	360	420	330	370	<400.0	220	<400.0	410
Cyanide	4.0	N/A	<2.0	N/A	2.0	N/A	2.0	N/A	<2.0
Sulfide	<10.0	N/A	<10.0	N/A	<10.0	N/A	<10.0	N/A	<10.0

J = Analyte was positively identified. Reported value may not be accurate or precise.
N/A = Not Analyzed
NR = No Result
BOLD ITALICS = Inchcape result is lower than EPA result.
DOUBLE OUTLINED BOX = Inchcape result is lower than EPA estimated result.
SHADE = Inchcape result is higher than EPA result.

FIGURES 1 THROUGH 12
PREVIOUSLY SUBMITTED

APPENDICES A THROUGH E
PREVIOUSLY SUBMITTED

WESTON
MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

ORGANIC APPENDIX IX QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

PREPARED BY: Kelly Muir Spittler — 08-31-94
Kelly Muir Spittler — **Date**
Unit Leader - Data Validation

VERIFIED BY: _____ — 8-31-94
Zohreh Hamid, Ph.D. — **Date**
Section Manager - Data Validation

WESTON

CORCO
ORGANIC APPENDIX IX
RFW #: 9212L982

INTRODUCTION

This quality assurance review is based upon a review of all data generated from four sediments, one duplicate analysis, and one field blank collected on 12-08-92. The samples were analyzed according to criteria set forth in the SW846 for Appendix IX Volatile, Semivolatile, and Pesticide/PCB target compounds by Roy F. Weston, Inc. Lionville Laboratory.

This review has been performed in accordance with the confirmation method. The reported analytical results are presented as a summary of the data in Attachment II. All of the analytical data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the analytical requirements and deliverables specified in the EPA SW-846 3rd Ed.

All data have been validated with regard to usability according to the quality assurance set forth in USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. If you have any questions or comments on this data review, please call Zohreh Hamid at (610) 701-3745.

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a review of the following criteria:

- Data Completeness
- Holding Time
- GC/MS Tuning
- Calibration
- Blanks
- Surrogate Recoveries
- Matrix Spike/Spike Duplicate/Blank Spike
- Internal Standard
- Instrument Performance
- Field Duplicate Results
- Compound Identification
- Compound Quantitation

VOLATILE ANALYSIS - METHOD 8240

The following sediment sample was analyzed at a dilution due to the high level of ethylbenzene. The sample data are not severly affected by this dilution.

SAMPLE ID	DILUTION FACTOR
EL-SW-1	5

The following surrogate recoveries were above the QC limits:

SAMPLE	SURROGATE	RECOVERY	QC LIMITS
EL-SW-1	Bromofluorobenzene	137	74-121
EL-SW-1RE	Toluene-d_8	145	81-117

This sample is probably exhibiting a matrix effect. Due to good sample result reproducibility, the original analysis is reported as the representative results, but both positive results and non-detects are qualified estimated due to these surrogate outliers.

Many compounds have %RSDs and/or %Ds outside the data validation requirement limits of 30% and 25% in initial and continuing calibrations, respectively. All associated positive results are qualified estimated.

The response factors for the following compounds were below the data validation requirement limit of 0.05.

COMPOUND NAME	IC 12-17-92	IC 12-18-92	CC 12-20-92
Isobutyl Alcohol		0.047	
Trans-1,4-dichloro-2-butene	0.027	0.021	0.014
Affected samples	ELFB		EL-NW-1 DUP EL-SE-1 EL-NE-1 EL-NE-1MSD EL-SW-1 EL-NW-1 EL-NE-1MS

WESTON

CORCO
RFW #: 9212L982

IC = Initial Calibration
CC = Continuing Calibration

The reported sample data could be accepted with the qualifier codes since the RRFs were above 0.01.

The following internal standard areas were below the laboratory's control limits. This sample is probably exhibiting a matrix effect. All sample results quantified in reference to these outliers are qualified estimated.

SAMPLE	INTERNAL STANDARD	AREA	CONTROL LIMITS
EL-NE-1	1,4-Difluorobenzene	79327	87373-349492
EL-NE-1MSD	Bromochlorobenzene	28944	29073-116290
	1,4-Difluorobenzene	76829	87373-349492

The five point initial calibration and calibration verification was not performed for 2-chlor-1,3-butadiene. The laboratory stated in the case narrative that a manual spectral search was performed for this compound, due to the non-availability of a reference standard. The non-detected value is considered as a Tentatively Identified Compound (TIC) and is qualified estimated on the data summary.

The laboratory blanks contained methylene chloride and acetone at levels below 5X the CRQL. The reported sample result for methylene chloride and acetone are considered as the laboratory contaminant artifacts and are flagged "U".

The field blank contained methylene chloride, acetone, and chloroform at levels below 5X the CRQL. The results for acetone and methylene chloride in this (ELFB) sample are possibly a result of laboratory contamination and are qualified "U".

The sample result reproducibility between duplicate samples were satisfactory.

WESTON

CORCO
RFW #: 9212L982

SEMIVOLATILE ANALYSIS - METHOD 8270

Sample EL-SW-1 was re-extracted outside of the required holding time. Since this analysis is not reported as the representative results, no action is taken on this basis.

The following sediment sample was analyzed at the following dilution:

SAMPLE ID	DILUTION FACTOR
EL-SW-1	5

Most of the surrogate recoveries could not be obtained in this sample, due to the dilution. The quantitation limits are evaluated and the possibility of false negatives exist. However, the samples were not qualified since the target compounds and non-target compounds were detected in the samples at relatively high levels.

In addition to the previous item, the following surrogate recoveries were also outside the QC limits:

SAMPLE	SURROGATE	RECOVERY
EL-SW-1RE	Nitrobenzene-d_5	126
	2,4,6-Tribromophenol	124
SBLKLE0027-MB1	Nitrobenzene-d_5	11
	2-Fluorobiphenyl	10
	Terphenyl-d_{14}	10
	Phenol-d_5	11
	2-Fluorophenol	13
	2,4,6-Tribromophenol	13

Since there was only one outlier in each fraction for sample EL-SW-1RE no action is required; however, and the blank referenced above is only associated with this analysis. Since this analysis is not reported as the representative results, the remaining sample data are unaffected.

The recoveries met the requirement limits in the water blank spike/spike duplicate sample analysis. The following recoveries were outside the QC limits in the soil sample analyses:

WESTON

CORCO
RFW #: 9212L982

COMPOUND NAME	MS/MSD RECOVERY	BS(2076)	BS/BSD(0027)
Phenol	103/110	101	123/122
2-Chlorophenol	113/119	113	122/135
1,2,4-Trichlorobenzene	-/117	112	119/116
4-Chloro-3-methylphenol	120/130	-	125/124
2,4-Dinitrotoluene	112/123	90	100/104
Pentachlorophenol	127/131	-	129/130
4-Nitrophenol	-/-	-	128/130

These MS/MSD compounds were not detected in the samples. Therefore, no qualification is applied based on these outliers.

The internal standard recoveries for phenanthrene-d_{10}, chrysene-d_{12}, and perylene-d_{12} in sample EL-NW-1, its MS/MSD analyses, and sample EL-SW-1 and the chrysene-d_{12} and perylene-d_{12} internal standard areas for sample EL-SW-1RE were outside the laboratory's control limits. These samples are exhibiting matrix effects. The original analyses are reported as the representative results, and all sample results quantified in reference to these outliers are qualified estimated.

The %RSDs were within the data validation requirement limit of 30%, with the exception of hexachlorophene. The %Ds for several compounds exceeded 25%. These compounds were not reported in the corresponding samples.

The response factors for hexachlorophene, pentachloronitrobenzene, and 4-nitroquinoline-1-oxide in the initial and continuing calibrations, were less than the 0.05 limit. These compounds are not CLP target compounds; therefore, the reported non-detected results are accepted without qualifier codes.

The sample result reproducibilities were satisfactory for duplicate analyses EL-NW-1/EL-NW-1 DUP.

One field blank analysis accompanied the sample data. The field blank was free of target compound contamination.

WESTON

CORCO
RFW #: 9212L982

PESTICIDE/PCB ANALYSIS - METHOD 8080

The sediment samples were analyzed at 2-fold dilutions. However, since positive results were not detected in these analyses, the reported non-detected values are slightly elevated and the possibility of false negatives exist.

The %RSD for Aldrin and 4,4-DDT for all initial calibrations analyzed on SP2100 column exceeded the 10% QC limit. Since these compounds were not detected in the samples, no qualification is applied on this basis.

Several %D and retention time results were outside the established criteria in the continuing calibrations analyzed on both columns. Since positive target compound results were not detected in these samples, no qualification is applied based on these outliers.

Overall, the sample data quality was good. The data package completeness was satisfactory and the sample results are considered accepted and representative with the applied qualifier codes.

WESTON

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Organic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Kelly Spittler or Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

WESTON

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

WESTON

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS. [Substantially is equivalent to a result less than 10 times the blank level for common contaminants (methylene chloride, acetone and 2-butanone in the VOA analyses, and common phthalates in the BNA analyses, along with tentatively identified compounds) or less than 5 times the blank level for other target compounds.]

R = UNUSABLE RESULT. THE PRESENCE OR ABSENCE OF THIS ANALYTE CANNOT BE VERIFIED. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND. THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE WAS POSITIVELY IDENTIFIED. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = ANALYTE WAS NOT DETECTED ABOVE THE CRQL. THE REPORTED QUANTITATION LIMIT IS QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

WESTON

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
GC/MS, APPENDIX IX VOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW #:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	5.00	1.00	1.00	1.00
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
COMPOUND						
Chloromethane	13 U	12 U	66 UJ	13 U	13 U	10 U
Bromomethane	13 U	12 U	66 UJ	13 U	13 U	10 U
Vinyl Chloride	13 U	12 U	66 UJ	13 U	13 U	10 U
Chloroethane	13 U	12 U	66 UJ	13 U	13 U	10 U
Methylene Chloride	6 U	6 U	33 UJ	6 U	5 J	8 U
Acetone	35 J	27 J	66 UJ	13 U	5 J	41 U
Carbon Disulfide	6 U	6 U	66 UJ	6 U	6 U	5 U
1,1-Dichloroethene	6 U	6 U	66 UJ	6 U	6 U	5 U
1,1-Dichloroethane	6 U	6 U	66 UJ	6 U	6 U	5 U
1,2-Dichloroethene (total)	6 U	6 U	66 UJ	6 U	6 U	5 U
Chloroform	6 U	6 U	66 UJ	6 U	6 U	1 J
1,2-Dichloroethane	6 U	6 U	66 UJ	6 U	6 U	5 U
2-Butanone	13 U	12 U	66 UJ	13 U	13 U	10 U
1,1,1-Trichloroethane	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Carbon Tetrachloride	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Vinyl Acetate	13 U	12 U	66 UJ	13 U	13 UJ	10 U
Bromodichloromethane	6 U	6 U	66 UJ	6 U	6 UJ	5 U
1,2-Dichloropropane	6 U	6 U	66 UJ	6 U	6 UJ	5 U
cis-1,3-Dichloropropene	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Trichloroethene	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Dibromochloromethane	6 U	6 U	66 UJ	6 U	6 UJ	5 U
1,1,2-Trichloroethane	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Benzene	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Trans-1,3-Dichloropropene	6 U	6 U	66 UJ	6 U	6 UJ	5 U
Bromoform	6 U	6 U	66 UJ	6 U	6 UJ	5 U
4-Methyl-2-pentanone	13 U	12 U	66 UJ	13 U	13 U	10 U
2-Hexanone	13 U	12 U	66 UJ	13 U	13 U	10 U
Tetrachloroethane	6 U	6 U	66 UJ	6 U	6 U	5 U
1,1,2,2-Tetrachloroethane	6 U	6 U	66 UJ	6 U	6 U	5 U

ROY F. WESTON, INC.
GC/MS, APPENDIX IX VOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW #:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	5.00	1.00	1.00	1.00
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
COMPOUND						
Toluene	6 U	6 U	33 UJ	6 U	6 U	5 U
Chlorobenzene	6 U	6 U	33 UJ	6 U	6 U	5 U
Ethylbenzene	6 U	6 U	250 J	6 U	6 U	5 U
Stryene	6 U	6 U	33 UJ	6 U	6 U	5 U
Xylene (total)	6 U	6 U	33 UJ	6 U	6 U	5 U
Acrolein	13 U	12 U	66 UJ	13 U	13 U	10 U
Acrylonitrile	13 U	12 U	66 UJ	13 U	13 U	10 U
Trichlorofluoromethane	6 U	6 U	33 UJ	6 U	6 U	5 U
Dichlorodifluoromethane	13 U	12 U	66 UJ	13 U	13 U	10 U
Acetonitrile	26 U	24 U	130 UJ	26 U	26 U	20 U
Iodomethane	13 U	12 U	66 UJ	13 U	13 U	10 U
Propionitrile (Ethyl Cyanide)	65 U	60 U	330 UJ	65 U	65 U	50 U
3-Chloropropene	26 U	24 U	130 UJ	26 U	26 U	20 U
Methacrylonitrile	26 U	24 U	130 UJ	26 U	26 UJ	20 U
Dibromomethane	13 U	12 U	66 UJ	13 U	13 UJ	10 U
Isobutyl alcohol	26 U	24 U	130 UJ	26 U	26 UJ	20 U
1,2-Dibromoethane	26 U	24 U	130 UJ	26 U	26 UJ	20 U
1,1,1,2-Tetrachloroethane	13 U	12 U	66 UJ	13 U	13 UJ	10 U
1,2,3-Trichloropropane	13 U	12 U	66 UJ	13 U	13 UJ	10 U
trans-1,4-Dichloro-2-butene	130 U	120 U	660 UJ	130 U	130 UJ	100 U
1,2-Dibromo-3-chloropropane	26 U	24 U	130 UJ	26 U	26 U	20 U
2-Chloro-1,3-Butadiene	130 UJ	120 UJ	660 UJ	130 UJ	130 UJ	100 UJ

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L962

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	5.00	1.00	1.00	1.00
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L
Phenol	430 U	390 U	2200 U	420 U	430 U	11 U
bis(2-Chloroethyl)ether	430 U	390 U	2200 U	420 U	430 U	11 U
2-Chlorophenol	430 U	390 U	2200 U	420 U	430 U	11 U
1,3-Dichlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
1,4-Dichlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Benzyl Alcohol	430 U	390 U	2200 U	420 U	430 U	11 U
1,2-Dichlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Orthocresol	430 U	390 U	2200 U	420 U	430 U	11 U
Bis(2-chloroisopropyl)ether	430 U	390 U	2200 U	420 U	430 U	11 U
meta & para-cresol	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitroso-Di-n-propylamine	430 U	390 U	2200 U	420 U	430 U	11 U
Hexachloroethane	430 U	390 U	2200 U	420 U	430 U	11 U
Nitrobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Isophorone	430 U	390 U	2200 U	420 U	430 U	11 U
2-Nitrophenol	430 U	390 U	2200 U	420 U	430 U	11 U
2,4-Dimethylphenol	430 U	390 U	2200 U	420 U	430 U	11 U
Benzoic Acid	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
Bis(2-chloroethoxy)methane	430 U	390 U	2200 U	420 U	430 U	11 U
2,4-Dichlorophenol	430 U	390 U	2200 U	420 U	430 U	11 U
1,2,4-Trichlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Naphthalene	130 J	92 J	1500 J	420 U	430 U	11 U
4-Chloroaniline	430 U	390 U	2200 U	420 U	430 U	11 U
Hexachlorobutadiene	430 U	390 U	2200 U	420 U	430 U	11 U
4-Chloro-3-methylphenol	430 U	390 U	2200 U	420 U	430 U	11 U
2-Methylnaphthalene	870	690	3900	420 U	430 U	11 U
Hexachlorocyclopentadiene	430 U	390 U	2200 U	420 U	430 U	11 U
2,4,6-Trichlorophenol	430 U	390 U	2200 U	420 U	430 U	11 U
2,4,5-Trichlorophenol	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
2-Chloronaphthalene	430 U	390 U	2200 U	420 U	430 U	11 U
2-Nitroaniline	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
Dimethylphthalate	430 U	390 U	2200 U	420 U	430 U	11 U
Acenaphthylene	430 U	390 U	2200 U	420 U	430 U	11 U

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L982

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	5.00	1.00	1.00	1.00
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L
2,6-Dinitrotoluene	430 U	390 U	2200 U	420 U	430 U	11 U
3-Nitroaniline	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
Acenaphthene	430 U	390 U	300 J	420 U	430 U	11 U
2,4-Dinitrophenol	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
4-Nitrophenol	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
Dibenzofuran	430 U	390 U	2200 U	420 U	430 U	11 U
2,4-Dinitrotoluene	430 U	390 U	2200 U	420 U	430 U	11 U
Diethylphthalate	430 U	390 U	2200 U	420 U	430 U	11 U
4-Chlorophenyl-phenylether	430 U	390 U	2200 U	420 U	430 U	11 U
Fluorene	230 J	390 U	720 J	420 U	430 U	11 U
4-Nitroaniline	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
4,6-Dinitro-2-methylphenol	2100 UJ	1900 U	11000 UJ	2100 U	2100 U	55 U
N-Nitrosodiphenylamine	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
4-Bromophenyl-phenylether	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Hexachlorobenzene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Pentachlorophenol	430 UJ	1900 U	11000 UJ	2100 U	2100 U	55 U
Phenanthrene	920 J	760	1400 J	420 U	430 U	11 U
Anthracene	80 J	71 J	2200 UJ	420 U	430 U	11 U
Di-n-butylphthalate	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Fluoranthene	94 J	98 J	2200 UJ	420 U	430 U	11 U
Pyrene	410 J	420	1200 J	420 U	430 U	11 U
Butylbenzylphthalate	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
3,3-Dichlorobenzidine	850 UJ	770 U	4300 UJ	840 U	850 U	22 U
Benzo(a)anthracene	50 J	55 J	2200 UJ	420 U	430 U	11 U
Chrysene	170 J	180 J	930 J	420 U	430 U	11 U
Bis(2-ethylhexyl)phthalate	110 J	120 J	2200 UJ	90 J	54 J	11 U
Di-n-octylphthalate	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Benzo(b)fluoranthene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Benzo(k)fluoranthene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Benzo(a)pyrene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Indeno(1,2,3-cd)pyrene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Dibenzo(a,h)anthracene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L982

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	5.00	1.00	1.00	1.00
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L
Benzo(g,h,i)perylene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
1,4-Dioxane	430 U	390 U	2200 U	420 U	430 U	11 U
Pyridine	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosodimethylamine	430 U	390 U	2200 U	420 U	430 U	11 U
2-Picoline	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosomethylethylamine	430 U	390 U	2200 U	420 U	430 U	11 U
Methyl methanesulfanoate	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosodiethylamine	430 U	390 U	2200 U	420 U	430 U	11 U
Ethyl methanesulfonate	430 U	390 U	2200 U	420 U	430 U	11 U
Aniline	430 U	390 U	2200 U	420 U	430 U	11 U
3-Methylphenol	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosopyrrolidine	430 U	390 U	2200 U	420 U	430 U	11 U
Acetophenone	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosomorpholine	430 U	390 U	2200 U	420 U	430 U	11 U
o-Toluidine	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitrosopiperidine	2100 U	1900 U	11000 U	2100 U	2100 U	55 U
a,a-Dimethylphenethylamine	430 U	390 U	2200 U	420 U	430 U	11 U
2,6-Dichlorophenol	430 U	390 U	2200 U	420 U	430 U	11 U
Hexachloropropene	430 U	390 U	2200 U	420 U	430 U	11 U
p-Phenylenediamine	430 U	390 U	2200 U	420 U	430 U	11 U
N-Nitroso-di-n-butylamine	430 U	390 U	2200 U	420 U	430 U	11 U
Safrole	430 U	390 U	2200 U	420 U	430 U	11 U
1,2,4,5-Tetrachlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Isosafrole	430 U	390 U	2200 U	420 U	430 U	11 U
1,4-Naphthoquinone	430 U	390 U	2200 U	420 U	430 U	11 U
1,3-Dinitrobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
Pentachlorobenzene	430 U	390 U	2200 U	420 U	430 U	11 U
1-Naphthylamine	430 U	390 U	2200 U	420 U	430 U	11 U
2-Naphthylamine	430 U	390 U	2200 U	420 U	430 U	11 U
2,3,4,6-Tetrachlorophenol	430 U	390 U	2200 U	420 U	430 U	11 U
1,3,5-Trinitrobenzene	430 UJ	390 U	2200 UJ	420 U	430 U	11 U
Diallate	430 UJ	390 U	2200 UJ	420 U	430 U	11 U

ROY F. WESTqqqqq
APPENDIX IX PESTICIDE/PCB ANALYSES – DATA VALIDATION SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L982

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	2.00	2.00	2.00	2.00	1.00	1.00
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L
COMPOUND						
alpha-BHC	21 U	19 U	21 U	20 U	10 U	0.052 U
beta-BHC	21 U	19 U	21 U	20 U	10 U	0.052 U
delta-BHC	21 U	19 U	21 U	20 U	10 U	0.052 U
gamma-BHC(Lindane)	21 U	19 U	21 U	20 U	10 U	0.052 U
Heptachlor	21 U	19 U	21 U	20 U	10 U	0.052 U
Aldrin	21 U	19 U	21 U	20 U	10 U	0.052 U
Heptachlor Epoxide	21 U	19 U	21 U	20 U	10 U	0.052 U
Endosulfan I	21 U	19 U	21 U	20 U	10 U	0.052 U
Dieldrin	42 U	38 U	43 U	41 U	20 U	0.1 U
4,4'-DDE	42 U	38 U	43 U	41 U	20 U	0.1 U
Endrin	42 U	38 U	43 U	41 U	20 U	0.1 U
Endosulfan II	42 U	38 U	43 U	41 U	20 U	0.1 U
4,4'-DDD	42 U	38 U	43 U	41 U	20 U	0.1 U
Endosulfan Sulfate	42 U	38 U	43 U	41 U	20 U	0.1 U
4,4'-DDT	42 U	38 U	43 U	41 U	20 U	0.1 U
Methoxychlor	210 U	190 U	210 U	200 U	100 U	0.52 U
Endrin Aldehyde	42 U	38 U	43 U	41 U	20 U	0.1 U
Isodrin	42 U	38 U	43 U	41 U	20 U	0.1 U
Kepone	210 U	19 U	210 U	200 U	100 U	0.52 U
Chlordane	210 U	190 U	210 U	200 U	100 U	0.52 U
Toxaphene	420 U	190 U	430 U	410 U	200 U	1 U
Aroclor 1016	210 U	380 U	210 U	200 U	100 U	0.52 U
Aroclor 1221	210 U	190 U	210 U	200 U	100 U	0.52 U
Aroclor 1232	210 U	190 U	210 U	200 U	100 U	0.52 U
Aroclor 1242	210 U	190 U	210 U	200 U	100 U	0.52 U
Aroclor 1248	420 U	380 U	430 U	410 U	200 U	1 U
Aroclor 1254	420 U	380 U	430 U	410 U	200 U	1 U
Aroclor 1260	42 U	38 U	43 U	41 U	20 U	0.1 U

WESTON

ATTACHMENT III
FORM I's

	Cust ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SW-1	EL-SE-1	EL-NE-1
Sample Information	RFW#:	001	002	003	003	004	005
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	1.00	1.00	5.00	5.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG REPREP	UG/KG	UG/KG
Surrogate Recovery	Toluene-d8	95 %	113 %	113 %	145 * %	105 %	109 %
	Bromofluorobenzene	95 %	95 %	137 * %	113 %	90 %	91 %
	1,2-Dichloroethane-d4	89 %	103 %	101 %	97 %	101 %	101 %
		fl	fl	fl	fl	fl	fl
Chloromethane		13 U	12 U	66 U	66 U	13 U	13 U
Bromomethane		13 U	12 U	66 U	66 U	13 U	13 U
Vinyl Chloride		13 U	12 U	66 U	66 U	13 U	13 U
Chloroethane		13 U	12 U	66 U	66 U	13 U	13 U
Methylene Chloride		6 U	6 U	33 U	33 U	6 U	5 J
Acetone		35 B	27	66 U	440 B	13 U	5 J
Carbon Disulfide		6 U	6 U	33 U	33 U	6 U	6 U
1,1-Dichloroethene		6 U	6 U	33 U	33 U	6 U	6 U
1,1-Dichloroethane		6 U	6 U	33 U	33 U	6 U	6 U
1,2-Dichloroethene (total)		6 U	6 U	33 U	33 U	6 U	6 U
Chloroform		6 U	6 U	33 U	33 U	6 U	6 U
1,2-Dichloroethane		6 U	6 U	33 U	33 U	6 U	6 U
2-Butanone		13 U	12 U	66 U	66 U	13 U	13 U
1,1,1-Trichloroethane		6 U	6 U	33 U	33 U	6 U	6 U
Carbon Tetrachloride		6 U	6 U	33 U	33 U	6 U	6 U
Vinyl Acetate		13 U	12 U	66 U	66 U	13 U	13 U
Bromodichloromethane		6 U	6 U	33 U	33 U	6 U	6 U
1,2-Dichloropropane		6 U	6 U	33 U	33 U	6 U	6 U
cis-1,3-Dichloropropene		6 U	6 U	33 U	33 U	6 U	6 U
Trichloroethene		6 U	6 U	33 U	33 U	6 U	6 U
Dibromochloromethane		6 U	6 U	33 U	33 U	6 U	6 U
1,1,2-Trichloroethane		6 U	6 U	33 U	33 U	6 U	6 U
Benzene		6 U	6 U	33 U	33 U	6 U	6 U
Trans-1,3-Dichloropropene		6 U	6 U	33 U	33 U	6 U	6 U
Bromoform		6 U	6 U	33 U	33 U	6 U	6 U
4-Methyl-2-pentanone		13 U	12 U	66 U	66 U	13 U	13 U
2-Hexanone		13 U	12 U	66 U	66 U	13 U	13 U
Tetrachloroethene		6 U	6 U	33 U	33 U	6 U	6 U
1,1,2,2-Tetrachloroethane		6 U	6 U	33 U	33 U	6 U	6 U

*= Outside of EPA CLP QC limits.

Cust ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SW-1	EL-SE-1	EL-NE-1
RFW#:	001	002	003	003 REPREP	004	005
Toluene	6 U	6 U	33 U	33 U	6 U	6 U
Chlorobenzene	6 U	6 U	33 U	33 U	6 U	6 U
Ethylbenzene	6 U	6 U	250	180	6 U	6 U
Styrene	6 U	6 U	33 U	33 U	6 U	6 U
Xylene (total)	6 U	6 U	33 U	33 U	6 U	6 U
Acrolein	13 U	12 U	66 U	NA	13 U	13 U
Acrylonitrile	13 U	12 U	66 U	NA	13 U	13 U
Trichlorofluoromethane	6 U	6 U	33 U	NA	6 U	6 U
Dichlorodifluoromethane	13 U	12 U	66 U	NA	13 U	13 U
Acetonitrile	26 U	24 U	130 U	NA	26 U	26 U
Iodomethane	13 U	12 U	66 U	NA	13 U	13 U
Propionitrile (Ethyl Cyanide)	65 U	60 U	330 U	NA	65 U	65 U
3-Chloropropene	26 U	24 U	130 U	NA	26 U	26 U
Methacrylonitrile	26 U	24 U	130 U	NA	26 U	26 U
Dibromomethane	13 U	12 U	66 U	NA	13 U	13 U
Isobutyl alcohol	26 U	24 U	130 U	NA	26 U	26 U
1,2-Dibromoethane	26 U	24 U	130 U	NA	26 U	26 U
1,1,1,2-Tetrachloroethane	13 U	12 U	66 U	NA	13 U	13 U
1,2,3-Trichloropropane	13 U	12 U	66 U	NA	13 U	13 U
trans-1,4-Dichloro-2-butene	130 U	120 U	660 U	NA	130 U	130 U
1,2-Dibromo-3-chloropropane	26 U	24 U	130 U	NA	26 U	26 U
2-Chloro-1,3-Butadiene	130 U	120 U	660 U	NA	130 U	130 U

*= Outside of EPA CLP QC limits.

SENT BY:(010) 01-318/ ; 8-13-94 ; 10:04 ; 7-4 DTD NVICSM ; 204 OOC 2/8:#

SENT BY:(610) 701-3187 ; 8-31-94 ; 10:47 ;

	Cust ID:	EL-NE-1		EL-NE-1		ELFB		VBLK		VBLK		VBLK	
Sample Information	RFW#:	005 MS		005 MSD		006		92LVQ166-MB1		92LVQ165-MB1		92LVX233-MB1	
	Matrix:	SEDIMENT		SEDIMENT		WATER		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/L		UG/KG		UG/KG		UG/KG	
	Toluene-d8	109	%	106	%	110	%	98	%	101	%	104	%
Surrogate	Bromofluorobenzene	103	%	86	%	111	%	103	%	100	%	101	%
Recovery	1,2-Dichloroethane-d4	76	%	101	%	109	%	102	%	104	%	98	%
			fl		fl		fl		fl		fl		fl
Chloromethane		13	U	13	U	10	U	10	U	10	U	10	U
Bromomethane		13	U	13	U	10	U	10	U	10	U	10	U
Vinyl Chloride		13	U	13	U	10	U	10	U	10	U	10	U
Chloroethane		13	U	13	U	10	U	10	U	10	U	10	U
Methylene Chloride		6		4	J	8	B	5	U	5	U	7	
Acetone		46	B	13	U	41	B	2	J	10	U	10	
Carbon Disulfide		6	U	6	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		101	%	96	%	5	U	5	U	5	U	5	U
1,1-Dichloroethane		6	U	6	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		6	U	6	U	5	U	5	U	5	U	5	U
Chloroform		6	U	6	U	1	J	5	U	5	U	5	U
1,2-Dichloroethane		6	U	6	U	5	U	5	U	5	U	5	U
2-Butanone		13	U	13	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		6	U	6	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride		6	U	6	U	5	U	5	U	5	U	5	U
Vinyl Acetate		13	U	13	U	10	U	10	U	10	U	10	U
Bromodichloromethane		6	U	6	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		6	U	6	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		6	U	6	U	5	U	5	U	5	U	5	U
Trichloroethene		122	%	136	%	5	U	5	U	5	U	5	U
Dibromochloromethane		6	U	6	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		6	U	6	U	5	U	5	U	5	U	5	U
Benzene		128	%	118	%	5	U	5	U	5	U	5	U
Trans-1,3-Dichloropropene		6	U	6	U	5	U	5	U	5	U	5	U
Bromoform		6	U	6	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		13	U	13	U	10	U	10	U	10	U	10	U
2-Hexanone		13	U	13	U	10	U	10	U	10	U	10	U
Tetrachloroethene		6	U	6	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		6	U	6	U	5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

Cust ID:	EL-NE-1		EL-NE-1		ELFB		VBLK		VBLK		VBLK	
RFW#:	005 MS		005 MSD		006		92LVQ166-MB1		92LVQ165-MB1		92LVX233-MB1	
Toluene	100	%	110	%	5	U	5	U	5	U	5	U
Chlorobenzene	98	%	103	%	5	U	5	U	5	U	5	U
Ethylbenzene	6	U	6	U	5	U	5	U	5	U	5	U
Styrene	6	U	6	U	5	U	5	U	5	U	5	U
Xylene (total)	6	U	6	U	5	U	5	U	5	U	5	U
Acrolein	13	U	13	U	10	U	10	U	10	U	NA	
Acrylonitrile	13	U	13	U	10	U	10	U	10	U	NA	
Trichlorofluoromethane	6	U	6	U	5	U	5	U	5	U	NA	
Dichlorodifluoromethane	13	U	13	U	10	U	10	U	10	U	NA	
Acetonitrile	26	U	26	U	20	U	20	U	20	U	NA	
Iodomethane	13	U	13	U	10	U	10	U	10	U	NA	
Propionitrile (Ethyl Cyanide)	65	U	65	U	50	U	50	U	50	U	NA	
3-Chloropropene	26	U	26	U	20	U	20	U	20	U	NA	
Methacrylonitrile	26	U	26	U	20	U	20	U	20	U	NA	
Dibromomethane	13	U	13	U	10	U	10	U	10	U	NA	
Isobutyl alcohol	26	U	26	U	20	U	20	U	20	U	NA	
1,2-Dibromoethane	26	U	26	U	20	U	20	U	20	U	NA	
1,1,1,2-Tetrachloroethane	13	U	13	U	10	U	10	U	10	U	NA	
1,2,3-Trichloropropane	13	U	13	U	10	U	10	U	10	U	NA	
trans-1,4-Dichloro-2-butene	130	U	130	U	100	U	100	U	100	U	NA	
1,2-Dibromo-3-chloropropane	26	U	26	U	20	U	20	U	20	U	NA	
2-Chloro-1,3-Butadiene	130	U	130	U	100	U	100	U	100	U	NA	

*= Outside of EPA CLP QC limits.

