
Report on Interim Remedial Measures: Source Area Removal

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

Prepared for:

Sierra Pacific Industries

December 1, 2003

Project No. 9329.000, Task 11

December 1, 2003
Project 9329, Task 11

Executive Officer
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Attention: Dean Prat

Subject: Report On Interim Remedial Measures: Source Area Removal
Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

Dear Mr. Prat:

As requested by Sierra Pacific Industries, we have enclosed a copy of the subject report prepared on behalf of Sierra Pacific Industry Industries

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.



Ross Steenson, C.HG.
Senior Hydrogeologist



Edward P. Conti, C.E.G., C.HG.
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Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
Gordie Amos, Sierra Pacific Industries (with enclosure)
David Dun, Dun and Martinek, LLP (with enclosure)
Fred Evenson, Law Offices of Frederic Evenson (with enclosure)
Jim Lamport, Ecological Rights Foundation (with enclosure)



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Arcata, California

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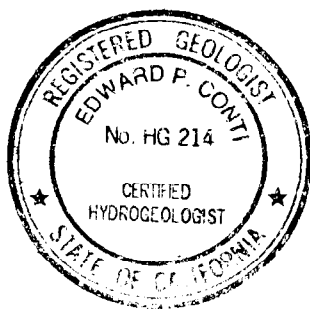
Geomatrix Consultants

PROFESSIONAL CERTIFICATION

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This report was prepared by MFG, Inc. and Geomatrix Consultants, Inc. under the professional supervision of Edward P. Conti. The findings, recommendations, specifications and/or professional opinions presented in this report were prepared in accordance with generally accepted professional hydrogeologic practice, and within the scope of the project. There is no other warranty, either express or implied.



Edward P. Conti, C.E.G., C.HG.
Principal Geologist

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REPORT ON INTERIM REMEDIAL MEASURES: SOURCE AREA REMOVAL

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1.0 INTRODUCTION

This report documents the results of an interim remedial measure (IRM) initiated by Sierra Pacific Industries (SPI) to remove soil and woody material containing elevated concentrations of wood surface protection chemicals from the SPI Arcata Division Sawmill located in Arcata, California (the site, Figure 1). The IRM consisted of excavation and off-site disposal of soil and woody material from an area of the former green chain at the site where wood surface protection chemicals were used historically in a dip tank (the source area). The source of chlorinated phenols periodically detected in storm water in Drainage Ditch #2 at the site has been particularly difficult to determine. It is believed that this area of the former green chain is the source of chlorinated phenols recently detected in Drainage Ditch #2. In addition, based on elevated concentrations of wood surface protection chemicals detected in soil and woody material samples collected below the former dip tank, it is believed that this area has been an ongoing source of groundwater impact at the site. Consequently, a limited removal action as an interim remedial measure was deemed the most appropriate means of mitigation and compliance with California Regional Water Quality Control Board, North Coast Region (RWQCB) requirements.

This work was performed in accordance with the MFG, Inc. May 29, 2003 *Interim Remedial Measure Work Plan – Limited Excavation* (MFG, 2003b), which was approved by the RWQCB staff on August 7, 2003. This IRM report was prepared by Geomatrix Consultants, Inc. (Geomatrix) and MFG, Inc. (MFG) on behalf of SPI.

This report is organized as follows: Section 1.0 - Introduction, Section 2.0 - Background, Section 3.0 – Discovery of Seep Near Former Dip Tank, Section 4.0 - Field and Laboratory Methods, Section 5.0 - Source Area Sampling and Removal Activities, Section 6.0 - Waste Management, and Section 7.0 - References.

2.0 BACKGROUND

2.1 SITE DESCRIPTION AND HISTORY

The approximately 68-acre site is located on the Samoa Peninsula, inland of the northern shoreline of Humboldt Bay and approximately 4 miles east of the town of Arcata, California. The site is bounded to the north and east by the Mad River Slough, to the northwest by an old railroad grade, and to the south by New Navy Base Road and mud flats of Humboldt Bay (Figure 1).

The site is currently an active sawmill; current features are shown on Figure 2. The sawmill has operated at the site since approximately 1950. Prior to construction of the mill facilities, the site consisted of undeveloped sand dunes and mud flats. During construction of mill facilities in the 1950s and 1960s, portions of the Mad River Slough on the eastern, northern, and southern sides of the site were filled. The current mill facility consists of an administrative building, a main sawmill building, numerous wood-processing buildings, log storage areas, milled lumber storage areas, and loading/unloading areas.

Wood surface protection activities historically conducted at the site included the use of a solution containing chlorinated phenols, including pentachlorophenol (PCP) and tetrachlorophenol (TCP), for sap stain and mold control on a small amount of milled lumber. The anti-stain solution was applied in an aboveground dip tank on the former green chain located immediately south of the eastern end of the current sorter building (Feature 49 on Figure 2). Figure 3 presents a plan map of the former green chain area. Use of solution containing chlorinated phenols in the former green chain area of the site reportedly commenced in the early to mid-1960s and was discontinued in 1985. At the direction of RWQCB staff, SPI stopped purchasing anti-stain solution containing chlorinated phenols in 1985 and commenced a process of relocating the remaining solution containing chlorinated phenols to a new dip tank facility for recycling (MFG, 2003a). Due to the difficulty of disposing of the old solution containing chlorinated phenols, the remaining solution from the old dip tank was mixed with a new anti-stain solution that did not contain chlorinated phenols at the new dip tank facility (Feature 21 on Figure 2). Recycling of the solution containing chlorinated phenols in the new dip tank continued until 1987, at which time the drip basin adjacent to the old dip tank was cleaned out, filled with sand, and capped with three to four inches of concrete (MFG, 2003c). The new dip tank has been cleaned three times since 1987 (SPI personal communication, 2003).

2.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS AND ACTIONS

Previous recent environmental investigations at the site have been summarized in the *Results of the Remedial Investigation* report (Environet Consulting, 2003). Previous interim remedial measures conducted at the site are described in the MFG, Inc. *Interim Remedial Measures Report* (MFG, 2003b).

2.3 SITE GEOLOGY AND HYDROGEOLOGY

The site is located adjacent to the Mad River Slough along the northern shoreline of Humboldt Bay. The eastern, northern, and southern portions of the site were filled in the 1950s and 1960s. Environmental borings have been completed at the site to approximately 20 feet below ground surface (bgs), but in the former green chain area the maximum depth of exploration has been 9.5 feet bgs. Observations made during drilling indicate that shallow subsurface lithology at the site is predominantly fine- to medium-grained sand of apparent sand dune origin. At a few boring locations (B-6, B-30, MW-6, and MW-10; Figure 3) near the former green chain area, finer-grained material (classified on the boring logs as "bay mud") was noted at depths ranging from 6 to 9.5 feet bgs.

Seven shallow groundwater monitoring wells (screened from 2 to 8 feet bgs) have been installed at or near the green chain area (MW-6, MW-7, MW-8, MW-9, MW-10, MW-12, and MW-18; Figure 3). Measured depth to groundwater in these wells has ranged from approximately 0.1 feet bgs to 1.5 feet bgs. Groundwater flow generally is to the east, toward the Mad River Slough (MFG, 2003d), with a magnitude of approximately 0.005 feet per foot. A 2002 tidal influence study conducted at the site by Environet suggested that tidal effects become negligible at distances greater than 100 feet from the bay shore (Environet, 2003).

3.0 DISCOVERY OF SEEP NEAR FORMER DIP TANK

In April 2003, Eureka, California recorded 11.25 inches of rainfall, which established a new monthly record for the month of April. As a result, numerous puddles of storm water were present around the site, and several seeps developed around the raised concrete pad portion of the former green chain area. Contained within the storm water puddles were accumulations of entrained solids, including mixtures of saw dust, woody material and sediment.

Identifying and eliminating the source(s) of contamination periodically detected in storm water at the site has been an ongoing effort by SPI, and is required by the RWQCB (MFG, 2003b).

While the sawmill was temporarily shut down in April 2003, SPI personnel performed extensive cleaning in the vicinity of the sawmill. During the cleaning activities, the footprint of the former anti-stain chemical dip tank on the former green chain was identified by SPI personnel. As part of the cleaning activities, a thin layer of concrete below the former dip tank was also removed, exposing wood planking that covered a shallow pit of soil, woody material, and water. The soil and woody material below the former dip tank was visibly stained a greenish gray color, which was believed to be from the historical aboveground anti-stain solution. In addition, water was observed to be seeping from the southern edge of the elevated concrete slab of the former green chain in the immediate vicinity of the former dip tank. The seeping water accumulated in small puddles adjacent to the former green chain. This area of stained soil and seeping water was not visible prior to the extensive cleaning performed while the sawmill was shut down.

Mill staff observed the storm water flow patterns near the former green chain area during April 2003. Storm water runoff from the south side of the former green chain flows to the east under the sawmill building and into the Drainage Ditch #2 collection system (Figure 4). Storm water runoff from the north side of the former green chain collects in a low spot near monitoring well MW-7 and then flows northwards into the Drainage Ditch #4 collection system. During some heavy rain events, as during April 2003, the ponded water in the vicinity of monitoring well MW-7 rises and some of the water begins to flow south under the sawmill building, mixing with storm water from the south side of the former green chain and flowing into the Drainage Ditch #2 collection system. After prolonged rainfall, several seeps formed in joints in the elevated concrete sides of the concrete pad for the former green chain. The most pronounced of these was observed at a joint near the center of the south side of the elevated concrete pad, which drains toward Drainage Ditch #2.

4.0 FIELD AND LABORATORY METHODS

Following discovery of the seep, field sampling was initiated to evaluate the magnitude and extent of chlorinated phenol impacts in samples from various media, including storm water, storm water solids, woody material, ponded water, and soil. Based on the analytical data, limited removal actions took place. The methods used during the various activities are summarized herein. Field work was performed under an appropriate project-specific health and safety plan.

4.1 PREPARATORY ACTIVITIES AND PERMITS

Prior to subsurface sampling activities and excavation, Underground Service Alert was contacted to mark the area for underground utilities and knowledgeable SPI personnel were consulted about the potential presence of underground utilities in the vicinity of the sampling locations.

Prior to drilling activities, a boring permit was obtained from the Humboldt County Division of Environmental Health, Hazardous Materials Unit (Appendix A).

Because the site is located within the coastal zone jurisdiction of the California Coastal Commission and the nature of the removal work was urgent (i.e., excavation and removal of newly discovered sources of wood surface protection chemicals prior to the rainy season), an Emergency Coastal Permit was acquired from the California Coastal Commission prior to excavation in the area of the former green chain. A copy of the permit is included in Appendix B. An application for a regular Coastal Permit is currently being processed by the California Coastal Commission.

Prior to all phases of fieldwork, interested parties were notified, and project health and safety plan was prepared. A summary of health and safety procedures and air monitoring results is included in Appendix C.

4.2 FIELD SAMPLING

In general, grab storm water, storm water solids, concrete, woody material, soil, and water samples were collected in the most expeditious manner possible, either by collecting directly into the sample container or using dedicated equipment that was later contained for off-site disposal to minimize the potential for cross-contamination. The specific sampling methods are described in each section pertaining to specific sampling events.

Solids samples were collected into laboratory-supplied, 4-ounce, glass jars with Teflon®-lined screw caps or into clean brass tubes with Teflon® sheets that were covered with polyethylene plastic caps and sealed with duct tape. Water samples for chlorinated phenols analysis were collected in laboratory-supplied, 125-milliliter glass bottles sealed with Teflon®-lined screw caps. Water samples for polychlorinated dibenzodioxins (dioxins) and dibenzofurans (furans) analysis were collected in laboratory-supplied, 1-liter glass bottles sealed with Teflon®-lined screw caps. After collection, the containers were labeled and immediately placed in an ice-cooled, insulated chest for transport to the analytical laboratory.

In general, sampling equipment was decontaminated before and after each use at each sampling location by washing it in a solution of Liquinox[®] detergent and distilled water and a triple rinsing with distilled water. The rinse water was contained for later off-site disposal. All disposable sampling equipment was contained for later off-site disposal. During excavation activities, non-dedicated equipment was decontaminated using a multi-step process that consisted of scrubbing heavily soiled areas with industrial detergent, rinsing with potable water, pressure washing with a citrus solvent, and again rinsing with potable water.

4.3 LABORATORY ANALYSES

Samples were collected for laboratory chemical analysis of chlorinated phenols using the Canadian Pulp Method and a subset of samples also was collected for dioxins/furans analysis using U.S. Environmental Protection Agency (EPA) Method 1613. Samples for chlorinated phenol analysis were delivered under chain-of-custody to Alpha Analytical of Ukiah, California (Alpha Analytical), a California Department of Health Services-certified analytical laboratory. Samples for dioxins/furans analysis were delivered under chain-of-custody to Frontier Analytical Laboratory of El Dorado Hills, California, a California Department of Health Services-certified analytical laboratory.

Copies of the chain-of-custody records are included with each laboratory analytical report (Appendix D). Alpha Analytical reported solids samples results in wet-weight format. Frontier Analytical Laboratory reported their results in dry-weight format. Concentrations of dioxins/furans, which refers to a complex mixture of various dioxin/furan congeners, are generally summarized in terms of their 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) toxic equivalency (TEQ) based on toxic equivalency factors adopted by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (Cal-EPA, 2003).

4.4 INVESTIGATION AND EXCAVATION WASTE CONTAINMENT

Soil cuttings and concrete debris generated during sampling activities were placed in steel, 55-gallon, Department of Transportation-approved drums that were sealed and labeled and were temporarily stored in a secure location at the site pending off-site disposal. Equipment wash water generated during sampling activities was placed in steel, 55-gallon, Department of Transportation-approved drums that were sealed and labeled and were temporarily stored in a secure location at the site pending off-site disposal. The shovels and other hand tools used to excavate the test pits and the chisels used to collect the concrete samples were stored in a

secure location pending off-site disposal with debris generated during subsequent source area excavation activities.

During the various phases of excavation, water accumulated in the excavation was pumped out and contained in plastic, 250-gallon, Department of Transportation-approved totes that were sealed, labeled and temporarily stored in a secure location at the site pending off-site disposal. Excavated soil, woody material, and concrete and other debris were placed in Department of Transportation-approved, 20-cubic yard, closing top bins that were closed, labeled and temporarily stored in a secure location at the site pending off-site disposal.