Cust ID: VBLK

Sample Information	RFW#:	92LVY276-MB1	
	Matrix:	WATER	
	D.F.:	1.00	
	Units:	UG/L	
Surrogate Recovery	Toluene-d8	105	%
	Bromofluorobenzene	108	%
	1,2-Dichloroethane-d4	102	%

Chloromethane	10	U
Bromomethane	10	U
Vinyl Chloride	10	U
Chloroethane	10	U
Methylene Chloride	7	
Acetone	14	
Carbon Disulfide	5	U
1,1-Dichloroethene	5	U
1,1-Dichloroethane	5	U
1,2-Dichloroethene (total)	5	U
Chloroform	5	U
1,2-Dichloroethane	5	U
2-Butanone	10	U
1,1,1-Trichloroethane	5	U
Carbon Tetrachloride	5	U
Vinyl Acetate	10	U
Bromodichloromethane	5	U
1,2-Dichloropropane	5	U
cis-1,3-Dichloropropene	5	U
Trichloroethene	5	U
Dibromochloromethane	5	U
1,1,2-Trichloroethane	5	U
Benzene	5	U
Trans-1,3-Dichloropropene	5	U
Bromoform	5	U
4-Methyl-2-pentanone	10	U
2-Hexanone	10	U
Tetrachloroethene	5	U
1,1,2,2-Tetrachloroethane	5	U

*= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-31-94 ; 10:40 ; WESTON BLDG #2 ; 304 385 2788;#24

0100010

Cust ID: VBLK

RFW#: 92LVY276-MB1

Toluene	5	U
Chlorobenzene	5	U
Ethylbenzene	5	U
Styrene	5	U
Xylene (total)	5	U
Acrolein	10	U
Acrylonitrile	10	U
Trichlorofluoromethane	5	U
Dichlorodifluoromethane	10	U
Acetonitrile	20	U
Iodomethane	10	U
Propionitrile (Ethyl Cyanide)	50	U
3-Chloropropene	20	U
Methacrylonitrile	20	U
Dibromomethane	10	U
Isobutyl alcohol	20	U
1,2-Dibromoethane	20	U
1,1,1,2-Tetrachloroethane	10	U
1,2,3-Trichloropropane	10	U
trans-1,4-Dichloro-2-butene	100	U
1,2-Dibromo-3-chloropropane	20	U
2-Chloro-1,3-Butadiene	100	U

*= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-31-94 ; 16:48 ; WESTON BLDG 4-2→ 504 363 2769;#25

0000011

Semivolatiles by GC/MS, Appendix IX List — Report Date: 01/17/93 12:16

RFW Batch Number: 9212L982 — Client: CORCO — Work Order: 5784-01-01-9999 — Page: 1a

	Cust ID:	EL-NW-1	EL-NW-1	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SW-1
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	003
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	1.00	1.00	1.00	1.00	5.00	5.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg REPREP
Surrogate Recovery	Nitrobenzene-d5	90 %	94 %	97 %	85 %	16 * %	126 * %
	2-Fluorobiphenyl	73 %	78 %	78 %	75 %	0 * %	86 %
	p-Terphenyl-d14	86 %	89 %	91 %	86 %	0 * %	105 %
	Phenol-d5	96 %	98 %	100 %	92 %	0 * %	102 %
	2-Fluorophenol	94 %	91 %	98 %	88 %	0 * %	103 %
	2,4,6-Tribromophenol	129 * %	117 %	120 %	105 %	0 * %	124 * %
		fl	fl	fl	fl	fl	fl
Phenol		430 U	103 * %	110 * %	390 U	2200 U	2200 U
bis(2-Chloroethyl)ether		430 U	430 U	430 U	390 U	2200 U	2200 U
2-Chlorophenol		430 U	113 * %	119 * %	390 U	2200 U	2200 U
1,3-Dichlorobenzene		430 U	430 U	430 U	390 U	2200 U	2200 U
1,4-Dichlorobenzene		430 U	93 %	98 %	390 U	2200 U	2200 U
Benzyl alcohol		430 U	430 U	430 U	390 U	2200 U	2200 U
1,2-Dichlorobenzene		430 U	430 U	430 U	390 U	2200 U	2200 U
2-Methylphenol		430 U	430 U	430 U	390 U	2200 U	2200 U
bis(2-Chloroisopropyl)ether		430 U	430 U	430 U	390 U	2200 U	2200 U
3- and/or 4-Methylphenol		430 U	430 U	430 U	390 U	2200 U	2200 U
N-Nitroso-Di-n-propylamine		430 U	99 %	107 %	390 U	2200 U	2200 U
Hexachloroethane		430 U	430 U	430 U	390 U	2200 U	2200 U
Nitrobenzene		430 U	430 U	430 U	390 U	2200 U	2200 U
Isophorone		430 U	430 U	430 U	390 U	2200 U	2200 U
2-Nitrophenol		430 U	430 U	430 U	390 U	2200 U	2200 U
2,4-Dimethylphenol		430 U	430 U	430 U	390 U	2200 U	2200 U
Benzoic acid		2100 U	2100 U	2200 U	1900 U	11000 U	11000 U
bis(2-Chloroethoxy)methane		430 U	430 U	430 U	390 U	2200 U	2200 U
2,4-Dichlorophenol		430 U	430 U	430 U	390 U	2200 U	2200 U
1,2,4-Trichlorobenzene		430 U	107 %	117 * %	390 U	2200 U	2200 U
Naphthalene		130 J	80 J	110 J	92 J	1500 J	1500 J
4-Chloroaniline		430 U	430 U	430 U	390 U	2200 U	2200 U
Hexachlorobutadiene		430 U	430 U	430 U	390 U	2200 U	2200 U
4-Chloro-3-methylphenol		430 U	120 * %	130 * %	390 U	2200 U	2200 U
2-Methylnaphthalene		870	600	810	690	3900	5300
Hexachlorocyclopentadiene		430 U	430 U	430 U	390 U	2200 U	2200 U

*= Outside of EPA CLP QC limits.

SENT BY:(610) /01-318/ ; 8-31-94 ; 10:40 ; RESION DLNR 4-7 004 300 2708:#20

Cust ID:	EL-NW-1		EL-NW-1		EL-NW-1		EL-NW-1 DUP		EL-SW-1		EL-SW-1	
RFW#:	001		001 MS		001 MSD		002		003		003 REPREP	
2,4,6-Trichlorophenol	430	U	430	U	430	U	390	U	2200	U	2200	U
2,4,5-Trichlorophenol	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
2-Chloronaphthalene	430	U	430	U	430	U	390	U	2200	U	2200	U
2-Nitroaniline	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
Dimethylphthalate	430	U	430	U	430	U	390	U	2200	U	2200	U
Acenaphthylene	430	U	430	U	430	U	390	U	2200	U	2200	U
2,6-Dinitrotoluene	430	U	430	U	430	U	390	U	2200	U	2200	U
3-Nitroaniline	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
Acenaphthene	430	U	96	%	101	%	390	U	300	J	520	J
2,4-Dinitrophenol	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
4-Nitrophenol	2100	U	111	%	111	%	1900	U	11000	U	11000	U
Dibenzofuran	430	U	430	U	430	U	390	U	2200	U	2200	U
2,4-Dinitrotoluene	430	U	112 *	%	123 *	%	390	U	2200	U	2200	U
Diethylphthalate	430	U	430	U	430	U	390	U	2200	U	2200	U
4-Chlorophenyl-phenylether	430	U	430	U	430	U	390	U	2200	U	2200	U
Fluorene	230	J	190	J	230	J	390	U	720	J	1300	J
4-Nitroaniline	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
4,6-Dinitro-2-methylphenol	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
N-Nitrosodiphenylamine (1)	430	U	430	U	430	U	390	U	2200	U	2200	U
4-Bromophenyl-phenylether	430	U	430	U	430	U	390	U	2200	U	2200	U
Hexachlorobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
Pentachlorophenol	2100	U	127 *	%	131 *	%	1900	U	11000	U	11000	U
Phenanthrene	920		640		860		760		1400	J	2800	
Anthracene	80	J	56	J	80	J	71	J	2200	U	2200	U
Di-n-Butylphthalate	430	U	63	J	430	U	390	U	2200	U	2200	U
Fluoranthene	94	J	61	J	91	J	98	J	2200	U	2200	U
Pyrene	410	J	99	%	107	%	420		1200	J	1000	J
Butylbenzylphthalate	430	U	430	U	430	U	390	U	2200	U	2200	U
3,3'-Dichlorobenzidine	850	U	850	U	860	U	770	U	4300	U	4400	U
Benzo(a)anthracene	50	J	37	J	52	J	55	J	2200	U	2200	U
Chrysene	170	J	130	J	160	J	180	J	930	J	830	J
bis(2-Ethylhexyl)phthalate	110	J	220	J	230	J	120	J	2200	U	2200	U
Di-n-Octyl phthalate	430	U	430	U	430	U	390	U	2200	U	2200	U
Benzo(b)fluoranthene	430	U	430	U	430	U	390	U	2200	U	2200	U
Benzo(k)fluoranthene	430	U	430	U	430	U	390	U	2200	U	2200	U
Benzo(a)pyrene	430	U	430	U	430	U	390	U	2200	U	2200	U
Indeno(1,2,3-cd)pyrene	430	U	430	U	430	U	390	U	2200	U	2200	U
Dibenzo(a,h)anthracene	430	U	430	U	430	U	390	U	2200	U	2200	U
Benzo(g,h,i)perylene	430	U	430	U	430	U	390	U	2200	U	2200	U
1,4-Dioxane	430	U	430	U	430	U	390	U	2200	U	2200	U

*= Outside of EPA CLP QC limits.

7 0 0 0 0 7

SENT BY:AK 10-31-97 ; 10:49 ; 732-4 MTN NJSDW ; 732-3 0 ; 0 4 0 0 7 0 0 0 7

Client ID:	EL-MW-1		EL-MW-1		EL-MW-1		EL-MW-1 DUP		EL-SW-1		EL-SW-1	
RFW#:	001		001 MS		001 MSD		002		003		003 REPREP	
Methyl methacrylate	430	U	430	U	430	U	390	U	2200	U	2200	U
Pyridine	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosodimethylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
Ethyl methacrylate	430	U	430	U	430	U	390	U	2200	U	2200	U
2-Picoline	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosomethylethylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
Methyl methanesulfonate	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosodiethylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
Ethyl methanesulfonate	430	U	430	U	430	U	390	U	2200	U	2200	U
Aniline	430	U	430	U	430	U	390	U	2200	U	2200	U
Pentachloroethane	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosopyrrolidine	430	U	430	U	430	U	390	U	2200	U	2200	U
Acetophenone	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosomorpholine	430	U	430	U	430	U	390	U	2200	U	2200	U
o-Toluidine	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitrosopiperidine	430	U	430	U	430	U	390	U	2200	U	2200	U
a,a-Dimethylphenethylamine	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
2,6-Dichlorophenol	430	U	430	U	430	U	390	U	2200	U	2200	U
Hexachloropropene	430	U	430	U	430	U	390	U	2200	U	2200	U
p-Phenylenediamine	430	U	430	U	430	U	390	U	2200	U	2200	U
N-Nitroso-di-n-butylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
Safrole	430	U	430	U	430	U	390	U	2200	U	2200	U
1,2,4,5-Tetrachlorobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
Isosafrole	430	U	430	U	430	U	390	U	2200	U	2200	U
1,4-Naphthoquinone	430	U	430	U	430	U	390	U	2200	U	2200	U
1,3-Dinitrobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
Pentachlorobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
1-Naphthylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
2-Naphthylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
2,3,4,6-Tetrachlorophenol	430	U	430	U	430	U	390	U	2200	U	2200	U
1,3,5-Trinitrobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
Diallate	430	U	430	U	430	U	390	U	2200	U	2200	U
Phenacetin	430	U	430	U	430	U	390	U	2200	U	2200	U
Diphenylamine	430	U	430	U	430	U	390	U	2200	U	2200	U
5-Nitro-o-toluidine	430	U	430	U	430	U	390	U	2200	U	2200	U
4-Aminobiphenyl	430	U	430	U	430	U	390	U	2200	U	2200	U
Pronamide	430	U	430	U	430	U	390	U	2200	U	2200	U
2-sec-Butyl-4,6-dinitrophenol	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
Pentachloronitrobenzene	2100	U	2100	U	2200	U	1900	U	11000	U	11000	U
4-Nitroquinoline-1-oxide	850	U	850	U	860	U	770	U	4300	U	4400	U

*= Outside of EPA CLP QC limits.

07:20/7 000 4ND
-2-4 DITD MICW 10:01 48-10-0
/010-10/ 10:10:10 INDR

Cust ID:	EL-MW-1		EL-MW-1		EL-MW-1		EL-MW-1 DUP		EL-SW-1		EL-SW-1	
RFW#:	001		001 MS		001 MSD		002		003		003 REPREP	
Methapyrilene	430	U	430	U	430	U	390	U	2200	U	2200	U
Aramite	850	U	850	U	860	U	770	U	4300	U	4400	U
Chlorobenzilate	430	U	430	U	430	U	390	U	2200	U	2200	U
p-Dimethylaminoazobenzene	430	U	430	U	430	U	390	U	2200	U	2200	U
3,3'-Dimethylbenzidine	430	U	430	U	430	U	390	U	2200	U	2200	U
2-Acetylaminofluorene	430	U	430	U	430	U	390	U	2200	U	2200	U
7,12-Dimethylbenz(a)anthracene	430	U	430	U	430	U	390	U	2200	U	2200	U
Hexachlorophene	3800	U	3800	U	3900	U	3500	U	19000	U	20000	U
3-Methylcholanthrene	430	U	430	U	430	U	390	U	2200	U	2200	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Semivolatiles by GC/MS, Appendix IX List — Report Date: 01/17/93 12:16

RFW Batch Number: 9212L982 — Client: CORCO — Work Order: 5784-01-01-9999 — Page: 2a

	Cust ID:	EL-SE-1	EL-NE-1	ELFB	SBLK	SBLK BS	SBLK
Sample Information	RFW#:	004	005	006	92LE2076-MB1	92LE2076-MB1	93LE0027-MB1
	Matrix:	SEDIMENT	SEDIMENT	WATER	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/L	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	86 %	92 %	80 %	79 %	86 %	11 * %
	2-Fluorobiphenyl	75 %	89 %	75 %	71 %	71 %	10 * %
	p-Terphenyl-d14	82 %	84 %	89 %	78 %	85 %	10 * %
	Phenol-d5	99 %	96 %	38 %	86 %	88 %	11 * %
	2-Fluorophenol	95 %	91 %	47 %	88 %	91 %	13 * %
	2,4,6-Tribromophenol	100 %	91 %	66 %	82 %	88 %	13 * %
Phenol		420 U	430 U	11 U	330 U	101 * %	330 U
bis(2-Chloroethyl)ether		420 U	430 U	11 U	330 U	330 U	330 U
2-Chlorophenol		420 U	430 U	11 U	330 U	113 * %	330 U
1,3-Dichlorobenzene		420 U	430 U	11 U	330 U	330 U	330 U
1,4-Dichlorobenzene		420 U	430 U	11 U	330 U	89 %	330 U
Benzyl alcohol		420 U	430 U	11 U	330 U	330 U	330 U
1,2-Dichlorobenzene		420 U	430 U	11 U	330 U	330 U	330 U
2-Methylphenol		420 U	430 U	11 U	330 U	330 U	330 U
bis(2-Chloroisopropyl)ether		420 U	430 U	11 U	330 U	330 U	330 U
3- and/or 4-Methylphenol		420 U	430 U	11 U	330 U	330 U	330 U
N-Nitroso-Di-n-propylamine		420 U	430 U	11 U	330 U	90 %	330 U
Hexachloroethane		420 U	430 U	11 U	330 U	330 U	330 U
Nitrobenzene		420 U	430 U	11 U	330 U	330 U	330 U
Isophorone		420 U	430 U	11 U	330 U	330 U	330 U
2-Nitrophenol		420 U	430 U	11 U	330 U	330 U	330 U
2,4-Dimethylphenol		420 U	430 U	11 U	330 U	330 U	330 U
Benzoic acid		2100 U	2100 U	55 U	1700 U	1700 U	1700 U
bis(2-Chloroethoxy)methane		420 U	430 U	11 U	330 U	330 U	330 U
2,4-Dichlorophenol		420 U	430 U	11 U	330 U	330 U	330 U
1,2,4-Trichlorobenzene		420 U	430 U	11 U	330 U	112 * %	330 U
Naphthalene		420 U	430 U	11 U	330 U	330 U	330 U
4-Chloroaniline		420 U	430 U	11 U	330 U	330 U	330 U
Hexachlorobutadiene		420 U	430 U	11 U	330 U	330 U	330 U
4-Chloro-3-methylphenol		420 U	430 U	11 U	330 U	99 %	330 U
2-Methylnaphthalene		420 U	430 U	11 U	330 U	330 U	330 U
Hexachlorocyclopentadiene		420 U	430 U	11 U	330 U	330 U	330 U

*= Outside of EPA CLP QC limits.

Cust ID:	EL-SE-1		EL-NE-1		ELFB		SBLK		SBLK BS		SBLK	
RFW#:	004		005		006		92LE2076-MB1		92LE2076-MB1		93LE0027-MB1	
2,4,6-Trichlorophenol	420	U	430	U	11	U	330	U	330	U	330	U
2,4,5-Trichlorophenol	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
2-Chloronaphthalene	420	U	430	U	11	U	330	U	330	U	330	U
2-Nitroaniline	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
Dimethylphthalate	420	U	430	U	11	U	330	U	330	U	330	U
Acenaphthylene	420	U	430	U	11	U	330	U	330	U	330	U
2,6-Dinitrotoluene	420	U	430	U	11	U	330	U	330	U	330	U
3-Nitroaniline	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
Acenaphthene	420	U	430	U	11	U	330	U	91	%	330	U
2,4-Dinitrophenol	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
4-Nitrophenol	2100	U	2100	U	55	U	1700	U	98	%	1700	U
Dibenzofuran	420	U	430	U	11	U	330	U	330	U	330	U
2,4-Dinitrotoluene	420	U	430	U	11	U	330	U	90 *	%	330	U
Diethylphthalate	420	U	430	U	11	U	330	U	330	U	330	U
4-Chlorophenyl-phenylether	420	U	430	U	11	U	330	U	330	U	330	U
Fluorene	420	U	430	U	11	U	330	U	330	U	330	U
4-Nitroaniline	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
N-Nitrosodiphenylamine (1)	420	U	430	U	11	U	330	U	330	U	330	U
4-Bromophenyl-phenylether	420	U	430	U	11	U	330	U	330	U	330	U
Hexachlorobenzene	420	U	430	U	11	U	330	U	330	U	330	U
Pentachlorophenol	2100	U	2100	U	55	U	1700	U	104	%	1700	U
Phenanthrene	420	U	430	U	11	U	330	U	330	U	330	U
Anthracene	420	U	430	U	11	U	330	U	330	U	330	U
Di-n-Butylphthalate	420	U	430	U	11	U	330	U	330	U	330	U
Fluoranthene	420	U	430	U	11	U	330	U	330	U	330	U
Pyrene	420	U	430	U	11	U	330	U	106	%	330	U
Butylbenzylphthalate	420	U	430	U	11	U	330	U	330	U	330	U
3,3'-Dichlorobenzidine	840	U	850	U	22	U	670	U	670	U	670	U
Benzo(a)anthracene	420	U	430	U	11	U	330	U	330	U	330	U
Chrysene	420	U	430	U	11	U	330	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	90	J	54	J	11	U	330	U	330	U	330	U
Di-n-Octyl phthalate	420	U	430	U	11	U	330	U	330	U	330	U
Benzo(b)fluoranthene	420	U	430	U	11	U	330	U	330	U	330	U
Benzo(k)fluoranthene	420	U	430	U	11	U	330	U	330	U	330	U
Benzo(a)pyrene	420	U	430	U	11	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	420	U	430	U	11	U	330	U	330	U	330	U
Dibenzo(a,h)anthracene	420	U	430	U	11	U	330	U	330	U	330	U
Benzo(g,h,i)perylene	420	U	430	U	11	U	330	U	330	U	330	U
1,4-Dioxane	420	U	430	U	11	U	330	U	330	U	330	U

*= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-13-94 ; 10:01 ; 7-4 MTA NOISCW ; 204 OOC 207#

0100012

Cust ID:	EL-SE-1		EL-NE-1		ELFB		SBLK		SBLK BS		SBLK	
RFW#:	004		005		006		92LE2076-MB1		92LE2076-MB1		93LE0027-MB1	
Methyl methacrylate	420	U	430	U	11	U	330	U	330	U	330	U
Pyridine	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosodimethylamine	420	U	430	U	11	U	330	U	330	U	330	U
Ethyl methacrylate	420	U	430	U	11	U	330	U	330	U	330	U
2-Picoline	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosomethylethylamine	420	U	430	U	11	U	330	U	330	U	330	U
Methyl methanesulfonate	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosodiethylamine	420	U	430	U	11	U	330	U	330	U	330	U
Ethyl methanesulfonate	420	U	430	U	11	U	330	U	330	U	330	U
Aniline	420	U	430	U	11	U	330	U	330	U	330	U
Pentachloroethane	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosopyrrolidine	420	U	430	U	11	U	330	U	330	U	330	U
Acetophenone	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosomorpholine	420	U	430	U	11	U	330	U	330	U	330	U
o-Toluidine	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitrosopiperidine	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
a,a-Dimethylphenethylamine	420	U	430	U	11	U	330	U	330	U	330	U
2,6-Dichlorophenol	420	U	430	U	11	U	330	U	330	U	330	U
Hexachloropropene	420	U	430	U	11	U	330	U	330	U	330	U
p-Phenylenediamine	420	U	430	U	11	U	330	U	330	U	330	U
N-Nitroso-di-n-butylamine	420	U	430	U	11	U	330	U	330	U	330	U
Safrole	420	U	430	U	11	U	330	U	330	U	330	U
1,2,4,5-Tetrachlorobenzene	420	U	430	U	11	U	330	U	330	U	330	U
Isosafrole	420	U	430	U	11	U	330	U	330	U	330	U
1,4-Naphthoquinone	420	U	430	U	11	U	330	U	330	U	330	U
1,3-Dinitrobenzene	420	U	430	U	11	U	330	U	330	U	330	U
Pentachlorobenzene	420	U	430	U	11	U	330	U	330	U	330	U
1-Naphthylamine	420	U	430	U	11	U	330	U	330	U	330	U
2-Naphthylamine	420	U	430	U	11	U	330	U	330	U	330	U
2,3,4,6-Tetrachlorophenol	420	U	430	U	11	U	330	U	330	U	330	U
1,3,5-Trinitrobenzene	420	U	430	U	11	U	330	U	330	U	330	U
Diallate	420	U	430	U	11	U	330	U	330	U	330	U
Phenacetin	420	U	430	U	11	U	330	U	330	U	330	U
Diphenylamine	420	U	430	U	11	U	330	U	330	U	330	U
5-Nitro-o-toluidine	420	U	430	U	11	U	330	U	330	U	330	U
4-Aminobiphenyl	420	U	430	U	11	U	330	U	330	U	330	U
Pronamide	420	U	430	U	11	U	330	U	330	U	330	U
2-sec-Butyl-4,6-dinitrophenol	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
Pentachloronitrobenzene	2100	U	2100	U	55	U	1700	U	1700	U	1700	U
4-Nitroquinoline-1-oxide	840	U	850	U	22	U	670	U	670	U	670	U

*= Outside of EPA CLP QC limits.

Cust ID:	EL-SE-1	EL-NE-1	ELFB	SBLK	SBLK BS	SBLK
RFW#:	004	005	006	92LE2076-MB1	92LE2076-MB1	93LE0027-MB1
Methapyrilene	420 U	430 U	11 U	330 U	330 U	330 U
Aramite	840 U	850 U	22 U	670 U	670 U	670 U
Chlorobenzilate	420 U	430 U	11 U	330 U	330 U	330 U
p-Dimethylaminoazobenzene	420 U	430 U	11 U	330 U	330 U	330 U
3,3'-Dimethylbenzidine	420 U	430 U	11 U	330 U	330 U	330 U
2-Acetylaminofluorene	420 U	430 U	11 U	330 U	330 U	330 U
7,12-Dimethylbenz(a)anthracene	420 U	430 U	11 U	330 U	330 U	330 U
Hexachlorophene	3800 U	3800 U	99 U	3000 U	3000 U	3000 U
3-Methylcholanthrene	420 U	430 U	11 U	330 U	330 U	330 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-31-94 ; 16:52 ; WESTON BLDG 4-2-7 304 365 2789;#35

RFW Batch Number: 9212L982 Semivolatiles by GC/MS, Appendix IX List Report Date: 01/17/93 12:16

Client: CORCO Work Order: 5784-01-01-9999 Page: 3a

Sample Information	Cust ID:	SBLK BS	SBLK BSD	SBLK	SBLK BS	SBLK BSD
	RFW#:	93LE0027-MB1	93LE0027-MB1	92LE2074-MB1	92LE2074-MB1	92LE2074-MB1
	Matrix:	SOIL	SOIL	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/L	ug/L	ug/L
Surrogate Recovery	Nitrobenzene-d5	95 %	94 %	56 %	63 %	58 %
	2-Fluorobiphenyl	87 %	87 %	57 %	62 %	59 %
	p-Terphenyl-d14	102 %	97 %	84 %	92 %	87 %
	Phenol-d5	102 %	101 %	30 %	39 %	40 %
	2-Fluorophenol	105 %	104 %	44 %	56 %	55 %
	2,4,6-Tribromophenol	101 %	104 %	67 %	86 %	81 %
Phenol		123 * %	122 * %	10 U	42 %	44 %
bis(2-Chloroethyl)ether		330 U	330 U	10 U	10 U	10 U
2-Chlorophenol		122 * %	135 * %	10 U	94 %	95 %
1,3-Dichlorobenzene		330 U	330 U	10 U	10 U	10 U
1,4-Dichlorobenzene		98 %	98 %	10 U	55 %	51 %
Benzyl alcohol		330 U	330 U	10 U	10 U	10 U
1,2-Dichlorobenzene		330 U	330 U	10 U	10 U	10 U
2-Methylphenol		330 U	330 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)ether		330 U	330 U	10 U	10 U	10 U
3- and/or 4-Methylphenol		330 U	330 U	10 U	10 U	10 U
N-Nitroso-Di-n-propylamine		92 %	93 %	10 U	63 %	60 %
Hexachloroethane		330 U	330 U	10 U	10 U	10 U
Nitrobenzene		330 U	330 U	10 U	10 U	10 U
Isophorone		330 U	330 U	10 U	10 U	10 U
2-Nitrophenol		330 U	330 U	10 U	10 U	10 U
2,4-Dimethylphenol		330 U	330 U	10 U	10 U	10 U
Benzoic acid		1700 U	1700 U	50 U	50 U	50 U
bis(2-Chloroethoxy)methane		330 U	330 U	10 U	10 U	10 U
2,4-Dichlorophenol		330 U	330 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		116 * %	119 * %	10 U	65 %	61 %
Naphthalene		330 U	330 U	10 U	10 U	10 U
4-Chloroaniline		330 U	330 U	10 U	10 U	10 U
Hexachlorobutadiene		330 U	330 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		125 * %	124 * %	10 U	85 %	88 %
2-Methylnaphthalene		330 U	330 U	10 U	10 U	10 U
Hexachlorocyclopentadiene		330 U	330 U	10 U	10 U	10 U

*= Outside of EPA CLP QC limits.

Cust ID:	SBLK BS	SBLK BSD	SBLK	SBLK BS	SBLK BSD
RFW#:	93LE0027-MB1	93LE0027-MB1	92LE2074-MB1	92LE2074-MB1	92LE2074-MB1
2,4,6-Trichlorophenol	330 U	330 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	1700 U	1700 U	50 U	50 U	50 U
2-Chloronaphthalene	330 U	330 U	10 U	10 U	10 U
2-Nitroaniline	1700 U	1700 U	50 U	50 U	50 U
Dimethylphthalate	330 U	330 U	10 U	10 U	10 U
Acenaphthylene	330 U	330 U	10 U	10 U	10 U
2,6-Dinitrotoluene	330 U	330 U	10 U	10 U	10 U
3-Nitroaniline	1700 U	1700 U	50 U	50 U	50 U
Acenaphthene	98 %	100 %	10 U	71 %	68 %
2,4-Dinitrophenol	1700 U	1700 U	50 U	50 U	50 U
4-Nitrophenol	130 * %	128 * %	50 U	38 %	35 %
Dibenzofuran	330 U	330 U	10 U	10 U	10 U
2,4-Dinitrotoluene	100 * %	104 * %	10 U	88 %	85 %
Diethylphthalate	330 U	330 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	330 U	330 U	10 U	10 U	10 U
Fluorene	330 U	330 U	10 U	10 U	10 U
4-Nitroaniline	1700 U	1700 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	1700 U	1700 U	50 U	50 U	50 U
N-Nitrosodiphenylamine (1)	330 U	330 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	330 U	330 U	10 U	10 U	10 U
Hexachlorobenzene	330 U	330 U	10 U	10 U	10 U
Pentachlorophenol	129 * %	130 * %	50 U	69 %	59 %
Phenanthrene	330 U	330 U	10 U	10 U	10 U
Anthracene	330 U	330 U	10 U	10 U	10 U
Di-n-Butylphthalate	330 U	330 U	10 U	10 U	10 U
Fluoranthene	330 U	330 U	10 U	10 U	10 U
Pyrene	121 %	114 %	10 U	106 %	101 %
Butylbenzylphthalate	330 U	330 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	670 U	670 U	20 U	20 U	20 U
Benzo(a)anthracene	330 U	330 U	10 U	10 U	10 U
Chrysene	330 U	330 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	330 U	330 U	10 U	10 U	10 U
Di-n-Octyl phthalate	330 U	330 U	10 U	10 U	10 U
Benzo(b)fluoranthene	330 U	330 U	10 U	10 U	10 U
Benzo(k)fluoranthene	330 U	330 U	10 U	10 U	10 U
Benzo(a)pyrene	330 U	330 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	330 U	330 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	330 U	330 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	330 U	330 U	10 U	10 U	10 U
1,4-Dioxane	330 U	330 U	10 U	10 U	10 U

*= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-31-94 ; 16:53 ; WESTON BLDG 4-2→ 504 383 2789:#35
0100015

Cust ID:	SBLK BS		SBLK BSD		SBLK		SBLK BS		SBLK BSD	
RFW#:	93LE0027-MB1		93LE0027-MB1		92LE2074-MB1		92LE2074-MB1		92LE2074-MB1	
Methyl methacrylate	330	U	330	U	10	U	10	U	10	U
Pyridine	330	U	330	U	10	U	10	U	10	U
N-Nitrosodimethylamine	330	U	330	U	10	U	10	U	10	U
Ethyl methacrylate	330	U	330	U	10	U	10	U	10	U
2-Picoline	330	U	330	U	10	U	10	U	10	U
N-Nitrosomethylethylamine	330	U	330	U	10	U	10	U	10	U
Methyl methanesulfonate	330	U	330	U	10	U	10	U	10	U
N-Nitrosodiethylamine	330	U	330	U	10	U	10	U	10	U
Ethyl methanesulfonate	330	U	330	U	10	U	10	U	10	U
Aniline	330	U	330	U	10	U	10	U	10	U
Pentachloroethane	330	U	330	U	10	U	10	U	10	U
N-Nitrosopyrrolidine	330	U	330	U	10	U	10	U	10	U
Acetophenone	330	U	330	U	10	U	10	U	10	U
N-Nitrosomorpholine	330	U	330	U	10	U	10	U	10	U
o-Toluidine	330	U	330	U	10	U	10	U	10	U
N-Nitrosopiperidine	1700	U	1700	U	50	U	50	U	50	U
a,a-Dimethylphenethylamine	330	U	330	U	10	U	10	U	10	U
2,6-Dichlorophenol	330	U	330	U	10	U	10	U	10	U
Hexachloropropene	330	U	330	U	10	U	10	U	10	U
p-Phenylenediamine	330	U	330	U	10	U	10	U	10	U
N-Nitroso-di-n-butylamine	330	U	330	U	10	U	10	U	10	U
Safrole	330	U	330	U	10	U	10	U	10	U
1,2,4,5-Tetrachlorobenzene	330	U	330	U	10	U	10	U	10	U
Isosafrole	330	U	330	U	10	U	10	U	10	U
1,4-Naphthoquinone	330	U	330	U	10	U	10	U	10	U
1,3-Dinitrobenzene	330	U	330	U	10	U	10	U	10	U
Pentachlorobenzene	330	U	330	U	10	U	10	U	10	U
1-Naphthylamine	330	U	330	U	10	U	10	U	10	U
2-Naphthylamine	330	U	330	U	10	U	10	U	10	U
2,3,4,6-Tetrachlorophenol	330	U	330	U	10	U	10	U	10	U
1,3,5-Trinitrobenzene	330	U	330	U	10	U	10	U	10	U
Diallate	330	U	330	U	10	U	10	U	10	U
Phenacetin	330	U	330	U	10	U	10	U	10	U
Diphenylamine	330	U	330	U	10	U	10	U	10	U
5-Nitro-o-toluidine	330	U	330	U	10	U	10	U	10	U
4-Aminobiphenyl	330	U	330	U	10	U	10	U	10	U
Pronamide	330	U	330	U	10	U	10	U	10	U
2-sec-Butyl-4,6-dinitrophenol	1700	U	1700	U	50	U	50	U	50	U
Pentachloronitrobenzene	1700	U	1700	U	50	U	50	U	50	U
4-Nitroquinoline-1-oxide	670	U	670	U	20	U	20	U	20	U

** Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 ; 8-31-94 ; 10:04 ; 4C:01 ; 4C3155 0000 ;*2

Cust ID:	SBLK BS	SBLK BSD	SBLK	SBLK BS	SBLK BSD
RFW#:	93LE0027-MB1	93LE0027-MB1	92LE2074-MB1	92LE2074-MB1	92LE2074-MB1
Methapyrilene	330 U	330 U	10 U	10 U	10 U
Aramite	670 U	670 U	20 U	20 U	20 U
Chlorobenzilate	330 U	330 U	10 U	10 U	10 U
p-Dimethylaminoazobenzene	330 U	330 U	10 U	10 U	10 U
3,3'-Dimethylbenzidine	330 U	330 U	10 U	10 U	10 U
2-Acetylaminofluorene	330 U	330 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)anthracene	330 U	330 U	10 U	10 U	10 U
Hexachlorophene	3000 U	3000 U	90 U	90 U	90 U
3-Methylcholanthrene	330 U	330 U	10 U	10 U	10 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

SENT BY:(610) 701-3187 : 8-31-94 : 16:54 : WESTON BLDG 4-2→ 504 383 2789:#37
0 0 0 0 1 7

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, Appendix IX List

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Report Date: 01/13/93 10:38 Page: 1

Sample Information	Cust ID:	EL-NW-1	EL-NW-1	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1
	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	2.00	2.00	2.00	2.00	2.00	2.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		93 %	100 %	68 %	69 %	83 %	87 %
Alpha-BHC		21 U	21 U	21 U	19 U	21 U	20 U
Beta-BHC		21 U	21 U	21 U	19 U	21 U	20 U
Delta-BHC		21 U	21 U	21 U	19 U	21 U	20 U
gamma-BHC (Lindane)		21 U	65 %	62 %	19 U	21 U	20 U
Heptachlor		21 U	70 %	65 %	19 U	21 U	20 U
Aldrin		21 U	78 %	88 %	19 U	21 U	20 U
Heptachlor epoxide		21 U	21 U	21 U	19 U	21 U	20 U
Endosulfan I		21 U	21 U	21 U	19 U	21 U	20 U
Dieldrin		42 U	73 %	69 %	38 U	43 U	41 U
4,4'-DDE		42 U	42 U	42 U	38 U	43 U	41 U
Endrin		42 U	83 %	80 %	38 U	43 U	41 U
Endosulfan II		42 U	42 U	42 U	38 U	43 U	41 U
4,4'-DDD		42 U	42 U	42 U	38 U	43 U	41 U
Endosulfan sulfate		42 U	42 U	42 U	38 U	43 U	41 U
4,4'-DDT		42 U	63 %	49 %	38 U	43 U	41 U
Methoxychlor		210 U	210 U	210 U	190 U	210 U	200 U
Endrin aldehyde		42 U	42 U	42 U	38 U	43 U	41 U
Kepone		42 U	42 U	42 U	38 U	43 U	41 U
alpha-Chlordane		210 U	210 U	210 U	190 U	210 U	200 U
gamma-Chlordane		210 U	210 U	210 U	190 U	210 U	200 U
Toxaphene		420 U	420 U	420 U	380 U	430 U	410 U
Aroclor-1016		210 U	210 U	210 U	190 U	210 U	200 U
Aroclor-1221		210 U	210 U	210 U	190 U	210 U	200 U
Aroclor-1232		210 U	210 U	210 U	190 U	210 U	200 U
Aroclor-1242		210 U	210 U	210 U	190 U	210 U	200 U
Aroclor-1248		210 U	210 U	210 U	190 U	210 U	200 U
Aroclor-1254		420 U	420 U	420 U	380 U	430 U	410 U
Aroclor-1260		420 U	420 U	420 U	380 U	430 U	410 U
Isodrin		42 U	42 U	42 U	38 U	43 U	41 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, Appendix IX List

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 2 Report Date: 01/13/93 10:38

	Cust ID:	EL-ME-1		ELFB		PBLK		PBLK BS		PBLK		PBLK BS	
Sample Information	RFW#:	005		006		92LE2070-MB1		92LE2070-MB1		92LE2086-MB1		92LE2086-MB1	
	Matrix:	SEDIMENT		WATER		SOIL		SOIL		WATER		WATER	
	D.F.:	1.00		1.00		1.00		2.00		1.00		1.00	
	Units:	ug/Kg		ug/L		ug/Kg		ug/Kg		ug/L		ug/L	
Surrogate: Di-n-butylchlorendate		80	%	98	%	98	%	102	%	97	%	98	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		10	U	0.052	U	8.0	U	16	U	0.050	U	0.050	U
Beta-BHC		10	U	0.052	U	8.0	U	16	U	0.050	U	0.050	U
Delta-BHC		10	U	0.052	U	8.0	U	16	U	0.050	U	0.050	U
gamma-BHC (Lindane)		10	U	0.052	U	8.0	U	82	%	0.050	U	85	%
Heptachlor		10	U	0.052	U	8.0	U	85	%	0.050	U	85	%
Aldrin		10	U	0.052	U	8.0	U	80	%	0.050	U	85	%
Heptachlor epoxide		10	U	0.052	U	8.0	U	16	U	0.050	U	0.050	U
Endosulfan I		10	U	0.052	U	8.0	U	16	U	0.050	U	0.050	U
Dieldrin		20	U	0.10	U	16	U	82	%	0.10	U	86	%
4,4'-DDE		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
Endrin		20	U	0.10	U	16	U	83	%	0.10	U	82	%
Endosulfan II		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
4,4'-DDD		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
Endosulfan sulfate		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
4,4'-DDT		20	U	0.10	U	16	U	30	%	0.10	U	76	%
Methoxychlor		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Endrin aldehyde		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
Kepone		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U
alpha-Chlordane		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
gamma-Chlordane		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Toxaphene		200	U	1.0	U	160	U	320	U	1.0	U	1.0	U
Aroclor-1016		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Aroclor-1221		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Aroclor-1232		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Aroclor-1242		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Aroclor-1248		100	U	0.52	U	80	U	160	U	0.50	U	0.50	U
Aroclor-1254		200	U	1.0	U	160	U	320	U	1.0	U	1.0	U
Aroclor-1260		200	U	1.0	U	160	U	320	U	1.0	U	1.0	U
Isodrin		20	U	0.10	U	16	U	32	U	0.10	U	0.10	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

00007

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, Appendix IX List
RFW Batch Number: 9212L982 Client: CORCO Report Date: 01/13/93 10:38
Work Order: 5784-01-01-9999 Page: 3

Cust ID: PBLK BSD

Sample Information

RFW#: 92LE2086-MB1
Matrix: WATER
D.F.: 1.00
Units: ug/L

Surrogate: Di-n-butylchlorendate	100	%
Alpha-BHC	0.050	U
Beta-BHC	0.050	U
Delta-BHC	0.050	U
gamma-BHC (Lindane)	90	%
Heptachlor	90	%
Aldrin	90	%
Heptachlor epoxide	0.050	U
Endosulfan I	0.050	U
Dieldrin	88	%
4,4'-DDE	0.10	U
Endrin	82	%
Endosulfan II	0.10	U
4,4'-DDD	0.10	U
Endosulfan sulfate	0.10	U
4,4'-DDT	76	%
Methoxychlor	0.50	U
Endrin aldehyde	0.10	U
Kepone	0.10	U
alpha-Chlordane	0.50	U
gamma-Chlordane	0.50	U
Toxaphene	1.0	U
Aroclor-1016	0.50	U
Aroclor-1221	0.50	U
Aroclor-1232	0.50	U
Aroclor-1242	0.50	U
Aroclor-1248	0.50	U
Aroclor-1254	1.0	U
Aroclor-1260	1.0	U
Isodrin	0.10	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

504 383 2789:#40
WESTON BLDG 4-27
0000008

WESTON

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
® 610-701-3000 • Fax 610-701-3186

MANAGERS DESIGNERS/CONSULTANTS

APPENDIX IX ORGANIC QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: Zohreh Hamid 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

WESTON

CORCO
APPENDIX IX ANALYSES
RFW #: 9212L982

INTRODUCTION

This quality assurance review is based upon a review of all data generated from five sediment samples and one field blank collected on 12-08-92. The samples were analyzed according to criteria set forth in the SW846 for Appendix IX Organophosphorus Pesticide and Herbicide target compounds by Roy F. Weston, Inc. Lionville Laboratory

This review has been performed in accordance with the confirmation method. The reported analytical results are presented as a summary of the data in Attachment II. All of the analytical data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the analytical requirements and deliverables specified in the EPA SW-846 3rd Ed.

All data have been validated with regard to usability according to the quality assurance set forth in USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses and the applied SW846 method. If you have any questions or comments on this data review, please call Zohreh Hamid at (610) 701-3745.

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a review of the following criteria:

- Data Completeness
- Holding Time
- Calibration
- Blanks
- Surrogate Recoveries
- Matrix Spike/Spike Duplicate/Blank Spike
- Instrument Performance
- Field Duplicate Results
- Compound Identification
- Compound Quantitation

ORGANOPHOSPHORUS PESTICIDES - METHOD 8141

Spiking compounds methyl parathion and thionazin were used during the analyses rather than the client specified spiking compounds of phorate and disulfoton. All spike recoveries were within the laboratory control chart warning limits. The use of different spike compounds does not adversely affect the sample results; therefore, no action is taken on this basis.

Two of thirteen surrogate recoveries were outside the laboratory control chart warning limits. The sample data is not affected by these outliers and no qualification is applied on this basis.

Many %D results exceeded 15% in the continuing calibrations analyzed prior to and after the sample analyses. Also, there was instrumental problems that inhibited detection of dimethoate at the reporting levels. Insufficient time allowed for reanalysis and/or a confirmation analysis in these samples. Therefore, due to all of these deficiencies, both the positive results and non-detects are qualified estimated.

One set of field duplicates (EL-NW-1/EL-NW-1 DUP) was supplied with these samples. The sample result reproducibility was satisfactory.

Overall, the data quality and completeness were fair. The lack of compound identification is considered acceptable with the applied qualifier codes.

APPENDIX IX HERBICIDES - METHOD 8150

Forms II and III were not provided in this data package. Per the laboratory's case narrative, all spike and surrogate recoveries were within the laboratory's control limits. Since these limits are advisory, no qualification is required on this basis; however, the laboratory should submit these documents.

%RSDs were not provided for the 5 point initial calibrations. Also, several reported %Ds in the continuing calibrations on the primary and confirmation columns exceeded the QC limit; however, since positive target compound results were not reported, no action is taken on this basis. However, the laboratory should supply the missing initial calibration information.

One set of field duplicate analyses (EL-NW-1/EL-NW-1 DUP) was supplied with these samples. The sample result reproducibility was satisfactory.

Overall, the data package completeness was fair. The sample data are considered acceptable without qualification, since the sample results are representative.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Organic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Kelly Spittler or Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

WESTON
MANAGERS DESIGNERS/CONSULTANTS

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS. [Substantially is equivalent to a result less than 10 times the blank level for common contaminants (methylene chloride, acetone and 2-butanone in the VOA analyses, and common phthalates in the BNA analyses, along with tentatively identified compounds) or less than 5 times the blank level for other target compounds.]

R = UNUSABLE RESULT. THE PRESENCE OR ABSENCE OF THIS ANALYTE CANNOT BE VERIFIED. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND. THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE WAS POSITIVELY IDENTIFIED. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = ANALYTE WAS NOT DETECTED ABOVE THE CRQL. THE REPORTED QUANTITATION LIMIT IS QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
ORGANOPHOSPHATE PESTICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW #:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
COMPOUND						
Diazinion	UJ	UJ	UJ	UJ	UJ	
Methyl Parathion	UJ	UJ	UJ	UJ	UJ	
0,0,0-Triethyl Phosphorothioat	UJ	UJ	UJ	UJ	UJ	
Thionazin (Zinophos)	UJ	UJ	UJ	UJ	UJ	
Phorate	UJ	UJ	UJ	UJ	UJ	
Sulfotep	UJ	UJ	UJ	UJ	UJ	
Disulfoton	UJ	UJ	UJ	UJ	UJ	
Dimethoate	NA	NA	NA	NA	NA	
Ethyl Parathion	UJ	UJ	UJ	UJ	UJ	
Famphur (Famophos)	UJ	UJ	UJ	UJ	UJ	

ROY F. WESTON, INC.
HERBICIDE BY GC, APPENDIX IX ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW #:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.00	1.00	1.00	1.00	1.00	1.00
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
COMPOUND						
2,4-D						
2,4,5-TP (Silvex)						
2,4,5-T						

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. - Lionville Laboratory
Organophosphate Pesticides

RFW Batch Number: 9212L982 Client: CORCO Report Date: 01/28/93 18:02
Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	EL-NE-1
Sample Information	RFW#:	001	002	003	004	005	005 MS
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Ethion	104 %	70 %	69 %	60 %	82 %	84 %
		fl	fl	fl	fl	fl	fl
Diazinon		18 U	16 U	18 U	17 U	17 U	8.5 U
Methyl Parathion		18 U	16 U	18 U	17 U	17 U	139 %
0,0,0-Triethyl Phosphorothioat		18 U	16 U	18 U	17 U	17 U	8.5 U
Thionazin (Zinophos)		18 U	16 U	18 U	17 U	17 U	70 %
Phorate		18 U	16 U	18 U	17 U	17 U	8.5 U
Sulfotep		18 U	16 U	18 U	17 U	17 U	8.5 U
Disulfoton		18 U	16 U	18 U	17 U	17 U	8.5 U
Dimethoate		NA	NA	NA	NA	NA	NA
Ethyl Parathion		18 U	16 U	18 U	17 U	17 U	8.5 U
Famphur (Famophos)		88 U	78 U	89 U	85 U	85 U	43 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
Organophosphate Pesticides

Report Date: 01/28/93 18:02

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 3

Cust ID: BLK BSD

Sample Information

RFW#: 92LE2088-MB1
Matrix: WATER
D.F.: 1.00
Units: UG/L

Ethion	73	%
Diazinon	0.20	U
Methyl Parathion	60	%
0,0,0-Triethyl Phosphorothioat	0.20	U
Thionazin (Zinophos)	96	%
Phorate	0.20	U
Sulfotep	0.20	U
Disulfoton	0.20	U
Dimethoate	0.20	U
Ethyl Parathion	0.20	U
Famphur (Famophos)	1.0	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
HERBICIDES BY GC, APPENDIX 9

Report Date: 01/14/93 08:17

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-NW-1	EL-NW-1 DUP	EL-NW-1 DUP	EL-NW-1 DUP	EL-SW-1	EL-SE-1
Sample Information	RFW#:	001	002	002 MS	002 MSD	003	004
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate:	2,6-D	127 %	98 %	96 %	88 %	119 %	102 %
2,4-D		26 U	24 U	93 %	84 %	27 U	25 U
2,4,5-TP (Silvex)		13 U	12 U	100 %	83 %	13 U	13 U
2,4,5-T		13 U	12 U	87 %	77 %	13 U	13 U

	Cust ID:	EL-NE-1	ELFB	PBLK	PBLK BS	PBLK	PBLK BS
Sample Information	RFW#:	005	006	92LE2068-MB1	92LE2068-MB1	92LE2071-MB1	92LE2071-MB1
	Matrix:	SEDIMENT	WATER	SOIL	SOIL	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/L	ug/Kg	ug/Kg	ug/L	ug/L
Surrogate:	2,6-D	105 %	111 %	106 %	133 %	95 %	95 %
2,4-D		26 U	1.0 U	20 U	105 %	1.0 U	86 %
2,4,5-TP (Silvex)		13 U	0.52 U	10 U	92 %	0.50 U	73 %
2,4,5-T		13 U	0.52 U	10 U	119 %	0.50 U	78 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

D.O. 2/6/93.

000006

Roy F. Weston, Inc. - Lionville Laboratory
HERBICIDES BY GC, APPENDIX 9

Report Date: 01/14/93 08:17

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 2

	Cust ID:	PBLK BSD
Sample Information	RFW#:	92LE2071-MB1
	Matrix:	WATER
	D.F.:	1.00
	Units:	ug/L

Surrogate:	2,6-D	99	%
2,4-D		84	%
2,4,5-TP (Silvex)		79	%
2,4,5-T		78	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
® 610-701-3000 • Fax 610-701-3186

MANAGERS DESIGNERS/CONSULTANTS

ORGANIC APPENDIX IX QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L994

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: Zohreh Hamid 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

WESTON

CORCO
ORGANIC APPENDIX IX
RFW #: 9212L994

INTRODUCTION

This quality assurance review is based upon a review of all data generated from three sediments, one soil, and one field blank collected on 12-09-92. The samples were analyzed according to criteria set forth in the SW846 for Appendix IX Volatile, Semivolatile, Pesticide/PCB, Organophosphorus Pesticide, and Herbicide target compounds by Roy F. Weston, Inc. Lionville Laboratory

This review has been performed in accordance with the confirmation method. The reported analytical results are presented as a summary of the data in Attachment II. All of the analytical data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the analytical requirements and deliverables specified in the EPA SW-846 3rd Ed.

All data have been validated with regard to usability according to the quality assurance set forth in USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. If you have any questions or comments on this data review, please call Zohreh Hamid at (610) 701-3745.

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a review of the following criteria:

- Data Completeness
- Holding Time
- GC/MS Tuning
- Calibration
- Blanks
- Surrogate Recoveries
- Matrix Spike/Spike Duplicate/Blank Spike
- Internal Standard
- Instrument Performance
- Field Duplicate Results
- Compound Identification
- Compound Quantitation

VOLATILE ANALYSIS - METHOD 8240

The following sediment sample were analyzed at medium level and dilution due to the sample background contamination.

SAMPLE ID	DILUTION FACTOR
EL-SW-2	400
EL-NW-2	80
EL-S-1	40

Target compounds were detected in sample EL-SW-2 at relatively high levels. The target compounds were not detected in the other two sediment samples. The detection levels were elevated and the possibility of false negatives exist.

The surrogate recoveries could not be obtained in the sediment samples due to the high level of dilution, also, the matrix spike/spike duplicate analysis were not performed. Therefore, the long-term accuracy and precision could not be evaluated for these samples.

Many compounds have %RSDs and/or %Ds outside the data validation requirement limit of 30% and 25% in initial and continuing calibrations, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The response factors for the following compounds were below the data validation requirement limit of 0.05.

COMPOUND NAME	IC 12-19-92	CC 12-20-92	IC 12-21-92	CC 12-21-92	IC 12-17-92	CC 12-17-94
Isobutyl Alcohol	0.047		0.023	0.029		
Trans-1,4-dichloro-2-butene	0.021	0.014	0.007	0.003	0.027	0.029
Affected samples		EL-S-2 MS MSD		EL-NW-2 EL-SW-2 EL-S-1		ELFB2

IC = Initial Calibration
CC = Continuing Calibration

The reported sample data could be accepted with the qualifier codes since the RRFs were above 0.01, with the exception of trans-1,4-dichloro-2-butene in samples EL-NW-2, EL-SW-2, and EL-S-1. The reported non-detected value for this compound is rejected in the data summary.

The five point initial calibration and calibration verification was not performed for 2-chlor-1,3-butadiene. The laboratory stated in the case narrative that a manual spectral search was performed for this compound, due to the non-availability of a reference standard. The non-detected value is considered as a Tentatively Identified Compound (TIC) and is qualified estimated on the data summary.

The laboratory blanks had methylene chloride and acetone at levels below the 5X the CRQL. The reported sample result for methylene chloride and acetone are considered as the laboratory contaminant artifacts and are flagged "U".

The field blank has methylene chloride, acetone, and chloroform at levels below 2X the CRQL. The result for acetone in sample EL-S-2 is considered as the field and/or the laboratory artifact and is qualified "U".

SEMIVOLATILE ANALYSIS - METHOD 8270

The sediment samples were analyzed at the following dilutions:

SAMPLE ID	DILUTION FACTOR
EL-SW-2	100
EL-NW-2	200
EL-S-1	200

The surrogate recoveries could not be obtained in these samples, due to the dilutions. The quantitation limits are evaluated and the possibility of false negatives exist. However, the samples were not qualified since the target compounds and non-target compounds were detected in the samples at relatively high levels.

The recoveries met the requirement limits in the water blank spike/spike duplicate sample analysis. The following recoveries were outside the QC limits in the soil sample analysis:

COMPOUND NAME	MS/MSD RECOVERY	BLANK SPIKE RECOVERY
Phenol	116/111	104
2-Chlorophenol	133/126	117
1,4-Dichlorobenzene	108/107	
1,2,4-Trichlorobenzene	139/131	114
4-Chloro-3-methylphenol	118/113	
2,4-Dinitrotoluene	-/94	98
Pentachlorophenol	117/-	115
Pyrene	175/159	
4-Nitrophenol		115

These compounds, with the exception of pyrene, were not detected in the samples. Therefore, only the results for pyrene are considered biased high and qualified estimated.

The internal standard recoveries for phenanthrene-d_{10}, chrysene-d_{12}, and perylene-d_{12} in matrix spike sample and perylene in matrix spike duplicate sample analyses were outside the control limits established by the laboratory. The data are not impacted since the unspiked sample analysis met the criteria.

The %RSDs were within the data validation requirement limit of 30%, with the exception of hexachlorophene. The %Ds for some compounds exceeded 25%. These compounds were not reported on the corresponding samples.

The response factors for hexachlorophene was not reported on the continuing calibrations, the average response factor (0.020) in initial calibration was less than the 0.05 limit. This compound is not a CLP target compound; therefore, the reported non-detected results are accepted with the qualifier codes.

The water blank was free of target compounds. The laboratory soil blank had di-n-butylphthalate (32 ug/kg) at a level below the CRQL. The sample results are above the 5X the blank contamination. Therefore, the data are not impacted by the laboratory artifacts. One field blank analysis accompanied the sample data. The field blank was free of target compound contamination.

The mass spectra for benzo(a)anthracene in sample EL-S-2 was not included in the data package. Page 268 is missing from the data package.

PESTICIDE/PCB ANALYSIS - METHOD 8080

Per the laboratory case narrative, samples EL-SW-2, EL-NW-2, and EL-S-1 were analyzed at 10, 50, and 50-fold dilutions, respectively, due to high levels of non-target compounds. However, since positive results were not detected in these analyses, the reported non-detected values are elevated and the possibility of false negatives exist.

There was an interference problem that inhibited the recovery of surrogate compound "di-n-butylchloronate" in sample analysis EL-SW-2. Also, the surrogates were diluted out for samples EL-NW-2 and EL-S-1. These sample results are qualified estimated due to the dilution and surrogate outliers.

The %RSD for Aldrin and 4,4-DDT for all initial calibrations analyzed on SP2100 column exceeded the 10% QC limit. Since these compounds were not detected in the samples, no qualification is applied on this basis.

Several %D and retention time results were outside the established criteria in the continuing calibrations analyzed on both columns. Since positive target compound results were not detected in these samples, no qualification is applied based on these outliers.

Overall, the sample data quality was good. The data package completeness was satisfactory and the sample results are considered accepted and representative with the applied qualifier codes.

ORGANOPHOSPHORUS PESTICIDES - METHOD 8141

Spiking compounds methyl parathion and thionazin were used during the analyses rather than the client specified spiking compound of phorate and disulfoton. All spike recoveries were within the laboratory control chart warning limits, except for the matrix spike recoveries for methyl parathion, which were only within the laboratory control limits. The use of different spike compounds and the methyl parathion outlier do not adversely affect the sample results; therefore, no action is taken on this basis.

Two of twelve surrogate recoveries were outside the laboratory control chart warning limits. The sample data is not affected by these outliers and no qualification is applied on this basis.

Many %D results exceeded 15% in the continuing calibrations analyzed prior to and after the sample analyses. Also, there was instrumental problems that inhibited detection of dimethoate at the reporting levels. Insufficient time allowed for reanalysis and/or a confirmation analysis in these samples. Therefore, due to all of these deficiencies, both the positive results and non-detects are qualified estimated.

Overall, the data quality was fair. The data package completeness was inadequate and the sample identification is considered tentative.

APPENDIX IX HERBICIDES - METHOD 8150

All sludge samples were re-extracted/reanalyzed due to the large volume of diazomethane required to derivatize the extracts in the original analyses, and also there were apparent interferences due to the high levels of non-target compounds.

Forms II and III were not provided in this data package. Per the laboratory's case narrative and the data summary, all spike and surrogate recoveries were within the laboratory's control limits, except for one matrix spike for 2,4,5-TP and one blank spike for 2,4,5-T and an interference problem that inhibited the recovery of 2,6-D in samples EL-SW-2, EL-NW-2, and EL-S-1. Since these limits are advisory and these compounds were not detected in the samples, no action is required on this basis. However, the laboratory should provide the missing reporting forms.

All of the sediment and soil samples were analyzed/reanalyzed at 5 or 10-fold dilutions. Since target compounds were not detected in any samples, and the reanalyses were performed outside the holding time, the original analyses were reported as the representative results. However, due to the dilutions, all non-detects are qualified estimated.

%RSDs were not provided for the 5 point initial calibration. The reported %Ds in the continuing calibrations were within the QC limits of ± 15%. The laboratory should have supplied the missing initial calibration information; however, no action is required on this basis.

Overall, the data package completeness was fair. The sample data are considered acceptable with the applied qualifier codes.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Organic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Kelly Spittler or Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS. [Substantially is equivalent to a result less than 10 times the blank level for common contaminants (methylene chloride, acetone and 2-butanone in the VOA analyses, and common phthalates in the BNA analyses, along with tentatively identified compounds) or less than 5 times the blank level for other target compounds.]

R = UNUSABLE RESULT. THE PRESENCE OR ABSENCE OF THIS ANALYTE CANNOT BE VERIFIED. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND. THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE WAS POSITIVELY IDENTIFIED. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = ANALYTE WAS NOT DETECTED ABOVE THE CRQL. THE REPORTED QUANTITATION LIMIT IS QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
VOLATILE APPENDIX IX ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	Med */400	Med */80	Med */40	1.0
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
COMPOUND					
Chloromethane					
Bromomethane					
Vinyl Chloride					
Chloroethane					
Methylene Chloride	10 U				
Acetone	17 U	300000 J			130 U
Carbon Disulfide					
1,1-Dichloroethene					
1,1-Dichloroethane					
1,2-Dichloroethene (TOTAL)					
Chloroform	1 J				
1,2-Dichloroethane					
2-Butanone					
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Vinyl Acetate					
Bromodichloromethane					
1,2-Dichloropropane					
cis-1,3-Dichloropropene					
Trichloroethene					
Dibromochloromethane					
1,1,2-Trichloroethane					
Benzene		1200000			
Trans-1,3-Dichloropropene					
Bromoform					
4-Methyl-2-Pentanone					
2-Hexanone					
Tetrachloroethene					
1,1,2,2-Tetrachloroethane					

* Med = Medium level Analysis

ROY F. WESTON, INC.
VOLATILE APPENDIX IX ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	Med */400	Med */80	Med */40	1.0
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
COMPOUND					
Toluene		1700000			3 J
Chlorobenzene					
Ethylbenzene		960000			
Styrene					
Xylene (total)		4200000			
Acrolein					
Acrylonitrile					
Trichlorofluoromethane					
Dichlorodifluoromethane					
Acetonitrile					
Iodomethane					
Propionitrile (Ethyl Cyanide)					
3-Chloropropene					
Methacrylonitrile					
Dibromomethane					
Isobutyl alcohol					
1,2-Dibromoethane					
1,1,1,2-Tetrachloroethane					
1,2,3-Trichloropropane					
trans-1,4-Dichloro-2-butene		R	R	R	
1,2-Dibromo-3-chloropropane					
2-Chloro-1,3-Butadiene	UJ	UJ	UJ	UJ	UJ

* Med = Medium level Analysis

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW#:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.00	100	200	200	5.00
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Phenol					
bis(2-Chloroethyl)ether					
2-Chlorophenol					
1,3-Dichlorobenzene					
1,4-Dichlorobenzene					
Benzyl Alcohol					
1,2-Dichlorobenzene					
2-Methylphenol					
Bis(2-chloroisopropyl)ether					
3- and/or 4-Methylphenol					
N-Nitroso-Di-n-propylamine					
Hexachloroethane					
Nitrobenzene					
Isophorone					
2-Nitrophenol					
2,4-Dimethylphenol					
Benzoic Acid					
Bis(2-chloroethoxy)methane					
2,4-Dichlorophenol					
1,2,4-Trichlorobenzene					
Naphthalene		130000	59000 J	21000 J	780 J
4-Chloroaniline					
Hexachlorobutadiene					
4-Chloro-3-methylphenol					
2-Methylnaphthalene		290000	360000	120000	5000
Hexachlorocyclopentadiene					
2,4,6-Trichlorophenol					
2,4,5-Trichlorophenol					
2-Chloronaphthalene					
2-Nitroaniline					
Dimethylphthalate					

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW#:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.00	100	200	200	5.00
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Acenaphthylene					
2,6-Dinitrotoluene					
3-Nitroaniline					
Acenaphthene		21000 J	44000 J	22000 J	470 J
2,4-Dinitrophenol					
4-Nitrophenol					
Dibenzofuran					
2,4-Dinitrotoluene					
Diethylphthalate					
4-Chlorophenyl-phenylether					
Fluorene		170000	45000 J	45000 J	1400 J
4-Nitroaniline					
4,6-Dinitro-2-methylphenol					
N-Nitrosodiphenylamine					
4-Bromophenyl-phenylether					
Hexachlorobenzene					
Pentachlorophenol					
Phenanthrene		240000	270000	98000	3500
Anthracene		9700 J	21000 J		
Di-n-butylphthalate					560 J
Fluoranthene		25000 J			
Pyrene		41000 J	60000 J	35000 J	
Butylbenzylphthalate					
3,3-Dichlorobenzidine					
Benzo(a)anthracene		19000 J	16000 J		220 J
Chrysene		100000	27000 J	18000 J	510 J
Bis(2-ethylhexyl)phthalate		9700 J			230 J
Di-n-octylphthalate					
Benzo(b)fluoranthene		62000 J			
Benzo(k)fluoranthene					
Benzo(a)pyrene					

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW#:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.00	100	200	200	5.00
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg

Indeno(1,2,3-cd)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene
1,4-Dioxane
Methyl methacrylate
Pyridine
N-Nitrosodimethylamine
Ethyl methacrylate
2-Picoline
N-Nitrosomethylethylamine
Methyl methanesulfanoate
N-Nitrosodiethylamine
Ethyl methanesulfonate
Aniline
Pentachloroethane
N-Nitrosopyrrolidine
Acetophenone
N-Nitrosomorpholine
o-Toluidine
N-Nitrosopiperidine
a,a-Dimethylphenethylamine
2,6-Dichlorophenol
Hexachloropropene
p-Phenylenediamine
N-Nitroso-di-n-butylamine
Safrole
1,2,4,5-Tetrachlorobenzene
Isosafrole
1,4-Naphthoquinone
1,3-Dinitrobenzene
Pentachlorobenzene

ROY F. WESTON, INC.
APPENDIX IX SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW#:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.00	100	200	200	5.00
Units:	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
1-Naphthylamine					
2-Naphthylamine					
2,3,4,6-Tetrachlorophenol					
1,3,5-Trinitrobenzene					
Diallate					
Phenacetin					
Diphenylamine					
5-Nitro-o-toluidine					
4-Aminobiphenyl					
Pronamide					
2-sec-Butyl-4,6-dinitrophenol					
Pentachloronitrobenzene					
4-Nitroquinoline-1-oxide					
Methapyrilene					
Aramite					
Chlorobenzilate					
p-Dimethylaminoazobenzene					
3,3-Dimethylbenzidine					
2-Acetylaminofluorene					
7,12-Dimethylbenz(a)anthracene					
Hexachlorophene	UJ	UJ	UJ	UJ	UJ
3-Methylcholanthrene					

ROY F. WESTON, INC.
PESTICIDE/PCB BY GC, APPENDIX IX ANALYSES -- DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	10.0	50.0	50.0	1.0
Units:	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUND					
alpha-BHC		UJ	UJ	UJ	
beta-BHC		UJ	UJ	UJ	
delta-BHC		UJ	UJ	UJ	
gamma-BHC(Lindane)		UJ	UJ	UJ	
Heptachlor		UJ	UJ	UJ	
Aldrin		UJ	UJ	UJ	
Heptachlor Epoxide		UJ	UJ	UJ	
Endosulfan I		UJ	UJ	UJ	
Dieldrin		UJ	UJ	UJ	
4,4'-DDE		UJ	UJ	UJ	
Endrin		UJ	UJ	UJ	
Endosulfan II		UJ	UJ	UJ	
4,4'-DDD		UJ	UJ	UJ	
Endosulfan Sulfate		UJ	UJ	UJ	
4,4'-DDT		UJ	UJ	UJ	
Methoxychlor		UJ	UJ	UJ	
Endrin Aldehyde		UJ	UJ	UJ	
Kepone		UJ	UJ	UJ	
alpha-Chlordane		UJ	UJ	UJ	
gamma-Chlordane		UJ	UJ	UJ	
Toxaphene		UJ	UJ	UJ	
Aroclor 1016		UJ	UJ	UJ	
Aroclor 1221		UJ	UJ	UJ	
Aroclor 1232		UJ	UJ	UJ	
Aroclor 1242		UJ	UJ	UJ	
Aroclor 1248		UJ	UJ	UJ	
Aroclor 1254		UJ	UJ	UJ	
Aroclor 1260		UJ	UJ	UJ	
Isodrin		UJ	UJ	UJ	

ROY F. WESTON, INC.
ORGANOPHOSPHATE PESTICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	1.0	1.0	1.0	1.0
Units:	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUND					
Diazinion	UJ	UJ	UJ	UJ	UJ
Methyl Parathion	UJ	UJ	UJ	UJ	UJ
0,0,0-Triethyl Phosphorothioat	UJ	UJ	UJ	UJ	UJ
Thionazin (Zinophos)	UJ	UJ	UJ	UJ	UJ
Phorate	UJ	UJ	23 J	UJ	UJ
Sulfotep	UJ	UJ	UJ	UJ	UJ
Disulfoton	UJ	UJ	33 J	66 J	UJ
Dimethoate	UJ	NA	NA	NA	NA
Ethyl Parathion	UJ	UJ	UJ	UJ	UJ
Famphur (Famophos)	UJ	350 J	870 J	1200 J	UJ

ROY F. WESTON, INC.
HERBICIDE BY GC, APPENDIX IX ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	10.0	5.00	5.00	1.00
Units:	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUND					
2,4-D		UJ	UJ	UJ	
2,4,5-TP (Silvex)		UJ	UJ	UJ	
2,4,5-T		UJ	UJ	UJ	

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, Appendix IX List

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a Report Date: 01/29/93 16:58

	Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
Sample Information	RFW#:	001		002		003		004		005		005 MS	
	Matrix:	WATER		SEDIMENT		SEDIMENT		SEDIMENT		SOIL		SOIL	
	D.F.:	1.00		400		80.0		40.0		1.00		1.00	
	Units:	UG/L		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
	Level:	LOW		MED		MED		MED		LOW		LOW	
Surrogate Recovery	Toluene-d8	107	%	D	%	D	%	D	%	100	%	96	%
	Bromofluorobenzene	111	%	D	%	D	%	D	%	103	%	96	%
	1,2-Dichloroethane-d4	108	%	D	%	D	%	D	%	106	%	88	%
Chloromethane		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Bromomethane		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Vinyl Chloride		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Chloroethane		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Methylene Chloride		2	JB	520000	U	83000	U	35000	U	6	U	4	J
Acetone		17	B	300000	JB	170000	U	70000	U	130	B	190	B
Carbon Disulfide		5	U	520000	U	83000	U	35000	U	6	U	6	U
1,1-Dichloroethene		5	U	520000	U	83000	U	35000	U	6	U	103	%
1,1-Dichloroethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
1,2-Dichloroethene (total)		5	U	520000	U	83000	U	35000	U	6	U	6	U
Chloroform		1	J	520000	U	83000	U	35000	U	6	U	6	U
1,2-Dichloroethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
2-Butanone		10	U	1000000	U	170000	U	70000	U	13	U	13	U
1,1,1-Trichloroethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
Carbon Tetrachloride		5	U	520000	U	83000	U	35000	U	6	U	6	U
Vinyl Acetate		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Bromodichloromethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
1,2-Dichloropropane		5	U	520000	U	83000	U	35000	U	6	U	6	U
cis-1,3-Dichloropropene		5	U	520000	U	83000	U	35000	U	6	U	6	U
Trichloroethene		5	U	520000	U	83000	U	35000	U	6	U	105	%
Dibromochloromethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
1,1,2-Trichloroethane		5	U	520000	U	83000	U	35000	U	6	U	6	U
Benzene		5	U	1200000		83000	U	35000	U	6	U	110	%
Trans-1,3-Dichloropropene		5	U	520000	U	83000	U	35000	U	6	U	6	U
Bromoform		5	U	520000	U	83000	U	35000	U	6	U	6	U
4-Methyl-2-pentanone		10	U	1000000	U	170000	U	70000	U	13	U	13	U
2-Hexanone		10	U	1000000	U	170000	U	70000	U	13	U	13	U
Tetrachloroethene		5	U	520000	U	83000	U	35000	U	6	U	6	U
1,1,2,2-Tetrachloroethane		5	U	520000	U	83000	U	35000	U	6	U	6	U

*= Outside of EPA CLP QC limits.