5.0 SOURCE AREA SAMPLING AND REMOVAL ACTIVITIES

The sampling and removal activities performed as part of the source area removal are presented in chronological order in this section.

5.1 STORM WATER AND STORM WATER SOLIDS SAMPLING

MFG mobilized to the site on May 1, 2003 to collect samples of storm water and entrained solids from various locations around the former green chain area. Sample locations were selected based on observations of storm water flow patterns made by mill staff during the preceding April 2003 rains. The locations represent storm water drainage from the northern and southern portions of the former green chain area and the seep on the south side of the elevated concrete pad for the former green chain.

The storm water samples were collected from each of the sample locations using dedicated, disposable polyethylene tubing and dedicated medical-grade syringes. The medical-grade syringes were used to draw the storm water samples into the polyethylene tubing and inject the water into appropriate sample containers. The solids samples were collected from each of the sample locations by scooping using a stainless steel trowel directly into 4-ounce glass jars.

The laboratory analytical results for the six sets of paired storm water and storm water solids samples are presented in Table 1 under the appropriate heading (storm water and storm water solids samples). These samples were analyzed for chlorinated phenols in accordance with the Canadian Pulp Method. As shown, chlorinated phenols were detected at three of the locations (S-Near B-36 [storm water], S-Near MW-7 [storm water], and S-Near B-37 [storm water and storm water solids]). The storm water sample S-Near B-37, located immediately adjacent to the former dip tank (Figure 4), had the highest concentration of PCP, at 33,000 micrograms per liter (ug/L), and PCP was detected in the corresponding storm water solids sample at 94

milligrams per kilogram (mg/kg). These results confirmed that the former dip tank location is a source area for PCP.

5.2 SAMPLING OF SHALLOW PIT UNDERNEATH THE SOUTH CATWALK

As previously described, SPI staff performed extensive surface cleaning in the area of the former green chain. The surface cleaning included heavy broom sweeping. As a result of such sweeping on May 5, 2003, mill staff swept away a thin concrete veneer that covered wood planking located in the area of the southern catwalk on the elevated concrete pad of the former green chain (Figure 3). The newly exposed wood planking was removed by SPI staff and was found to cover a shallow pit containing woody material, sand, and water. The soil and woody material below the former dip tank was visibly stained a greenish gray color, which was believed to be from the historical aboveground anti-stain solution. The pit appears to have been located under the south end of the former aboveground dip tank.

On May 5, 2003, water sample UCW-South-Water was collected from the recently exposed pit under the southern catwalk flanking the former green chain (Figure 4). The water sample was collected by submerging and filling the sample container. On May 6, 2003, sand sample UCW-South Sand and woody material sample UCW-South Wood were collected from the same pit (Figure 4). The samples were scooped directly into glass jars.

The laboratory analytical results for these three samples are presented in Table 1 under the appropriate heading (samples from the shallow pit beneath the south catwalk). All of these samples were analyzed for chlorinated phenols, and the two solids samples were analyzed for dioxins/furans. As shown in Table 1, chlorinated phenols were detected in all three samples. The PCP concentration detected in the wood sample (4,600 mg/kg) is the maximum PCP concentration detected in a solid sample from the site. Dioxins/furans were detected in both solids samples. The dioxins/furans concentration detected in the wood sample (1,940,000 picograms per gram [pg/g] TEQ) is the maximum dioxins/furans TEQ concentration detected in a solid sample from the site. Similar to the results of storm water and storm water solids samples collected near boring B-37, these analytical results indicate that the former dip tank location represented a significant source of wood surface protection chemicals. As will be discussed later in Section 5.4 of this report, the materials in this pit were removed during the subsequent excavation.

5.3 CONCRETE AND UPPER FILL MATERIAL SAMPLING

Observations made after exposure of the pit under the southern catwalk and conversations with long-time mill personnel indicated that the past configuration of the green chain included an elevated concrete slab on the east side of the dip tank and a concrete-lined drip basin to the west of the dip tank (Figure 3). Mill personnel believe that, originally, the drip basin had an earthen bottom and the concrete base of the drip basin was installed at some time following initial use of the basin. Use of the dip tank was discontinued in 1985, and after wood surface protection solution and debris were removed from the drip basin, the drip basin was filled with sand and covered with a new concrete slab at the same grade as the adjacent, elevated slab to the east. This resulted in the presence of two concrete layers separated by sand fill in the area of the former drip basin. These layers were exposed in the side of the pit under the southern catwalk. Sampling of the concrete and fill materials was performed to further characterize the magnitude and extent of wood surface protection chemicals in the area of the former green chain and help scope the extent of source area excavation.

On May 19, 2003, MFG used hand-held tools to excavate two test pits in the center of the former green chain concrete slab. One test pit was excavated near the center of the former aboveground dip tank location (sample location S-1-1', C-1; Figures 4 and 5), and the second test pit was excavated further west in the area of the former drip basin (sample location S-2-1', Figures 4 and 5). The fill material beneath the concrete slab consisted of fine- to medium-grained sand.

Concrete samples were collected from the newer, upper concrete slab (sample location C-1), and from the older, lower concrete exposed in the east wall of the pit under the southern catwalk (sample location C-2), as shown on Figures 4 and 5. Concrete samples were broken out with a hammer and chisel and were placed directly into 4-ounce glass jars. Fill sand samples S-1-1' and S-2-1' were collected from approximately one foot below the top of the elevated former green chain concrete slab. The fill samples were scooped directly into 4-ounce glass jars. After collection of the fill samples, the test pits were hand excavated to a depth of 2 feet below the upper concrete slab, where the lower concrete slab was encountered. Collection of concrete samples from the lower slab was not possible in these test pits.

The laboratory analytical results for these four samples are presented in Table 1 under the appropriate heading (concrete and upper fill material samples). The two concrete samples were analyzed for dioxins/furans, which were detected in both samples. Dioxins/furans were detected at the highest concentration in concrete sample C-2 (52,900 pg/g TEQ). The two fill

sand samples were analyzed for both chlorinated phenols and dioxins/furans. No chlorinated phenols were detected, but dioxins/furans were detected at relatively low concentration (S-1-1' at 1,410 pg/g TEQ, and S-2-1' at 720 pg/g TEQ).

5.4 FIRST PHASE OF EXCAVATION - JUNE AND JULY 2003

On June 28, 2003, an initial excavation of soil and woody material was conducted to remove impacted material from the pit located under the southern catwalk of the elevated concrete pad of the former green chain. Confirmation soil samples were collected from the resulting excavation on July 9, 2003.

On June 28, 2003, Foss Environmental Services Company (Foss) of Alameda, California used hand tools to excavate sand and woody material and sand from the pit on the south side of the former green chain under the observation of MFG. The final excavation measured approximately 6 feet by 6 feet in plan view (the total lateral dimensions of the pit) and extended to a depth of approximately 2.2 feet below the adjacent grade to the south and approximately 3.2 feet below the top of the elevated concrete slab of the former green chain (Figures 4, 5 and 6). Excavation was terminated when a gravel base rock layer was encountered in the bottom of the pit. Much of the excavated material was observed to be stained greenish-gray. At the completion of the excavation, stained sand and concrete were observed in the sidewalls. The base rock at the bottom of the pit also was moderately stained. The total volume of sand and woody material removed was approximately 5.5 cubic yards.

Groundwater was encountered at a depth of approximately 2 feet below the adjacent grade to the south. Water was observed to flow into the pit from the north side at a depth of approximately 0.5 feet below the adjacent grade to the south, just above the lower concrete slab that had formed the base of the former green chain drip basin. Approximately 50 gallons of water were pumped from the pit to facilitate the excavation.

Waste soil, woody material, and water and personal protective equipment used during excavation activities were placed in steel, 55-gallon, Department of Transportation-approved drums that were sealed and labeled and were temporarily stored in a secure location at the site pending off-site disposal.

Confirmation soil sampling from the pit excavation was conducted by MFG on July 9, 2003. One confirmation soil sample (Pit Under 2nd Slab) was collected from the north sidewall of the excavation approximately 1.3 feet below the adjacent grade to the south (approximately 2.3 feet

below the top of the elevated concrete slab for the former green chain). One additional confirmation soil sample was collected from the bottom of the excavation at a depth of approximately 2.3 feet below the adjacent grade to the south. The locations of the confirmation soil samples are illustrated on Figures 4 and 5. Confirmation soil samples were collected using a stainless steel spoon and placed directly into 4-ounce glass jars.

The laboratory analytical results for these two samples are presented in Table 1 under the appropriate heading (First Phase of Excavation). The two soil samples were analyzed for chlorinated phenols and dioxins/furans. Chlorinated phenols and dioxins/furans were detected in both samples, with the highest concentrations detected in the base soil sample (Pit Bottom, 380 mg/kg PCP and 10,700 pg/g dioxins/furans TEQ). These results indicated that further excavation was warranted to remove the elevated concentrations of wood surface protection chemicals.

5.5 LOWER FILL MATERIAL SAMPLING

Following the first phase of excavation in the source area, the lower concrete slab of the drip basin was exposed. On July 17, 2003, to further investigate the extent of chlorinated phenols beneath this concrete slab and to help scope the extent of additional source area excavation, a test pit was excavated in the area of the former drip basin near the location of boring B-33 (sample location 4" Under 2nd Slab, in Figures 4 and 5).

Material was excavated with a pre-cleaned shovel and a jackhammer was used to break up the upper and lower layers of concrete. The material below the lower slab was observed to consist of moist, fine- to medium-grained sand to the maximum depth explored, approximately 2 feet below the base of the lower slab (approximately 4 feet bgs). No wood or obvious woody material was encountered in the test pit. One sample of this lower sand was collected from approximately 4 inches below the lower concrete slab. The sand sample was scooped directly into a 4-ounce glass jar with a Teflon®-lined screw cap.

The laboratory analytical results for this sample are presented in Table 1 under the appropriate heading (lower fill material sample). The sample was analyzed for both chlorinated phenols and dioxins/furans. No chlorinated phenols were detected, but dioxins/furans were detected (4" Under 2nd Slab, 3,020 pg/g TEQ).

5.6 DRAINAGE DITCH #2 SAMPLING

On August 4, 2003, SPI personnel collected a sample of water from the last (downstream) chamber of the settling basin in Drainage Ditch #2 by submerging the container in standing water. The laboratory analytical results for this sample are presented in Table 1 under the appropriate heading (Drainage Ditch #2 Sample). This sample was analyzed for chlorinated phenols, and no chlorinated phenols were detected.

5.7 SOIL BORINGS NEAR MONITORING WELL MW-7

To further characterize shallow subsurface conditions in the vicinity of monitoring well MW-7 and at the former aboveground mix tank location, near the former dip tank, and to help scope the extent of additional source area excavation, MFG advanced three soil borings on August 29, 2003. Two borings were located south of monitoring well MW-7 (B-62 and B-63) and one boring (B-61) was located at the former aboveground mix tank location (Figure 4).

Before drilling, a concrete saw was used to cut through the upper and lower layers of concrete that were encountered at each boring location. The soil borings were advanced using a stainless steel hand auger. The soil encountered in the borings was described in the field for lithologic classification, color and moisture content in accordance with American Society of Testing and Materials Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) D 2488. Indications of contamination, including observations regarding odor or staining, if any, were noted on the boring logs. The boring logs are included in Appendix A.

The upper layer of concrete was approximately four inches thick and the lower layer of concrete was approximately six inches thick. The concrete layers were separated by approximately three inches of medium grained sand. Underlying the second layer of concrete was thin layer of gravel (base rock) underlain by fine- to medium-grained sand. This sand was observed to be water-saturated from approximately 1.5 feet bgs to the total boring depth of each boring (3.5 feet bgs).

Concrete samples were collected and analyzed from the upper concrete layer (B-61-Concrete Upper and B-62-Concrete Upper), and from the lower concrete layer (B-61-Concrete Lower and B-62-Concrete Lower). Concrete samples were broken out with a hammer and chisel and were placed directly into 4-ounce glass jars.

Two soil samples were collected from each boring at depths of approximately 1 foot (beneath the lower concrete) and 3 feet bgs. The soil samples collected from approximately 1 foot bgs (B-61-1.2', B-62-1' and B-63-1') were retrieved from the hand auger and placed directly into 4-ounce glass jars. The soil samples collected from 3 feet bgs (B-61-3', B-62-3' and B-63-3') were collected by driving a stainless steel drive sampler fitted with a 6-inch brass liner into the subsurface using a slide hammer.

The laboratory analytical results for the 10 samples (4 concrete and 6 soil samples) are presented in Table 1 under the appropriate heading (Soil Borings Near Monitoring Well MW-7). The concrete samples were analyzed for both chlorinated phenols and dioxins/furans. The approximately 1-foot-bgs samples were analyzed for chlorinated phenols and dioxins/furans while the 3-foot-bgs samples only were analyzed for chlorinated phenols.

In the samples from boring B-61 (closest to the green chain dip tank), the detected PCP concentrations are highest (15 mg/kg) in the upper concrete sample, 2.5 mg/kg in the 1.2-foot-bgs sample, and not detect in the 3-foot-bgs sample. The vertical distribution of dioxins/furans results for boring B-61 is similar, with 17,359 pg/g TEQ in the upper concrete sample and 3,809 pg/g TEQ in the 1.2-foot-bgs soil sample (the 3-foot-bgs soil sample was not analyzed for dioxins/furans).

PCP was not detected in the concrete samples from boring B-62. PCP was not detected in the 1-foot-bgs sample, but was detected in the 3-foot-bgs sample (21 mg/kg).

PCP was not detected in the shallow soil sample from boring B-63 but was detected in the 3-foot-bgs sample (17 mg/kg). These results indicate that subsurface impact by wood surface protection chemicals is significantly lower outside the approximate footprint of the former dip tank. These data are consistent with soil data collected previously from soil borings at the site (Environet, 2003).

5.8 SECOND PHASE OF EXCAVATION – SEPTEMBER 2003

On September 13 through 16, 2003, a second phase of excavation and confirmation sampling was performed to further remove impacted materials from the area directly underlying and to the west of (in the direction of the former drip basin) the former location of aboveground dip tank.

On September 13 through 16, 2003, Foss used hand tools and a mini-excavator to remove additional material under the observation of MFG. As shown on Figure 6, the excavated area measured approximately 20 feet by 29 feet, extended across the entire width of the elevated concrete slab for the former green chain, and was approximately centered on the former dip tank location. The excavation extended to a depth of approximately 4 feet below the adjacent grade to the north and south (note that 4 feet below adjacent grade is equivalent to approximately 5 feet below the top of the elevated concrete slab for the former green chain), except at the southeast corner, which was deepened to approximately 7 feet below the adjacent grade to create a dewatering sump (Figures 7 and 8). Material removed from the excavation included sand fill, two layers of concrete, and materials associated with a rail spur located below the former green chain (rails, railroad ties, and base rock). Approximately 80 percent of the material excavated was observed to be moderately stained greenish gray at the time of excavation, and moderate staining was observed in the final north, south and west excavation sidewalls and in the base of the excavation. The total volume of soil and debris removed was approximately 130 cubic yards.

Groundwater was encountered at a depth of approximately 2 feet below the adjacent grade to the north and south. Approximately 1,750 gallons of groundwater were pumped from the excavation to facilitate the work.

Excavated soil, concrete debris, railroad ties and steel rails, materials used to construct the work area containment, dedicated equipment (e.g., shovels and pumps), and personal protective equipment used during excavation activities were placed in Department of Transportation-approved, 20-cubic yard, closing top bins that were closed, labeled and temporarily stored in a secure location at the site pending off-site disposal. Groundwater removed from the excavation and decontamination wash water were pumped directly into plastic, 250-gallon, Department of Transportation-approved totes that were sealed, labeled and temporarily stored in a secure location at the site pending off-site disposal.

Confirmation sampling from the excavation conducted by MFG on September 14, 15, and 16, 2003 consisted of the following: 12 confirmation soil samples were collected from the sidewalls of the excavation; 5 confirmation soil samples were collected from the bottom of the excavation; 1 wood sample was collected from a buried railroad tie; and 1 grab water sample was collected from the excavation (on September 17, 2003 after allowing time for entrained sediment to settle; the collected sample was not visibly turbid). The locations of the confirmation soil samples are shown on Figures 7, 8, and 9. Confirmation soil samples were

collected in clean, 6-inch, brass liners inserted into a stainless steel drive sampler that was manually driven into the excavation sidewalls and bottom using a slide hammer. After sample collection, the ends of each liner were covered with Teflon® sheets, capped with polyethylene lids, and then sealed with duct tape.

The laboratory analytical results for these 19 samples (1 wood [railroad tie], 1 water, and 17 soil samples) are presented in Table 1 under the appropriate heading (Second Phase of Excavation). All of the samples were analyzed for chlorinated phenols, and a subset of samples was analyzed for dioxins/furans. The results are described herein.

- In the railroad tie sample, RR-Ties, PCP was detected at 260 mg/kg, and dioxins/furans at 10,677 pg/g TEQ.
- In the grab water sample from the pit, PCP was detected at 33,000 ug/L.
- For the 17 confirmation soil samples, PCP was detected in 11 of the 17 samples. Detected PCP concentrations for 9 of the samples ranged from 2.1 to 33 mg/kg. Detected concentrations in 2 soil samples in the northern portion of the excavation were above this range (S-6N-1.5 at 850 mg/kg and B-4-West at 640 mg/kg). Nine samples analyzed for dioxins/furans. The concentration distributions correlate well with the PCP results. The dioxins/furans TEQ concentrations for 7 samples ranged from 173 to 4,560 pg/g. The same 2 samples in the northern portion of the excavation that had high PCP concentrations also had high dioxins/furans TEQ concentrations (S-6N-1.5 at 11,503 pg/g TEQ and B-4-West at 17,549 pg/g TEQ).

Based on these analytical results, it was decided to conduct further excavation in the northern portion of the area was necessary to remove material with the elevated concentrations of PCP.

5.9 THIRD PHASE OF EXCAVATION – NOVEMBER 2003

On November 6, 2003, the third and final phase of excavation and confirmation sampling was performed to further remove impacted materials from the northern portion of the second phase excavation. Foss used hand tools and a mini-excavator to remove additional material the western portion of the excavation under the observation of Geomatrix. The excavation was extended approximately 1-foot to the north to remove base rock and soil. The northern half of the excavation was deepened by removing an additional 1.5-feet of soil. The final excavation boundaries are presented on Figure 7, and final excavation profiles are presented on Figures 8 and 9. The total volume of additional material removed during the Third Phase of Excavation was approximately 9 cubic yards.

Prior to the third phase of excavation, approximately 3,250 gallons of water that had accumulated in the excavation were pumped out and contained in plastic, 250-gallon, Department of Transportation-approved totes that were sealed, labeled and temporarily stored in a secure location at the site pending off-site disposal. Excavated soil was placed in a Department of Transportation-approved, 20-cubic yard, closing top bin that was closed, labeled and temporarily stored in a secure location at the site pending off-site disposal.

Confirmation soil sampling from the excavation was conducted by Geomatrix on November 6, 2003. One excavation sidewall sample (S-30-1.5) was collected by driving a brass tube into an exposed fresh face of the excavation, and one excavation base sample (S-31-5.5) was collected from the bucket of the mini-excavator.

The laboratory analytical results for these two soil samples are presented in Table 1 under the appropriate heading (third phase of excavation). The samples were analyzed for chlorinated phenols. No chlorinated phenols were detected in either sample. Based on previous data showing a correlation between PCP and dioxins/furans results, the concentrations of dioxins/furans in these samples also is expected to be significantly reduced.

5.10 BACKFILLING AND SITE RESTORATION

Following completion of the removal activities, the excavation was backfilled by Foss and SPI personnel on November 6, 2003 using clean sand. The backfilled sand was compacted using the bucket of the backhoe. The surface of the excavation was temporarily left mounded and covered with plastic sheeting to direct rainwater away from the excavation. The excavation will be paved with concrete during a suitable dry period. All loose materials immediately surrounding the backfilled excavation were swept up, and placed in a Department of Transportation-approved, 20-cubic yard, closing top bin.

On November 25, 2003, Asbury Environmental Services and SPI personnel pressure washed the area surrounding the excavation. This water was captured using a vacuum truck and later disposed.

5.11 SUMMARY OF SOURCE AREA REMOVAL ACTIVITIES

A summary of the results of the three phases of excavation and confirmation sampling are presented herein

- The final excavation dimensions are approximately 20 feet east to west and 30 feet north to south. In the southern portion of the excavation, the depth of excavation was approximately 4 feet bgs. In the northern portion of the excavation, the depth of excavation was approximately 5.5 feet bgs.
- The estimated total volume of soil, woody material, and concrete debris removed is approximately 145 cubic yards. The estimated total volume of water removed is approximately 4,550 gallons.
- There are 16 final confirmation soil samples that represent current conditions. PCP was detected in 8 of these 16 samples at concentrations ranging from 2.1 to 33 mg/kg. Dioxins/furans were analyzed in 6 of these 16 samples and were detected at concentrations ranging from 173 pg/g TEQ to 4,560 pg/g TEQ.

6.0 WASTE MANAGEMENT

6.1 WASTE PROFILING CHEMICAL ANALYSIS METHODS AND RESULTS

Waste generated from site investigation activities and from the three phases of excavation was containerized as described herein.

- Waste generated from site investigation activities included sand (soil), concrete, personal protective equipment, plastic sheeting and equipment washing (decontamination) water. All waste generated from investigation activities was placed in steel, Department of Transportation-approved, 55-gallon drums.
- Waste generated during the First Phase of Excavation (June 28, 2003) included woody material, sand and gravel (soil), personal protective equipment, plastic sheeting, carpet (used as a footpath by Foss) and water. All of the waste from the June 28, 2003 excavation was placed in steel, Department of Transportation-approved, 55-gallon drums.
- Waste generated during the Second Phase of Excavation (September 13 through 16, 2003) included sand (soil), concrete, personal protective equipment, plastic sheeting, carpet, timbers, steel rails, railroad ties, wood and water (water from the excavation and equipment washing water). Solid material was placed into 20-cubic yard, closing top bins and the water generated was pumped into 250-gallon plastic totes.
- Waste generated during the Third Phase of Excavation (November 6, 2003) included sand, personal protective equipment, plastic sheeting, carpet, and water (water from the excavation and equipment washing water). Solid material was placed into a 20-cubic yard, closing top bin and the water generated was pumped into 250-gallon plastic totes.

- Waste water generated during the November 25, 2003 surface washing following completion of backfilling was captured by a vacuum truck.

After the containers were filled, they were sealed and appropriately labeled. The waste containers were stored in secure areas at the site pending characterization and off-site disposal. Drums were moved into the facility's hazardous waste storage containment area. Liquid waste totes and bins were placed in a bermed, secondary containment area established for the work. These storage areas were regularly inspected to assure the integrity of the containers and secondary containment.

The following samples were collected for waste characterization and profiling purposes. All sampling and sample handling activities were conducted in general accordance with MFG's written Standard Operating Procedures. The chain-of-custody records and laboratory reports for the waste characterization samples are presented in Appendix E.

- Disposal of Woody Material – Woody material was characterized and profiled based on analysis of a wood sample collected during investigation of the pit under the southern catwalk of the former green chain (sample UCW-South Wood) and a composite sample collected on July 7, 2003 from the drummed woody material generated during the First Phase of Excavation. To collect the composite samples, four drums containing woody material were randomly selected, opened and the top 6 inches of soil removed from a randomly selected location in the drums. A stainless steel spoon was then used to collect approximately equal sized samples from each drum and place them in a stainless steel bowl. The resulting composite sample (Wood Composite) was thoroughly mixed using the stainless steel spoon and placed into a 4-ounce glass jar with a Teflon®-lined screw cap. The composite wood sample collected from drums ("Wood Composite") was submitted to Alpha Analytical for chemical analysis. The composite wood sample was extracted using the Toxicity Characteristic Leaching Procedure (TCLP, EPA Method 1311) and analyzed for PCP by the Canadian Pulp Method. PCP was detected in the extract at a concentration of 7.7 milligrams per liter (mg/L). The total PCP concentration was above the Total Threshold Limit Concentration (TTLC; Title 22 of the California Code of Regulations) of 17 mg/kg, above which a waste is considered to be hazardous in California. The TCLP extract concentration of 7.7 mg/L was below the TCLP limit of 100 mg/L for a federally hazardous waste under the Resource Conservation and Recovery Act (RCRA). Based upon these results, waste containing woody material was profiled as non-RCRA hazardous waste solid (California waste code 352) and was immediately labeled accordingly.
- Disposal of Soil and Concrete Debris - Sand and concrete debris from the Second Phase of Excavation was sampled on September 22, 2003. One soil sample was collected from each of the nine 20-cubic yard bins that were generated. To collect the samples, the top 6 to 12 inches of soil were removed from a randomly selected

sample location and a soil sample was placed in a 4-ounce glass jar with a Teflon®-lined screw cap using a stainless steel spoon. The nine samples collected from the bins were submitted for chemical analysis to Alpha. The samples were composited by Alpha into one four-point composite sample and one five-point composite sample (“Composite A” and “Composite B,” respectively). The composite samples were analyzed for total PCP using EPA Method 8040. PCP was detected at concentrations of 95 and 120 mg/kg from samples Composite A and Composite B, respectively. These concentrations exceed the TTLC. The composite samples were not further analyzed using the TCLP procedure because the total PCP concentrations were less than 20 times the listed TCLP concentration for this compound (100 mg/L). Based upon these results, this waste stream was profiled as non-RCRA hazardous waste solid (California waste code 611). The sand from the Third Phase of Excavation was considered to be part of the same waste stream as the soil from the Second Phase of Excavation and was not further characterized.

- Disposal of Water - The liquid waste stream generated during characterization sampling and excavation activities was profiled based on the analytical results for a water sample collected during investigation of the pit located under the southern catwalk (sample UCW-South-Water). PCP was detected at a concentration of 11,000 µg/L in this sample; 2,3,4,6-tetrachlorophenol was detected at 1,100 µg/L; and 2,3,4,5-tetrachlorophenol was detected at 69 µg/L. The detected PCP concentration in the waste water was above the Soluble Threshold Limit Concentration (STLC) of 1.7 mg/L listed in Title 22 of the California Code of Regulations to define a hazardous waste in California but below the TCLP concentration of 100 mg/L. Based on these results, the liquid waste stream was profiled as non-RCRA hazardous waste liquid (California waste code 343). The water from the Third Phase of Excavation was considered to be part of this same waste stream and was not further characterized. Water generated during the surface cleaning on November 25, 2003 was profiled as non-hazardous Class II water based on a sample collected by SPI personnel and submitted to Asbury Environmental.
- Disposal of Personal Protective Equipment and Tools - Debris, personal protective equipment, and equipment and materials used to perform removal and construct work area containments were not sampled. These materials were profiled as non-RCRA hazardous waste solid based on the analytical results for the other waste streams.

6.2 WASTE DISPOSAL

After profiling and approval at the designated disposal facilities, the solid investigation- and remediation-derived wastes are being removed from the site by Asbury Environmental Services (EPA ID No. CAD028277036) for disposal at the US Ecology facility in Beatty, Nevada (EPA ID No. NVT330010000) and the Chemical Waste Management facility in Kettleman City, California (EPA ID No. CAT000646117). The liquid investigation- and remediation-derived wastes are being transported by Asbury for disposal at the DeMenno Kerdoon facility in

Compton, California (EPA ID No. CAT080013352). The surface washing water generated on November 25, 2003 was transported by Asbury as Class II water to and the Chemical Waste Management Altamont Hills facility in Altamont, California. Investigation- and remediation-derived wastes were removed from the site in beginning in September 2003 and are continuing. Currently available, completed Uniform Hazardous Waste Manifests or bills of lading for the waste shipments are included in Appendix E.

7.0 REFERENCES

- Cal-EPA, 2003, Adoption of the Revised Toxic Equivalency Factors (TEFWHO-97) for PCDDs, PCDFs, and Dioxin-like PCBs (memorandum), Office of Environmental Health Hazard Assessment, August 29.
- Environet Consulting, 2003, Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmill, Arcata, California, January 30.
- MFG, Inc. (MFG), 2003a, Plywood Covered Ditch Investigation Report, Sierra Pacific Industries Arcata Division Sawmill, June 9.
- MFG, 2003b, Interim Remedial Measure Work Plan – Limited Excavation, Sierra Pacific Industries, Arcata Division Sawmill, 2593 New Navy Base Road, Arcata, California, May 29.
- MFG, 2003c, Interim Remedial Measures Report, Arcata Division Sawmill, prepared for Sierra Pacific Industries, Arcata, California, June 10.
- MFG, 2003d, Third Quarter 2003 Groundwater Monitoring Report, Sierra Pacific Industries Arcata Division Sawmill, November 3.