700000

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1b

Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
RFW#:	001		002		003		004		005		005 MS	
Level:	LOW		MED		MED		MED		LOW		LOW	
Toluene	5	U	1700000		83000	U	35000	U	3	J	95	%
Chlorobenzene	5	U	520000	U	83000	U	35000	U	6	U	73	%
Ethylbenzene	5	U	960000		83000	U	35000	U	6	U	6	U
Styrene	5	U	520000	U	83000	U	35000	U	6	U	6	U
Xylene (total)	5	U	4200000		83000	U	35000	U	6	U	6	U
Acrolein	10	U	1000000	U	170000	U	70000	U	13	U	13	U
Acrylonitrile	10	U	1000000	U	170000	U	70000	U	13	U	13	U
Trichlorofluoromethane	5	U	520000	U	83000	U	35000	U	6	U	6	U
Dichlorodifluoromethane	10	U	1000000	U	170000	U	70000	U	13	U	13	U
Acetonitrile	20	U	2100000	U	330000	U	140000	U	26	U	26	U
Iodomethane	10	U	1000000	U	170000	U	70000	U	13	U	13	U
Propionitrile (Ethyl Cyanide)	50	U	5200000	U	830000	U	350000	U	65	U	65	U
3-Chloropropene	20	U	2100000	U	330000	U	140000	U	26	U	26	U
Methacrylonitrile	20	U	2100000	U	330000	U	140000	U	26	U	26	U
Dibromomethane	10	U	1000000	U	170000	U	70000	U	13	U	13	U
Isobutyl alcohol	20	U	2100000	U	330000	U	140000	U	26	U	26	U
1,2-Dibromoethane	20	U	2100000	U	330000	U	140000	U	26	U	26	U
1,1,1,2-Tetrachloroethane	10	U	1000000	U	170000	U	70000	U	13	U	13	U
1,2,3-Trichloropropane	10	U	1000000	U	170000	U	70000	U	13	U	13	U
trans-1,4-Dichloro-2-butene	100	U	0.10E+08	U	1700000	U	700000	U	130	U	130	U
1,2-Dibromo-3-chloropropane	20	U	2100000	U	330000	U	140000	U	26	U	26	U
2-Chloro-1,3-Butadiene	100	U	0.10E+08	U	1700000	U	700000	U	130	U	130	U

*= Outside of EPA CLP QC limits.

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, Appendix IX List

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2a Report Date: 01/29/93 16:58

	Cust ID:	EL-S-2		VBLK		VBLK		VBLK	
Sample Information	RFW#:	005 MSD		92LVY276-MB1		92LVQ167-MB1		92LVQ166-MB1	
	Matrix:	SOIL		WATER		SEDIMENT		SOIL	
	D.F.:	1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/L		UG/KG		UG/KG	
	Level:	LOW		LOW		MED		LOW	
Surrogate Recovery	Toluene-d8	96	%	105	%	94	%	98	%
	Bromofluorobenzene	88	%	108	%	91	%	103	%
	1,2-Dichloroethane-d4	85	%	102	%	71	%	102	%
			fl		fl		fl		fl
Chloromethane		13	U	10	U	1200	U	10	U
Bromomethane		13	U	10	U	1200	U	10	U
Vinyl Chloride		13	U	10	U	1200	U	10	U
Chloroethane		13	U	10	U	1200	U	10	U
Methylene Chloride		5	J	7		620	U	5	U
Acetone		250	B	14		440	J	2	J
Carbon Disulfide		6	U	5	U	620	U	5	U
1,1-Dichloroethene		98	%	5	U	620	U	5	U
1,1-Dichloroethane		6	U	5	U	620	U	5	U
1,2-Dichloroethene (total)		6	U	5	U	620	U	5	U
Chloroform		6	U	5	U	620	U	5	U
1,2-Dichloroethane		6	U	5	U	620	U	5	U
2-Butanone		13	U	10	U	1200	U	10	U
1,1,1-Trichloroethane		6	U	5	U	620	U	5	U
Carbon Tetrachloride		6	U	5	U	620	U	5	U
Vinyl Acetate		13	U	10	U	1200	U	10	U
Bromodichloromethane		6	U	5	U	620	U	5	U
1,2-Dichloropropane		6	U	5	U	620	U	5	U
cis-1,3-Dichloropropene		6	U	5	U	620	U	5	U
Trichloroethene		101	%	5	U	620	U	5	U
Dibromochloromethane		6	U	5	U	620	U	5	U
1,1,2-Trichloroethane		6	U	5	U	620	U	5	U
Benzene		110	%	5	U	620	U	5	U
Trans-1,3-Dichloropropene		6	U	5	U	620	U	5	U
Bromoform		6	U	5	U	620	U	5	U
4-Methyl-2-pentanone		13	U	10	U	1200	U	10	U
2-Hexanone		13	U	10	U	1200	U	10	U
Tetrachloroethene		6	U	5	U	620	U	5	U
1,1,2,2-Tetrachloroethane		6	U	5	U	620	U	5	U

*= Outside of EPA CLP QC limits.

Cust ID:	EL-S-2		VBLK		VBLK		VBLK	
RFW#:	005 MSD		92LVY276-MB1		92LVQ167-MB1		92LVQ166-MB1	
Level:	LOW		LOW		MED		LOW	
Toluene	83	%	5	U	620	U	5	U
Chlorobenzene	71	%	5	U	620	U	5	U
Ethylbenzene	6	U	5	U	620	U	5	U
Styrene	6	U	5	U	620	U	5	U
Xylene (total)	6	U	5	U	620	U	5	U
Acrolein	13	U	10	U	1200	U	10	U
Acrylonitrile	13	U	10	U	1200	U	10	U
Trichlorofluoromethane	6	U	5	U	620	U	5	U
Dichlorodifluoromethane	13	U	10	U	1200	U	10	U
Acetonitrile	26	U	20	U	2500	U	20	U
Iodomethane	13	U	10	U	1200	U	10	U
Propionitrile (Ethyl Cyanide)	65	U	50	U	6200	U	50	U
3-Chloropropene	26	U	20	U	2500	U	20	U
Methacrylonitrile	26	U	20	U	2500	U	20	U
Dibromomethane	13	U	10	U	1200	U	10	U
Isobutyl alcohol	26	U	20	U	2500	U	20	U
1,2-Dibromoethane	26	U	20	U	2500	U	20	U
1,1,1,2-Tetrachloroethane	13	U	10	U	1200	U	10	U
1,2,3-Trichloropropane	13	U	10	U	1200	U	10	U
trans-1,4-Dichloro-2-butene	130	U	100	U	12000	U	100	U
1,2-Dibromo-3-chloropropane	26	U	20	U	2500	U	20	U
2-Chloro-1,3-Butadiene	130	U	100	U	12000	U	100	U

*= Outside of EPA CLP QC limits.

1E

000041 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EL-SW-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT

Lab Sample ID: 9212L994-002

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: Q122115

Level: (low/med) MED

Date Received: 12/11/92

% Moisture: not dec. 52

Date Analyzed: 12/21/92

Column: (pack/cap) PACK

Dilution Factor: 400

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOALKANE	15.43	1000000	J
2.	CYCLOALKANE	16.60	600000	J
3.	UNKNOWN	22.07	700000	J
4.	UNKNOWN	23.03	600000	J
5.	ALKANE	25.97	600000	J
6.	SILOXANE	34.63	6000000	J
7.	UNKNOWN	41.33	1000000	J

1E

000062

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EL-NW-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT

Lab Sample ID: 9212L994-003

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: Q122113

Level: (low/med) MED

Date Received: 12/11/92

% Moisture: not dec. 40

Date Analyzed: 12/21/92

Column: (pack/cap) PACK

Dilution Factor: 80.0

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOALKANE	15.43	100000	J
2.	CYCLOALKANE	31.40	100000	J
3.	SILOXANE	34.67	600000	J
4.	CYCLOALKANE	35.97	100000	J
5.	UNKNOWN	37.53	200000	J
6.	UNKNOWN	38.30	90000	J
7.	UNKNOWN	41.53	100000	J

1E

0000077 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EL-S-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT

Lab Sample ID: 9212L994-004

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: Q122116

Level: (low/med) MED

Date Received: 12/11/92

% Moisture: not dec. 28

Date Analyzed: 12/21/92

Column: (pack/cap) PACK

Dilution Factor: 40.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOALKANE	31.43	40000	J
2.	UNKNOWN	37.57	50000	J
3.	UNKNOWN	41.27	100000	J

1E

000088 CLIENT SAMPLE NO.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EL-S-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SOIL

Lab Sample ID: 9212L994-005

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: Q122013

Level: (low/med) LOW

Date Received: 12/11/92

% Moisture: not dec. 22

Date Analyzed: 12/20/92

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	29.40	2000	J
2.	CYCLOALKANE	30.03	600	J
3.	CYCLOALKANE	30.87	500	J
4.	CYCLOALKANE	31.40	1000	J
5.	ALKANE	32.10	600	J
6.	ALKANE	32.67	1000	J
7.	UNKNOWN	35.97	500	J
8.	ALKANE	36.50	700	J
9.	UNKNOWN	37.43	2000	J
10.	ALKANE	39.90	600	J

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, Appendix IX List

Report Date: 01/15/93 12:34

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a

	Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
Sample Information	RFW#:	001		002		003		004		005		005 MS	
	Matrix:	WATER		SEDIMENT		SEDIMENT		SEDIMENT		SOIL		SOIL	
	D.F.:	1.00		100		200		200		5.00		5.00	
	Units:	ug/L		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	82	%	D	%	D	%	D	%	91	%	113	%
	2-Fluorobiphenyl	79	%	D	%	D	%	D	%	82	%	94	%
	p-Terphenyl-d14	88	%	D	%	D	%	D	%	101	%	109	%
	Phenol-d5	39	%	D	%	D	%	D	%	91	%	105	%
	2-Fluorophenol	60	%	D	%	D	%	D	%	88	%	112	%
	2,4,6-Tribromophenol	82	%	D	%	D	%	D	%	98	%	107	%
Phenol		10	U	68000	U	110000	U	92000	U	2100	U	116 *	%
bis(2-Chloroethyl)ether		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Chlorophenol		10	U	68000	U	110000	U	92000	U	2100	U	133 *	%
1,3-Dichlorobenzene		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,4-Dichlorobenzene		10	U	68000	U	110000	U	92000	U	2100	U	108 *	%
Benzyl alcohol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,2-Dichlorobenzene		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Methylphenol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
bis(2-Chloroisopropyl)ether		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
3- and/or 4-Methylphenol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitroso-Di-n-propylamine		10	U	68000	U	110000	U	92000	U	2100	U	110	%
Hexachloroethane		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Nitrobenzene		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Isophorone		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Nitrophenol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,4-Dimethylphenol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Benzoic acid		50	U	340000	U	550000	U	460000	U	11000	U	10000	U
bis(2-Chloroethoxy)methane		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,4-Dichlorophenol		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,2,4-Trichlorobenzene		10	U	68000	U	110000	U	92000	U	2100	U	139 *	%
Naphthalene		10	U	130000		59000	J	21000	J	780	J	990	J
4-Chloroaniline		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Hexachlorobutadiene		10	U	68000	U	110000	U	92000	U	2100	U	2100	U
4-Chloro-3-methylphenol		10	U	68000	U	110000	U	92000	U	2100	U	118 *	%
2-Methylnaphthalene		10	U	290000		360000		120000		5000		6700	
Hexachlorocyclopentadiene		10	U	68000	U	110000	U	92000	U	2100	U	2100	U

*= Outside of EPA CLP QC limits.

000010

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1b

Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
RFW#:	001		002		003		004		005		005 MS	
2,4,6-Trichlorophenol	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,4,5-Trichlorophenol	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
2-Chloronaphthalene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Nitroaniline	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
Dimethylphthalate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Acenaphthylene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,6-Dinitrotoluene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
3-Nitroaniline	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
Acenaphthene	10	U	21000	J	44000	J	22000	J	470	J	126	%
2,4-Dinitrophenol	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
4-Nitrophenol	50	U	340000	U	550000	U	460000	U	11000	U	55	%
Dibenzofuran	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,4-Dinitrotoluene	10	U	68000	U	110000	U	92000	U	2100	U	87	%
Diethylphthalate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
4-Chlorophenyl-phenylether	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Fluorene	10	U	170000		45000	J	45000	J	1400	J	1700	J
4-Nitroaniline	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
4,6-Dinitro-2-methylphenol	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
N-Nitrosodiphenylamine (1)	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
4-Bromophenyl-phenylether	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Hexachlorobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Pentachlorophenol	50	U	340000	U	550000	U	460000	U	11000	U	117 *	%
Phenanthrene	10	U	240000		270000		98000		3500		4500	
Anthracene	10	U	9700	J	21000	J	92000	U	2100	U	2100	U
Di-n-Butylphthalate	10	U	68000	U	110000	U	92000	U	560	JB	700	JB
Fluoranthene	10	U	25000	J	110000	U	92000	U	2100	U	2100	U
Pyrene	10	U	41000	J	60000	J	35000	J	2100	U	175 *	%
Butylbenzylphthalate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
3,3'-Dichlorobenzidine	20	U	140000	U	220000	U	180000	U	4200	U	4200	U
Benzo(a)anthracene	10	U	19000	J	16000	J	92000	U	220	J	350	J
Chrysene	10	U	100000		27000	J	18000	J	510	J	770	J
bis(2-Ethylhexyl)phthalate	10	U	9700	J	110000	U	92000	U	230	J	2100	U
Di-n-Octyl phthalate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Benzo(b)fluoranthene	10	U	62000	J	110000	U	92000	U	2100	U	2100	U
Benzo(k)fluoranthene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Benzo(a)pyrene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Indeno(1,2,3-cd)pyrene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Dibenzo(a,h)anthracene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Benzo(g,h,i)perylene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,4-Dioxane	10	U	68000	U	110000	U	92000	U	2100	U	2100	U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1c

Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
RFW#:	001		002		003		004		005		005 MS	
Methyl methacrylate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Pyridine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosodimethylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Ethyl methacrylate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Picoline	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosomethylethylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Methyl methanesulfonate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosodiethylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Ethyl methanesulfonate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Aniline	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Pentachloroethane	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosopyrrolidine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Acetophenone	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosomorpholine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
o-Toluidine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitrosopiperidine	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
a,a-Dimethylphenethylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,6-Dichlorophenol	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Hexachloropropene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
p-Phenylenediamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
N-Nitroso-di-n-butylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Safrole	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,2,4,5-Tetrachlorobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Isosafrole	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,4-Naphthoquinone	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,3-Dinitrobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Pentachlorobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1-Naphthylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Naphthylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2,3,4,6-Tetrachlorophenol	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
1,3,5-Trinitrobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Diallate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Phenacetin	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Diphenylamine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
5-Nitro-o-toluidine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
4-Aminobiphenyl	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Pronamide	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-sec-Butyl-4,6-dinitrophenol	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
Pentachloronitrobenzene	50	U	340000	U	550000	U	460000	U	11000	U	10000	U
4-Nitroquinoline-1-oxide	20	U	140000	U	220000	U	180000	U	4200	U	4200	U

*= Outside of EPA CLP QC limits.

000010

Cust ID:	EL-FB-2		EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2	
RFW#:	001		002		003		004		005		005 MS	
Methapyrilene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Aramite	20	U	140000	U	220000	U	180000	U	4200	U	4200	U
Chlorobenzilate	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
p-Dimethylaminoazobenzene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
3,3'-Dimethylbenzidine	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
2-Acetylaminofluorene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
7,12-Dimethylbenz(a)anthracene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U
Hexachlorophene	90	U	620000	U	1000000	U	830000	U	19000	U	19000	U
3-Methylcholanthrene	10	U	68000	U	110000	U	92000	U	2100	U	2100	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, Appendix IX List

Report Date: 01/15/93 12:34

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2a

	Cust ID:	EL-S-2	SBLK	SBLK BS	SBLK BSD	SBLK	SBLK BS
Sample Information	RFW#:	005 MSD	92LE2084-MB1	92LE2084-MB1	92LE2084-MB1	92LE2090-MB1	92LE2090-MB1
	Matrix:	SOIL	WATER	WATER	WATER	SOIL	SOIL
	D.F.:	5.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/L	ug/L	ug/L	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	99 %	78 %	61 %	66 %	82 %	94 %
	2-Fluorobiphenyl	93 %	75 %	62 %	65 %	79 %	88 %
	p-Terphenyl-d14	103 %	83 %	80 %	89 %	99 %	89 %
	Phenol-d5	105 %	40 %	34 %	39 %	83 %	99 %
	2-Fluorophenol	105 %	59 %	51 %	58 %	76 %	94 %
	2,4,6-Tribromophenol	100 %	80 %	81 %	82 %	71 %	92 %
		fl	fl	fl	fl	fl	fl
Phenol		111 * %	10 U	39 %	44 %	330 U	104 * %
bis(2-Chloroethyl)ether		2100 U	10 U	10 U	10 U	330 U	330 U
2-Chlorophenol		126 * %	10 U	84 %	95 %	330 U	117 * %
1,3-Dichlorobenzene		2100 U	10 U	10 U	10 U	330 U	330 U
1,4-Dichlorobenzene		107 * %	10 U	59 %	62 %	330 U	96 %
Benzyl alcohol		2100 U	10 U	10 U	10 U	330 U	330 U
1,2-Dichlorobenzene		2100 U	10 U	10 U	10 U	330 U	330 U
2-Methylphenol		2100 U	10 U	10 U	10 U	330 U	330 U
bis(2-Chloroisopropyl)ether		2100 U	10 U	10 U	10 U	330 U	330 U
3- and/or 4-Methylphenol		2100 U	10 U	10 U	10 U	330 U	330 U
N-Nitroso-Di-n-propylamine		122 %	10 U	67 %	69 %	330 U	94 %
Hexachloroethane		2100 U	10 U	10 U	10 U	330 U	330 U
Nitrobenzene		2100 U	10 U	10 U	10 U	330 U	330 U
Isophorone		2100 U	10 U	10 U	10 U	330 U	330 U
2-Nitrophenol		2100 U	10 U	10 U	10 U	330 U	330 U
2,4-Dimethylphenol		2100 U	10 U	10 U	10 U	330 U	330 U
Benzoic acid		10000 U	50 U	50 U	50 U	1700 U	1700 U
bis(2-Chloroethoxy)methane		2100 U	10 U	10 U	10 U	330 U	330 U
2,4-Dichlorophenol		2100 U	10 U	10 U	10 U	330 U	330 U
1,2,4-Trichlorobenzene		131 * %	10 U	67 %	74 %	330 U	114 * %
Naphthalene		780 J	10 U	10 U	10 U	330 U	330 U
4-Chloroaniline		2100 U	10 U	10 U	10 U	330 U	330 U
Hexachlorobutadiene		2100 U	10 U	10 U	10 U	330 U	330 U
4-Chloro-3-methylphenol		113 * %	10 U	76 %	82 %	330 U	100 %
2-Methylnaphthalene		4900	10 U	10 U	10 U	330 U	330 U
Hexachlorocyclopentadiene		2100 U	10 U	10 U	10 U	330 U	330 U

*= Outside of EPA CLP QC limits.

000010

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2b

Cust ID:	EL-S-2	SBLK	SBLK BS	SBLK BSD	SBLK	SBLK BS
RFW#:	005 MSD	92LE2084-MB1	92LE2084-MB1	92LE2084-MB1	92LE2090-MB1	92LE2090-MB1
2,4,6-Trichlorophenol	2100 U	10 U	10 U	10 U	330 U	330 U
2,4,5-Trichlorophenol	10000 U	50 U	50 U	50 U	1700 U	1700 U
2-Chloronaphthalene	2100 U	10 U	10 U	10 U	330 U	330 U
2-Nitroaniline	10000 U	50 U	50 U	50 U	1700 U	1700 U
Dimethylphthalate	2100 U	10 U	10 U	10 U	330 U	330 U
Acenaphthylene	2100 U	10 U	10 U	10 U	330 U	330 U
2,6-Dinitrotoluene	2100 U	10 U	10 U	10 U	330 U	330 U
3-Nitroaniline	10000 U	50 U	50 U	50 U	1700 U	1700 U
Acenaphthene	111 %	10 U	72 %	77 %	330 U	97 %
2,4-Dinitrophenol	10000 U	50 U	50 U	50 U	1700 U	1700 U
4-Nitrophenol	57 %	50 U	40 %	45 %	1700 U	115 * %
Dibenzofuran	2100 U	10 U	10 U	10 U	330 U	330 U
2,4-Dinitrotoluene	94 * %	10 U	82 %	90 %	330 U	98 * %
Diethylphthalate	2100 U	10 U	10 U	10 U	330 U	330 U
4-Chlorophenyl-phenylether	2100 U	10 U	10 U	10 U	330 U	330 U
Fluorene	1600 J	10 U	10 U	10 U	330 U	330 U
4-Nitroaniline	10000 U	50 U	50 U	50 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	10000 U	50 U	50 U	50 U	1700 U	1700 U
N-Nitrosodiphenylamine (1)	2100 U	10 U	10 U	10 U	330 U	330 U
4-Bromophenyl-phenylether	2100 U	10 U	10 U	10 U	330 U	330 U
Hexachlorobenzene	2100 U	10 U	10 U	10 U	330 U	330 U
Pentachlorophenol	101 %	50 U	68 %	83 %	1700 U	115 * %
Phenanthrene	3500	10 U	10 U	10 U	330 U	330 U
Anthracene	2100 U	10 U	10 U	10 U	330 U	330 U
Di-n-Butylphthalate	2100 U	10 U	10 U	10 U	32 J	330 U
Fluoranthene	2100 U	10 U	10 U	10 U	330 U	330 U
Pyrene	159 * %	10 U	94 %	106 %	330 U	106 %
Butylbenzylphthalate	2100 U	10 U	10 U	10 U	330 U	330 U
3,3'-Dichlorobenzidine	4200 U	20 U	20 U	20 U	670 U	670 U
Benzo(a)anthracene	210 J	10 U	10 U	10 U	330 U	330 U
Chrysene	480 J	10 U	10 U	10 U	330 U	330 U
bis(2-Ethylhexyl)phthalate	530 J	10 U	10 U	10 U	330 U	40 J
Di-n-Octyl phthalate	2100 U	10 U	10 U	10 U	330 U	330 U
Benzo(b)fluoranthene	2100 U	10 U	10 U	10 U	330 U	330 U
Benzo(k)fluoranthene	2100 U	10 U	10 U	10 U	330 U	330 U
Benzo(a)pyrene	2100 U	10 U	10 U	10 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	2100 U	10 U	10 U	10 U	330 U	330 U
Dibenzo(a,h)anthracene	2100 U	10 U	10 U	10 U	330 U	330 U
Benzo(g,h,i)perylene	2100 U	10 U	10 U	10 U	330 U	330 U
1,4-Dioxane	2100 U	10 U	10 U	10 U	330 U	330 U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2c

Cust ID:	EL-S-2		SBLK		SBLK BS		SBLK BSD		SBLK		SBLK BS	
RFW#:	005 MSD		92LE2084-MB1		92LE2084-MB1		92LE2084-MB1		92LE2090-MB1		92LE2090-MB1	
Methyl methacrylate	2100	U	10	U	10	U	10	U	330	U	330	U
Pyridine	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitrosodimethylamine	2100	U	10	U	10	U	10	U	330	U	330	U
Ethyl methacrylate	2100	U	10	U	10	U	10	U	330	U	330	U
2-Picoline	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitrosomethylethylamine	2100	U	10	U	10	U	10	U	330	U	330	U
Methyl methanesulfonate	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitrosodiethylamine	2100	U	10	U	10	U	10	U	330	U	330	U
Ethyl methanesulfonate	2100	U	10	U	10	U	10	U	330	U	330	U
Aniline	2100	U	10	U	10	U	10	U	330	U	330	U
Pentachloroethane	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitrosopyrrolidine	2100	U	10	U	10	U	10	U	330	U	330	U
Acetophenone	2100	U	10	U	10	U	10	U	44	J	53	JB
N-Nitrosomorpholine	2100	U	10	U	10	U	10	U	330	U	330	U
o-Toluidine	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitrosopiperidine	10000	U	50	U	50	U	50	U	1700	U	1700	U
a,a-Dimethylphenethylamine	2100	U	10	U	10	U	10	U	330	U	330	U
2,6-Dichlorophenol	2100	U	10	U	10	U	10	U	330	U	330	U
Hexachloropropene	2100	U	10	U	10	U	10	U	330	U	330	U
p-Phenylenediamine	2100	U	10	U	10	U	10	U	330	U	330	U
N-Nitroso-di-n-butylamine	2100	U	10	U	10	U	10	U	330	U	330	U
Safrole	2100	U	10	U	10	U	10	U	330	U	330	U
1,2,4,5-Tetrachlorobenzene	2100	U	10	U	10	U	10	U	330	U	330	U
Isosafrole	2100	U	10	U	10	U	10	U	330	U	330	U
1,4-Naphthoquinone	2100	U	10	U	10	U	10	U	330	U	330	U
1,3-Dinitrobenzene	2100	U	10	U	10	U	10	U	330	U	330	U
Pentachlorobenzene	2100	U	10	U	10	U	10	U	330	U	330	U
1-Naphthylamine	2100	U	10	U	10	U	10	U	330	U	330	U
2-Naphthylamine	2100	U	10	U	10	U	10	U	330	U	330	U
2,3,4,6-Tetrachlorophenol	2100	U	10	U	10	U	10	U	330	U	330	U
1,3,5-Trinitrobenzene	2100	U	10	U	10	U	10	U	330	U	330	U
Diallate	2100	U	10	U	10	U	10	U	330	U	330	U
Phenacetin	2100	U	10	U	10	U	10	U	330	U	330	U
Diphenylamine	2100	U	10	U	10	U	10	U	330	U	330	U
5-Nitro-o-toluidine	2100	U	10	U	10	U	10	U	330	U	330	U
4-Aminobiphenyl	2100	U	10	U	10	U	10	U	330	U	330	U
Pronamide	2100	U	10	U	10	U	10	U	330	U	330	U
2-sec-Butyl-4,6-dinitrophenol	10000	U	50	U	50	U	50	U	1700	U	1700	U
Pentachloronitrobenzene	10000	U	50	U	50	U	50	U	1700	U	1700	U
4-Nitroquinoline-1-oxide	4200	U	20	U	20	U	20	U	670	U	670	U

*= Outside of EPA CLP QC limits.

000012

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2d

Cust ID:	EL-S-2		SBLK		SBLK BS		SBLK BSD		SBLK		SBLK BS	
RFW#:	005 MSD		92LE2084-MB1		92LE2084-MB1		92LE2084-MB1		92LE2090-MB1		92LE2090-MB1	
Methapyrilene	2100	U	10	U	10	U	10	U	330	U	330	U
Aramite	4200	U	20	U	20	U	20	U	670	U	670	U
Chlorobenzilate	2100	U	10	U	10	U	10	U	330	U	330	U
p-Dimethylaminoazobenzene	2100	U	10	U	10	U	10	U	330	U	330	U
3,3'-Dimethylbenzidine	2100	U	10	U	10	U	10	U	330	U	330	U
2-Acetylaminofluorene	2100	U	10	U	10	U	10	U	330	U	330	U
7,12-Dimethylbenz(a)anthracene	2100	U	10	U	10	U	10	U	330	U	330	U
Hexachlorophene	19000	U	90	U	90	U	90	U	3000	U	3000	U
3-Methylcholanthrene	2100	U	10	U	10	U	10	U	330	U	330	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

0100013

1F

0000057 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EL-SW-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT Lab Sample ID: 9212L994-002

Sample wt/vol: 30.4 (g/mL) G Lab File ID: J010605

Level: (low/med) LOW Date Received: 12/11/92

% Moisture: not dec. 52 dec. Date Extracted: 12/14/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/06/93

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 100

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C2 BENZENE	5.23	300000	J
2.	C2 BENZENE	5.36	300000	J
3.	C3 BENZENE	7.55	200000	J
4.	C4 BENZENE	8.50	300000	J
5.	C4 BENZENE	9.13	400000	J
6.	ALKANE	10.79	300000	J
7.	UNKNOWN	11.89	200000	J
8.	ALKANE	12.31	200000	J
9.	UNKNOWN	12.97	100000	J
10.	ALKANE	13.76	200000	J
11.	PAH	13.91	200000	J
12.	PAH	14.30	200000	J
13.	PAH	14.53	200000	J
14.	PAH	14.58	400000	J
15.	ALKANE	15.12	300000	J
16.	PAH	15.95	200000	J
17.	PAH	16.29	200000	J
18.	ALKANE	16.40	200000	J
19.	ALKANE	17.62	200000	J
20.	ALKANE	17.70	100000	J
21.	ALKANE	18.73	100000	J
22.	ALKANE	18.84	200000	J
23.	ALKANE	19.65	200000	J
24.	ALKANE	20.42	200000	J
25.	UNKNOWN	21.10	200000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EL-NW-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT Lab Sample ID: 9212L994-003

Sample wt/vol: 30.1 (g/mL) G Lab File ID: J010606

Level: (low/med) LOW Date Received: 12/11/92

% Moisture: not dec. 40 dec. Date Extracted: 12/14/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/06/93

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 200

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.92	200000	J
2.	UNKNOWN	13.00	300000	J
3.	ALKANE	13.45	100000	J
4.	PAH	14.16	100000	J
5.	PAH	14.31	500000	J
6.	PAH	14.54	600000	J
7.	PAH	14.60	500000	J
8.	PAH	15.07	200000	J
9.	PAH	15.67	200000	J
10.	PAH	15.97	400000	J
11.	PAH	16.05	300000	J
12.	PAH	16.28	500000	J
13.	PAH	16.50	400000	J
14.	UNKNOWN	16.86	300000	J
15.	ALKANE	17.71	300000	J
16.	UNKNOWN	18.38	300000	J
17.	ALKANE	18.85	300000	J
18.	UNKNOWN	19.46	90000	J
19.	UNKNOWN	19.61	200000	J
20.	UNKNOWN	19.90	200000	J
21.	UNKNOWN	20.08	100000	J
22.	PAH	20.24	300000	J
23.	PAH	20.29	300000	J
24.	PAH	20.47	400000	J
25.	PAH	21.28	300000	J

1F

0000183 CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EL-S-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SEDIMENT Lab Sample ID: 9212L994-004

Sample wt/vol: 30.4 (g/mL) G Lab File ID: J010607

Level: (low/med) LOW Date Received: 12/11/92

% Moisture: not dec. 28 dec. Date Extracted: 12/14/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/06/93

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 200

Number TICs found: 28

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.35	40000	J
2.	UNKNOWN	11.92	100000	J
3.	UNKNOWN	13.00	100000	J
4.	UNKNOWN	13.14	60000	J
5.	ALKANE	13.46	60000	J
6.	PAH	14.31	200000	J
7.	PAH	14.55	200000	J
8.	PAH	14.60	300000	J
9.	PAH	14.85	90000	J
10.	PAH	15.09	80000	J
11.	PAH	15.68	80000	J
12.	PAH	15.97	200000	J
13.	PAH	16.05	200000	J
14.	PAH	16.29	200000	J
15.	PAH	16.50	100000	J
16.	UNKNOWN	16.86	200000	J
17.	ALKANE	17.04	200000	J
18.	ALKANE	17.72	60000	J
19.	UNKNOWN	17.83	100000	J
20.	UNKNOWN	18.38	200000	J
21.	ALKANE	18.86	200000	J
22.	UNKNOWN	19.61	100000	J
23.	METHYLDIBENZOTHIOPHENE	19.91	100000	J
24.	PAH	20.24	100000	J
25.	PAH	20.30	200000	J
26.	PAH	20.48	100000	J
27.	PAH	21.28	100000	J
28.	PAH	21.33	100000	J

0000242

1F

SEMIVOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EL-S-2

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: SOIL

Lab Sample ID: 9212L994-005

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: J010509

Level: (low/med) LOW

Date Received: 12/11/92

% Moisture: not dec. 22 dec.