TABLE

TABLE 1
SUMMARY OF CHEMICAL ANALYSIS
RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES

Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Sample ID	Date Sampled	Depth (feet) bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	PCP	Total Dioxins/Furans TEQ ¹
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pg/g
				(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(no water samples)
STORM WATER AND STORM WATER SOLIDS SAMPLES									
S-Near B-14 Water	01-May-03	--	Storm water	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near B-14 Sediment	01-May-03	--	Solids	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near B-33 Water	01-May-03	--	Storm water	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near B-33 Sediment	01-May-03	--	Solids	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near B-36 Water	01-May-03	--	Storm water	<1.0	<1.0	<1.0	<1.0	2.1	na
S-Near B-36 Sediment	01-May-03	--	Solids	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near MW-7 Water	01-May-03	--	Storm water	<1.0	<1.0	8.1	2.6	28	na
S-Near MW-7 Sediment	01-May-03	--	Solids	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near MW-8 Water	01-May-03	--	Storm water	<1.0	<1.0	<1.0	<1.0	<1.0	na
S-Near MW-8 Sediment	01-May-03	--	Solids	<1.0	<1.0	<1.0	<1.0	<1.0	na
SS-Near B-37 Water	01-May-03	--	Storm water	2.0	<1.0	7,900	110	33,000	na
SS-Near B-37 Sediment	01-May-03	--	Solids	<1.0	<1.0	11	1.3	94	na
SAMPLES FROM THE SHALLOW PIT BENEATH THE SOUTH CATWALK									
UCW-South-Water	05-May-03	--	Pit Water	<1.0	< 8.5	1,100	69	11,000	na
UCW-South Sand	06-May-03	(0.5) ³	Soil	<1.0	<1.0	<1.0	<1.0	1.4	4,910
UCW-South Wood	06-May-03	(0.5) ³	Wood	<1.0	<25	1400	<25	4600	1,940,000
CONCRETE AND UPPER FILL MATERIAL SAMPLES									
C-1	19-Jun-03	--	Concrete	--	--	--	--	--	3,050
C-2	19-Jun-03	--	Concrete	--	--	--	--	--	52,900
S-1-1'	19-Jun-03	0.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	1,410
S-2-1'	19-Jun-03	0.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	720
FIRST PHASE OF EXCAVATION—CONFIRMATION SOIL SAMPLES									
Pit Bottom	09-Jul-03	1.3	Soil	<1.0	<1.0	100	1.7	380	10,700
Pit Under 2nd Slab	09-Jul-03	1.3	Soil	<1.0	<1.0	<1.0	<1.0	2.3	2,570
LOWER FILL MATERIAL SAMPLE									
4" Under 2nd Slab	17-Jul-03	1.3	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	3,020
DRAINAGE DITCH #2 SAMPLE									
#2	04-Aug-03	--	Surface water	na	<1.0	<1.0	<1.0	<0.3	na

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 Arcata Division Sawmill
 Arcata, California

Sample ID	Date Sampled	Depth (feet) bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	PCP	Total Dioxins/Furans TEQ ¹ pg/g (no water samples)	
				units for soil, sediment, concrete samples ²	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg
				units for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)		(µg/l)
SOIL BORINGS NEAR MONITORING WELL MW-7										
B-61-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	<1.0	<1.0	12	<1.0	15	17,400	
B-61-Concrete Lower	29-Aug-03	0.6 to 1.1	Concrete	<1.0	<1.0	<1.0	<1.0	1.2	11,800	
B-61-1.2'	29-Aug-03	1.2	Soil	<1.0	<1.0	<1.0	<1.0	2.5	3,820	
B-61-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na	
B-62-Concrete Upper	29-Aug-03	0 to 0.3	Concrete	<1.0	<1.0	<1.0	<1.0	<1.0	112	
B-62-Concrete Lower	29-Aug-03	0.4 to 0.9	Concrete	<1.0	<1.0	<1.0	<1.0	<1.0	4,940	
B-62-1'	29-Aug-03	1.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	589	
B-62-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	21	na	
B-63-1'	29-Aug-03	1.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	231	
B-63-3'	29-Aug-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	17	na	
SECOND PHASE OF EXCAVATION—WOOD, WATER, AND CONFIRMATION SOIL SAMPLES										
Sample of Buried Railroad										
RR-Ties	16-Sep-03	1.5	Wood	<2.5	<2.5	170	3.1	260	10,700	
Excavation Water Sample										
Pit Water	17-Sep-03	--	Pit Water	19	<1.0	18,000	52	35,000	na	
Excavation Sidewall Soil Samples										
S-1E-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	<1.0	<1.0	2.1	284	
S-2E-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	18	<1.0	32	na	
S-3S-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	4.6	<1.0	33	na	
S-4N-2.5'	14-Sep-03	2.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na	
S-5N-2.5'	15-Sep-03	2.5	Soil	<1.0	<1.0	1.1	<1.0	3.2	98.8	
S-6N-1.5'	16-Sep-03	1.5	Soil	<1.0	<1.0	560	1.7	850	11,500	
S-7E-3'	16-Sep-03	3.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	4,560	
S-8W-1.5'	16-Sep-03	1.5	Soil	<1.0	<1.0	6.5	<1.0	19	na	
S-9W-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	1.6	<1.0	3.2	238	
S-10S-0.5'	16-Sep-03	0.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na	
S-11S-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	3.1	<1.0	9.2	650	
S-12S-2.5'	16-Sep-03	2.5	Soil	<1.0	<1.0	4.5	<1.0	7.1	1,150	

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 Arcata, California

Sample ID	Date Sampled	Depth (feet) bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	PCP	Total Dioxins/Furans TEQ ¹
				mg/kg	mg/kg	mg/kg	mg/kg		
				(µg/l)	(µg/l)	(µg/l)	(µg/l)		
Excavation Base Soil Samples									
B-1-South	14-Sep-03	6.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	173
B-2-East	14-Sep-03	4.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na
B-3-East	14-Sep-03	4.0	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na
B-4-West	15-Sep-03	4.0	Soil	<1.0	<1.0	170	<1.0	640	17,600
B-5-West	16-Sep-03	4.0	Soil	<1.0	<1.0	2.2	<1.0	4.9	na
THIRD PHASE OF EXCAVATION—CONFIRMATION SOIL SAMPLES									
Excavation Sidewall Soil Samples									
S-30-1.5'	06-Nov-03	1.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na
Excavation Base Soil Samples									
S-31-5.5'	06-Nov-03	5.5	Soil	<1.0	<1.0	<1.0	<1.0	<1.0	na

TABLE 1
SUMMARY OF CHEMICAL ANALYSIS
RESULTS FOR SAMPLES COLLECTED DURING IRM ACTIVITIES

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Abbreviations

Shading = indicates that the material represented by the sample was removed.

na = not analyzed

-- = not measured

< = Target analyte was not detected at or above the laboratory reporting limit shown.

bgs = Below ground surface measured from the surrounding grade in the former green chain area; not from the top of the elevated concrete slab.

mg/kg = milligrams per kilogram (parts per million)

µg/l = micrograms per liter (parts per billion)

pg/g = picograms per gram (parts per trillion)

PCP = pentachlorophenol

TCDD = tetrachlorodibenzo-p-dioxin

2,3,4,5-TCP = 2,3,4,5-tetrachlorophenol

2,3,4,6-TCP = 2,3,4,6-tetrachlorophenol

2,3,5,6-TCP = 2,3,5,6-tetrachlorophenol

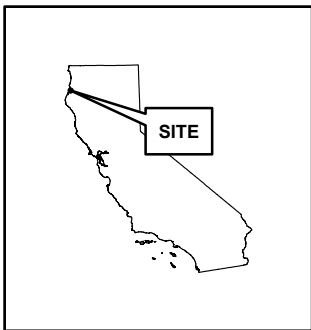
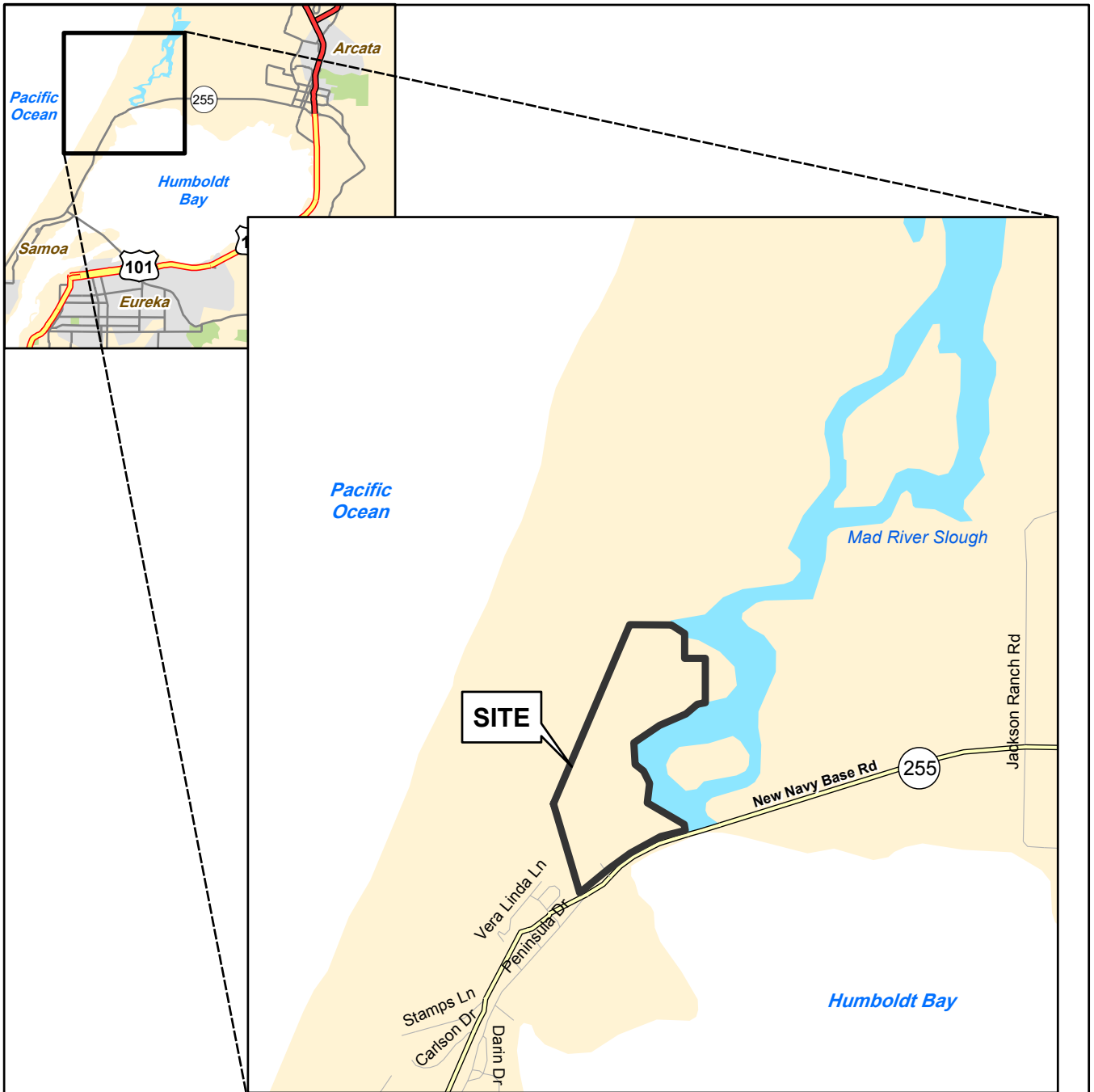
2,4,6-TCP = 2,4,6-tetrachlorophenol

TEQ = toxic equivalency

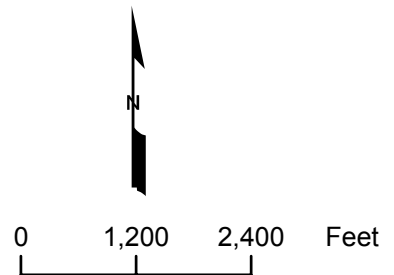
Notes:

1. The Total Dioxins/Furans Toxic Equivalency (TEQ) is calculated by multiplying the individual congener concentration by the corresponding World Health Organization (1998) Toxic Equivalency Factor (TEF). The TEQs listed in this table were calculated by Frontier Analytical Laboratory and are listed on the individual laboratory analytical report pages in Appendix A.
3. Alpha Analytical reported the chlorinated phenol data for solids samples in wet-weight format. Frontier Analytical reported the dioxins/furans data for solids samples in dry-weight format.
2. Samples collected beneath the elevated concrete pad of the former green chain, but approximately 0.5 feet above the surrounding grade.

FIGURES



California



S:\9300\9329\task_11\03_1124_irm_fig_01.mxd



SITE LOCATION MAP
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
 9329.011

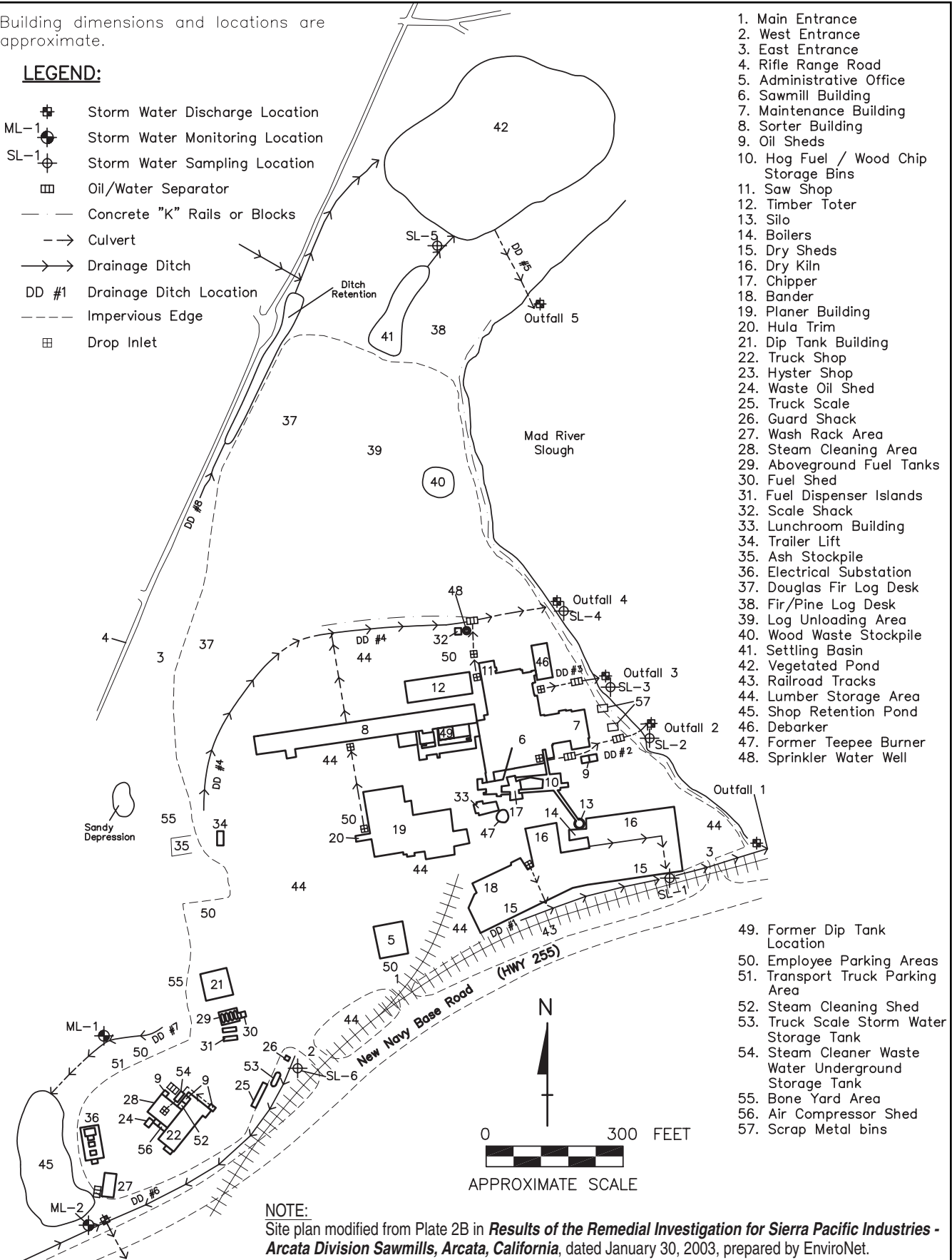
Figure No.
 1

Building dimensions and locations are approximate.

LEGEND:

- ⊕ Storm Water Discharge Location
- ML-1 ⊕ Storm Water Monitoring Location
- SL-1 ⊕ Storm Water Sampling Location
- ▣ Oil/Water Separator
- Concrete "K" Rails or Blocks
- - -> Culvert
- Drainage Ditch
- DD #1 Drainage Ditch Location
- - - Impervious Edge
- ⊕ Drop Inlet

1. Main Entrance
2. West Entrance
3. East Entrance
4. Rifle Range Road
5. Administrative Office
6. Sawmill Building
7. Maintenance Building
8. Sorter Building
9. Oil Sheds
10. Hog Fuel / Wood Chip Storage Bins
11. Saw Shop
12. Timber Toter
13. Silo
14. Boilers
15. Dry Sheds
16. Dry Kiln
17. Chipper
18. Bander
19. Planer Building
20. Hula Trim
21. Dip Tank Building
22. Truck Shop
23. Hyster Shop
24. Waste Oil Shed
25. Truck Scale
26. Guard Shack
27. Wash Rack Area
28. Steam Cleaning Area
29. Aboveground Fuel Tanks
30. Fuel Shed
31. Fuel Dispenser Islands
32. Scale Shack
33. Lunchroom Building
34. Trailer Lift
35. Ash Stockpile
36. Electrical Substation
37. Douglas Fir Log Desk
38. Fir/Pine Log Desk
39. Log Unloading Area
40. Wood Waste Stockpile
41. Settling Basin
42. Vegetated Pond
43. Railroad Tracks
44. Lumber Storage Area
45. Shop Retention Pond
46. Debarker
47. Former Teepee Burner
48. Sprinkler Water Well



49. Former Dip Tank Location
50. Employee Parking Areas
51. Transport Truck Parking Area
52. Steam Cleaning Shed
53. Truck Scale Storm Water Storage Tank
54. Steam Cleaner Waste Water Underground Storage Tank
55. Bone Yard Area
56. Air Compressor Shed
57. Scrap Metal bins

NOTE:
 Site plan modified from Plate 2B in *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California*, dated January 30, 2003, prepared by EnviroNet.

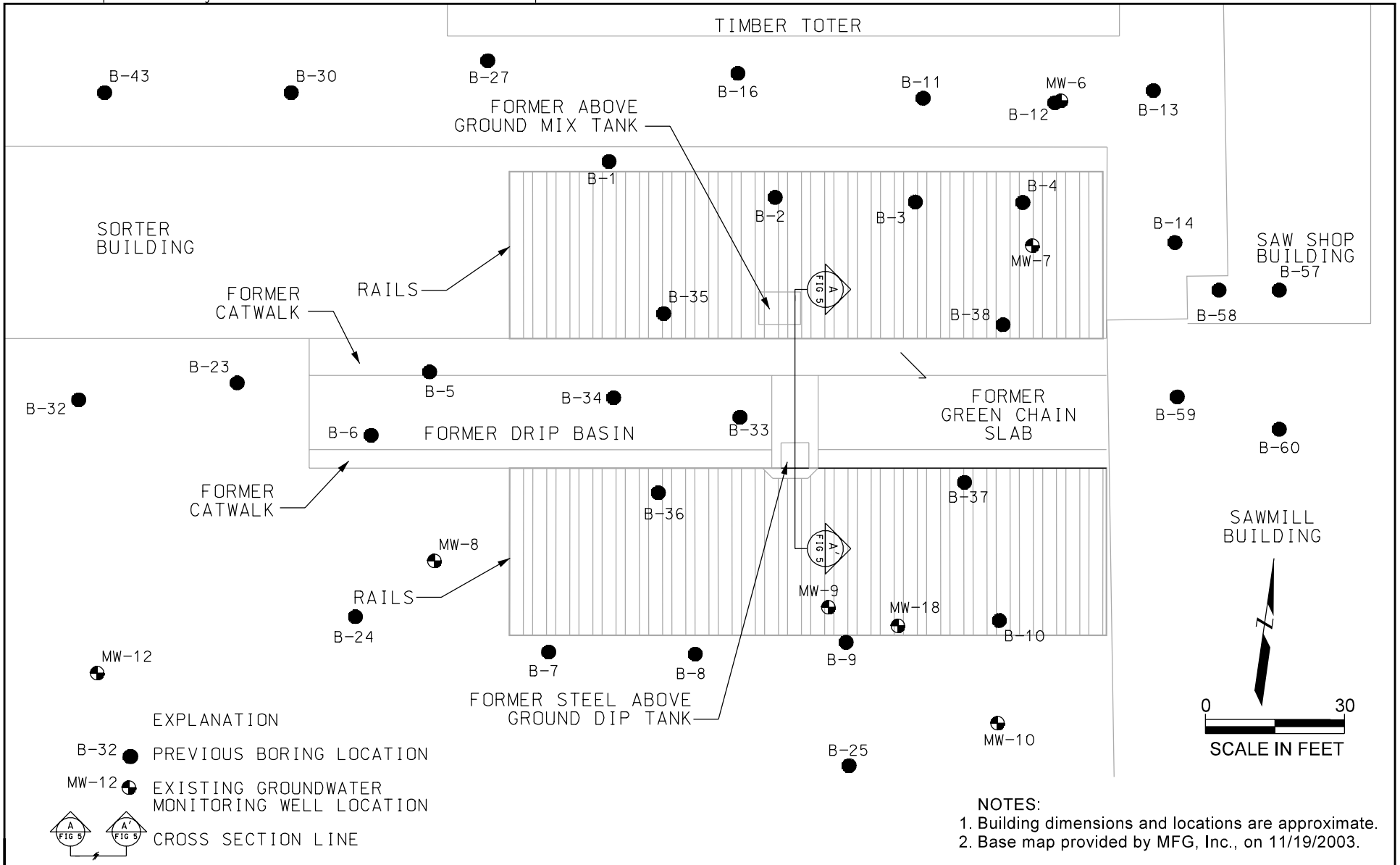
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SITE PLAN
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
 9329.011

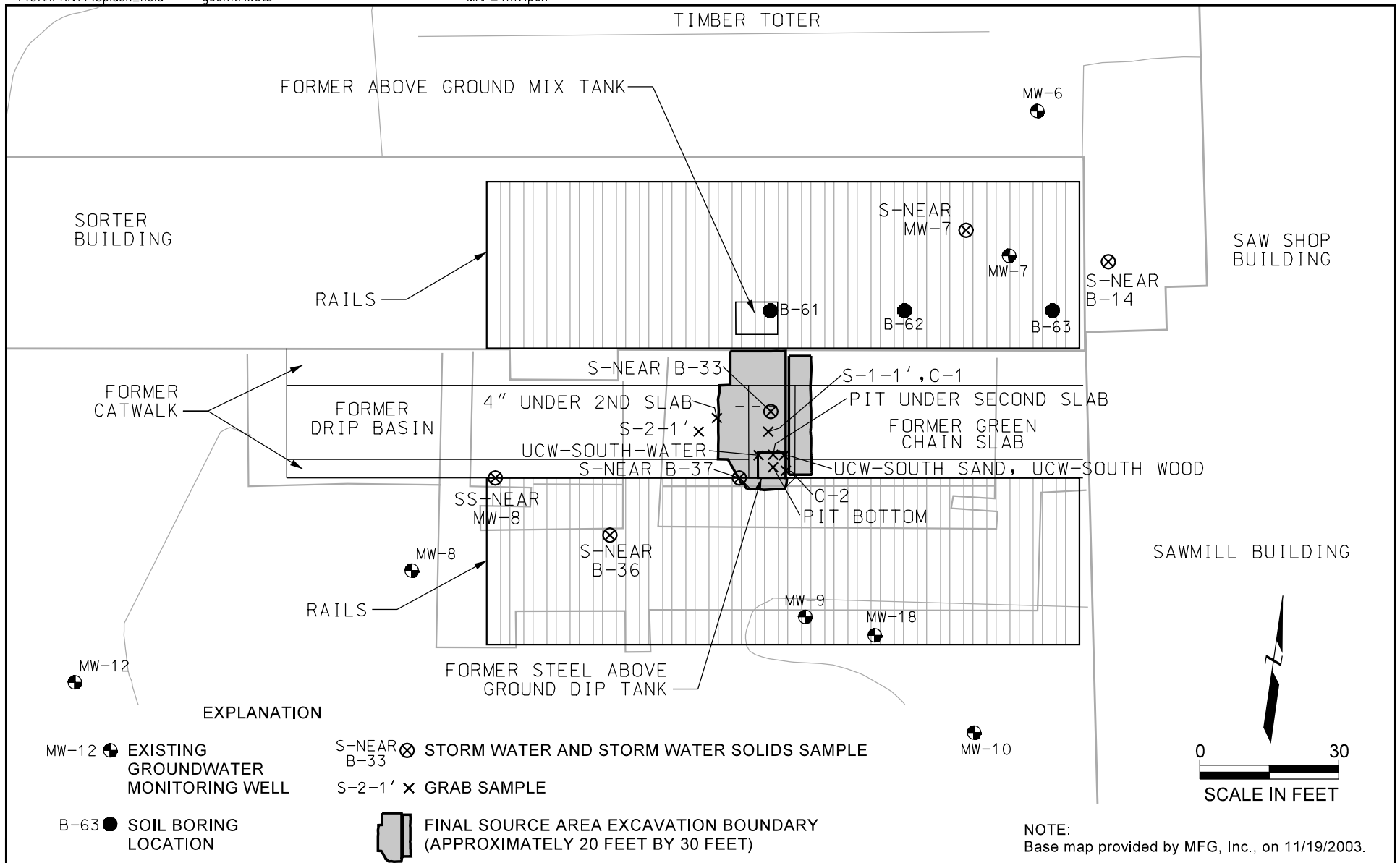
Figure
2



**PLAN OF FORMER GREEN CHAIN AREA WITH
 HISTORICAL BORING AND WELL LOCATIONS**
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
9329.011

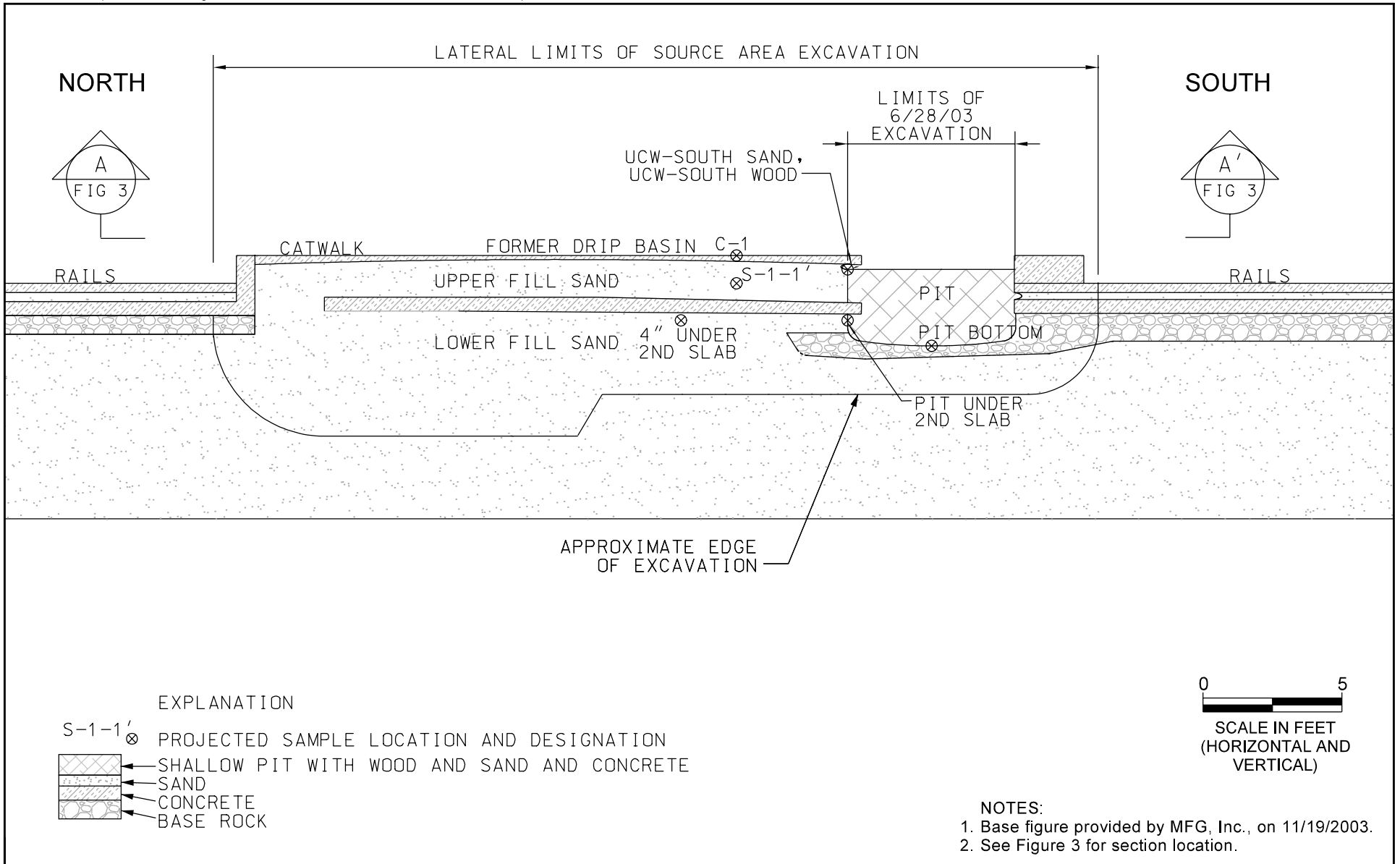
Figure
3



ADDITIONAL IRM SAMPLING LOCATIONS NEAR THE SOURCE AREA EXCAVATION
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
 9329.011