Date Extracted: 12/14/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 01/05/93

GPC Cleanup: (Y/N) Y pH: 8.4

Dilution Factor: 5.00

Number TICs found: 26

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.37	1000	J
2.	ALKANE	11.06	3000	J
3.	UNKNOWN	11.45	2000	J
4.	UNKNOWN	11.96	4000	J
5.	PAH	12.24	1000	J
6.	UNKNOWN	13.03	4000	J
7.	ALKANE	13.49	2000	J
8.	PAH	14.35	5000	J
9.	PAH	14.58	6000	J
10.	PAH	14.63	8000	J
11.	PAH	14.87	3000	J
12.	PAH	15.11	2000	J
13.	PAH	15.71	2000	J
14.	PAH	16.01	5000	J
15.	PAH	16.09	5000	J
16.	PAH	16.31	7000	J
17.	ALKANE	17.75	7000	J
18.	UNKNOWN	18.42	4000	J
19.	ALKANE	18.89	8000	J
20.	ALKANE	19.63	3000	J
21.	METHYLDIBENZOTHIOPHENE	19.94	4000	J
22.	PAH	20.27	4000	J
23.	PAH	20.33	5000	J
24.	PAH	20.49	4000	J
25.	PAH	21.31	4000	J
26.	ADIPATE	23.02	2000	J

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, Appendix IX List

Report Date: 01/13/93 16:41

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	EL-S-2
Sample Information	RFW#:	001	002	003	004	005	005 MS
	Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL	SOIL
	D.F.:	1.00	10.0	50.0	50.0	1.00	2.00
	Units:	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Di-n-butylchlorendate		96 %	I %	D %	D %	71 %	104 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		0.056 U	170 U	670 U	560 U	10 U	20 U
Beta-BHC		0.056 U	170 U	670 U	560 U	10 U	20 U
Delta-BHC		0.056 U	170 U	670 U	560 U	10 U	20 U
gamma-BHC (Lindane)		0.056 U	170 U	670 U	560 U	10 U	75 %
Heptachlor		0.056 U	170 U	670 U	560 U	10 U	72 %
Aldrin		0.056 U	170 U	670 U	560 U	10 U	102 %
Heptachlor epoxide		0.056 U	170 U	670 U	560 U	10 U	20 U
Endosulfan I		0.056 U	170 U	670 U	560 U	10 U	20 U
Dieldrin		0.11 U	330 U	1300 U	1100 U	20 U	78 %
4,4'-DDE		0.11 U	330 U	1300 U	1100 U	20 U	41 U
Endrin		0.11 U	330 U	1300 U	1100 U	20 U	87 %
Endosulfan II		0.11 U	330 U	1300 U	1100 U	20 U	41 U
4,4'-DDD		0.11 U	330 U	1300 U	1100 U	20 U	41 U
Endosulfan sulfate		0.11 U	330 U	1300 U	1100 U	20 U	41 U
4,4'-DDT		0.11 U	330 U	1300 U	1100 U	20 U	46 %
Methoxychlor		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Endrin aldehyde		0.11 U	330 U	1300 U	1100 U	20 U	41 U
Kepone		0.11 U	330 U	1300 U	1100 U	20 U	41 U
alpha-Chlordane		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
gamma-Chlordane		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Toxaphene		1.1 U	3300 U	13000 U	11000 U	200 U	410 U
Aroclor-1016		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Aroclor-1221		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Aroclor-1232		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Aroclor-1242		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Aroclor-1248		0.56 U	1700 U	6700 U	5600 U	100 U	200 U
Aroclor-1254		1.1 U	3300 U	13000 U	11000 U	200 U	410 U
Aroclor-1260		1.1 U	3300 U	13000 U	11000 U	200 U	410 U
Isodrin		0.11 U	330 U	1300 U	1100 U	20 U	41 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide/PCBs by GC, Appendix IX List

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2 Report Date: 01/13/93 16:41

	Cust ID:	EL-S-2		PBLK		PBLK BS		PBLK BSD		PBLK		PBLK BS	
Sample Information	RFW#:	005 MSD		92LE2086-MB1		92LE2086-MB1		92LE2086-MB1		92LE2083-MB1		92LE2083-MB1	
	Matrix:	SOIL		WATER		WATER		WATER		SOIL		SOIL	
	D.F.:	2.00		1.00		1.00		1.00		1.00		2.00	
	Units:	ug/Kg		ug/L		ug/L		ug/L		ug/Kg		ug/Kg	
Surrogate: Di-n-butylchlorendate		94	%	97	%	98	%	100	%	91	%	107	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		20	U	0.050	U	0.050	U	0.050	U	8.0	U	16	U
Beta-BHC		20	U	0.050	U	0.050	U	0.050	U	8.0	U	16	U
Delta-BHC		20	U	0.050	U	0.050	U	0.050	U	8.0	U	16	U
gamma-BHC (Lindane)		75	%	0.050	U	85	%	90	%	8.0	U	80	%
Heptachlor		72	%	0.050	U	85	%	90	%	8.0	U	82	%
Aldrin		102	%	0.050	U	85	%	90	%	8.0	U	80	%
Heptachlor epoxide		20	U	0.050	U	0.050	U	0.050	U	8.0	U	16	U
Endosulfan I		20	U	0.050	U	0.050	U	0.050	U	8.0	U	16	U
Dieldrin		77	%	0.10	U	86	%	88	%	16	U	82	%
4,4'-DDE		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
Endrin		83	%	0.10	U	82	%	82	%	16	U	82	%
Endosulfan II		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
4,4'-DDD		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
Endosulfan sulfate		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
4,4'-DDT		47	%	0.10	U	76	%	76	%	16	U	76	%
Methoxychlor		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Endrin aldehyde		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
Kepone		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U
alpha-Chlordane		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
gamma-Chlordane		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Toxaphene		410	U	1.0	U	1.0	U	1.0	U	160	U	320	U
Aroclor-1016		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Aroclor-1221		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Aroclor-1232		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Aroclor-1242		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Aroclor-1248		200	U	0.50	U	0.50	U	0.50	U	80	U	160	U
Aroclor-1254		410	U	1.0	U	1.0	U	1.0	U	160	U	320	U
Aroclor-1260		410	U	1.0	U	1.0	U	1.0	U	160	U	320	U
Isodrin		41	U	0.10	U	0.10	U	0.10	U	16	U	32	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

0.0.0.0.7

Roy F. Weston, Inc. - Lionville Laboratory
Organophosphate Pesticides

Report Date: 02/03/93 10:29

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	EL-S-2
Sample Information	RFW#:	001	002	003	004	005	005 MS
	Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Ethion	93 %	23 * %	36 * %	71 %	112 %	93 %
Diazinon		0.21 U	28 U	22 U	19 U	17 U	17 U
Methyl Parathion		0.21 U	28 U	22 U	19 U	17 U	151 * %
0,0,0-Triethyl Phosphorothioat		0.21 U	28 U	22 U	19 U	17 U	17 U
Thionazin (Zinophos)		0.21 U	28 U	22 U	19 U	17 U	86 %
Phorate		0.21 U	28 U	23	19 U	17 U	17 U
Sulfotep		0.21 U	28 U	22 U	19 U	17 U	17 U
Disulfoton		0.21 U	28 U	33	66	17 U	17 U
Dimethoate		0.21 U	NA	NA	NA	NA	NA
Ethyl Parathion		0.21 U	28 U	34	19 U	17 U	17 U
Famphur (Famophos)		1.0 U	350	870	1200	85 U	85 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
Organophosphate Pesticides

Report Date: 02/03/93 10:29

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2

	Cust ID:	EL-S-2		BLK		BLK BS		BLK BSD		BLK		BLK BS	
Sample Information	RFW#:	005 MSD		92LE2088-MB1		92LE2088-MB1		92LE2088-MB1		92LE2082-MB1		92LE2082-MB1	
	Matrix:	SOIL		WATER		WATER		WATER		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/L		UG/L		UG/L		UG/KG		UG/KG	
	Ethion	105	%	76	%	92	%	73	%	115	%	99	%
			fl		fl		fl		fl		fl		fl
Diazinon		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Methyl Parathion		169 *	%	0.20	U	76	%	60	%	13	U	104	%
0,0,0-Triethyl Phosphorothioat		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Thionazin (Zinophos)		96	%	0.20	U	107	%	96	%	13	U	102	%
Phorate		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Sulfotep		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Disulfoton		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Dimethoate		NA		0.20	U	0.20	U	0.20	U	NA		NA	
Ethyl Parathion		17	U	0.20	U	0.20	U	0.20	U	13	U	13	U
Famphur (Famophos)		85	U	1.0	U	1.0	U	1.0	U	67	U	67	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
HERBICIDES BY GC, APPENDIX 9

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1 Report Date: 02/11/93 13:27

	Cust ID:	EL-FB-2		EL-SW-2		EL-SW-2		EL-NW-2		EL-NW-2		EL-S-1	
Sample Information	RFW#:	001		002		002		003		003		004	
	Matrix:	WATER		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT		SEDIMENT	
	D.F.:	1.00		10.0		5.00		5.00		10.0		5.00	
	Units:	ug/L		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
						REP	REP			REP	REP		
Surrogate:	2,6-D	101	%	I	%	I	%	I	%	61	%	I	%
2,4-D		1.1	U	420	U	1000	U	170	U	1700	U	140	U
2,4,5-TP (Silvex)		0.55	U	210	U	520	U	83	U	830	U	70	U
2,4,5-T		0.55	U	210	U	520	U	83	U	830	U	70	U

	Cust ID:	EL-S-1		EL-S-2		EL-S-2		EL-S-2		EL-S-2		EL-S-2	
Sample Information	RFW#:	004		005		005		005 MS		005 MS		005 MSD	
	Matrix:	SEDIMENT		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	10.0		1.00		2.00		1.00		2.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
		REP	REP			REP	REP			REP	REP		
Surrogate:	2,6-D	I	%	138	%	119	%	144	%	120	%	157	%
2,4-D		1400	U	26	U	260	U	I	%	79	%	I	%
2,4,5-TP (Silvex)		700	U	13	U	130	U	166	%	78	%	I	%
2,4,5-T		700	U	13	U	130	U	121	%	75	%	I	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000007

Roy F. Weston, Inc. - Lionville Laboratory
HERBICIDES BY GC, APPENDIX 9

RFW Batch Number: 9212L994 Client: CORCO Report Date: 02/11/93 13:27
Work Order: 5784-01-01-9999 Page: 2

	Cust ID:	EL-S-2	PBLK	PBLK BS	PBLK BSD	PBLK	PBLK BS
Sample Information	RFW#:	005 MSD	92LE2080-MB1	92LE2080-MB1	92LE2080-MB1	92LE2091-MB1	92LE2091-MB1
	Matrix:	SOIL	WATER	WATER	WATER	SOIL	SOIL
	D.F.:	2.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/L	ug/L	ug/L	ug/Kg	ug/Kg
		REPREP					
Surrogate:	2,6-D	119 %	91 %	93 %	96 %	112 %	114 %
2,4-D		82 %	1.0 U	80 %	88 %	20 U	I %
2,4,5-TP (Silvex)		95 %	0.50 U	89 %	93 %	10 U	107 %
2,4,5-T		84 %	0.50 U	84 %	88 %	10 U	158 %

	Cust ID:	PBLK	PBLK BS
Sample Information	RFW#:	93LE0099-MB1	93LE0099-MB1
	Matrix:	SOIL	SOIL
	D.F.:	1.00	1.00
	Units:	ug/Kg	ug/Kg
Surrogate:	2,6-D	115 %	106 %
2,4-D		100 U	93 %
2,4,5-TP (Silvex)		50 U	74 %
2,4,5-T		50 U	112 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000603

END OF DATA VALIDATION REPORT

WESTON
MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

INORGANIC QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: Zohreh Hamid 8-31-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

WESTON

CORCO
INORGANIC METAL ANALYSES
RFW #: 9212L982
SDG No.: 982

CASE SUMMARY

This data validation review consists of five sediment, one field blank, and five TCLP samples received on 12-10-94. Laboratory analyses were performed by Roy F. Weston, Inc., Lionville Laboratory, for specific TAL metals, cyanide, and TCLP metal analyses.

All data have been validated with regard to usability according to the quality assurance set forth in Inorganic Functional Guidelines. If you have any questions or comments on this data review, please contact Zohreh Hamid at (610) 701-3745.

The following samples are contained within this report:

EL-NW-1	EL-SE-1	EL-NW-1 TCLP	EL-SE-1 TCLP
EL-NW-1 DUP	EL-NE-1	EL-NW-1 DUP TCLP	EL-NE-1 TCLP
EL-SW-1	ELFB	EL-SW-1 TCLP	

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a rigorous review of the following criteria.

- * Holding Time
- * Calibration
- Contract Required Detection Limit Samples
- Blank Samples
- * Interference Check Samples
- Matrix Spike
- Duplicate Digestion Samples
- * Laboratory Control Sample
- * Serial Dilution Sample
- Graphite Furnace Analysis
- * Quarterly Verification of Instrument Parameters
- * Sample Result Verification
- * Preparation Logs
- * Run Logs
- Data Package Completeness

* All criteria were met; therefore, a narrative section is not provided for this classification.

WESTON

The post digestion analysis was performed for antimony as required by CLP. The analytical spike recovery was slightly above the control limits.

The laboratory case narrative stated that the matrix spike and duplicate analysis for mercury was performed on batch 9212L994. The matrix spike recovery and duplicate analyses were within the acceptable requirement limits for this analyte.

The spike recoveries for Ag (29.6%) and Se (68.9%) in the TCLP analysis were below the 75% limit. The reported sample results and non-detected values are qualified estimated. The reported data are considered biased low.

The non-detected value for Ag was accepted with the qualifier code, since the lowest control limit was not promulgated by the Functional Guidelines for leachate analysis.

LABORATORY DUPLICATE SAMPLES

The RPDs in soil sample analyses were within the control limits. The laboratory duplicate analysis was not reported for TCLP analysis. The case narrative stated that the duplicate analyses were performed for TCLP samples. However, the results are not included in the data package.

One set of field duplicates (ELNW1/ELNW DUP) was performed for this batch of samples. The RPDs were within the control limits for both TCL and TCLP analyses.

GRAPHITE FURNACE ANALYSIS

The following samples analyzed by graphite furnace had the analytical spike recoveries outside the control limits of 85-115%:

SAMPLE ID	ANALYTE	% RECOVERY
ELNW1	Se/Tl	65/79
ELNW DUP	Se/Tl	51/82.5
ELSW1	Se	51
ELSE1	Se	53

WESTON

CONTRACT REQUIRED DETECTION LIMIT SAMPLE ANALYSES

The CRDL recoveries for Se (124%), As (125%), and Pb (83.3%) in graphite furnace analysis and Sb (78%) in ICP analysis runs were outside the data validation requirement limits of 80-120%. The positive results greater than the IDLs but less than 3X the CRDLs for these analytes are qualified estimated in the corresponding samples, due to the uncertainty near the detection limits. The non-detected values for lead and antimony in the corresponding samples were also qualified estimated due to the CRDL recoveries below the requirement limits.

BLANK ANALYSES

The aqueous laboratory blank had selenium (2.2 ug/L) contamination at a level above the IDL, but below the CRDL. This analyte was not detected in the corresponding water sample; therefore, the data are not impacted.

The laboratory preparation blank and leachate blanks for TCLP analyses were free of target analytes.

The soil laboratory blank had selenium (0.42 mg/kg) and zinc (1.9 mg/kg) at the levels below the CRDLs. Zinc was detected in the samples at the levels above 5X the blank concentration and selenium was not detected in the samples; therefore, the data are not qualified based on the laboratory blank contamination.

The field blank contained selenium at a level below the CRDL. Selenium was not detected in the corresponding samples; therefore, the data are not impacted.

MATRIX SPIKE SAMPLE ANALYSIS

The matrix spike recoveries for Sb (51.8%), As (63.8%), Pb (25%), Se (50%), and Tl (71.8%) in matrix spike sample were below the requirement limit of 75% in TCL analysis. The reported positive sample results and non-detected values for Sb, As, Se, and Tl are qualified estimated. The reported sample data are biased low.

The positive results for Pb are qualified estimated and the non-detected values are rejected, due to the very low matrix spike recovery. The reported results are biased low and the possibility of false negatives exist.

WESTON

SAMPLE ID	ANALYTE	% RECOVERY
ELNE1	Se/Tl	52/81
ELFB	Se/Tl	83/82.5

The reported data are qualified estimated.

DATA PACKAGE COMPLETENESS

The data package deliverables for TCLP analysis did not follow the CLP requirement. Also, the data for tin in TCL analysis did not follow the CLP format. The reported data are summarized in separate data summaries.

The analytical spike recovery for Tl (82.5%) was below the requirement limit of 85% in sample ELFB. The reported result was not qualified with "W" by the laboratory, instead; the data was inadvertently flagged with "NR" under method (M) column.

SAMPLE RESULTS

Arsenic, lead, selenium, and thallium were analyzed by graphite furnace. Mercury was analyzed by automated cold vapor AA and other analyses were analyzed by ICP in TAL analysis. The TCLP analysis was performed by ICP, with the exception of mercury. The IDL for tin was not reported in the data package and the reported data for tin in TAL analysis and the data for TCLP were reported based on the Contract Required Detection Limits (CRDLs) instead of Instrument Detection Limits (IDLs). The CRDLs are reported for tin and TCLP analysis in the data validation summaries.

Arsenic in samples ELSW1, ELSE1, and ELNE1 and lead in samples ELNW DUP, ELSW1, and ELNE1 were analyzed by Method of Standard Addition (MSA). The linearity met the requirement limit of "r≥0.995" for these analysis.

WESTON

SUMMARY

The total metal analysis was performed according to CLP protocol. The TCLP analysis was performed by SW846. The data package deliverables did not follow the CLP format for TCLP analyses. The reported data for Sb, As, Pb, Se, and Tl in total sample and Ag and Se in TCLP sample analyses are qualified, since the matrix spike recoveries were below the 75%. Other minor problems have been discussed. The data are considered representative with the applied qualifier codes.

WESTON.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

WESTON

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

WESTON

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

WESTON

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
INORGANIC ANALYSES – VALIDATION POSITIVE RESULT SUMMARY

CLIENT: ROY F. WESTON, INC.
SITE: CORCO
RFW NO.: 912L982

Client Sample ID:			ELNW1	ELNWDU	ELSW1	ELSE1	ELNE1	ELFB
Matrix:			SOIL	SOIL	SOIL	SOIL	SOIL	WATER
% Solids:			75.8	84.9	75.3	78.6	78.2	0.0
Units:			~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	UG/L
INORGANIC ELEMENTS		IDL (ug/L)						
Antimony	P	12.4	UJ	UJ	UJ	UJ	UJ	
Arsenic	F	1.1	1.40 J	1.30 J	2.00 J	3.10 J	2.40 J	
Barium	P	0.5	158.00	194.00	211.00	184.00	186.00	
Beryllium	P	0.2	1.40	1.10	1.50	1.40	1.30	
Cadmium	P	2.3						
Chromium	P	1.5	46.10	38.30	47.40	46.50	48.80	
Cobalt	P	2.1	30.20	24.90	34.10	31.20	30.00	
Copper	P	1.1	78.00	63.00	93.30	71.40	68.70	
Lead	F	0.4	5.10 J	4.30 J	6.40 J	5.50 J	6.00 J	
Mercury	CV	0.2			.16			
Nickel	P	5.2	32.20	25.90	39.80	30.60	30.00	
Selenium	F	1.3	UJ	UJ	UJ	UJ	UJ	2.40 U
Silver	P	1.7			1.80	1.90	5.00	
Thallium	F	0.7	UJ	UJ	UJ	UJ	UJ	
Vanadium	P	1.8	148.00	118.00	172.00	140.00	149.00	
Zinc	P	1.4	86.50	71.00	94.20	75.20	76.00	
Cyanide	C	5.0						

ROY F. WESTON, INC.
INORGANIC ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
SITE: COROO
RFW NO.: 912L982

Client Sample ID:			ELNW1	ELNWDU	ELSW1	ELSE1	ELNE1	ELFB
Matrix:			SOIL	SOIL	SOIL	SOIL	SOIL	WATER
% Solids:			75.8	84.9	75.9	78.6	76.2	0.0
Units:			~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	~~UG/L~~ mg/kg	UG/L
INORGANIC ELEMENTS		IDL (ug/L)						
Antimony	P	12.4	15.80 UJ	8.69 UJ	10.40 UJ	10.60 UJ	11.90 UJ	60.00 U
Arsenic	F	1.1	1.40 J	1.30 J	2.00 J	3.10 J	2.40 J	2.00 U
Barium	P	0.5	158.00	134.00	211.00	184.00	186.00	14.00 U
Beryllium	P	0.2	1.40	1.10	1.50	1.40	1.30	1.00 U
Cadmium	P	2.3	1.84 U	1.01 U	1.21 U	1.24 U	1.39 U	7.00 U
Chromium	P	1.5	46.10	38.30	47.40	46.50	48.80	9.00 U
Cobalt	P	2.1	30.20	24.90	34.10	31.20	30.00	9.00 U
Copper	P	1.1	78.00	63.00	93.30	71.40	68.70	8.00 U
Lead	F	0.4	5.10 J	4.30 J	6.40 J	5.50 J	6.00 J	2.00 U
Mercury	CV	0.2	.07 U	.06 U	.16	.06 U	.06 U	.10 U
Nickel	P	5.2	32.20	25.90	39.80	30.60	30.00	20.00 U
Selenium	F	1.3	.51 UJ	.34 UJ	.35 UJ	.37 UJ	.40 UJ	2.40
Silver	P	1.7	2.69 U	1.45 U	1.80	1.90	5.00	10.00 U
Thallium	F	0.7	.51 UJ	.34 UJ	.35 UJ	.37 UJ	.40 UJ	2.0 U
Vanadium	P	1.8	148.00	118.00	172.00	140.00	149.00	8.00 U
Zinc	P	1.4	86.50	71.00	94.20	75.20	76.00	7.00 U
Cyanide	C	5.0	1.32 U	1.18 U	1.33 U	1.27 U	1.28 U	10.00 U

MC 8/31/94

ROY F. WESTON, INC.
TCLP INORGANIC ANALYSES – VALIDATION POSITIVE RESULT SUMMARY

CLIENT: ROY F. WESTON, INC.
SITE: CORCO
RFW NO.: 9121L982

Client Sample ID:			EL-NW-1-017	EL-NW-1-018 DUP	EL-SW-1-019	EL-SE-1-020	EL-NE-1-021
Matrix:			LEACHATE	LEACHATE	LEACHATE	WATER	WATER
Units:			UG/L	UG/L	UG/L	UG/L	UG/L
INORGANIC ELEMENTS		CRDL ug/L					
Silver	P	10	UJ	UJ	UJ	UJ	UJ
Arsenic	P	100					
Barium	P	200	1290	1290	1470	842	845
Cadmium	P	5.0					
Chromium	P	10					
Mercury	CV	0.2					
Lead	P	90.0					
Selenium	P	100	UJ	UJ	UJ	UJ	UJ

ROY F. WESTON, INC.
TCLP INORGANIC ANALYSES DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
SITE: CORCO
RFW NO.: 9121L982

Client Sample ID:			EL-NW-1-017	EL-NW-1-018 DUP	EL-SW-1-019	EL-SE-1-020	EL-NE-1-021
Matrix:			LEACHATE	LEACHATE	LEACHATE	WATER	WATER
Units:			UG/L	UG/L	UG/L	UG/L	UG/L
INORGANIC ELEMENTS		CRDL ug/L					
Silver	P	10	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ
Arsenic	P	100	100 U	100 U	100 U	100 U	100 U
Barium	P	200	1290	1290	1470	842	845
Cadmium	P	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chromium	P	10	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Mercury	CV	0.2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Lead	P	90.0	90.0 U	90.0 U	90.0 U	90.0 U	90.0 U
Selenium	P	100	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ

ROY F. WESTON, INC.
TIN ANALYSES – VALIDATION POSITIVE RESULT SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L982

Client Sample ID:			EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:			001	002	003	004	005	006
Matrix:			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Units:			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
COMPOUND		CRDL ug/L						
Tin	P	100		22.1	24.5	26.2	26.3	

ROY F. WESTON, INC.
TIN ANALYSES – DATA VALIDATION SUMMARY

ROY F. WESTON, INC.
SITE: CORCO
RFW#: 9212L982

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
COMPOUND						
Tin	26.3 U	22.1	24.5	26.2	28.3	100 U

WESTON

ATTACHMENT III
FORM I's

0000035

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELNW1

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): SOIL Lab Sample ID: 921298201

Level (low/med): LOW Date Received: 12/10/92

% Solids: 75.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	15.80	U	N	P
7440-38-2	Arsenic	1.40	B	N	F
7440-39-3	Barium	158.00			P
7440-41-7	Beryllium	1.40			P
7440-43-9	Cadmium	1.84	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	46.10			P
7440-48-4	Cobalt	30.20			P
7440-50-8	Copper	78.00			P
7439-89-6	Iron				NR
7439-92-1	Lead	5.10		N	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.07	U		CV
7440-02-0	Nickel	32.20			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.51	U	NW	F
7440-22-4	Silver	2.63	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.51	U	NW	F
7440-62-2	Vanadium	148.00			P
7440-66-6	Zinc	86.50			P
	Cyanide	1.32	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP 000036

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELNWDU

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): SOIL Lab Sample ID: 921298202

Level (low/med): LOW Date Received: 12/10/92

% Solids: 84.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	8.69	U	N	P
7440-38-2	Arsenic	1.30	B	N	F
7440-39-3	Barium	134.00			P
7440-41-7	Beryllium	1.10			P
7440-43-9	Cadmium	1.01	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	38.30			P
7440-48-4	Cobalt	24.90			P
7440-50-8	Copper	63.00			P
7439-89-6	Iron				NR
7439-92-1	Lead	4.30		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.06	U		CV
7440-02-0	Nickel	25.90			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.34	U	NW	F
7440-22-4	Silver	1.45	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.34	U	NW	F
7440-62-2	Vanadium	118.00			P
7440-66-6	Zinc	71.00			P
	Cyanide	1.18	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

0000037

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELSW1

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): SOIL Lab Sample ID: 921298203

Level (low/med): LOW Date Received: 12/10/92

% Solids: 75.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	10.40	U	N	P
7440-38-2	Arsenic	2.00		SN	F
7440-39-3	Barium	211.00			P
7440-41-7	Beryllium	1.50			P
7440-43-9	Cadmium	1.21	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	47.40			P
7440-48-4	Cobalt	34.10			P
7440-50-8	Copper	93.30			P
7439-89-6	Iron				NR
7439-92-1	Lead	6.40		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.16			CV
7440-02-0	Nickel	39.80			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.35	U	NW	F
7440-22-4	Silver	1.80			P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.35	U	N	F
7440-62-2	Vanadium	172.00			P
7440-66-6	Zinc	94.20			P
	Cyanide	1.33	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP 0000038

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

ELSE1

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): SOIL Lab Sample ID: 921298204

Level (low/med): LOW Date Received: 12/10/92

% Solids: 78.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	10.60	U	N	P
7440-38-2	Arsenic	3.10		SN	F
7440-39-3	Barium	184.00			P
7440-41-7	Beryllium	1.40			P
7440-43-9	Cadmium	1.24	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	46.50			P
7440-48-4	Cobalt	31.20			P
7440-50-8	Copper	71.40			P
7439-89-6	Iron				NR
7439-92-1	Lead	5.50		N	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.06	U		CV
7440-02-0	Nickel	30.60			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.37	U	NW	F
7440-22-4	Silver	1.90			P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.37	U	N	F
7440-62-2	Vanadium	140.00			P
7440-66-6	Zinc	75.20			P
	Cyanide	1.27	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

0000039

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELNE1

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): SOIL Lab Sample ID: 921298205

Level (low/med): LOW Date Received: 12/10/92

% Solids: 78.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	11.90	U	N	P
7440-38-2	Arsenic	2.40		SN	F
7440-39-3	Barium	186.00			P
7440-41-7	Beryllium	1.30			P
7440-43-9	Cadmium	1.39	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	48.80			P
7440-48-4	Cobalt	30.00			P
7440-50-8	Copper	68.70			P
7439-89-6	Iron				NR
7439-92-1	Lead	6.00		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.06	U		CV
7440-02-0	Nickel	30.00			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.40	U	NW	F
7440-22-4	Silver	5.00			P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.40	U	NW	F
7440-62-2	Vanadium	149.00			P
7440-66-6	Zinc	76.00			P
	Cyanide	1.28	U		C

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts:

Comments:

0000040

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELFB

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP982

Matrix (soil/water): WATER Lab Sample ID: 921298206

Level (low/med): LOW Date Received: 12/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	2.00	U		F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	2.00	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	2.40	B	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	2.00	U		NR
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	7.00	U		P
	Cyanide	10.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-017	EL-NW-1	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	1290		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

0000020

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-018	EL-NW-1 DUP	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	1290		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-019	EL-SW-1	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	1470		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

0000022

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-020	EL-SE-1	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	842		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

0000023

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

W BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RES	UNITS	REPORTING LIMIT
-021	EL-NE-1	Silver, TCLP Leachate	10	UG/L	10.0
		Arsenic, TCLP Leachate	100	UG/L	100
		Barium, TCLP Leachate	84!	UG/L	200
		Cadmium, TCLP Leachate	µ	UG/L	5.0
		Chromium, TCLP Leachate	10	UG/L	10.0
		Mercury, TCLP Leachate	µ	UG/L	0.20
		Lead, TCLP Leachate	9u	UG/L	90.0
		Selenium, TCLP Leachate	10u	UG/L	100

0000013

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/20/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-001	EL-NW-1	Silver, Total	2.6	u	MG/KG	2.6
		Arsenic, Total	2.5	u	MG/KG	2.5
		Barium, Total	158		MG/KG	52.6
		Beryllium, Total	1.4		MG/KG	1.3
		Cadmium, Total	1.3	u	MG/KG	1.3
		Cobalt, Total	30.2		MG/KG	13.1
		Chromium, Total	46.1		MG/KG	2.6
		Copper, Total	78.0		MG/KG	6.6
		Mercury, Total	0.13	u	MG/KG	0.13
		Nickel, Total	32.2		MG/KG	10.5
		Lead, Total	5.1		MG/KG	0.76
		Antimony, Total	15.8	u	MG/KG	15.8
		Selenium, Total	1.3	u	MG/KG	1.3
		Tin, Total	26.3	u	MG/KG	26.3
		Thallium, Total	2.5	u	MG/KG	2.5
		Vanadium, Total	148		MG/KG	13.1
		Zinc, Total	86.5		MG/KG	5.3

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-002	EL-NW-1 DUP	Silver, Total	1.4		MG/KG	1.4
		Arsenic, Total	1.7	u	MG/KG	1.7
		Barium, Total	134		MG/KG	29.0
		Beryllium, Total	1.1		MG/KG	0.72
		Cadmium, Total	0.72	u	MG/KG	0.72
		Cobalt, Total	24.9		MG/KG	7.2
		Chromium, Total	38.3		MG/KG	1.4
		Copper, Total	63.0		MG/KG	3.6
		Mercury, Total	0.12	u	MG/KG	0.12
		Nickel, Total	25.9		MG/KG	5.8
		Lead, Total	4.3		MG/KG	0.52
		Antimony, Total	8.7	u	MG/KG	8.7
		Selenium, Total	0.86	u	MG/KG	0.86
		Tin, Total	22.1		MG/KG	14.5
		Thallium, Total	1.7	u	MG/KG	1.7
		Vanadium, Total	118		MG/KG	7.2
		Zinc, Total	71.0		MG/KG	2.9

0000015

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-003	EL-SW-1	Silver, Total	1.8	MG/KG	1.7
		Arsenic, Total	2.0	MG/KG	1.7
		Barium, Total	211	MG/KG	34.7
		Beryllium, Total	1.5	MG/KG	0.87
		Cadmium, Total	0.87 u	MG/KG	0.87
		Cobalt, Total	34.1	MG/KG	8.7
		Chromium, Total	47.4	MG/KG	1.7
		Copper, Total	93.3	MG/KG	4.3
		Mercury, Total	0.16	MG/KG	0.13
		Nickel, Total	39.8	MG/KG	6.9
		Lead, Total	6.4	MG/KG	0.52
		Antimony, Total	10.4 u	MG/KG	10.4
		Selenium, Total	0.87 u	MG/KG	0.87
		Tin, Total	24.5	MG/KG	17.3
		Thallium, Total	1.7 u	MG/KG	1.7
		Vanadium, Total	172	MG/KG	8.7
		Zinc, Total	94.2	MG/KG	3.5

0000018

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
-004	EL-SE-1	Silver, Total	1.9	MG/KG	1.8
		Arsenic, Total	3.1	MG/KG	1.9
		Barium, Total	184	MG/KG	35.3
		Beryllium, Total	1.4	MG/KG	0.88
		Cadmium, Total	0.88 u	MG/KG	0.88
		Cobalt, Total	31.2	MG/KG	8.8
		Chromium, Total	46.5	MG/KG	1.8
		Copper, Total	71.4	MG/KG	4.4
		Mercury, Total	0.13 u	MG/KG	0.13
		Nickel, Total	30.6	MG/KG	7.1
		Lead, Total	5.5	MG/KG	0.56
		Antimony, Total	10.6 u	MG/KG	10.6
		Selenium, Total	0.93 u	MG/KG	0.93
		Tin, Total	26.2	MG/KG	17.7
		Thallium, Total	1.9 u	MG/KG	1.9
		Vanadium, Total	140	MG/KG	8.8
		Zinc, Total	75.2	MG/KG	3.5

0000017

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-005	EL-NE-1	Silver, Total	5.0		MG/KG	2.0
		Arsenic, Total	2.4		MG/KG	2.0
		Barium, Total	186		MG/KG	39.7
		Beryllium, Total	1.3		MG/KG	0.99
		Cadmium, Total	0.99	u	MG/KG	0.99
		Cobalt, Total	30.0		MG/KG	9.9
		Chromium, Total	48.8		MG/KG	2.0
		Copper, Total	68.7		MG/KG	5.0
		Mercury, Total	0.13	u	MG/KG	0.13
		Nickel, Total	30.0		MG/KG	7.9
		Lead, Total	6.0		MG/KG	0.61
		Antimony, Total	11.9	u	MG/KG	11.9
		Selenium, Total	1.0	u	MG/KG	1.0
		Tin, Total	28.3		MG/KG	19.8
		Thallium, Total	2.0	u	MG/KG	2.0
		Vanadium, Total	149		MG/KG	9.9
		Zinc, Total	76.0		MG/KG	4.0

0000018

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/11/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L982

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-006	ELFB	Silver, Total	10.0	u	UG/L	10.0
		Arsenic, Total	10.0	u	UG/L	10.0
		Barium, Total	200	u	UG/L	200
		Beryllium, Total	5.0	u	UG/L	5.0
		Cadmium, Total	5.0	u	UG/L	5.0
		Cobalt, Total	50.0	u	UG/L	50.0
		Chromium, Total	10.0	u	UG/L	10.0
		Copper, Total	25.0	u	UG/L	25.0
		Mercury, Total	0.20	u	UG/L	0.20
		Nickel, Total	40.0	u	UG/L	40.0
		Lead, Total	3.0	u	UG/L	3.0
		Antimony, Total	60.0	u	UG/L	60.0
		Selenium, Total	5.0	u	UG/L	5.0
		Tin, Total	100	u	UG/L	100
		Thallium, Total	10.0	u	UG/L	10.0
		Vanadium, Total	50.0	u	UG/L	50.0
		Zinc, Total	20.0	u	UG/L	20.0

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
® 610-701-3000 • Fax 610-701-3186

INORGANIC METAL QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L994

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
INORGANIC METAL ANALYSES
RFW #: 9212L994
SDG No.: 994

CASE SUMMARY

This data validation review consists of one soil, three sediment, one field blank, and four TCLP samples received on 12-11-94. Laboratory analyses were performed by Roy F. Weston, Inc., Lionville Laboratory, for specific TAL metals, cyanide, and TCLP metal analysis.

All data have been validated with regard to usability according to the quality assurance set forth in Inorganic Functional Guidelines. If you have any questions or comments on this data review, please contact Zohreh Hamid at (610) 701-3745.

The following samples are contained within this report:

ELFB2	EL-S-1	ELNW2 TCLP
ELSW2	EL-S-2	E-L-S1 TCLP
ELNW2	ELSW2 TCLP	E-L-S2 TCLP

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a rigorous review of the following criteria.

* • Holding Time
* • Calibration
• Contract Required Detection Limit Samples
• Blank Samples
* • Interference Check Samples
• Matrix Spike
• Duplicate Digestion Samples
* • Laboratory Control Sample
* • Serial Dilution Sample
• Graphite Furnace Analysis
* • Quarterly Verification of Instrument Parameters
* • Sample Result Verification
* • Preparation Logs
* • Run Logs
• Data Package Completeness

* All criteria were met; therefore, a narrative section is not provided for this classification.

CONTRACT REQUIRED DETECTION LIMIT SAMPLE ANALYSES

The CRDL recoveries for Se (124%) and As (125%, 122%) in graphite furnace analysis were above the upper data validation requirement limit of 120%. The positive results greater than the IDLs but less than 3X the CRDLs for these analytes are qualified estimated in the corresponding samples, due to the uncertainty near the detection limits.

BLANK ANALYSES

The aqueous laboratory blank had selenium (2.2 ug/L) contamination at a level above the IDL, but below the CRDL. This analyte was not detected in the corresponding water sample; therefore, the data are not impacted.

The soil laboratory blank had vanadium (-1.7 mg/kg) at a level below the IDL. The data are not impacted since the absolute value was less than 2X the IDL.

The field blank contained zinc at a level below the CRDL. Zinc was detected in the samples at levels above 5X the blank contamination; therefore, the data are not impacted.

MATRIX SPIKE SAMPLE ANALYSIS

The matrix spike recoveries for Sb (25.1%), As (64%), Pb (70.6%), Se (47.3%), and Tl (68%) in matrix spike sample were below the requirement limit of 75%. The reported positive sample results and non-detected values for As, Pb, Se, and Tl are qualified estimated. The reported sample data are biased low.

The positive results for Sb are qualified estimated and the non-detected values are rejected, due to the extremely low matrix spike recovery. The reported results are biased low and the possibility of false negatives exist. The post digestion analysis was performed for antimony as required by CLP. The analytical spike recovery was within the control limits.

The spike recoveries for Ag (32.3%), Hg (71.8%), and Se (67.9%) in the TCLP analysis were below the 75% limit. The reported sample results and non-detected values are qualified estimated. The reported data are considered biased low.

LABORATORY DUPLICATE SAMPLES

The RPDs in soil sample analyses were within the control limits. The laboratory duplicate analysis was not performed for the TCLP analysis. Also, the field duplicate analysis was not performed for this batch of samples.

GRAPHITE FURNACE ANALYSIS

The following samples analyzed by graphite furnace had the analytical spike recoveries outside the control limits of 85-115%:

SAMPLE ID	ANALYTE	% RECOVERY
ELFB2	As/Tl	83/78.5
ELSW2	Tl	47
ELNW2	Pb/Tl	84.5/65
ELS1	As/Se/Tl	80.5/63/70.5
ELS2	As/Se/Tl	84.5/65/73.5

The reported data are qualified estimated.

DATA PACKAGE COMPLETENESS

The reported data for Se in sample ELFB2 was inadvertently flagged with "W" by the laboratory. The analytical spike recovery met the criteria and the "W" flag should be removed.

The analytical spike recovery for Pb in sample ELNW2 was (84.5%) below the 85% requirement limit. The sample result was not flagged with "W" by the laboratory.

SAMPLE RESULTS

Arsenic, lead, selenium, and thallium were analyzed by graphite furnace. Other elements were analyzed by ICP. Mercury was analyzed by automated cold vapor AA in soil Total sample analysis. The TCLP analysis was performed by ICP.

Arsenic in samples ELSW2 and ELNW2, lead in samples ELSW2, ELS1, ELS2, and ELS2D and Se in sample ELSW2 were analyzed by Method of Standard Addition. The linearity met the criteria of "r≥0.995".

SUMMARY

The total metal analysis was performed according to CLP protocol. The TCLP analysis was performed by SW846. The data package deliverables did not follow the CLP format for TCLP analysis. The reported non-detected values for antimony are rejected in TAL analysis, since the matrix spike recovery was below 30%. The reported data for As, Pb, Se, and Tl in total sample and Ag, Hg, and Se in TCLP sample analyses are qualified, since the matrix spike recoveries were below the 75%. Other minor problems have been discussed. The data are considered representative with the applied qualifier codes.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
INORGANIC ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:			ELFB2	ELSW2	ELNW2	ELSI	ELS2
Matrix:			WATER	SOIL	SOIL	SOIL	SOIL
% Solids:			--	48	59.9	71.6	78.4
Units:			ug/L	mg/kg	mg/kg	mg/kg	mg/kg
INORGANIC ELEMENTS		IDL (ug/L)					
Antimony	P	16		R	R	R	R
Arsenic	F	2.0	UJ	11.7 J	4 J	1.8 J	0.89 J
Barium	P	3.0		169	528	291	126
Beryllium	P	1.0		17.8	1.7	1.8	0.92
Cadmium	P	2.0		18			
Chromium	P	2.0		294	42.5	34.5	25.8
Cobalt	P	2.0		140	76	51.9	21.8
Copper	P	1.0		7320	335	232	59.4
Lead	F	2.0		390 J	99 J	111 J	5 J
Mercury	CV	0.1		8.56	4.23	0.83	
Nickel	P	4.0		1920	230	174	21.7
Selenium	F	2.0		UJ	UJ	0.69 J	UJ
Silver	P	2.0					
Thallium	F	2.0	UJ	UJ	UJ	UJ	UJ
Vanadium	P	2.0		3060	251	257	92.5
Zinc	P	3.0	12	4630	1060	433	56.6
Cyanide	C	5.0		1.27			

ROY F. WESTON, INC.
INORGANIC ANALYSES – DATA VALIDATION SUMMARY
TCLP ANALYSIS

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:			EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
			010	011	012	013
Matrix:			WATER	WATER	WATER	WATER
Units:			ug/L	ug/L	ug/L	ug/L
INORGANIC ELEMENTS		IDL (ug/L)				
Silver	P	10	UJ	UJ	UJ	UJ
Arsenic	P	100				
Barium	P	200	632	778	779	949
Cadmium	P	5.0				
Chromium	P	10				
Mercury	CV	0.2	1.4 J	UJ	UJ	UJ
Lead	P	90				
Selenium	P	100	UJ	UJ	UJ	UJ

ATTACHMENT III
FORM I's

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

ELFB2

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP994

Matrix (soil/water): WATER Lab Sample ID: 921299401

Level (low/med): LOW Date Received: 12/11/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	60.00	U		P
7440-38-2	Arsenic	2.00	U	W	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	7.00	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.00	U		P
7440-48-4	Cobalt	9.00	U		P
7440-50-8	Copper	8.00	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	2.00	U		F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.10	U		CV
7440-02-0	Nickel	20.00	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	10.00	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	2.00	U	W	F
7440-62-2	Vanadium	8.00	U		P
7440-66-6	Zinc	12.00	B		P
	Cyanide	10.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELSW2

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP994

Matrix (soil/water): SOIL Lab Sample ID: 921299402

Level (low/med): LOW Date Received: 12/11/92

% Solids: 48.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	23.00	U	N	P
7440-38-2	Arsenic	11.70		NS	F
7440-39-3	Barium	169.00			P
7440-41-7	Beryllium	17.80			P
7440-43-9	Cadmium	18.00			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	294.00			P
7440-48-4	Cobalt	140.00			P
7440-50-8	Copper	7320.00			P
7439-89-6	Iron				NR
7439-92-1	Lead	390.00		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	8.56			CV
7440-02-0	Nickel	1920.00			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.83	U	NS	F
7440-22-4	Silver	2.82	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.83	U	NW	F
7440-62-2	Vanadium	3060.00			P
7440-66-6	Zinc	4630.00			P
	Cyanide	1.27			C

Color Before: BROWN Clarity Before: Texture:

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELNW2

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP994

Matrix (soil/water): SOIL Lab Sample ID: 921299403

Level (low/med): LOW Date Received: 12/11/92

% Solids: 59.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	17.90	U	N	P
7440-38-2	Arsenic	4.00		NS	F
7440-39-3	Barium	528.00			P
7440-41-7	Beryllium	1.70			P
7440-43-9	Cadmium	1.26	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	42.50			P
7440-48-4	Cobalt	76.00			P
7440-50-8	Copper	335.00			P
7439-89-6	Iron				NR
7439-92-1	Lead	99.00		N W	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	4.23			CV
7440-02-0	Nickel	230.00			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.65	U	N	F
7440-22-4	Silver	2.20	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.65	U	NW	F
7440-62-2	Vanadium	251.00			P
7440-66-6	Zinc	1060.00			P
	Cyanide	1.25	U		C

Color Before: BROWN Clarity Before: Texture:

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELS1

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP994

Matrix (soil/water): SOIL Lab Sample ID: 921299404

Level (low/med): LOW Date Received: 12/11/92

% Solids: 71.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	15.70	U	N	P
7440-38-2	Arsenic	1.80	B	NW	F
7440-39-3	Barium	291.00			P
7440-41-7	Beryllium	1.80			P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	34.50			P
7440-48-4	Cobalt	51.90			P
7440-50-8	Copper	232.00			P
7439-89-6	Iron				NR
7439-92-1	Lead	111.00		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.83			CV
7440-02-0	Nickel	174.00			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.69	B	NW	F
7440-22-4	Silver	1.93	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.53	U	NW	F
7440-62-2	Vanadium	257.00			P
7440-66-6	Zinc	433.00			P
	Cyanide	1.34	U		C

Color Before: BROWN Clarity Before: Texture:

Color After: BROWN Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ELS2

Lab Name: ROY F. WESTON, INC - L372 Contract: 5784-01-01

Lab Code: WESTON Case No.: CORCO SAS No.: SDG No.: CLP994

Matrix (soil/water): SOIL Lab Sample ID: 921299405

Level (low/med): LOW Date Received: 12/11/92

% Solids: 78.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	14.50	U	N	P
7440-38-2	Arsenic	.89	B	NW	F
7440-39-3	Barium	126.00			P
7440-41-7	Beryllium	.92	B		P
7440-43-9	Cadmium	1.02	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	25.80			P
7440-48-4	Cobalt	21.80			P
7440-50-8	Copper	59.40			P
7439-89-6	Iron				NR
7439-92-1	Lead	5.00		SN	F
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	.06	U		CV
7440-02-0	Nickel	21.70			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	.51	U	WN	F
7440-22-4	Silver	1.79	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	.51	U	NW	F
7440-62-2	Vanadium	92.50			P
7440-66-6	Zinc	56.60			P
	Cyanide	1.06	U		C

Color Before: BROWN Clarity Before: Texture:

Color After: BROWN Clarity After: Artifacts:

Comments:

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/24/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L994

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-010	EL-SW-2	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	632		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	1.4		UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/24/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L994

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-011	EL-NW-2	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	778		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/24/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L994

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-012	EL-S-1	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	779		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

ROY F. WESTON INC.

INORGANIC DATA SUMMARY REPORT 01/24/93

CLIENT: CORCO
WORK ORDER: 05784-001-001-9999-00

WESTON BATCH #: 9212L994

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-013	EL-S-2	Silver, TCLP Leachate	10.0	u	UG/L	10.0
		Arsenic, TCLP Leachate	100	u	UG/L	100
		Barium, TCLP Leachate	949		UG/L	200
		Cadmium, TCLP Leachate	5.0	u	UG/L	5.0
		Chromium, TCLP Leachate	10.0	u	UG/L	10.0
		Mercury, TCLP Leachate	0.20	u	UG/L	0.20
		Lead, TCLP Leachate	90.0	u	UG/L	90.0
		Selenium, TCLP Leachate	100	u	UG/L	100

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
® 610-701-3000 • Fax 610-701-3186

DIOXIN/FURAN QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
DIOXIN/FURAN ANALYSIS
RFW #: 9212L982

OVERVIEW

This review consists of five sludge samples and one water sample collected on 12-8-92. The samples were received by Roy F. Weston, Inc., Lionville Laboratory on 12-10-92. The analyses were performed according to the criteria set forth in the USEPA Method 8280 (High Resolution Gas Chromatograph/Low Resolution Mass Spectrometer [HRGC/LRMS]) for total Tetra-to-Hexa Poly Chlorinated Dibenzo-P-Dioxin/Furan and specific 2,3,7,8- TCDD isomer. The samples contained in this review are listed below:

EL-NW-1	EL-SE-1
EL-NW-1 DUP	EL-NE-1
EL-SW-1	ELFB

The validation was performed according to criteria set forth in the Method 8280 and Weston SOPs. The data was evaluated based on the following parameters:

- * Data Completeness
- Technical Holding Times
- * GC/MS Instrument Performance Check
- Calibration (Initial and Continuing)
- * Blank Analyses
- Matrix Spike/Matrix Spike Duplicate
- Duplicate Precision
- Surrogate/Internal Standard Performance
- * Compound Identification
- * Compound Quantitations

* All criteria were met for this classification.

HOLDING TIME

The analysis of sample EL-SE-1RE exceeded the contractual holding time. The target compounds were not detected in the original and reanalysis samples. The original sample analysis is reported in the data summary.

CALIBRATION ANALYSIS

The %Ds for OCDD (30.7% and 30.2%) and OCDF (32.5% and 32.5%) were above the 30% requirement limit in the calibration standard analyzed on 1-14-93 and 1-15-93, respectively. The data are not impacted since these compounds were not considered as target compounds.

BLANK ANALYSES

The laboratory blank was free of target compounds. Also, the field blank was free of target compounds.

MATRIX SPIKE/SPIKE DUPLICATE ANALYSES

The matrix spike analyses were not analyzed for these samples. The blank spike recoveries were within the control limits of 50-150%.

LABORATORYDUPLICATE PRECISION

The laboratory duplicate analysis was not performed. One set of field duplicates (EL-NW-1/1D) was analyzed with this batch. The target compounds were not detected in these two samples.

INTERNAL STANDARD PERFORMANCE

The recovery for 13C-TCDD (141%) was above the upper requirement limit of 120% in sample EL-SE-1. This sample was reanalyzed. The internal standard recoveries were within the control limits in the reanalysis sample. The target compounds were not detected in this sample; therefore, the reported data are not impacted.

SUMMARY

The data package completeness is satisfactory. Major problems were not encountered during the sample analyses. The minor issues have been disscussed. The reported sample data are reported based on a wet weight basis; therfore, the actual reporting limits are highter than the reported detection limits. The reported data are considered representative.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

WESTON
MANAGERS DESIGNERS/CONSULTANTS

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

WESTON
MANAGERS DESIGNERS CONSULTANTS

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
DIOXIN/FURAN ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW#:	001	002	003	004	005	006
Matrix:	SLUDGE	SLUDGE	SLUDGE	SLUDGE	SLUDGE	WATER
Dilution Factor:	1	1	1	1	1	1
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ng/L
PCDD'S						
2,3,7,8-TCDD						
TCDD						
PeCDD						
HxCDD						
TCDF						
PeCDF						
HxCDF						

ATTACHMENT III
FORM I's

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L982 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 1

Sample Information									
Client ID:	EL-NW-1			EL-NW-1 DUP			EL-SW-1		
RFW#:	001			002			003		
D.F.:	1			1			1		
Matrix:	SLUDGE			SLUDGE			SLUDGE		
Units:	ug/kg			ug/kg			ug/kg		
C-13 TCDD RECOVERY:		93 %			83 %			87 %	
C-13 HXCDD RECOVERY:		79 %			76 %			75 %	
	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.1	U		0.3	U		0.1	U
TCDD.....		0.2	U		0.3	U		0.1	U
PeCDD.....		0.3	U		0.4	U		0.1	U
HxCDD.....		0.1	U		0.1	U		0.1	U
TCDF.....		0.2	U		0.3	U		0.1	U
PeCDF.....		0.2	U		0.2	U		0.1	U
HxCDF.....		0.1	U		0.1	U		0.1	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000006

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L982 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 2

Sample Information				
	Client ID:	EL-SE-1	EL-SE-1 REPREP	EL-NE-1
	RFW#:	004	004 R1	005
	D.F.:	1	1	1
	Matrix:	SLUDGE	SLUDGE	SLUDGE
	Units:	ug/kg	ug/kg	ug/kg
C-13 TCDD RECOVERY:		141* %	93 %	46 %
C-13 HXCDD RECOVERY:		50 %	88 %	50 %

	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.1	U		0.1	U		0.2	U
TCDD.....		0.1	U		0.1	U		0.3	U
PeCDD.....		0.3	U		0.1	U		0.5	U
HxCDD.....		0.6	U		0.1	U		0.2	U
TCDF.....		0.1	U		0.1	U		0.4	U
PeCDF.....		0.2	U		0.1	U		0.3	U
HxCDF.....		0.4	U		0.1	U		0.1	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000007

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L982 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 3

Sample Information									
Client ID:	ELFB			LABORATORY BLANK (92LS0127)			BLANK SPIKE (92LS0127)		
RFW#:	006			MB1			MB1S		
D.F.:	1			1			1		
Matrix:	WATER			WATER			WATER		
Units:	ng/L			ng/L			ng/L		
C-13 TCDD RECOVERY:	81 %			68 %			79 %		
C-13 HXCDD RECOVERY:	77 %			99 %			95 %		
	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.6	U		0.4	U	77%		
TCDD.....		0.7	U		0.4	U	SP		
PeCDD.....		1.6	U		0.6	U		0.3	U
HxCDD.....		0.7	U		0.4	U	96%		
TCDF.....		0.9	U		0.5	U	79%		
PeCDF.....		1.0	U		0.7	U		0.4	U
HxCDF.....		0.5	U		0.2	U	87%		

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L982 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 4

Sample Information									
	Client ID:	LABORATORY BLANK (92LS0130)			BLANK SPIKE (92LS0130)			LABORATORY BLANK (93LS0003)	
	RFW#:	MB1			MB1S			MB1	
	D.F.:	1			1			1	
	Matrix:	SLUDGE			SLUDGE			SLUDGE	
	Units:	ug/kg			ug/kg			ug/kg	
C-13 TCDD RECOVERY:		85 %			88 %			83 %	
C-13 HXCDD RECOVERY:		82 %			81 %			71 %	
	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.2	U	80%				0.1	U
TCDD.....		0.3	U	SP				0.1	U
PeCDD.....		0.6	U		0.5	U		0.1	U
HxCDD.....		0.3	U	85%				0.1	U
TCDF.....		0.3	U	80%				0.1	U
PeCDF.....		0.4	U		0.4	U		0.1	U
HxCDF.....		0.2	U	81%				0.1	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000009

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L982 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 5

Sample Information		
	Client ID:	BLANK SPIKE (93LS0003)
	RFW#:	MB1S
	D.F.:	1
	Matrix:	SLUDGE
	Units:	ug/kg

C-13 TCDD RECOVERY: 87 %
C-13 HXCDD RECOVERY: 78 %

	CONC	EDL	FL
2,3,7,8-TCDD.....	80%		
TCDD.....	SP		
PeCDD.....		0.1	U
HxCDD.....	100%		
TCDF.....	79%		
PeCDF.....		0.1	U
HxCDF.....	82%		

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000010

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

DIOXIN/FURAN ANALYSIS
CORCO
RFW #: 9212L994

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: Zohreh Hamid 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
DIOXIN/FURAN ANALYSIS
RFW #: 9212L994

OVERVIEW

This review consists of one water, three sludge, and one soil sample collected on 12-09-92. The samples were received by Roy F. Weston, Inc., Lionville Laboratory on 12-11-92. The analyses were performed according to the criteria set forth in the USEPA Method 8280 (High Resolution Gas Chromatograph/Low Resolution Mass Spectrometer [HRGC/LRMS]) for total Tetra-to-Hexa Poly Chlorinated Dibenzo-P-Dioxin/Furan and specific 2,3,7,8- TCDD isomer.

The samples contained in this review are listed below:

EL-FB-2	EL-S-1
EL-SW-2	EL-S-2
EL-NW-2	

The validation was performed according to criteria set forth in the Method 8280 and Weston SOPs. The data was evaluated based on the following parameters:

* • Data Completeness
• Technical Holding Times
* • GC/MS Instrument Performance Check
* • Calibration (Initial and Continuing)
• Blank Analyses
* • Matrix Spike/Matrix Spike Duplicate
• Duplicate Precision
• Surrogate/Internal Standard Performance
• Compound Identification
• Compound Quantitations

* All criteria were met for this classification.

HOLDING TIME

Due to the internal/surrogate outliers, samples EL-NW-2 and EL-S-1 were re-extracted and reanalyzed outside the holding time. Also, the matrix spike/spike duplicate analyses for sludge samples were performed outside the holding time. The reported sample results could be accepted unqualified, due to the nature of the compounds. The original analyses were reported on the data summary.

CALIBRATION ANALYSIS

The %Ds for OCDD (30.7%) and OCDF (32.5%) in the calibration standard analyzed on 01-14-93 were above the requirement limit of 30%. The data are not impacted since these compounds were not reported as target compounds.

BLANK ANALYSES

The laboratory blanks were free of target compounds. Also, the field blank was free of target compounds.

MATRIX SPIKE/SPIKE DUPLICATE ANALYSES

The matrix spike analyses were performed for both soil and sludge samples. The percent recoveries were within the control limits.

LABORATORYDUPLICATE PRECISION

The RPDs in the matrix spike/spike duplicate analyses were within the control limits. The field duplicate sample analysis was not performed for this batch.

SURROGATE/INTERNAL STANDARD PERFORMANCE

The following surrogate/internal standard recoveries were outside the control limits of 40-120%.

SAMPLE ID	COMPOUND ID	% RECOVERY
EL-NW-2	TCDD HxCDD	38 20

SAMPLE ID	COMPOUND ID	% RECOVERY
EL-NW-2RE	HxCDD	12
EL-NW-2MS	HxCDD	26
EL-NW-2MSD	TCDD HxCDD	4 5
EL-S-1	HxCDD	36
EL-S-1RE	TCDD	34

The reanalyses of the samples were performed outside the holding time. Therefore, the original sample analyses have been reported.

The reported sample data, which are quantified in reference to the internal standard outliers, are qualified estimated on the data summary.

COMPOUND IDENTIFICATION

The signal-to-noise ratio for HxCDD and HxCDF in sample EL-S-1 and PeCDF in sample EL-SW-2 did not meet the requirements. The reported sample results are considered estimated.

SUMMARY

The data package completeness was satisfactory. Major problems were not encountered during the sample analyses. The reported sample data are considered representative with the applied qualifier codes.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
DIOXIN/FURAN ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW#: 9212L944
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	EA01-RE-MW
RFW#:	001	002	003	004	005	006
Matrix:	WATER	SLUDGE	SLUDGE	SLUDGE	SOIL	WATER
Dilution Factor:	1	1	1	1	1	1
Units:	ng/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ng/L
PCDD'S						
2,3,7,8-TCDD			UJ			
TCDD			UJ			
PeCDD		1.6 J	UJ			
HxCDD		12	UJ	0.4 J		
TCDF			UJ			
PeCDF		0.4 J	UJ			
HxCDF		2.9	UJ	0.2 J		

ATTACHMENT III
FORM I's

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 1

Sample Information				
Client ID:		EL-FB-2	EL-SW-2	EL-NW-2
RFW#:		001	002	003
D.F.:		1	1	1
Matrix:		WATER	SLUDGE	SLUDGE
Units:		ng/L	ug/kg	ug/kg
C-13 TCDD RECOVERY:		85 %	79 %	38* %
C-13 HXCDD RECOVERY:		76 %	49 %	20* %

	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.3	U		0.1			0.1	U
TCDD.....		0.3	U		0.1			0.1	U
PeCDD.....		0.8	U	1.6		J		0.3	U
HxCDD.....		0.4	U	12				0.4	U
TCDF.....		0.4	U		0.1			0.1	U
PeCDF.....		0.5	U	0.4		SJ		0.3	U
HxCDF.....		0.2	U	2.9				0.2	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 2

Sample Information									
Client ID:	EL-NW-2 REPREP			EL-NW-2 MS			EL-NW-2 MSD		
RFW#:	003 R1			003S			003T		
D.F.:	1			1			1		
Matrix:	SLUDGE			SLUDGE			SLUDGE		
Units:	ug/kg			ug/kg			ug/kg		
C-13 TCDD RECOVERY:	54 %			57 %			4* %		
C-13 HXCDD RECOVERY:	12* %			26* %			5* %		
	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.1	U	80%			102%		
TCDD.....		0.1	U	SP			SP		
PeCDD.....		0.3	U		0.3	U		3.9	U
HxCDD.....		0.5	U	91%			61%		
TCDF.....		0.1	U	58%			57%		
PeCDF.....		0.2	U		0.2	U		2.9	U
HxCDF.....		0.4	U	121%			100%		

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000067

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 3

Sample Information									
Client ID:	EL-S-1			EL-S-1 REPREP			EL-S-2		
RFW#:	004			004 R1			005		
D.F.:	1			1			1		
Matrix:	SLUDGE			SLUDGE			SOIL		
Units:	ug/kg			ug/kg			ug/kg		
C-13 TCDD RECOVERY:	52 %			34* %			52 %		
C-13 HXCDD RECOVERY:	36* %			40 %			48 %		
	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.1			0.2	U		0.1	U
TCDD.....		0.1			0.3	U		0.1	U
PeCDD.....		0.2			1.0	U		0.1	U
HxCDD.....	0.4		SJ		1.6	U		0.1	U
TCDF.....		0.2			0.2	U		0.1	U
PeCDF.....		0.1			0.4	U		0.1	U
HxCDF.....	0.2		SJ		2.0	U		0.1	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 4

Sample Information				
Client ID:		EL-S-2 MS	EL-S-2 MSD	LABORATORY BLANK (92LS0127)
RFW#:		005S	005T	MB1
D.F.:		1	1	1
Matrix:		SOIL	SOIL	WATER
Units:		ug/kg	ug/kg	ng/L
C-13 TCDD RECOVERY:		86 %	80 %	68 %
C-13 HXCDD RECOVERY:		76 %	72 %	99 %

	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....	79%			82%				0.4	U
TCDD.....	SP			SP				0.4	U
PeCDD.....	0.1		SJ	0.1		SJ		0.6	U
HxCDD.....	102%			105%				0.4	U
TCDF.....	81%			71%				0.5	U
PeCDF.....		0.1	U		0.1	U		0.7	U
HxCDF.....	101%			113%				0.2	U

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 5

Sample Information			
Client ID:	BLANK SPIKE (92LS0127)	LABORATORY BLANK (92LS0130)	BLANK SPIKE (92LS0130)
RFW#:	MB1S	MB1	MB1S
D.F.:	1	1	1
Matrix:	WATER	SOIL	SOIL
Units:	ng/L	ug/kg	ug/kg
C-13 TCDD RECOVERY:	79 %	85 %	88 %
C-13 HXCDD RECOVERY:	95 %	82 %	81 %

	CONC	EDL	FL	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....	77%			0.2		U	80%		
TCDD.....	SP			0.3		U	SP		
PeCDD.....		0.3	U	0.6		U		0.5	U
HxCDD.....	96%			0.3		U	85%		
TCDF.....	79%			0.3		U	80%		
PeCDF.....		0.4	U	0.4		U		0.4	U
HxCDF.....	87%			0.2		U	81%		

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

000010

WESTON ANALYTICS
DIOXINS/FURANS DATA SUMMARY

RFW BATCH NUMBER: 9212L994 CLIENT: CORCO W.O.#: 05784-001-001-9999-00 PAGE: 6

Sample Information			
	Client ID:	LABORATORY BLANK (93LS0005)	BLANK SPIKE (93LS0005)
	RFW#:	MB1	MB1S
	D.F.:	1	1
	Matrix:	SLUDGE	SLUDGE
	Units:	ug/kg	ug/kg

C-13 TCDD RECOVERY:	57 %	81 %
C-13 HXCDD RECOVERY:	87 %	89 %

	CONC	EDL	FL	CONC	EDL	FL
2,3,7,8-TCDD.....		0.1	U	81%		
TCDD.....		0.1	U	SP		
PeCDD.....		0.2	U		0.1	U
HxCDD.....		0.1	U	96%		
TCDF.....		0.1	U	55%		
PeCDF.....		0.2	U		0.1	U
HxCDF.....		0.1	U	83%		

CONC = CONCENTRATION
EDL = ESTIMATED DETECTION LIMIT
FL = FLAG
ND = NONE DETECTED
NA = NOT APPLICABLE

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

TCLP ORGANIC QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
TCLP ORGANIC ANALYSIS
RFW #: 9212L982

INTRODUCTION

This quality assurance review is based upon a review of all data generated from five water sample collected on 12-08-92. The samples were analyzed according to criteria set forth in the SW846 for TCLP Volatile, Semivolatile and Pesticide/PCB target compounds by Roy F. Weston, Inc., Lionville Laboratory.

This review has been performed in accordance with the confirmation method. The reported analytical results are presented as a summary of the data in Attachment II. All of the analytical data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the analytical requirements and deliverables specified in the SW846 Method.

All data have been validated with regard to usability according to the quality assurance set forth in USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. If you have any questions or comments on this data review, please call Zohreh Hamid at (610) 701-3745.

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a review of the following criteria:

- Data Completeness
- Holding Time
- GC/MS Tuning
- Calibration
- Blanks
- Surrogate Recoveries
- Matrix Spike/Spike Duplicate/Blank Spike
- Internal Standard
- Instrument Performance
- Field Duplicate Results
- Compound Identification
- Compound Quantitation

VOLATILE ANALYSIS - METHOD 8240

The field samples and the corresponding QC samples were analyzed at 10-fold dilutions. The target compounds were not detected in the samples. "The possibility of false negatives exist". However, since all surrogate and matrix spike recoveries were within the control limits, the data are accepted unqualified.

The sample chromatogram showed a very intensive peak at RT=1-3. This peak obscured the possible existence of vinyl chloride in the samples. This compound was not detected in any samples; therefore, the reported non-detected values are qualified estimated.

The response factors (RRFs) for 2-butanone in initial and continuing calibrations were below the "0.05"data validation requirement limit. Also, the %RSD for this compound exceeded 30% in initial calibration analysis. This analyte was not detected in samples. The reported non-detected values can be accepted with the qualifier code (UJ), since the RRFs were above "0.01 ng" in the initial and continuing calibrations.

The target compounds were not detected in the samples at levels above the corresponding CRQLs.

SEMIVOLATILE ANALYSIS - METHOD 8270

The samples were analyzed for specific TCLP semivolatile target compounds. These compounds were not detected at levels ≥ CRQLs in any samples.

The chromatogram started at scan number = 400. Pyridine's scan number "approximately 290-294" was beyond the started scan number. Pyridine was not reported in the samples. The reported data could not be verified. Therefore the non-detected values are considered estimated.

PESTICIDE ANALYSIS - METHOD 8080

The leachate samples were analyzed based on Method 8080 for TCLP pesticide target compounds. The target compounds were not detected in the samples at levels ≥CRQLs.

The %RSDs for Aldrin (12.6%) and DDT (18.6%) in the primary analysis and all compounds in secondary analysis were above 10%. The standard curve was determined and reported. The data are not impacted since the target compounds were not detected in the samples.

The percent difference (%D) for Endrin (15.6%) exceeded the requirement limit of 15% on primary column analysis. This compound was not detected in the samples. Therefore, the data are not impacted.

The matrix spike duplicate analysis was not analyzed for this batch. However, the matrix spike and blank spike have been analyzed and were within the control limits.

CHLORINATED PHENOXY ACID HERBICIDE - METHOD 8150

Samples were analyzed within the holding time. The surrogate and matrix spike recoveries were not reported on Form II and Form III, respectively. The information was found on the data summary. The matrix spike duplicate analysis was not performed. The target analytes were not detected in the samples. The calibration standard analysis was within the control limits. The data are satisfactory.

SUMMARY

The data package completeness was satisfactory. Major problems were not encountered during the sample analyses. All surrogate and matrix spike recoveries met the requirement limits established by the laboratory for TCLP analyses. The internal standard recoveries in VOA and BNA analyses met the requirement limits. The volatile samples were diluted prior to the analysis. Therefore, the reported quantitation limits are elevated. Also, the sample quantitation limits in semivolatile fraction are elevated, since approximately 100 ml of the sample were analyzed. The other minor issues have been discussed.

The reported sample data are considered representative with the applied qualifier codes.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Organic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Kelly Spittler or Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS. [Substantially is equivalent to a result less than 10 times the blank level for common contaminants (methylene chloride, acetone and 2-butanone in the VOA analyses, and common phthalates in the BNA analyses, along with tentatively identified compounds) or less than 5 times the blank level for other target compounds.]

R = UNUSABLE RESULT. THE PRESENCE OR ABSENCE OF THIS ANALYTE CANNOT BE VERIFIED. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND. THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE WAS POSITIVELY IDENTIFIED. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = ANALYTE WAS NOT DETECTED ABOVE THE CRQL. THE REPORTED QUANTITATION LIMIT IS QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
TCLP VOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1
RFW #:	012	013	014	015	016
Matrix:	WATER	WATER	WATER	WATER	WATER
Dilution Factor:	10.0	10.0	10.0	10.0	10.0
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
COMPOUND					
Vinyl Chloride	UJ	UJ	UJ	UJ	UJ
1,1-Dichloroethene					
Chloroform					
1,2-Dichloroethane					
2-Butanone	UJ	UJ	UJ	UJ	UJ
Carbon Tetrachloride					
Trichloroethene					
Benzene					
Tetrachloroethene					
Chlorobenzene					

ROY F. WESTON, INC.
TCLP SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	WL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1
RFW #:	017	018	019	020	021
Matrix:	WATER	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
COMPOUND					
Pyridine	UJ	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene					
2-Methylphenol					
4-Methylphenol					
Hexachloroethane					
Nitrobenzene					
Hexachlorobutadiene					
2,4,6-Trichlorophenol					
2,4,5-Trichlorophenol					
2,4-Dinitrotoluene					
Hexachlorobenzene					
Pentachlorophenol					

ROY F. WESTON, INC.
TCLP PESTICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1
RFW #:	017	018	019	020	021
Matrix:	WATER	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
COMPOUND					
Heptachlor					
alpha-Chlordane					
gamma-Chlordane					
gamma-BHC (Lindane)					
Endrin					
Methoxychlor					
Toxaphene					
Heptachlor Epoxide					

ROY F. WESTON, INC.
TCLP HERBICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL–NW–1	EL–NW–1 DUP	EL–SW–1	EL–SE–1	EL–NE–1
RFW #:	017	018	019	020	021
Matrix:	WATER	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
COMPOUND					
2,4–D					
2,4,5–TP (Silvex)					
2,4,5–T					

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, TCLP Leachate

Report Date: 01/06/93 14:05

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a

	Cust ID:	EL-NW-1		EL-NW-1		EL-NW-1		EL-NW-1 DUP		EL-SW-1		EL-SE-1	
Sample Information	RFW#:	012		012 MS		012 MSD		013		014		015	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	10.0		10.0		10.0		10.0		10.0		10.0	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	106	%	97	%	95	%	107	%	104	%	106	%
	Bromofluorobenzene	104	%	99	%	98	%	106	%	105	%	105	%
	1,2-Dichloroethane-d4	108	%	106	%	108	%	108	%	107	%	109	%
		fl		fl		fl		fl		fl		fl	
Vinyl Chloride		100	U	121	%	114	%	100	U	100	U	100	U
1,1-Dichloroethene		50	U	106	%	104	%	50	U	50	U	50	U
Chloroform		50	U	111	%	109	%	50	U	50	U	50	U
1,2-Dichloroethane		50	U	120	%	120	%	50	U	50	U	50	U
2-Butanone		100	U	102	%	94	%	100	U	100	U	100	U
Carbon Tetrachloride		50	U	117	%	114	%	50	U	50	U	50	U
Trichloroethene		50	U	104	%	101	%	50	U	50	U	50	U
Benzene		50	U	108	%	107	%	50	U	50	U	50	U
Tetrachloroethene		50	U	106	%	102	%	50	U	50	U	50	U
Chlorobenzene		50	U	106	%	105	%	50	U	50	U	50	U

*= Outside of EPA CLP QC limits.