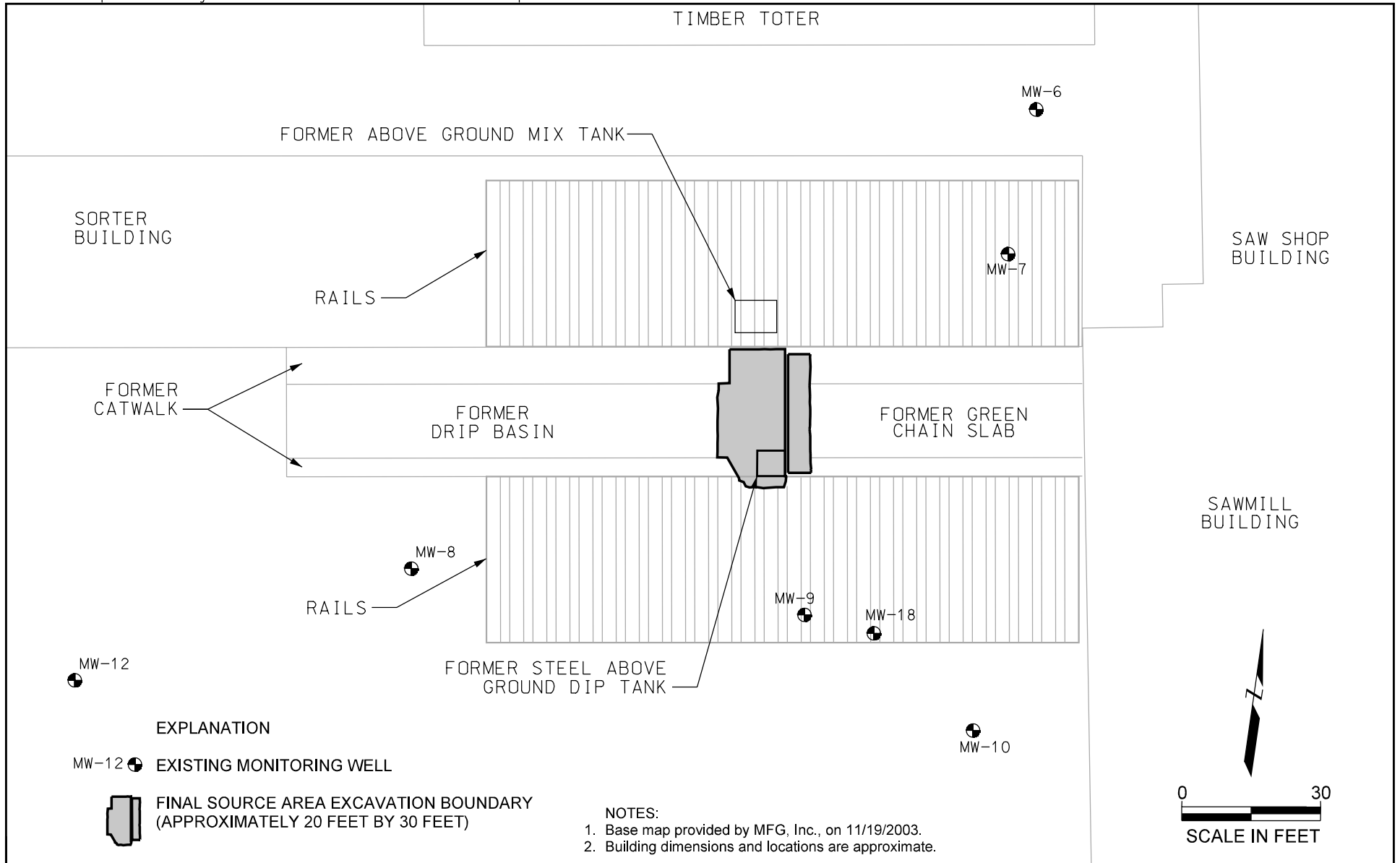
Figure
4



FORMER GREEN CHAIN SECTION A-A'
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
9329.011

Figure
5



EXPLANATION

MW-12 EXISTING MONITORING WELL

FINAL SOURCE AREA EXCAVATION BOUNDARY
 (APPROXIMATELY 20 FEET BY 30 FEET)

NOTES:

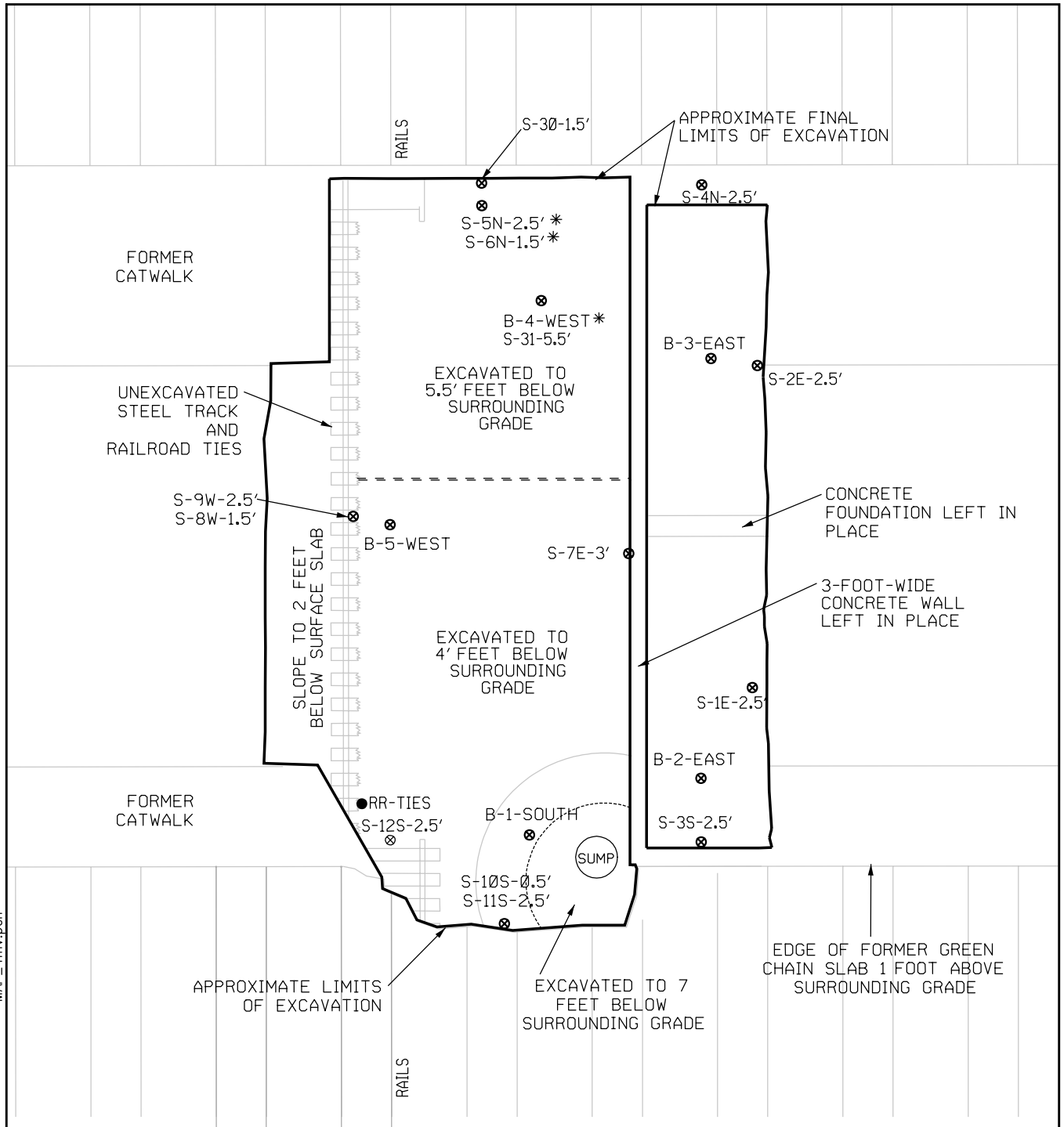
1. Base map provided by MFG, Inc., on 11/19/2003.
2. Building dimensions and locations are approximate.



FINAL SOURCE AREA EXCAVATION BOUNDARY
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
 9329.011

Figure
6

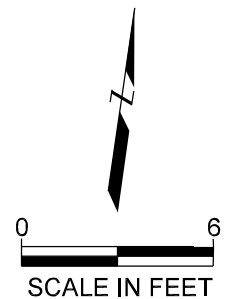


EXPLANATION

- B-5-WEST ⊗ SOIL SAMPLE LOCATION AND DESIGNATION
- RR-TIES ● WOOD SAMPLE LOCATION AND DESIGNATION
- * MATERIAL REPRESENTED BY SAMPLE WAS REMOVED THROUGH SUBSEQUENT EXCAVATION IN THIS AREA

NOTE:

Base map provided by MFG, Inc., on 11/19/2003.



MAP_4.rmv.pen

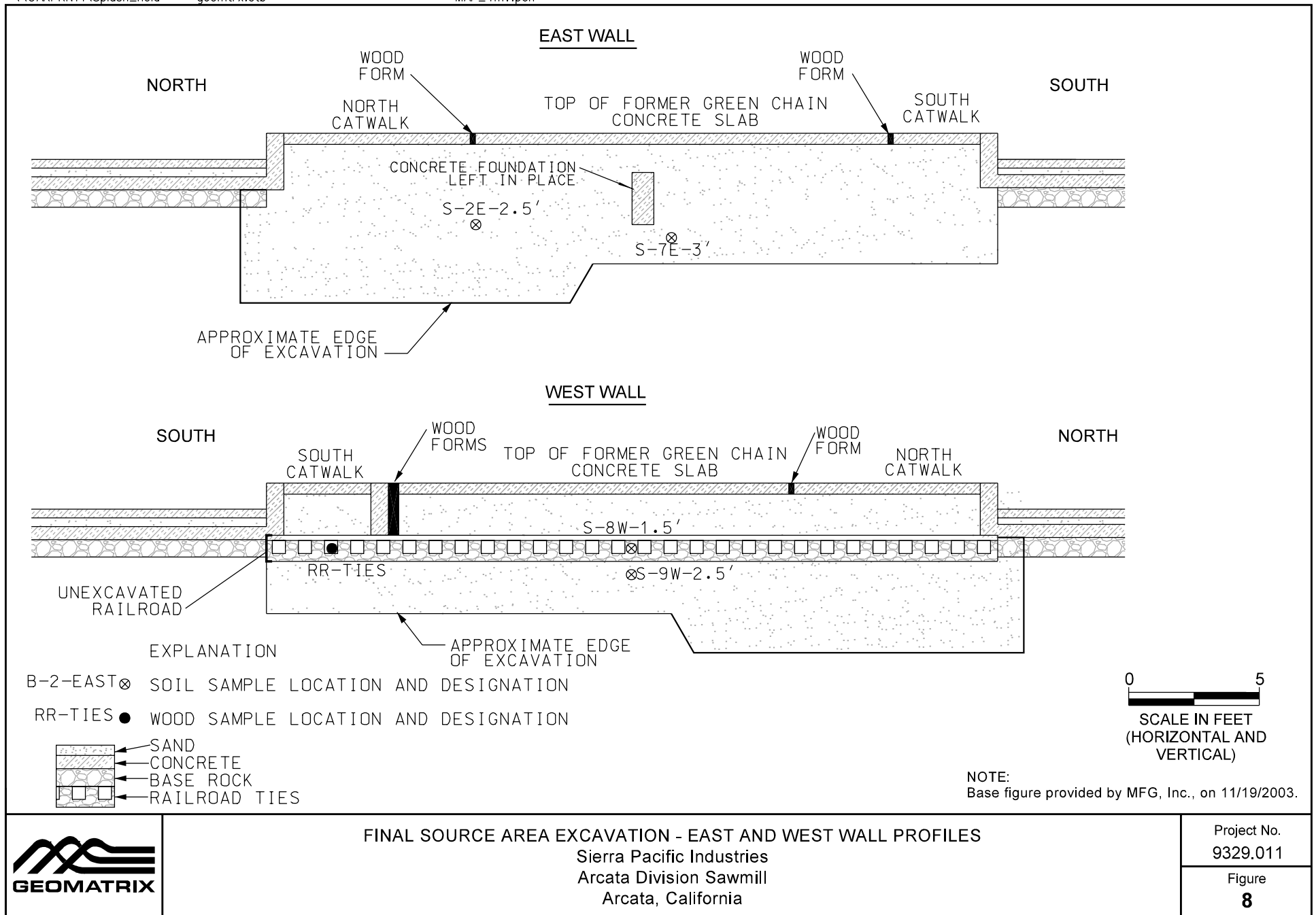
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LOCATION OF SOURCE AREA EXCAVATION SAMPLES
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No.
9329.011