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, TCLP Leachate

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 2a Report Date: 01/06/93 14:05

	Cust ID:	EL-NE-1		VBLK		VBLK		LCHBLK	
Sample Information	RFW#:	016		92LVK228-MB1		92LVK229-MB1		92LTV069-LB1	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	10.0		1.00		1.00		10.0	
	Units:	ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	105	%	104	%	97	%	103	%
	Bromofluorobenzene	108	%	106	%	97	%	102	%
	1,2-Dichloroethane-d4	110	%	105	%	94	%	100	%
Vinyl Chloride		100	U	10	U	10	U	100	U
1,1-Dichloroethene		50	U	5	U	5	U	50	U
Chloroform		50	U	5	U	5	U	50	U
1,2-Dichloroethane		50	U	5	U	5	U	50	U
2-Butanone		100	U	10	U	10	U	100	U
Carbon Tetrachloride		50	U	5	U	5	U	50	U
Trichloroethene		50	U	5	U	5	U	50	U
Benzene		50	U	5	U	5	U	50	U
Tetrachloroethene		50	U	5	U	5	U	50	U
Chlorobenzene		50	U	5	U	5	U	50	U

*= Outside of EPA CLP QC limits.

000007

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 12/31/92 14:45

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a

	Cust ID:	WL-NW-1		WL-NW-1		WL-NW-1		EL-NW-1 DUP		EL-SW-1		EL-SE-1	
Sample Information	RFW#:	017		017 MS		017 MSD		018		019		020	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	80	%	79	%	73	%	65	%	84	%	60	%
	2-Fluorobiphenyl	78	%	72	%	65	%	63	%	87	%	56	%
	p-Terphenyl-d14	88	%	85	%	91	%	93	%	70	%	64	%
	Phenol-d5	51	%	46	%	43	%	38	%	41	%	27	%
	2-Fluorophenol	70	%	61	%	59	%	54	%	57	%	41	%
	2,4,6-Tribromophenol	96	%	89	%	87	%	99	%	95	%	85	%
			fl		fl		fl		fl		fl		fl
Pyridine		100	U	56	%	47	%	100	U	100	U	100	U
1,4-Dichlorobenzene		100	U	68	%	63	%	100	U	100	U	100	U
2-Methylphenol		100	U	63	%	61	%	100	U	100	U	100	U
3- and/or 4-Methylphenol		100	U	56	%	54	%	100	U	100	U	100	U
Hexachloroethane		100	U	66	%	63	%	100	U	100	U	100	U
Nitrobenzene		100	U	78	%	74	%	100	U	100	U	100	U
Hexachlorobutadiene		100	U	70	%	66	%	100	U	100	U	100	U
2,4,6-Trichlorophenol		100	U	71	%	72	%	100	U	100	U	100	U
2,4,5-Trichlorophenol		500	U	74	%	77	%	500	U	500	U	500	U
2,4-Dinitrotoluene		100	U	82	%	81	%	100	U	100	U	100	U
Hexachlorobenzene		100	U	113	%	110	%	100	U	100	U	100	U
Pentachlorophenol		500	U	63	%	88	%	500	U	500	U	500	U

*= Outside of EPA CLP QC limits.

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 12/31/92 14:45

RFW Batch Number: 9212L982 Client: CORCO Work Order: 5784-01-01-9999 Page: 2a

	Cust ID:	EL-NE-1		SBLK		SBLK BS		LCHBLK	
Sample Information	RFW#:	021		92LE2106-MB1		92LE2106-MB1		92LTO126-LB1	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	94	%	72	%	83	%	64	%
	2-Fluorobiphenyl	88	%	71	%	79	%	64	%
	p-Terphenyl-d14	85	%	96	%	99	%	92	%
	Phenol-d5	41	%	36	%	49	%	34	%
	2-Fluorophenol	55	%	55	%	66	%	45	%
	2,4,6-Tribromophenol	91	%	100	%	107	%	80	%
Pyridine		100	U	10	U	51	%	100	U
1,4-Dichlorobenzene		100	U	10	U	73	%	100	U
2-Methylphenol		100	U	10	U	75	%	100	U
3- and/or 4-Methylphenol		100	U	10	U	71	%	100	U
Hexachloroethane		100	U	10	U	69	%	100	U
Nitrobenzene		100	U	10	U	85	%	100	U
Hexachlorobutadiene		100	U	10	U	75	%	100	U
2,4,6-Trichlorophenol		100	U	10	U	80	%	100	U
2,4,5-Trichlorophenol		500	U	50	U	84	%	500	U
2,4-Dinitrotoluene		100	U	10	U	79	%	100	U
Hexachlorobenzene		100	U	10	U	122	%	100	U
Pentachlorophenol		500	U	50	U	80	%	500	U

*= Outside of EPA CLP QC limits.

000007

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000015

CLIENT SAMPLE NO.

EL-NW-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-017

Sample wt/vol: 440 (g/mL) ML

Lab File ID: 12289213.83

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 12/30/92

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
76-44-8	Heptachlor	0.11	U
5103-71-9	alpha-Chlordane	1.1	U
5103-74-2	gamma-Chlordane	1.1	U
58-89-9	gamma-BHC (Lindane)	0.11	U
72-20-8	Endrin	0.23	U
72-43-5	Methoxychlor	1.1	U
8001-35-2	Toxaphene	2.3	U
1024-57-3	Heptachlor Epoxide	0.11	U

DR 1/12/93

FORM 1 PEST 12/88 Rev.

0000020

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-NW-1 DUP

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER Lab Sample ID: 9212L982-018

Sample wt/vol: 440 (g/mL) ML Lab File ID: 12289213.85

Level: (low/med) LOW Date Received: 12/10/92

% Moisture: not dec. _____ dec. Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/30/92

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
76-44-8	Heptachlor	0.11	U
5103-71-9	alpha-Chlordane	1.1	U
5103-74-2	gamma-Chlordane	1.1	U
58-89-9	gamma-BHC (Lindane)	0.11	U
72-20-8	Endrin	0.23	U
72-43-5	Methoxychlor	1.1	U
8001-35-2	Toxaphene	2.3	U
1024-57-3	Heptachlor Epoxide	0.11	U

DR 1/12/93

FORM 1 PEST 12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET 0000025 CLIENT SAMPLE NO.

EL-SW-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER Lab Sample ID: 9212L982-019

Sample wt/vol: 440 (g/mL) ML Lab File ID: 12289213.88

Level: (low/med) LOW Date Received: 12/10/92

% Moisture: not dec. _____ dec. Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/30/92

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
76-44-8	Heptachlor	0.11	U
5103-71-9	alpha-Chlordane	1.1	U
5103-74-2	gamma-Chlordane	1.1	U
58-89-9	gamma-BHC (Lindane)	0.11	U
72-20-8	Endrin	0.23	U
72-43-5	Methoxychlor	1.1	U
8001-35-2	Toxaphene	2.3	U
1024-57-3	Heptachlor Epoxide	0.11	U

DR 1/12/93

FORM 1 PEST 12/88 Rev.

30

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-SE-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER Lab Sample ID: 9212L982-020

Sample wt/vol: 425 (g/mL) ML Lab File ID: 12289213.89

Level: (low/med) LOW Date Received: 12/10/92

% Moisture: not dec. _____ dec. Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/30/92

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	
76-44-8	Heptachlor	0.12	U
5103-71-9	alpha-Chlordane	1.2	U
5103-74-2	gamma-Chlordane	1.2	U
58-89-9	gamma-BHC (Lindane)	0.12	U
72-20-8	Endrin	0.24	U
72-43-5	Methoxychlor	1.2	U
8001-35-2	Toxaphene	2.4	U
1024-57-3	Heptachlor Epoxide	0.12	U

DR 1/12/93

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET

0000035 CLIENT SAMPLE NO.

EL-NE-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER Lab Sample ID: 9212L982-021

Sample wt/vol: 400 (g/mL) ML Lab File ID: 12289213.90

Level: (low/med) LOW Date Received: 12/10/92

% Moisture: not dec. _____ dec. Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 12/30/92

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
76-44-8	Heptachlor	0.12	U
5103-71-9	alpha-Chlordane	1.2	U
5103-74-2	gamma-Chlordane	1.2	U
58-89-9	gamma-BHC (Lindane)	0.12	U
72-20-8	Endrin	0.25	U
72-43-5	Methoxychlor	1.2	U
8001-35-2	Toxaphene	2.5	U
1024-57-3	Heptachlor Epoxide	0.12	U

DR 1/12/93

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-NW-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-017

Sample wt/vol: 100 (g/mL) ML

Lab File ID: 01109328.49

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 01/11/93

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
94-75-7	2,4-D	10	U
93-72-1	2,4,5-TP (Silvex)	5.0	U
93-76-5	2,4,5-T	5.0	U

DS 1-18-93

FORM 1 PEST 12/88 Rev.

0000020

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-NW-1 DUP

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-018

Sample wt/vol: 100 (g/mL) ML

Lab File ID: 01109328.51

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 01/11/93

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
94-75-7	2,4-D	10	U
93-72-1	2,4,5-TP (Silvex)	5.0	U
93-76-5	2,4,5-T	5.0	U

BS 2-8-93

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-SW-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-019

Sample wt/vol: 100 (g/mL) ML

Lab File ID: 01109328.52

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 01/11/93

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
94-75-7	2,4-D	10	U
93-72-1	2,4,5-TP (Silvex)	5.0	U
93-76-5	2,4,5-T	5.0	U

DS 2-8-93

FORM 1 PEST 12/88 Rev.

1D

PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-SE-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-020

Sample wt/vol: 100 (g/mL) ML

Lab File ID: 01109328.53

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 01/11/93

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
94-75-7	2,4-D	10	U
93-72-1	2,4,5-TP (Silvex)	5.0	U
93-76-5	2,4,5-T	5.0	U

DS 2-8-93

FORM 1 PEST 12/88 Rev.

1D
PESTICIDE ORGANICS ANALYSIS SHEET

CLIENT SAMPLE NO.

EL-NE-1

Lab Name: Roy F. Weston, Inc. Work Order: 5784-01-01-9999

Client: CORCO

Matrix: WATER

Lab Sample ID: 9212L982-021

Sample wt/vol: 100 (g/mL) ML

Lab File ID: 01109328.54

Level: (low/med) LOW

Date Received: 12/10/92

% Moisture: not dec. _____ dec.

Date Extracted: 12/17/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 01/11/93

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
94-75-7	2,4-D	10	U
93-72-1	2,4,5-TP (Silvex)	5.0	U
93-76-5	2,4,5-T	5.0	U

2-8-93

FORM 1 PEST 12/88 Rev.

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
® 610-701-3000 • Fax 610-701-3186

TCLP ORGANIC QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L994

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94
Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

WESTON

CORCO
ORGANIC TCLP ANALYSES
RFW #: 9212L994

INTRODUCTION

This quality assurance review is based upon a review of all data generated from four leachate samples collected on 12-09-92. The samples were analyzed according to criteria set forth in SW846 for TCLP Volatile, Semivolatile, Pesticide/PCB, and Herbicide target compounds by Roy F. Weston, Inc. Lionville Laboratory

This review has been performed in accordance with the confirmation method. The reported analytical results are presented as a summary of the data in Attachment II. All of the analytical data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the analytical requirements and deliverables specified in the SW846 Method.

All data have been validated with regard to usability according to the quality assurance set forth in USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. If you have any questions or comments on this data review, please call Zohreh Hamid at (610) 701-3745.

QUALITY ASSURANCE REVIEW

The findings offered in this report are based upon a review of the following criteria:

- Data Completeness
- Holding Time
- GC/MS Tuning
- Calibration
- Blanks
- Surrogate Recoveries
- Matrix Spike/Spike Duplicate/Blank Spike
- Internal Standard
- Instrument Performance
- Field Duplicate Results
- Compound Identification
- Compound Quantitation

VOLATILE ANALYSIS - METHOD 8240

The field samples and the corresponding QC samples were analyzed at 10-fold dilutions. The target compounds were not detected in the samples, with the exception of benzene in samples EL-SW-2.

The sample chromatogram showed a very intensive peak at RT=1-3. This peak obscured the possible existence of vinyl chloride in the samples. This compound was not detected in any samples; therefore, the reported non-detected values are qualified estimated.

The response factors (RRFs) for 2-butanone in initial and continuing calibrations were below the data validation requirement limits of 0.05. Also, the %RSD for this compound exceeded 30% in initial calibration analysis performed on 12-24-92. This analyte was not detected in samples. The reported non-detected values can be accepted with the qualifier code (UJ) since the RRFs were above "0.01 ng" in initial and continuing calibrations. Affected samples: EL-SW-2DL and EL-S-1.

The surrogate recovery for toluene-d_8 (114%) exceeded the upper control limit in sample EL-SW-2. This sample was reanalyzed. The recoveries met the criteria in the reanalysis sample. The target compounds, with the exception of benzene, were not detected in the samples. Therefore, the data are accepted unqualified.

The target compounds were not detected in the samples at levels above the corresponding CRQLs, with the exception of benzene. This compound was detected in sample EL-SW-2 at a level above the calibration range. The sample was reanalyzed at a 50-fold dilution for this compound and reported.

SEMIVOLATILE ANALYSIS - METHOD 8270

The samples were analyzed for specific TCLP semivolatile target compounds. These compounds were not detected at levels ≥ CRQLs in any samples.

All samples were extracted outside the holding time. The reported sample data are qualified estimated.

The chromatograms started at scan number = 400. Pyridine's scan number "approximately 290-294" was beyond the started scan number. This compound was not reported in the samples. The reported data could not be verified. Therefore the non-detected values are considered estimated.

The %Ds for pyridine (29.3% and 28.4%) were above the 25% data validation requirement limit in calibration standards analyzed on 1-6-93 and 1-7-93, respectively. This compound was not detected in the samples; therefore, the data are not impacted based on these outliers.

PESTICIDE ANALYSIS - METHOD 8080

The leachate samples were analyzed based on Method 8080 for TCLP pesticide target compounds. The target compounds were not detected at levels ≥CRQLs.

The %RSDs for Aldrin (18.1%) and DDT (26.6%) in the secondary analysis were above 10%. The data are not impacted since the target compounds were not detected in the samples, and also, the RSD criteria met the requirements in the primary column.

The percent difference (%D) for Endrin (20.9%) and 4,4-DDT (19.3%) exceeded the requirement limit of 15% on primary column analysis. Endrin was not detected in the samples and DDT is not reported as a target compound. Therefore, the data are not impacted.

The matrix spike duplicate analysis was not analyzed for this batch. However, the blank spike duplicate has been analyzed.

TCLP CHLORINATED PHENOXY ACID HERBICIDE - METHOD 8150

Forms II and III were not provided in this data package. Per the laboratory's case narrative and the data summary, the spike and surrogate recoveries were within the laboratory's control limits.

%RSDs were not provided for the 5 point initial calibration. The reported %Ds in the continuing calibrations were within the criteria. The laboratory should have supplied the missing initial calibration information, however, no action is required on this basis.

SUMMARY

The data package completeness was satisfactory. Major problems were not encountered during the sample analyses. All surrogate and matrix spike recoveries met the requirement limits established by the laboratory for the TCLP analysis, with the exception of toluene in one sample. The internal standard recoveries in VOA and BNA analysis met the requirement limits. The volatile samples were diluted prior to the analysis. Therefore, the reported quantitation limits are elevated. Also, the sample quantitation limits in the semivolatile fraction are elevated, since approximately 100 ml of the sample were analyzed. The extraction holding time exceeded the requirement limits in semivolatile analysis. The non-detected values are considered estimated. The minor issues have been discussed.

The reported sample data are considered representative with the applied qualifier codes.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Organic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Kelly Spittler or Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS. [Substantially is equivalent to a result less than 10 times the blank level for common contaminants (methylene chloride, acetone and 2-butanone in the VOA analyses, and common phthalates in the BNA analyses, along with tentatively identified compounds) or less than 5 times the blank level for other target compounds.]

R = UNUSABLE RESULT. THE PRESENCE OR ABSENCE OF THIS ANALYTE CANNOT BE VERIFIED. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND. THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE WAS POSITIVELY IDENTIFIED. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = ANALYTE WAS NOT DETECTED ABOVE THE CRQL. THE REPORTED QUANTITATION LIMIT IS QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
TCLP VOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	014	015	016	017
Matrix:	WATER	WATER	WATER	WATER
Dilution Factor:	10.0/50*	10.0	10.0	10.0
Units:	ug/L	ug/L	ug/L	ug/L
COMPOUND				
Vinyl Chloride	UJ	UJ	UJ	UJ
1,1-Dichloroethene				
Chloroform				
1,2-Dichloroethane				
2-Butanone	UJ	UJ	UJ	UJ
Carbon Tetrachloride				
Trichloroethene				
Benzene	4400 *			
Tetrachloroethene				
Chlorobenzene				

* The result is listed from 50-fold dilution.

ROY F. WESTON, INC.
TCLP SEMIVOLATILE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	010	011	012	013
Matrix:	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L
COMPOUND				
Pyridine	UJ	UJ	UJ	UJ
1,4-Dichlorobenzene	UJ	UJ	UJ	UJ
2-Methylphenol	UJ	UJ	UJ	UJ
4-Methylphenol	UJ	UJ	UJ	UJ
Hexachloroethane	UJ	UJ	UJ	UJ
Nitrobenzene	UJ	UJ	UJ	UJ
Hexachlorobutadiene	UJ	UJ	UJ	UJ
2,4,6-Trichlorophenol	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	UJ	UJ	UJ	UJ
2,4-Dinitrotoluene	UJ	UJ	UJ	UJ
Hexachlorobenzene	UJ	UJ	UJ	UJ
Pentachlorophenol	UJ	UJ	UJ	UJ

ROY F. WESTON, INC.
TCLP PESTICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	010	011	012	013
Matrix:	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L
COMPOUND				
Heptachlor				
alpha-Chlordane				
gamma-Chlordane				
gamma-BHC (Lindane)				
Endrin				
Methoxychlor				
Toxaphene				
Heptachlor Epoxide				

ROY F. WESTON, INC.
TCLP HERBICIDE ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	010	011	012	013
Matrix:	WATER	WATER	WATER	WATER
Dilution Factor:	1.0	1.0	1.0	1.0
Units:	ug/L	ug/L	ug/L	ug/L
COMPOUND				
2,4-D				
2,4,5-TP (Silvex)				
2,4,5-T				

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. - Lionville Laboratory
Volatiles by GC/MS, TCLP Leachate

Report Date: 01/07/93 10:33

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a

	Cust ID:	EL-SW-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	VBLK
Sample Information	RFW#:	014	014 DL	015	016	017	92LVX236-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	10.0	50.0	10.0	10.0	10.0	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	114 * %	98 %	106 %	97 %	108 %	103 %
	Bromofluorobenzene	114 %	101 %	103 %	97 %	104 %	96 %
	1,2-Dichloroethane-d4	102 %	101 %	100 %	98 %	103 %	96 %
Vinyl Chloride		100 U	NA	100 U	100 U	100 U	10 U
1,1-Dichloroethene		50 U	NA	50 U	50 U	50 U	5 U
Chloroform		50 U	NA	50 U	50 U	50 U	5 U
1,2-Dichloroethane		50 U	NA	50 U	50 U	50 U	5 U
2-Butanone		100 U	NA	100 U	100 U	100 U	10 U
Carbon Tetrachloride		50 U	NA	50 U	50 U	50 U	5 U
Trichloroethene		50 U	NA	50 U	50 U	50 U	5 U
Benzene		E	4400	50 U	50 U	50 U	5 U
Tetrachloroethene		50 U	NA	50 U	50 U	50 U	5 U
Chlorobenzene		50 U	NA	50 U	50 U	50 U	5 U

*= Outside of EPA CLP QC limits.

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 01/07/93 16:45

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1a

	Cust ID:	EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2		EL-S-2	
Sample Information	RFW#:	010		011		012		013		013 MS		013 MSD	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	82	%	78	%	86	%	70	%	81	%	88	%
	2-Fluorobiphenyl	87	%	81	%	87	%	72	%	78	%	84	%
	p-Terphenyl-d14	96	%	96	%	98	%	92	%	101	%	106	%
	Phenol-d5	39	%	35	%	39	%	12	%	25	%	31	%
	2-Fluorophenol	54	%	55	%	60	%	21	%	39	%	45	%
	2,4,6-Tribromophenol	103	%	99	%	105	%	57	%	67	%	71	%
Pyridine		100	U	100	U	100	U	100	U	61	%	67	%
1,4-Dichlorobenzene		100	U	100	U	100	U	100	U	75	%	82	%
2-Methylphenol		100	U	100	U	100	U	100	U	37	%	52	%
3- and/or 4-Methylphenol		100	U	100	U	100	U	100	U	30	%	42	%
Hexachloroethane		100	U	100	U	100	U	100	U	69	%	75	%
Nitrobenzene		100	U	100	U	100	U	100	U	86	%	92	%
Hexachlorobutadiene		100	U	100	U	100	U	100	U	79	%	84	%
2,4,6-Trichlorophenol		100	U	100	U	100	U	100	U	53	%	58	%
2,4,5-Trichlorophenol		500	U	500	U	500	U	500	U	61	%	65	%
2,4-Dinitrotoluene		100	U	100	U	100	U	100	U	84	%	95	%
Hexachlorobenzene		100	U	100	U	100	U	100	U	107	%	111	%
Pentachlorophenol		500	U	500	U	500	U	500	U	36	%	23	%

*= Outside of EPA CLP QC limits.

000010

Roy F. Weston, Inc. - Lionville Laboratory
Semivolatiles by GC/MS, TCLP Leachate

Report Date: 01/07/93 16:45

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 2a

	Cust ID:	SBLK		SBLK BS		LCHBLK	
Sample Information	RFW#:	92LE2143-MB1		92LE2143-MB1		92LTO127-LB1	
	Matrix:	WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L	
Surrogate Recovery	Nitrobenzene-d5	75	%	73	%	71	%
	2-Fluorobiphenyl	79	%	72	%	69	%
	p-Terphenyl-d14	84	%	83	%	77	%
	Phenol-d5	34	%	38	%	30	%
	2-Fluorophenol	52	%	59	%	52	%
	2,4,6-Tribromophenol	88	%	87	%	79	%
Pyridine		10	U	54	%	100	U
1,4-Dichlorobenzene		10	U	64	%	100	U
2-Methylphenol		10	U	71	%	100	U
3- and/or 4-Methylphenol		10	U	68	%	100	U
Hexachloroethane		10	U	59	%	100	U
Nitrobenzene		10	U	76	%	100	U
Hexachlorobutadiene		10	U	65	%	100	U
2,4,6-Trichlorophenol		10	U	70	%	100	U
2,4,5-Trichlorophenol		50	U	75	%	500	U
2,4-Dinitrotoluene		10	U	74	%	100	U
Hexachlorobenzene		10	U	106	%	100	U
Pentachlorophenol		50	U	63	%	500	U

*= Outside of EPA CLP QC limits.

000007

Roy F. Weston, Inc. - Lionville Laboratory
Pesticide by GC, TCLP Leachate

Report Date: 01/12/93 16:02

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-SW-2		EL-NW-2		EL-S-1		EL-S-2		EL-S-2		PBLK	
Sample Information	RFW#:	010		011		012		013		013 MS		92LE2119-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate: Di-n-butylchlorendate		85	%	90	%	78	%	99	%	86	%	99	%
Heptachlor		0.14	U	0.12	U	0.10	U	0.11	U	75	%	0.10	U
alpha-Chlordane		1.4	U	1.2	U	1.0	U	1.1	U	70	%	1.0	U
gamma-Chlordane		1.4	U	1.2	U	1.0	U	1.1	U	85	%	1.0	U
gamma-BHC (Lindane)		0.14	U	0.12	U	0.10	U	0.11	U	110	%	0.10	U
Endrin		0.27	U	0.24	U	0.20	U	0.23	U	90	%	0.20	U
Methoxychlor		1.4	U	1.2	U	1.0	U	1.1	U	79	%	1.0	U
Toxaphene		2.7	U	2.4	U	2.0	U	2.3	U	2.2	U	2.0	U
Heptachlor Epoxide		0.14	U	0.12	U	0.10	U	0.11	U	80	%	0.10	U

	Cust ID:	PBLK BS		LCHBLK	
Sample Information	RFW#:	92LE2119-MB1		92LTO127-LB1	
	Matrix:	WATER		WATER	
	D.F.:	1.00		1.00	
	Units:	ug/L		ug/L	
Surrogate: Di-n-butylchlorendate		91	%	95	%
Heptachlor		85	%	0.10	U
alpha-Chlordane		80	%	1.0	U
gamma-Chlordane		95	%	1.0	U
gamma-BHC (Lindane)		80	%	0.10	U
Endrin		85	%	0.20	U
Methoxychlor		84	%	1.0	U
Toxaphene		2.0	U	2.0	U
Heptachlor Epoxide		95	%	0.10	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
HERBICIDES BY GC, TCLP LEACHATE

Report Date: 01/18/93 10:44

RFW Batch Number: 9212L994 Client: CORCO Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	EL-S-2	PBLK
Sample Information	RFW#:	010	011	012	013	013 MS	92LE2118-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate:	2,6-D	97 %	101 %	97 %	93 %	97 %	96 %
2,4-D		10 U	10 U	10 U	10 U	77 %	10 U
2,4,5-TP (Silvex)		5.0 U	5.0 U	5.0 U	5.0 U	79 %	5.0 U
2,4,5-T		5.0 U	5.0 U	5.0 U	5.0 U	86 %	5.0 U

	Cust ID:	PBLK BS	LCHBLK
Sample Information	RFW#:	92LE2118-MB1	92LTO127-LB1
	Matrix:	WATER	WATER
	D.F.:	1.00	1.00
	Units:	ug/L	ug/L
Surrogate:	2,6-D	81 %	97 %
2,4-D		66 %	10 U
2,4,5-TP (Silvex)		69 %	5.0 U
2,4,5-T		79 %	5.0 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

D.O. 2/6/93

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

MANAGERS DESIGNERS/CONSULTANTS

HYDROCARBON QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L982

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
HYDROCARBON
RFW #: 9212L982

OVERVIEW

This case consisted of four sediment samples and one field blank collected on 12-08-92. The samples were received by Roy F. Weston, Inc., Lionville Laboratory, on 12-10-92. The analysis was performed according to EPA Method 418.1 (USEPA 600/4-79-020) for total hydrocarbons.

GENERAL COMMENTS

The holding time met the requirement limits. The calibration standard analysis met the linearity "r≥0.995". The laboratory and field blanks were free of target compounds. The soil blank spike recovery was within the control limits. Overall, no major problems were encountered during the sample analysis. The sample data are reported on the dry weight basis and considered representative.

MINOR ISSUES

Due to the high level of petroleum hydrocarbons and the sample background interferences, the matrix spike/spike duplicate recoveries could not be obtained. The data are not impacted since the recoveries were within the control limits in blank spike analysis.

The following samples were analyzed at the dilution due to the high level of target compounds:

SAMPLE ID	DILUTION FACTOR
EL-SW-1	25
EL-NW-DMS	2
EL-S-DMSD	4

The data are considered reliable.

One set of field duplicate samples (EL-NW-1/NW-1DUP) were analyzed with this batch. The RPD (58%) exceeded the 50% requirements; therefore, the reported sample results in the field sample and the corresponding field duplicates are qualified estimated.

The water blank spike recovery (133%) exceeded the upper laboratory control limits in blank spike duplicate. The RPD between BS/BSD was within the control limits. The corresponding water sample was free of target compounds; therefore, the blank spike outlier does not impact the data quality.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

WESTON
MANAGERS DESIGNERS/CONSULTANTS

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
PETROLEUM HYDROCARBON ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L982
SITE: CORCO

Client Sample ID:	EL-NW-1	EL-NW-1 DUP	EL-SW-1	EL-SE-1	EL-NE-1	ELFB
RFW #:	001	002	003	004	005	006
Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	WATER
Dilution Factor:	1.0	1.0	25.0	1.0	1.0	1.00
Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L
COMPOUND						
Petroleum Hydrocarbon	160 J	290 J	1800	32		

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. - Lionville Laboratory
Petroleum Hydrocarbons by IR

RFW Batch Number: 9212L982 Client: CORCO Report Date: 12/15/92 13:54
Work Order: 05784-001-001-9999-00 Page: 1

	Cust ID:	EL-NW-1	EL-NW-1 DUP	EL-NW-1 DUP	EL-NW-1 DUP	EL-SW-1	EL-SE-1
Sample Information	RFW#:	001	002	002 MS	002 MSD	003	004
	Matrix:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	D.F.:	1.00	1.00	2.00	4.00	25.0	1.00
	Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Petroleum Hydrocarbon		160 J	290 J	I	I	1800	32

	Cust ID:	EL-NE-1	ELFB	PBLK	PBLK BS	PBLK	PBLK BS
Sample Information	RFW#:	005	006	92DHC257-MB1	92DHC257-MB1	92DHC256-MB1	92DHC256-MB1
	Matrix:	SEDIMENT	WATER	SOIL	SOIL	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/L
Petroleum Hydrocarbon		5.2 U	1.1 U	4.0 U	121 %	1.0 U	133 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000006

END OF DATA VALIDATION REPORT

Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

HYDROCARBON QUALITY ASSURANCE REVIEW
CORCO
RFW #: 9212L994

REVIEW PERFORMED BY
THE ANALYTICS DIVISION
OF
ROY F. WESTON, INC.

VERIFIED BY: _____ 8-16-94

Zohreh Hamid, Ph.D. **Date**
Section Manager - Data Validation

CORCO
HYDROCARBON
RFW #: 9212L994

OVERVIEW

This case consisted of three sediment samples, one soil sample, and one field blank collected on 12-9-92. The samples were received by Roy F. Weston, Inc. (WESTON) Lionville laboratory on 12-11-92. The analysis was performed according to EPA Method 418.1 (USEPA 600/4-79-020) for total hydrocarbons.

GENERAL COMMENTS

The holding time met the requirement limits. The calibration standard analysis met the linearity "r≥0.995". The laboratory and field blanks were free of target compounds. The blank spike recoveries were within the control limits. Overall, no major problems were encountered during the sample analysis. The sample data are reported on the dry weight basis and considered representative.

MINOR ISSUES

Due to the high level of Petroleum hydrocarbons, the matrix spike/spike duplicate recoveries could not be obtained. The data are not impacted since the recoveries were within the control limits in blank spike/blank spike duplicate analysis.

The following samples were analyzed at the dilution due to the high level of target compound:

SAMPLE ID	DILUTION FACTOR
EL-SW-2	500
EL-NW-2	500
EL-S-1	500
EL-S-2	25

The sample results were relatively high and the samples should be analyzed at the required dilution; therefore, the data are not impacted.

INFORMATION REGARDING DATA

The data have been reviewed according to the USEPA National Functional Guidelines for Inorganic Data Review. All data are validated with regard to usability.

If you have any questions or comments on this data review, please call Zohreh Hamid at (215) 344-3745.

ATTACHMENTS

1. Attachment I - Glossary of Data Qualifier Codes

2. Attachment II - Sample Result Summary. This includes:

    a) A summary of all positive results for the target analytes with the qualifier codes, if applicable;

    b) All qualified and usable detection limits.

3. Attachment III - Sample data (Form I) verified by the laboratory.

ATTACHMENT I
GLOSSARY OF DATA QUALIFIER CODES

GLOSSARY OF DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds):

U = NOT DETECTED SUBSTANTIALLY ABOVE THE LEVEL REPORTED IN LABORATORY OR FIELD BLANKS.

R = UNRELIABLE RESULT. ANALYTE MAY OR MAY NOT BE PRESENT IN THE SAMPLE. SUPPORTING DATA NECESSARY TO CONFIRM RESULT.

N = NEGATED COMPOUND WAS CONSIDERED AS NOT PRESENT IN THE SAMPLE.

(NO CODE) = CONFIRMED IDENTIFICATION

CODES RELATING TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = ANALYTE PRESENT. REPORTED VALUE MAY NOT BE ACCURATE OR PRECISE.

UJ = THE REPORTED QUANTITATION LIMITS ARE QUALIFIED ESTIMATED.

OTHER CODES

Q = NO ANALYTICAL RESULT.

ATTACHMENT II
SAMPLE RESULT SUMMARY

ROY F. WESTON, INC.
PETROLEUM HYDROCARBON ANALYSES – DATA VALIDATION SUMMARY

CLIENT: ROY F. WESTON, INC.
RFW #: 9212L994
SITE: CORCO

Client Sample ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2
RFW #:	001	002	003	004	005
Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL
Dilution Factor:	1.0	500	500	500	25.0
Units:	ug/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg
COMPOUND					
Petroleum Hydrocarbon		170000	200000	150000	2600

ATTACHMENT III
FORM I's

Roy F. Weston, Inc. 'ionville Laboratory
Petroleum H; ;carbons by IR

RFW Batcn Number: 9212L994 Client: CORCO Report Date: 12/17/ 09:33
Work Order: 5784-01-01-9999 Page: 1

	Cust ID:	EL-FB-2	EL-SW-2	EL-NW-2	EL-S-1	EL-S-2	EL-S-2
Sample Information	RFW#:	001	002	003	004	005	005 MS
	Matrix:	WATER	SEDIMENT	SEDIMENT	SEDIMENT	SOIL	SOIL
	D.F.:	1.00	500	500	500	25.0	25.0
	Units:	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Petroleum Hydrocarbon		1.2 U	170000	200000	150000	2600	I

	Cust ID:	EL-S-2	PBLK	PBLK BS	PBLK BSD	PBLK	PBLK BS
Sample Information	RFW#:	005 MSD	92DHC258-MB1	92DHC258-MB1	92DHC258-MB1	92DHC259-MB1	92DHC259-MB1
	Matrix:	SOIL	WATER	WATER	WATER	SOIL	SOIL
	D.F.:	25.0	1.00	1.00	1.00	1.00	1.00
	Units:	mg/Kg	mg/L	mg/L	mg/L	mg/Kg	mg/Kg
Petroleum Hydrocarbon		I	1.0 U	99 %	101 %	4.0 U	95 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

END OF DATA VALIDATION REPORT

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

APPENDIX IX ORGANIC QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

OXIDATION LAGOON

ITS REPORT # 305665

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
OXIDATION LAGOON
ITS REPORT # 305665

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water, four solid, four sediment and four Trip Blank samples collected on October 29, 1993. The samples were analyzed according to criteria specified in SW846 for Appendix IX for Volatile, Semivolatile, Pesticide/PCB, and Chlorinated Herbicide target compounds by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

OL-1-W DUP-3 OL-1-SO OL-2-SO OL-3-SO OL-4-SO OL-1-SL OL-2-SL
OL-3-SL OL-4-SL TRIP BLANK #1 TRIP BLANK #2 TRIP BLANK #3
TRIP BLANK #4

VOLATILE ANALYSIS - METHOD 8240

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %RSD's and/or %D's outside the data validation requirement limit of 30% and 25% in initial and continuing calibrations, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The response factor for the following compound was below the data validation requirement limit of 0.05.

COMPOUND NAMES	IC 11/9/93	CC 11/10/93	Samples Affected
Acrolein	0.0072	0.0051	OL-1-W, DUP-3, OL-1-SO, OL-2-SO, OL-3-SO, OL-4-SO, OL-1-SL, OL-2-SL, OL-3-SL, OL-4-SL, TRIP BLANK #1, TRIP BLANK #2, TRIP BLANK #3, TRIP BLANK #4

The reported non-detected values for this compound in those samples should be rejected.

The laboratory blanks and field blanks met quality control criteria, therefore the methylene chloride in sample OL-1-W is not considered to be a laboratory artifact.

TCLP ANALYSIS METHOD - 8240

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation requirement limit of 30% and 25% in initial and continuing calibrations, respectively.

The laboratory blank met the required criteria.

SEMIVOLATILE ANALYSIS - METHOD 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %RSD's and/or %D's outside the data validation requirement limit of 30% and 25% in initial and continuing calibrations, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The response factors for the following compounds were below the data validation requirement limit of 0.05.

COMPOUND NAME	IC 11/04/93	CC 11/08/93	Samples Affected
Safrole	0.0483	0.0491	OL-1-W, DUP-3
3,3'-Dimethylbenzidine	0.0408	0.0121	

IC = Initial Calibration

CC = Continuing Calibration

The reported non-detected results for those two compounds in those two samples should be rejected.

One water blank was free of target compounds. The second water blank had N-Nitrosodimethylamine (0.04 µg/L), 2,6-Dinitrotoluene (0.97µg/L), Di-N-butylphthalate (0.07 µg/L), Bis(2-ethylhexyl)phthalate (0.04 µg/L), and Di-N-octylphthalate (0.004 µg/L) present at levels below the required detection limit and therefore the data is not impacted.

TCLP ANALYSIS METHOD - 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

The %D's for pyridine (25.7%, 38.48%, and 29.5%) were outside the data validation requirement limit of 25% in continuing calibrations analyzed on 11/4/93, 11/5/93, and 11/9/93, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

PESTICIDE/PCB - METHOD 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit. The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

TCLP ANALYSIS METHOD - 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

CHLORINATED PHENOXY ACID HERBICIDE - METHOD 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

TCLP ANALYSIS METHOD - 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

The %RSD's for 2,4-D (12.4% and 12.5%) and 2,4,5-T (12.7%) were outside the data validation requirement limit of 10% in continuing calibrations analyzed on 11/9/93 at 03:48 and 19:08, and 11/9/93 at 19:08, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

INORGANIC METAL QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

OXIDATION LAGOON

ITS REPORT # 305665

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

PROJECT: CORCO 93-558
OXIDATION LAGOON
ITS REPORT # 305665

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water, four solid, four sediment and four Trip Blank samples collected on October 29, 1993. The samples were analyzed according to criteria specified in SW846 for specific TAL metals, cyanide/cyanide reactivity, sulfide/sulfide reactivity, and TCLP metal analysis by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

OL-1-W DUP-3 OL-1-SO OL-2-SO OL-3-SO OL-4-SO OL-1-SL OL-2-SL
OL-3-SL OL-4-SL TRIP BLANK #1 TRIP BLANK #2 TRIP BLANK #3
TRIP BLANK #4

METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The spike recovery for cyanide/reactivity analysis was 20%, outside the requirement limit. The results are qualified unusable. Samples affected are: OL-1-SO, OL-2-SO, OL-3-SO, OL-4-SO, OL-1-SL, OL-2-SL, OL-3-SL, and OL-4-SL.

The initial and continuing blanks met the required criteria.

TCLP METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The non-detected values for Cyanide/reactivity are considered unusable. Overall, the data are considered to be representative with applied qualifiers.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

DIOXIN/FURAN QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

OXIDATION LAGOON

TLH REPORT # P012716

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
OXIDATION LAGOON
TLH REPORT # P012716

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water, four solid, and four sludge samples collected on October 29th, 1993. The samples were analyzed according to criteria specified in SW846 for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans target compounds by Triangle Laboratories Houston, Texas.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

OL-1-W	DUP-3	OL-1-SO	OL-2-SO	OL-3-SO	OL-4-SO	OL-1-SL	OL-2-SL
OL-3-SL	OL-4-SL						

DIOXIN/FURAN ANALYSIS - METHOD 8280

GENERAL COMMENTS

The holding times for the samples met the requirement limit. The samples were extracted a second time because of low recoveries of internal and cleanup standards in the method blank, and a third time after the matrix spike experienced recoveries and RPD outside limits.

The instrument performance met the tune and calibration criteria.

All target compounds met the data validation %RSD and %D requirement limits in initial and continuing calibrations, respectively.

The laboratory blank was free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

HYDROCARBON QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

OXIDATION LAGOON

ITS REPORT # 305665

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
OXIDATION LAGOON
ITS REPORT # 305665

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from four solid and four sediment samples collected on October 29th, 1993. The samples were analyzed according to criteria specified in EPA Method 418.1 for total hydrocarbons by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

OL-1-SO OL-2-SO OL-3-SO OL-4-SO OL-1-SL OL-2-SL OL-3-SL OL-4-SL

HYDROCARBONS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The sample data are reported on a wet weight basis, therefore the actual reporting limits are higher than the reported limits.

All elements met the data validation requirement limits for initial and continuing calibrations.

The matrix spike/matrix spike duplicate recoveries met the required criteria. The blank spike/blank spike duplicate recoveries were also within control limits.

The laboratory blank met the validation requirement criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

APPENDIX IX ORGANIC QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

AERATION LAGOON

ITS REPORT # 305967

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
AERATION LAGOON
ITS REPORT # 305967

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water, one liquid, seven sediment and five Trip Blank samples collected on November 4, 1993. The samples were analyzed according to criteria specified in SW846 for Appendix IX for Volatile, Semivolatile, Pesticide/PCB, and Chlorinated Herbicide target compounds by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

AL-1-W1 DUP-6 AL-1-SL AL-2-SL AL-3-SL AL-4-SL AL-2-SL-MS/MSD
1030-1-SL 1008-1-N 1008-1-SL TRIP BLANK #1 TRIP BLANK #2 TRIP BLANK #3
TRIP BLANK #4 TRIP BLANK #5

VOLATILE ANALYSIS - METHOD 8240

GENERAL COMMENTS

The following samples were analyzed outside the holding times: AL-2-SL, AL-3-SL, AL-4-SL, 1030-1-SL, 1008-1-N, and 1008-1-SL. The reported data for these samples are qualified estimated.

The instrument performance met the tune and calibration criteria.

Several compounds have %D's outside the data validation requirement limit of 25% in continuing calibrations. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The laboratory blanks met validation criteria.

TCLP ANALYSIS METHOD - 8240

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation requirement limit of 30% for the initial calibration. Methyl ethyl ketone has a %D greater than 25% for the continuing calibration, however since it was not detected the data are not qualified.

The laboratory blank met the required criteria.

SEMIVOLATILE ANALYSIS - METHOD 8270

GENERAL COMMENTS

As noted in the narrative, sample AL-1-SL was extracted past the holding time. The non-detect values for that sample are qualified estimated. The holding times for the remaining samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %RSD's and/or %D's outside the data validation requirement limit of 30% and 25% in initial and continuing calibrations, respectively. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The response factors for the following compounds were below the data validation requirement limit of 0.05.

COMPOUND NAME	IC 11/10/93	CC 11/24/93	Samples Affected
Safrole	0.0484	0.0439	AL-1-W, DUP-6, AL-1-SL, AL-2-SL, AL-3-SL, AL-4-SL, AL-2-SL-MS/MSD 1030-1SL, 1008-1-N, 1008-1-SL
4-Nitroquinoline-1-oxide	0.0438	0.0460	
3,3'-Dimethylbenzidine	0.0408	0.0518	

IC = Initial Calibration

CC = Continuing Calibration

The reported non-detected results for those three compounds in those samples should be rejected.

The laboratory blanks met validation criteria.

TCLP ANALYSIS METHOD - 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation %RSD requirement limit of 30% in initial and %D limit of 25% for continuing calibrations, respectively.

The laboratory blanks met the required criteria.

PESTICIDE/PCB - METHOD 8080

GENERAL COMMENTS

As noted in the narrative, sample AL-1-SL was extracted past the holding time. The non-detect values for that sample are qualified estimated. The holding times for the remaining samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

TCLP ANALYSIS METHOD - 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

CHLORINATED PHENOXY ACID HERBICIDE - METHOD 8150

GENERAL COMMENTS

As noted in the narrative, sample AL-1-SL was extracted past the holding time. The non-detect values for that sample are qualified estimated. The holding times for the remaining samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

TCLP ANALYSIS METHOD - 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %RSD's and/or %D's outside the data validation requirement limit of 10% for initial and continuing calibrations. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The holding time for volatile and semivolatile analysis was exceeded for several samples. The non-detected values are qualified estimated. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

INORGANIC METAL QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

AERATION LAGOON

ITS REPORT # 305967

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
AERATION LAGOON
ITS REPORT # 305967

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water, one liquid, and seven sediment samples collected on November 4, 1993. The samples were analyzed according to criteria specified in SW846 for specific TAL metals, cyanide/cyanide reactivity, sulfide/sulfide reactivity, and TCLP metal analysis by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

AL-1-W1 DUP-6 AL-1-SL AL-2-SL AL-3-SL AL-4-SL AL-2-SL-MS/MSD
1030-1-SL 1008-1-N 1008-1-SL TRIP BLANK #1 TRIP BLANK #2 TRIP BLANK #3
TRIP BLANK #4 TRIP BLANK #5

METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The spike recovery for cyanide/reactivity analysis was 4%, outside the requirement limit. The results are qualified unusable. Samples affected are: AL-1-SL, AL-2-SL, AL-3-SL, AL-4-SL, AL-2-SL-MS/MSD, and 1030-1-SL.

The initial and continuing blanks met the required criteria.

TCLP METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The non-detected values for Cyanide/reactivity are considered unusable. Overall, the data are considered to be epresentative with applied qualifiers.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

DIOXIN/FURAN QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

AERATION LAGOON

TLH REPORT # P012741A

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
AERATION LAGOON
TLH REPORT # P012741A

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from seven sludge samples collected on Novenber 4th, 1993. The samples were analyzed according to criteria specified in SW846 for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans target compounds by Triangle Laboratories Houston, Texas.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

AL-1-SL AL-2-SL AL-3-SL AL-4-SL AL-2-SL-MS/MSD 1030-1-SL 1008-1-SL

DIOXIN/FURAN ANALYSIS - METHOD 8280

GENERAL COMMENTS

The holding times for the samples met the requirement limit. The samples were extracted a second time because of low recoveries of internal and cleanup standards in the method blank, and a third time after the matrix spike experienced recoveries and RPD outside limits.

The instrument performance met the tune and calibration criteria.

All target compounds met the data validation %RSD and %D requirement limits in initial and continuing calibrations, respectively.

The laboratory blank was free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

DIOXIN/FURAN QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

AERATION LAGOON

TLH REPORT # P012741

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
AERATION LAGOON
TLH REPORT # P012741

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two water and one liquid samples collected on Novenber 4th, 1993. The samples were analyzed according to criteria specified in SW846 for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans target compounds by Triangle Laboratories Houston, Texas.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

AL-1-W1 DUP-6 1008-1-N

DIOXIN/FURAN ANALYSIS - METHOD 8280

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All target compounds met the data validation %RSD and %D requirement limits in initial and continuing calibrations, respectively. The report narrative states the % recovery for 13C-OCDD (internal standard), for sample 1008-1-N (931109-58), was outside the requirement limit and did not meet the 10:1 signal to noise ratio criteria for quantitation. The results for OCDD and OCDF are flagged as non-reportable for sample 1008-1-N (931109-58).

The laboratory blank was free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative with the applied qualified results.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

HYDROCARBON QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

AERATION LAGOON

ITS REPORT # 305967

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
AERATION LAGOON
ITS REPORT # 305967

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from six sediment samples collected on November 4th, 1993. The samples were analyzed according to criteria specified in EPA Method 418.1 for total hydrocarbons by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

AL-1-SL AL-2-SL AL-3-SL AL-4-SL AL-2-SL-MS/MSD 1030-1-SL

HYDROCARBONS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The sample data are reported on a wet weight basis, therefore the actual reporting limits are higher than the reported limits.

Th calibration standard met the data validation requirement criteria for initial and continuing calibrations.

The matrix spike/matrix spike duplicate recoveries met the required criteria. The blank spike/blank spike duplicate recoveries were also within control limits.

The following samples were analyzed at elevated dilutions due to the high level of target compounds:

SAMPLE ID	DILUTION FACTOR
AL-1-SL	250
AL-2-SL	200
AL-3-SL	50
AL-4-SL	200
AL-2-SL-MS/MSD	200
1008-1-SL	500

The data are considered reliable.

The laboratory blank met the validation requirement criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

HYDROCARBON QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

ITS REPORT #400480

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
EASTERN LAGOON
WESTERN LAGOON
ITS REPORT # 400480

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from two sediment and one field blank samples collected on Janaury 13th, 1994. The samples were analyzed according to criteria specified in EPA Method 418.1 for total hydrocarbons by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

TANK 1008 SLUDGE TANK 1030 SLUDGE FIELD BLANK

HYDROCARBONS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The sample data are reported on a wet weight basis, therefore the actual reporting limits are higher than the reported limits.

The calibration standard met the data validation requirement criteria for initial and continuing calibrations.

The matrix spike/matrix spike duplicate recoveries met the required criteria. The blank spike/blank spike duplicate recoveries were also within control limits.

The following samples were analyzed at elevated dilutions due to the high level of target compounds:

SAMPLE ID	DILUTION FACTOR
Tank 1008 Sludge	**2000**
Tank 1030 Sludge	**2000**

The data are considered reliable.

The laboratory and field blanks were free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

ORGANIC QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON

ITS REPORT # 305820

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON
ITS REPORT # 305820

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from six water, four solid, ten sediment, six soil, and five Trip Blank samples collected on November 2nd and 3rd, 1993. The samples were analyzed according to criteria specified in SW846 for Volatile, Semivolatile, Pesticide/PCB, and Herbicide target compounds by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

CWE-W-1	CWE-1-W-MS/MSD	FB-OL	CWE-3-SO	CWE-3-SL	CWE-4-SO	CWE-4-SL
CWE-2-SO	CWE-2-SL	DUP-4	CWE-1-SL	CWE-1-SO	FB-CWE	
CWW-2-SO-MS/MSD		CWW-1-SO	CWW-1-SL	CWW-2-SO	FB-CWW	CWW-2-SL
CWW-3-SL-1	CWW-3-SL-2	CWW-4-SO	CWW-4-SL	DUP-5	CWW-3-SO	CWW-1-W
TRIP BLANK #1	TRIP BLANK #2	TRIP BLANK #3	TRIP BLANK #4	TRIP BLANK #5		

VOLATILE ANALYSIS - METHOD 8240

GENERAL COMMENTS

Samples CWE-W-1 and DUP-4 were analyzed outside the holding time. The reported data for those samples are qualified estimated.

The instrument performance met the tune and calibration criteria.

Several compounds have %D's outside the data validation requirement limit of 25% in continuing calibrations. For samples FB-OL, FB-CWE, FB-CWW, and CWW-1-W, the results for acetone are qualified estimated. For sample CWW-1-SL, the result for 2-hexanone is qualified estimated. Other compounds with %D's exceeding the 25% limit were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blanks met data validation criteria

TCLP ANALYSIS METHOD - 8240

GENERAL COMMENTS

Sample CWW-3-SO was analyzed outside the holding time. The reported data for that sample is qualified estimated. The holding times for the remainder of the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Some compounds have %D's outside the 25% validation limit, but were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blank met the required criteria.

SEMIVOLATILE ANALYSIS - METHOD 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %D's outside the data validation requirement limit of 25% in continuing calibrations. For samples CWE-3-SO, CWE-3-SL, CWE-4-SL, CWE-2-SL, DUP-4, CWE-1-SL, CWE-1-SO, CWW-1-SO, CWW-1-SL, CWW-2-SL, CWW-3-SL-1, CWW-3-SL-2, CWW-4-SO, CWW-4-SL, DUP-5, AND CWW-3-SO, the results for 2-methylnaphthalene are qualified estimated. Other compounds with %D's exceeding the 25% limit were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blank met the required validation criteria.

TCLP ANALYSIS METHOD - 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Some compounds had %D's exceeding the 25% validation limit, but were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blank met the required validation criteria.

PESTICIDE/PCB - METHOD 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Some compounds had %RSD's exceeding the 10% validation limit for initial calibration, but were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blanks met the required criteria.

TCLP PESTICIDE METHOD - 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Some compounds had %RSD's exceeding the 10% validation limit for initial calibration, but were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blanks met the required criteria.

TCLP HERBICIDE - METHOD 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative with the applied qualified results.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

INORGANIC QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON

ITS REPORT # 305820

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON
ITS REPORT # 305820

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from six water, four solid, ten sediment, six soil, and five Trip Blank samples collected on November 2nd and 3rd, 1993. The samples were analyzed according to criteria specified in SW846 for specific TAL metals, cyanide/cyanide reactivity, sulfide/sulfide reactivity, and TCLP metal analysis by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

CWE-W-1	CWE-1-W-MS/MSD	FB-OL	CWE-3-SO	CWE-3-SL	CWE-4-SO	CWE-4-SL
CWE-2-SO	CWE-2-SL	DUP-4	CWE-1-SL	CWE-1-SO	FB-CWE	
CWW-2-SO-MS/MSD		CWW-1-SO	CWW-1-SL	CWW-2-SO	FB-CWW	CWW-2-SL
CWW-3-SL-1	CWW-3-SL-2	CWW-4-SO	CWW-4-SL	DUP-5	CWW-3-SO	CWW-1-W
TRIP BLANK #1	TRIP BLANK #2	TRIP BLANK #3	TRIP BLANK #4	TRIP BLANK #5		

METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The spike recovery for cyanide/reactivity analysis was 24%, outside the requirement limit. The results are qualified unusable. Samples affected are: CWE-3-SO, CWE-3-SL, CWE-4-SO, CWE-4-SL, CWE-2-SO, CWE-2-SL, DUP-4, CWE-1-SL, CWE-1-SO, CWW-2-SO-MS/MSD, CWW-1-SO, CWW-1-SL, CWW-2-SL, CWW-3-SL-1, CWW-3-SL-2, CWW-4-SO, CWW-4-SL, DUP-5, and CWW-3-SO.

The initial and continuing blanks met the required criteria.

TCLP METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The non-detected values for reactivity/cyanide are considered unusable. Overall, the data completeness was fair.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

HYDROCARBON QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-558

COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON

ITS REPORT # 305820

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-558
COOLING WATER EAST LAGOON
COOLING WATER WEST LAGOON
ITS REPORT # 305820

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from four solid, ten sediment, and six soil samplpes collected on November 2nd and 3rd, 1993. The samples were analyzed according to criteria specified in EPA Method 418.1 for total hydrocarbons by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

CWE-3-SO	CWE-3-SL	CWE-4-SO	CWE-4-SL	CWE-2-SO	CWE-2-SL	DUP-4
CWE-1-SL	CWE-1-SO	CWW-2-SO-MS/MSD		CWW-1-SO	CWW-1-SL	CWW-2-SO
CWW-2-SL	CWW-3-SL-1	CWW-3-SL-2		CWW-4-SO	CWW-4-SL	DUP-5
CWW-3-SO						

HYDROCARBONS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The sample data are reported on a wet weight basis, therefore the actual reporting limits are higher than the reported limits.

The calibration standard met the data validation requirements for initial and continuing calibration.

Due to the high level of target compounds and interferences, the matrix spike/matrix spike duplicate recoveries could not be obtained. The blank spike/blank spike duplicate recoveries were within control limits, therefore the data are not qualified.

The laboratory blank was free of target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

INORGANIC METAL QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

ITS REPORT # 306445

REVIEWED BY: Larry V. Robbins 8/30/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
OXIDATION LAGOON
ITS REPORT # 306445

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from five solid and two Field Blank samples collected on December 3rd and December 7th, 1993. The samples were analyzed according to criteria specified in SW846 for TAL metals by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

WL-1 FIELD BLANK	WL-1 (0' - 2')	WL-1 (2' - 8')	WL-1 (2' - 8') DUPLICATE
EL-1 FIELD BLANK	EL-1 (0' - 2')	EL-1 (2' - 8')	

METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits of 90% and 110% in initial and continuing calibrations, respectively.

As discussed in the narrative, the recoveries for matrix spikes were outside the criteria of 75-125 % for Sb (38%), K (57 %), and Tl (130%). The reported positive sample results and non-detected values for Sb, K, and Tl are qualified estimated. The reported data for Sb and K are biased low and the sample data for Tl are biased high.

The matrix spike recovery for cyanide analysis was 4%, outside the requirement limit. The sample affected is: WL-1 (2' - 8'). The result is qualified.

The initial and continuing blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The values for CN, Sb, K, and Tl are considered estimated. Overall, the data are considered to be representative with applied qualifiers.

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

HYDROCARBON QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

ITS REPORT #306445

REVIEWED BY: Larry V. Robbins 8/30/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
EASTERN LAGOON
WESTERN LAGOON
ITS REPORT # 306445

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from five soil and two field blank samples collected on December 3rd and December 7th, 1993. The samples were analyzed according to criteria specified in EPA Method 418.1 for total hydrocarbons by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

WL-1 FIELD BLANK	WL-1 (0' - 2')	WL-1 (2' - 8')	WL-1 (2' - 8') DUPLICATE
EL-1 FIELD BLANK	EL-1 (0' - 2')	EL-1 (2' - 8')	

HYDROCARBONS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The sample data are reported on a wet weight basis, therefore the actual reporting limits are higher than the reported limits.

The calibration standard met the data validation requirement criteria for initial and continuing calibrations.

Due to the high level of target compounds, the matrix spike/matrix spike duplicate recoveries could not be obtained, (sample WL-1 (2' - 8). The blank spike/blank spike duplicate recoveries were within control limits, therefore the data are not qualified.

The following samples were analyzed at elevated dilutions due to the high level of target compounds:

SAMPLE ID	DILUTION FACTOR
WL-1 (0' - 2')	50
WL-1 (2' - 8')	500

The data are considered reliable.

The laboratory and field blanks were free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported data are considered representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

APPENDIX IX ORGANIC QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

ITS REPORT # 400480

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
EASTERN LAGOON
WESTERN LAGOON
ITS REPORT # 400480

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from ten water, six sediment, and four Field Blank samples collected on January 11th, 12th, and 13th, 1994. The samples were analyzed according to criteria specified in SW846 for Appendix IX for Volatile, Semivolatile, Pesticide/PCB, and Chlorinated Herbicide target compounds by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

EL-1	EL-2	EL-3	EL-4	FIELD BLANK #1	EL-5	FIELD BLANK #2	FIELD BLANK #3	WL-1
WL-2	WL-3	WL-4	WL-5	TANK 1008 SLUDGE		TANK 1030 SLUDGE	FIELD BLANK #4	

VOLATILE ANALYSIS - METHOD 8240

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %D's outside the data validation requirement limit of 25% in continuing calibrations. However, these compounds were not detected in the samples. Therefore, the data are not qualified based on these outliers.

The laboratory blanks met data validation criteria

TCLP ANALYSIS METHOD - 8240

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation requirement limit for initial and continuing calibration.

The laboratory blanks met the required criteria.

SEMIVOLATILE ANALYSIS - METHOD 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Several compounds have %D's exceeding the 25% limit for continuing calibrations, but were not detected in the samples and the data are not qualified based on these outliers.

The response factors for the following compounds were below the data validation requirement limit of 0.05.

COMPOUND NAMES	IC 11/11/93	CC 1/19/94	Samples Affected
3,3'-dimethylbenzidine	0.0408	0.0321	EL-1, EL-2, EL-3, EL-4, #1 FIELD BLANK, EL-5, #2 FIELD BLANK, #3FIELD BLANK, WL-1, WL-2, WL-3, WL-4, and WL-5.
Safrole	0.0484	0.0483	
Famphur	0.0430	0.0069	

The reported non-detected values for these compounds in the specified samples are considered unusable.

The laboratory blanks met the required validation criteria.

TCLP ANALYSIS METHOD - 8270

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

Some compounds had %D's exceeding the 25% validation limit, but were not detected in the samples and the data are not qualified based on these outliers.

The laboratory blank met the required validation criteria.

PESTICIDE/PCB - METHOD 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

DDT had a %RSD's of 10.2%, exceeding the 10% validation limit for initial calibration, but was not detected in the samples and the data are not qualified based on this outlier.

The laboratory blanks met the required criteria.

TCLP PESTICIDE METHOD - 8080

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation requirement limit for initial and continuing calibration.

The laboratory blanks met the required criteria.

CHLORINATED PHENOXY ACID HERBICIDE - METHOD 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation RSD requirement limit of 10% in initial and continuing calibrations, respectively.

The laboratory blanks met the required criteria.

TCLP HERBICIDE - METHOD 8150

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the RSD requirement limit of 10% in initial and continuing calibrations.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative with the applied qualified results.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

INORGANIC METAL QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

ITS REPORT # 400480

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
EASTERN LAGOON
WESTERN LAGOON
ITS REPORT # 400480

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from ten water and two sediment samples collected on January 11th, 12th,and 13th, 1993. The samples were analyzed according to criteria specified in SW846 for specific TAL metals, cyanide/cyanide reactivity, sulfide/sulfide reactivity, and TCLP metal analysis by Inchcape Testing Services, Baton Rouge.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

EL-1	EL-2	EL-3	EL-4	FIELD BLANK #1	EL-5	FIELD BLANK #2	FIELD BLANK #3	WL-1
WL-2	WL-3	WL-4	WL-5	TANK 1008 SLUDGE		TANK 1030 SLUDGE	FIELD BLANK #4	

METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits for initial and continuing calibrations.

The initial and continuing blanks met the required criteria.

TCLP METALS ANALYSIS

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

All elements met the data validation requirement limits for initial and continuing calibrations.

The laboratory blanks met the required criteria.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. Overall, the data are considered to be representative.

Inchcape Testing Services
West-Paine Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

DIOXIN/FURAN QUALITY ASSURANCE REVIEW

GDC/COAST ENVIRONEERS

PROJECT: CORCO 93-562

EASTERN LAGOON
WESTERN LAGOON

TLH REPORT # P012946

REVIEWED BY: Larry V. Robbins 8/29/94

Larry V. Robbins, QA Director Date

PROJECT: CORCO 93-562
EASTERN LAGOON
WESTERN LAGOON
TLH REPORT # P012946

INTRODUCTION

This quality assurance assessment is based upon a review of data generated from ten water samples collected on January 11th, 12th, and 13th, 1994. The samples were analyzed according to criteria specified in SW846 for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans target compounds by Triangle Laboratories Houston, Texas.

QUALITY ASSURANCE REVIEW

All of the data examined were scrutinized to determine the usability of the analytical results. All data was validated regarding usability according to the following criteria:

- Sample Holding Times
- Initial and Continuing Calibration Verification
- Blanks

The following samples are included in this report:

EL-1 EL-2 EL-3 EL-4 EL-5

WL-1 WL-2 WL-3 WL-4 WL-5

DIOXIN/FURAN ANALYSIS - METHOD 8280

GENERAL COMMENTS

The holding times for the samples met the requirement limit.

The instrument performance met the tune and calibration criteria.

All compounds met the data validation %RSD and %D requirement limits in initial and continuing calibrations, respectively.

The laboratory blank was free from target compounds.

SUMMARY

The data package completeness was satisfactory. No major problems were encountered during the analysis. The reported sample data are considered representative with the applied qualified results.

STATISTICAL CALCULATIONS
COOLING WATER LAGOONS CHARACTERIZATION

COOLING WATER WEST LAGOON

Sample I.D.	TCLP Benzene Concentration (mg/l)
CWW-1-SL	0.161
CWW-2-SL	0.301
CWW-3-SL-1	0.095
CWW-3-SL-2	0.590
CWW-4-SL	0.295

Variance =	0.029
Mean =	0.288
n1 =	1.520
Standard Error =	0.085
t*std err. =	0.130
Confidence Interval, LL =	0.158
	0.419

Number of Samples n = 5
Degrees of Freedom = 4
t = 1.533
Regulatory Threshold, RT = 0.5 ppm

COOLING WATER EAST LAGOON

Sample I.D.	TCLP Benzene Concentration (mg/l)
CWE-1-SL(DUP 6)	0.265
CWE-2-SL	0.252
CWE-3-SL	0.466
CWE-4-SL	0.525

Variance =	0.014
Mean =	0.377
n1 =	2.571
Standard Error =	0.060
t*std err. =	0.099
Confidence Interval, LL =	0.278
Confidence Interval, UL=	**0.476**

Number of Samples n = 4
Degrees of Freedom = 3
t = 1.638
Regulatory Threshold, RT = 0.5 ppm

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

August 10, 1994

Ms. Deborah Saxton
GDC/COAST ENVIRONEERS
822 NEOSHO DR
BATON ROUGE, LA 70802

Re: Commonwealth Oil Refinery Company, Inc. ("CORCO")
Comments on Site Assessment Report dated March 22, 1994
EPA I.D. PRD091017228

Dear Ms. Saxton:

Please find attached our response to your faxed letter dated July 14, 1994.

Sincerely,

Charles P. Byrne
General Manager

attachment

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

VOLATILES

ITS Sample ID	Client ID	Comment
940115-55	EL-1	EPA reported 130 µg/L of Acetone. ITS reported a detection limit of < 100 µg/L, Acetone was present at 73.7 which was less than the detection limit.
940114-59	EL-3	EPA reported 2.9 µg/L of Benzene. This compound was not detected by ITS. EPA has the value flagged as estimated.
940114-67	WL-1	EDC elutes at approximately the same retention time as Benzene. Due to the high concentration of Benzene, the data system inadvertently identified the Benzene peak as EDC. The value for EDC was inadvertently reported because it was a false positive.
940114-69	WL-2	The EPA flagged the results as estimated. In review of the data, these compounds were not detected.
940114-79	WL-3	EPA reported a value of 250 µg/L for Acetone. ITS reported a detection limit of < 100 µg/L, Acetone was present at 70.9 µg/L, which was less than the detection limit.
940114-75	WL-5	ITS did not detect Vinyl Chloride or Benzene that EPA has flagged as estimated data. Acetone was detected at 62.9 µg/L, which was less than the detection limit of 100 µg/L.

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

SEMIVOLATILES

ITS Sample ID	Client ID	Comment
940114-67	EL-3	All results were reviewed and were correct as reported. The differences in results could be attributed to the sample matrix.
940114-69	WL-2	EPA reported low values for 2,4-Dimethylphenol Napthalene and Diethyl Phthalate. The detection limit reported by ITS was < 10 µg/L. These compounds were reviewed and were not detected by ITS. The result for Bis(2-ethylhexyl) Phthalate was reviewed and was correct as reported.
940114-73	WL-4	Diethyl Phthalate was reported by EPA at 0.6 µg/L and flagged as estimated. ITS detection limit was reported as 10 µg/L and this compound was not detected.
940114-75	WL-5	This sample was a duplicate of WL-3 and I T S results were duplicated. EPA's result did not duplicate due to the low level hit of Diethyl Phthalate.
940114-57	EL-2	The results for Di-n-Octyl Phthalate and Bis(2-Ethylhexyl) Phthalate were reviewed and were correct as reported by ITS.

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

METALS

ITS Sample ID	Client ID
940114-67	WL-1
940114-69	WL-2
940114-71	WL-3
940114-73	WL-4
940114-75	WL-5
940114-55	EL-1
940114-57	EL-2
940114-59	EL-3
940114-61	EL-4
940114-65	EL-5

CLIENT ID	COMMENT
WL-1-5 EL-1-4	Silver - No obvious problems. Check standards and blanks throughout run. Duplicates and spikes good.
WL-3,4	Arsenic - Check standards, blanks, duplicates, and spikes all appear normal. Sample WL-3 and its duplicate, WL-5, yield similar results. Only potential problem is high background; however, instrument flagged no problem, and background is similar in magnitude to that in samples WL-1 and WL2, noted as no problem.
EL-1-5	Arsenic - Results higher in all cases than EPA. No obvious problems. Run on same run as WL-1-5 above.
WL-2,3 EL-1-4	Barium - Higher results than EPA. ICP run indicates no obvious problems, CCV and CCB stable, spikes and duplicates good. No interferences expected or corrected for.
WL-1,2,3,5 EL-1-4	Cobalt - All values correct. Duplicates WL-3, WL-5 agrees very nicely. Check standards and blanks good.
WL-5 EL-2	Copper - EL-2 higher than EPA. No obvious problems. Check standards and blanks good, duplicates and spikes also. Sample WL-5's value agrees very nicely with its duplicate, WL-3.

Inchcape Testing Services
Environmental Laboratories

7979 GSRI Ave.
Baton Rouge, LA 70820
(504) 769-4900
FAX (504) 767-5717

NARRATIVE

(ANALYSIS)

Client: GDC/Coast Environeers **Group No:** 940271
Date: 08/29/94

In review of the data, it was noted that EPA reported Acetone at 27 ppb. This value reported by EPA was less than the detection limit of 100 ppb report by ITS. Acetone was not detected at a level which could be seen below 100 ppb.

EPA reported positive results for Benzene, Ethylbenzene and Xylene. ITS did not detect these compounds in sample WL-2. The differences in results for the Volatile compounds could be attributed to factors like sample matrix or the sampling procedures.

The only compound reported by ITS which has a synonym is cis-1,2-Dichloroethene which is reported as cis-1,2-Dichloroethylene.

Supervisor

8/29/94
Date

ppe

400480