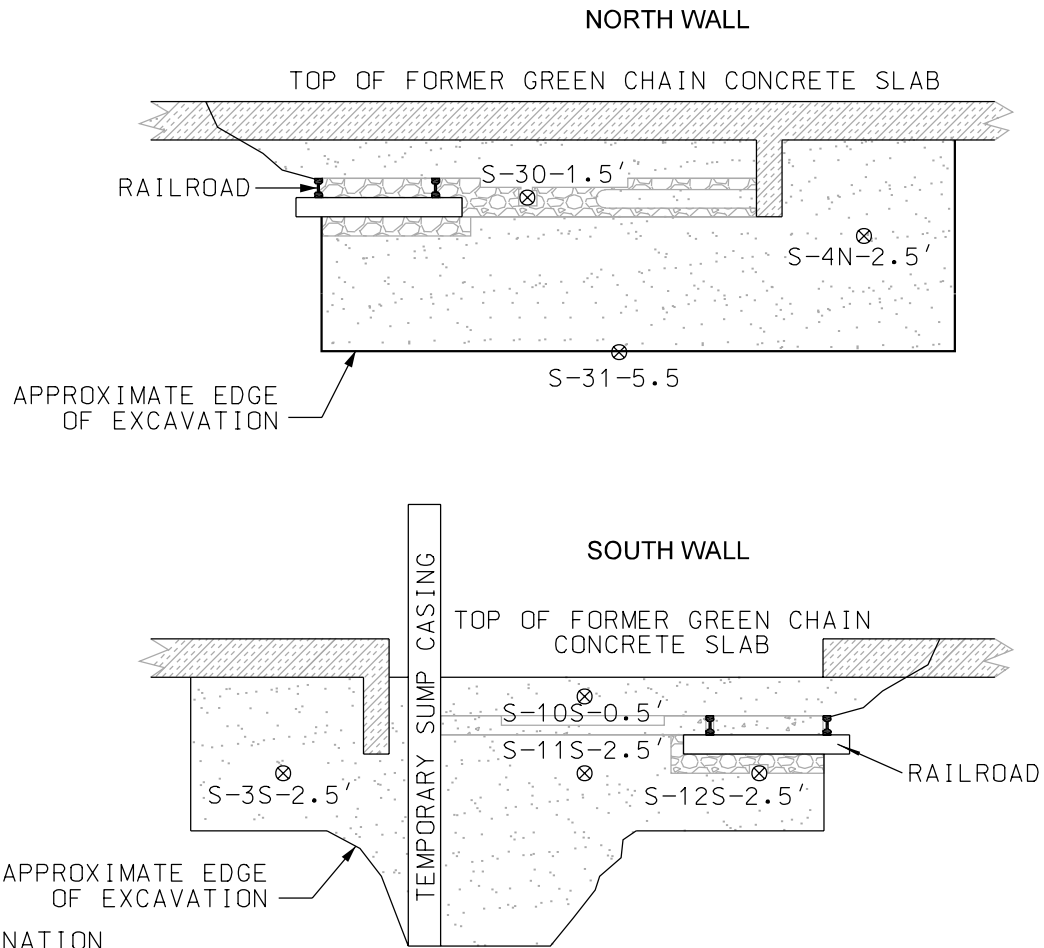
Figure
7



FINAL SOURCE AREA EXCAVATION - EAST AND WEST WALL PROFILES
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

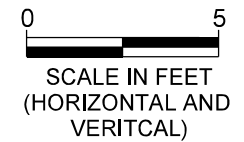
Project No.
9329.011

Figure
8



EXPLANATION

B-2-EAST ⊗ SAMPLE LOCATION AND DESIGNATION



NOTE:
 Base figure provided by MFG, Inc., on 11/19/2003.



FINAL SOURCE AREA EXCAVATION - NORTH AND SOUTH WALL PROFILES
 Sierra Pacific Industries
 Arcata Division Sawmill
 Arcata, California

Project No.
 9329.011

Figure
9

APPENDIX A

Humboldt County Boring Permit and Boring Logs

RECEIVED

AUG 25 2003

HUMBOLDT COUNTY DIVISION of ENVIRONMENTAL HEALTH - HAZARDOUS MATERIALS UNIT
WELL and BORING PERMIT APPLICATION HUMBOLDT CO. DIVISION OF ENVIRONMENTAL HEALTH

Facility ID # 1 NHU 526 Permit # 27-I

Facility Name: Sierra Pacific Industries, Arcata Sawmill Division

Site Address: 2593 New Navy Base Road, Arcata, CA

Site Owner: Sierra Pacific Industries Telephone: 530-378-8000

Address: P.O. Box 496028 Redding, CA 96049-6028 AP#: _____

RP Name: Sierra Pacific Industries Telephone: 530-378-8000

Address: P.O. Box 496028 Redding, CA 96049-6028

Consultant: MFG, Inc. - Orrin Plocher Telephone: 707-826-8430

Address: 875 Crescent Way Arcata, CA 95521 Reg.#/Type: _____

Driller: NA Telephone: _____

Address: _____ C-57 Lic.#: _____

# On-site		# Off-site	
Wells	Borings	Wells	Borings
	<u>5</u>		

Activity: Construct Destroy Repair/Modify Electrode Type: _____

Well Type: Monitoring Well Injection Well Vapor Extraction Geologic Boring
 Extraction Well Piezometer Vapor Point Soil Gas Survey
 Vadose Well Cathodic Protection Direct Push Boring Temporary Well Point

Investigation Type: Site Assessment Disposal Practice UST Other*
 Surface Contamination Surface Impoundment AST

*Specify: _____

Investigation Phase: Initial Subsequent Remediation Closure

Suspected Contaminants: Chlorinated Phenols, Dioxins/Furans

Disposal/Containment for Soil Cuttings: Asbury/DOT - 55 gallon drums

Disposal/Containment for Rinsate: Asbury/DOT - 55 gallon drums

Disposal/Containment for Development Water: Asbury/DOT - 55 gallon drums

Permits will not be processed with out the following information:

- Scaled Construction Detail
- Detailed Site Plan
- Lead Agency Approval Letter
- Off Site Well Requirements:
 - Legal Right of Entry
 - Off Site Address/Location
 - Encroachment Permit
 - Coastal Zone Permit
- Appropriate Fees
- Copy of Workplan (if not on file at HCDEH)

Proposed Work Date: 8/27/03 - 9/5/03

HUMBOLDT COUNTY DIVISION of ENVIRONMENTAL HEALTH - HAZARDOUS MATERIALS UNIT
WELL and BORING PERMIT APPLICATION

Facility ID # 1 NHU 526 Permit # 27-I

I hereby agree to comply with all laws, ordinances and regulations of the county of Humboldt and State of California pertaining to water well construction. I will contact the Humboldt County Hazardous Materials Unit at (707) 445-6215 five (5) working days prior to commencing this work. I will furnish to the County of Humboldt, Division of Environmental Health, and the owner a legible copy of the State Water Well Completion Report (form DWR 188) within fifteen (15) days after completion of work to obtain final approval of the well(s). I acknowledge that the application will become a permit ONLY after site approval by the Local Implementing Agency (HCDEH, NCRWQCB, DTSC, EPA). I understand this permit is not transferable and expires one hundred twenty (120) days from the date of issuance.

Certificates of Insurance:

- A currently effective General Liability Certificate of Insurance is on file with this office, endorsed to include the Humboldt County Division of Environmental Health as additional named insured.
- A currently effective Worker's Compensation Certificate of Insurance is on file with this office, endorsed to include the Humboldt County Division of Environmental Health as additional named insured.

MFG Hand boring
Signature of Well Driller - no proxies - original signature only in blue ink _____ Date _____

- Well identification number and type must be affixed to exterior surface of security structure.
- The applicant is responsible for notifying Underground Services Alert at least 48 hours prior to the scheduled work date.
- A State of California Department of Water resources Well Completion Report (Form DWR 1-88) must be filed within 15 days of completion of work for all well completions and destructions.
- A licensed California C-57 Well Driller is required for all wells and direct push work.

FOR OFFICE USE ONLY

Permit Approval: Norman Crawford Date: 8/25/2003

Fee: \$ 88.00 Date: 8/25/2003 Receipt: 219542

Initial Inspection: _____ Date: _____

Final Inspection: _____ Date: _____

APPENDIX C

Boring Logs

ABBREVIATIONS / SYMBOLS USED IN BORING LOGS

GENERAL

PID - Photoionization Detector
OVM - Organic Vapor Meter
ppm - parts per million in air
sfc csg - surface casing
USCS - United Soil Classification System
NGVD - National Geodetic Vertical Datum of 1929
NAVD - North American Vertical Datum of 1988
NA - Not Analyzed

slt - slight or slightly
bgl - below ground level
DTW - depth to water

COLORS

v - very
lt - light
dk - dark
yel - yellow/yellowish
brn - brown/brownish
red-brn - reddish brown
a.a. - as above
(10YR 4/6) - Munsell notation
(hue value/chroma)

SAND GRAIN SIZE

VF - Very Fine
F - Fine
Med - Medium
Crs - Coarse

DENSITY / STIFFNESS

Med - Medium
V - Very

GEOLOGICAL CONTACTS

———— - Observed Contact
----- - Inferred Contact

GEOTECHNICAL

L.L. - Liquid Limit in percent
P.I. - Plasticity Index in percent
K - Vertical Hydraulic Conductivity
(permeability) in cm/sec

MOISTURE CONTENT

▼ - Observed top of saturated
soil interval

NOTE:

Field soil logging procedures were performed in accordance with ASTM D-2488-93 (Visual-Manual Procedure).

EXPLANATION FOR BORING LOGS

MFG, Inc.
consulting scientists and engineers



MFG, Inc.

consulting scientists and engineers

LOG OF BORING B-61

(Page 1 of 1)

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Drilling Agency : MFG, Inc. Logged By : Matt Hillyard
 Drilling Method : Stainless Steel Hand Auger Reviewed By : Christopher Spill, R.G.
 Sampler Type : Grab Sample, Stainless Steel Drive Sampler and Slide Hammer
 Sampling Method : Grab Sample or Brass Liners
 Ground Elevation : Not Surveyed

MFG Project No. 030275.11

Date Started: August 28, 2003
Date Finished: August 29, 2003

Depth in Feet	DESCRIPTION	USCS	Samples	Recovery (inches)	REMARKS
0	Concrete		1	4	Collected concrete sample B-61-Concrete Upper at 0 to 4 inches bgl.
	SAND: dk brn; F to Med sand, few silt, moist	SP			
	Concrete		2	6	Collected concrete sample B-61-Concrete Lower at 7 to 13 inches bgl.
1	GRAVEL WITH SAND: grey; angular to subangular F gravel, some Med to Crs sand, moist	GP	3	2	Collected soil sample B-61-1.2' at 13 to 15 inches bgl.
	SAND: grey; F to Med sand, few angular to subangular F gravel				
	- wet				
2		SP			
3			4	6	Collected soil sample B-61-3' at 33 to 39 inches bgl.



NOTES:

1. Boring augered to a depth of 39 inches.
2. Boring was backfilled with cement grout.



MFG, Inc.

consulting scientists and engineers

LOG OF BORING B-62

(Page 1 of 1)

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Drilling Agency	: MFG, Inc.	Logged By	: Matt Hillyard
Drilling Method	: Stainless Steel Hand Auger	Reviewed By	: Christopher Spill, R.G.
Sampler Type	: Grab Sample, Stainless Steel Drive Sampler and Slide Hammer		
Sampling Method	: Grab Sample or Brass Liners		
Ground Elevation	: Not Surveyed		

MFG Project No. 030275.11

Date Started: August 28, 2003
Date Finished: August 29, 2003

Depth in Feet	DESCRIPTION	USCS	Samples	Recovery (inches)	REMARKS
0	Concrete		1	3.5	Collected concrete sample B-62-Concrete Upper at 0 to 3.5 inches bgl.
	SAND: dk brn; F to Med sand, few silt, moist	SP			
	Concrete		2	6	Collected concrete sample B-62-Concrete Lower at 5 to 11 inches bgl.
1	GRAVEL WITH SAND: grey; angular to subangular F gravel, some Med to Crs sand, moist	GP	3	2	Collected soil sample B-62-1' at 11 to 13 inches bgl.
	SAND: grey; F to Med sand, few angular to subangular F gravel - wet				
2		SP			
3			4	6	Collected soil sample B-62-3' at 33 to 39 inches bgl.



NOTES:

- Boring augered to a depth of 39 inches.
- Boring was backfilled with cement grout.



MFG, Inc.

consulting scientists and engineers

LOG OF BORING B-63

(Page 1 of 1)

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Drilling Agency	: MFG, Inc.	Logged By	: Matt Hillyard
Drilling Method	: Stainless Steel Hand Auger	Reviewed By	: Christopher Spill, R.G.
Sampler Type	: Grab Sample, Stainless Steel Drive Sampler and Slide Hammer		
Sampling Method	: Grab Sample or Brass Liners		
Ground Elevation	: Not Surveyed		

MFG Project No. 030275.11

Date Started: August 29, 2003
Date Finished: August 29, 2003

Depth in Feet	DESCRIPTION	USCS	Samples	Recovery (inches)	REMARKS
0	Concrete		1	4	Collected concrete sample B-63-Concrete Upper at 0 to 4 inches bgl.
	SAND: dk brn; F to Med sand, few silt, moist	SP			
	Concrete		2	6	Collected concrete sample B-63-Concrete Lower at 5 to 11 inches bgl.
1	GRAVEL WITH SAND: grey; angular to subangular F gravel, some Med to Crs sand	GP	3	2	Collected soil sample B-63-1' at 11 to 13 inches bgl.
	SAND: grey; F to Med sand, few angular to subangular F gravel, moist				
	- wet				
2		SP			
3			4	6	Collected soil sample B-63-3' at 33 to 39 inches bgl.



Cement Grout

NOTES:

- Boring augered to a depth of 39 inches.
- Boring was backfilled with cement grout.

11-20-2003 H:\Projects\030275-SPINTask 11_IRM\IRM\MW7 Area Borings\B-63.bor

APPENDIX B

California Coastal Commission Emergency Permit

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET, SUITE 200
EUREKA, CA 95501

(707) 445-7833

www.coastal.ca.gov

EMERGENCY PERMITSierra Pacific Industries - Arcata Division
P. O. Box 1189
Arcata, CA 95521Date September 8, 2003
Emergency Permit 1-03-056-G**LOCATION OF EMERGENCY WORK:**

Sierra Pacific Sawmill, adjacent to the Mad River Slough along Samoa Boulevard, west of Arcata, Humboldt County (APN(s) 506-061-10)

WORK PROPOSED:

The proposed work involves the completion of the removal of up to 400 cubic yards of contaminated material from an approximately 3,640-square-foot area at the former dip tank location of the Sierra Pacific Industries mill site. The contaminated material was recently discovered and was determined to be the source of elevated levels of pentachlorophenol (PCP) and dioxins that become entrained in stormwater runoff and conveyed to an outfall along the Mad River Slough. The contamination of Mad River Slough has been under the investigation for some time, but until now the precise source of the contamination was unknown. The excavated material would be contained in soil boxes or a constructed containment area and groundwater from the excavation area would be contained in a tank. The area would be backfilled with clean material following excavation. The work is being conducted pursuant to a Cleanup and Abatement Order from the Regional Water Quality Control Board (RWQCB). The RWQCB Order requires Sierra Pacific Industries to eliminate all contaminated discharge to the slough. The RWQCB has indicated that the contaminated material needs to be removed as soon as possible because until removed, elevated PCP and dioxins in the source area will continue to contaminate stormwater runoff entering the slough, thereby potentially spreading the extent of the contamination. The elevated contaminants also present a threat to the health of mill workers.

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from your information and our site inspection that an unexpected occurrence in the form of contaminated stormwater runoff creating an ecological risk to the flora and fauna resources of Mad River Slough and the contaminated site poses a threat to the health of mill workers. Therefore, the situation requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director of the Coastal Commission hereby finds that:

- (a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 30 days unless otherwise specified by the terms of this permit;
- (b) Public comment on the proposed emergency action has been reviewed if time allows;
- (c) As conditioned, the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the attached page.

Sincerely,

PETER M. DOUGLAS
Executive Director
By: ROBERT MERRILL
North Coast District Manager

Emergency Permit Number: 1-03-056-G

Date: 9/8/2003

Page 2 of 2

CONDITIONS OF APPROVAL:

1. The enclosed Emergency Permit Acceptance form must be signed by the PROPERTY OWNER and returned to our office within 15 days.
2. Only that work specifically described in this permit and for the specific property listed above is authorized. Any additional work requires separate authorization from the Executive Director.
3. The work authorized by this permit must be completed within 60 days.
4. The permittee shall obtain a regular Coastal Permit to have the emergency work be considered permanent. If no such application is received, the emergency work shall be removed in its entirety within 180 days of the date of this permit, unless this requirement is waived in writing by the Executive Director.
5. In exercising this permit, the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.
6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies (i.e. Humboldt County, Dept. of Fish & Game, U.S. Fish & Wildlife, U.S. Army Corps of Engineers, State Lands Commission.)

As noted in Condition #4, the emergency work carried out under this permit is considered to be TEMPORARY work done in an emergency situation. If the property owner wishes to have the emergency work become a permanent development, a Coastal Permit must be obtained. A regular permit would be subject to all of the provisions of the California Coastal Act and may be conditioned accordingly. These conditions may include provisions for public access (such as an offer to dedicate and easement) and/or a requirement that a deed restriction be placed on the property assuming liability for damages incurred from storm waves.

If you have any questions about the provisions of this emergency permit, please call the Commission's North Coast District Office at the address and telephone number listed on the first page.

cc: Local Planning Department
M.F.G., Inc., Attn: Fred Charles, 1165 G Street, Suite E, Arcata, CA 95521

Enclosure: Acceptance Form

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE MAILING ADDRESS:
710 E STREET • SUITE 200 P. O. BOX 4908
EUREKA, CA 95501-1865 EUREKA, CA 95502-4908
VOICE (707) 445-7833
FACSIMILE (707) 445-7877



EMERGENCY PERMIT ACCEPTANCE FORM

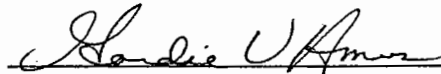
TO: CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
710 E STREET, SUITE 200
EUREKA, CA 95501
(707) 445-7833

RE: **Emergency Permit No.**

INSTRUCTIONS: After reading the attached Emergency Permit, please sign this form and return to the North Coast District Office within 15 working days from the permit's date.

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them.

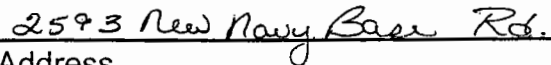
I also understand that the emergency work is TEMPORARY and that a regular Coastal Permit is necessary to make it a permanent installation. I agree to apply for a regular Coastal Permit within 60 days of the date of the emergency permit, OR I will remove the emergency work authorized by such permit in its entirety within 180 days of the date of the emergency permit.



Signature of property owner or
authorized representative

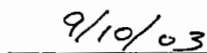


Name



Address





Date of Signing



APPENDIX C

Health and Safety Summary

APPENDIX C

HEALTH AND SAFETY SUMMARY Sierra Pacific Industries Arcata Division Sawmill Arcata, California

GENERAL SAFETY PROCEDURES

Sampling and observation fieldwork was performed by MFG, Inc. (MFG), personnel in accordance with MFG's project-specific Health and Safety Plan or by Geomatrix personnel in accordance with the Geomatrix project health and safety plan. Foss Environmental adopted MFG's Health and Safety Plan, together with its own task-specific safe work practices, for its excavation activities. An MFG-designated Health and Safety Officer was present on site for the duration of work activities except for the Third Phase of Excavation (November 6, 2003) when a Geomatrix-designated Health and Safety Office was present on site. During excavation activities, MFG or Geomatrix observed the work for conformance with the applicable Health and Safety Plan, conducted project orientation briefings and daily health and safety meetings, and performed air monitoring. Further information on air monitoring is presented herein.

AIR MONITORING

During excavation work on June 28 and September 13 through 15, 2003, MFG collected downwind and ambient air samples to help assess potential emissions of dioxins and furans during the work. In addition, MFG conducted real-time dust monitoring and observed the work for visible dust emissions throughout the excavation activities to help assess potential emissions and verify the effectiveness of dust control. During sampling and monitoring, MFG measured wind direction and speed using a windsock, compass and hand-held anemometer, and recorded observations regarding general atmospheric conditions.

During the work in June, the predominant wind direction was from the northwest at speed ranging from 0 to 8 mph. Atmospheric conditions varied from clear to overcast. No visible dust emissions were observed. During the work in September, the predominant wind direction was from the north-northwest at speed ranging from 0 to 9 mph. Atmospheric conditions varied from clear to overcast. No visible dust emissions were observed. Ambient air samples were collected at sampling stations set up approximately 70 feet northwest (upwind) and approximately 70 feet southeast of the excavation. The ambient air samples were collected on poly-urethane foam samplers using a Tisch TE-

1000 high-volume air sampling station with the sample intakes were set approximately 4.3 feet above ground level. Pertinent data, including air flow meter readings, on/off times and atmospheric conditions were recorded on field sampling records.

At the completion of sampling, the poly-urethane foam samplers were sealed, labeled and immediately placed in an ice-cooled, insulated chest for transport to the laboratory. Chain-of-custody records were completed for the samples and accompanied the samples until receipt by the laboratory. The ambient air samples were submitted for chemical analysis to Frontier Analytical Laboratory of El Dorado Hills, California to be analyzed for tetra- through octa-chlorinated dibenzo-dioxins and furans (dioxins and furans) using EPA Method T-09. Copies of the laboratory reports and chain-of-custody records are included in this Appendix. The toxicity equivalent quotient (TEQ) concentrations of dioxins and furans detected in the samples are summarized in Table D-1.

The results summarized above indicate that very low concentrations of dioxins and furans were detected in both the upwind and downwind air samples. Downwind concentrations were higher than upwind concentrations; however, all detected concentrations were well below (by one or more orders of magnitude) concentrations generally considered acceptable for site workers (1×10^{-8} TEQ mg/ms). The work area was located approximately 400 feet upwind of the site boundary resulting in additional downwind dispersion.

Real-time dust monitoring was performed in the field using a Thermo Electron Corporation 1000An Personal DataRam™. The DataRam was calibrated by zeroing the unit with particle free air. The PDR was set such that the instrument would read air particulates in mg/m³. Air dust monitoring was performed throughout the excavation activities from several locations in the immediate proximity upwind and downwind of the excavation activity. All dust concentrations detected were well below project-specific action levels established for the work in the Health and Safety Plan. In general, upwind and downwind dust concentrations were indistinguishable using at the 95 percent confidence level when data were analyzed using a Student's T-Test.

Based on review of the available data at the time of the Third Phase of Excavation (November 6, 2003) and wet conditions, only visual air monitoring for dust was deemed to be necessary. No visible dust was observed during fieldwork on November 6, 2003.

TABLE C-1



**TOXICITY EQUIVALENT QUOTIENT CONCENTRATIONS OF
DIOXINS AND FURANS DETECTED IN AIR SAMPLES**

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Sample ID	Sample Date	Sample Location	TEQ pg/sample	Air Sample Volume (m ³)	Air Concentration TEQ mg/m ³
MFG/SPIUW Foam/Filter	6/28/2003	Upwind	0.00928	87.4	1.06x10 ⁻¹³
MFG/SPI-DW Foam/Filter	6/28/2003	Downwind	8.82	95.5	9.23x10 ⁻¹¹
Table hUW-2	9/13/03 through 9/15/2003	Upwind	8.4-4	438	9.13x10 ⁻¹¹
DW-2	9/13/03 through 9/15/03	Downwind	768	420	1.83x10 ⁻⁹

Abbreviations

TEQ mg/m³ = toxic equivalency Mg/ms - milligrams per cubic meter
 mg/kg = milligrams per kilogram
 pg/sample = picograms per sample
 TEQ = toxic equivalency

7/3/2003

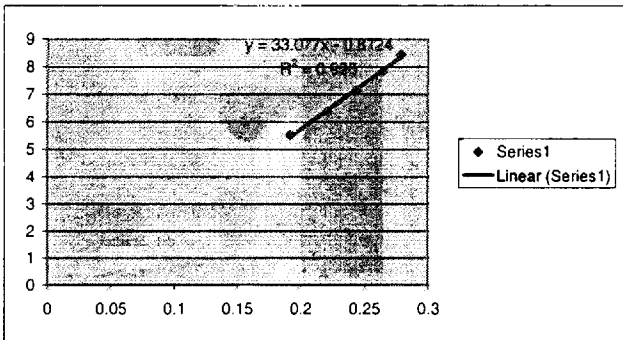
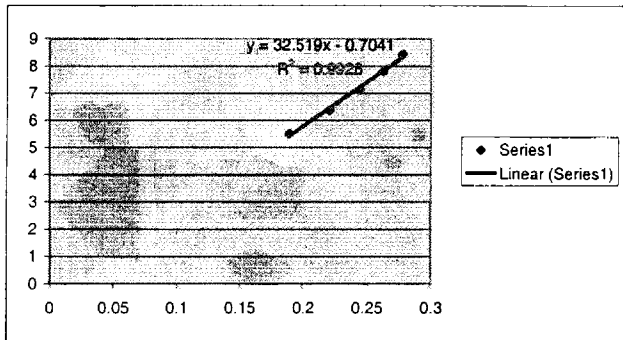
70 degrees, 30 inch Hg

Pump 2897--Up Wind

Magnehelic Guage	H2O		Pa	Calibration		Pa/Pstd Pa/760	Tstd/Ta 298/Ta	H2O(Pa/Pstd)(Tstd/Ta)	Sqrt K	Qstd	FLOW (corrected)	m	b	Pav	Tav
	Manometer	Ta		Orifice m	Orifice b										
70.0	7.4	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	7.462977428	2.731845	0.277614	8.430656885	32.519	-0.7041		
60.0	6.6	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	6.650680565	2.578891	0.262244	7.805271598	32.519	-0.7041		
50.0	5.7	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	5.736846595	2.395172	0.243783	7.125205536	32.519	-0.7041		
40.0	4.6	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	4.670706962	2.161182	0.22027	6.372977573	32.519	-0.7041		
30.0	3.4	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	3.401493114	1.844314	0.18843	5.519160476	32.519	-0.7041		

Pump 2898--Down Wind

Magnehelic Guage	H2O		Pa	Calibration		Pa/760	298/Ta	Qstd	FLOW (corrected)	m	b	Pav	Tav
	Manometer	Ta		Orifice m	Orifice b								
70.0	7.4	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	7.513745982	2.741121	0.278546	8.430656885	33.077	-0.8724
60.0	6.6	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	6.721756541	2.592635	0.263625	7.805271598	33.077	-0.8724
50.0	5.6	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	5.726692884	2.393051	0.24357	7.125205536	33.077	-0.8724
40.0	4.6	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	4.691014384	2.165875	0.220742	6.372977573	33.077	-0.8724
30.0	3.5	294.2611	762	9.95164	-0.03087	1.002631579	1.012706063	3.503030222	1.871638	0.191175	5.519160476	33.077	-0.8724



6/28/2003

Upwind		Station 4	
Time	Dust mg/m3	wind speed	Temp
0835	0.097	3	78
	0.066	0	82
	0.057	6	82
	0.039	5	78
	0.022	4	80
	0.035	7	78
	0.024	6	80
	0.023	5	80
	0.005	5	82
1338	0	8	75
Averages	0.0368	4.9	79.5

Downwind		Station 2	
Time	Dust mg/m3	wind speed	Temp
0832	0.011	0	78
	0.078	0	80
	0.045	0	80
	0.04	6	80
	0.035	0	82
	0.035	3	84
	0.013	3	82
	0.025	3	78
	0.019	0	87
1332	0.001	4	80
Averages	0.0302	1.9	81.1

91303

91403

91503

	Total Hrs Minutes			Total Hrs Minutes			Total Hrs Minutes		
Start Meter	DW	9:15		DW	8:35		DW	7:59	
End Meter	2030.13	9.5	570	2039.64	10.62	637.2	2050.26	5.11	306.6
Total Liters	2039.63			2050.26			2055.37		
Tav Pav	71 29.88	295 758.952	1.010169 0.998621	71 29.94	295 760.476	1.010169 1.000626	55 30.005	286 762.127	1.041958042 1.002798684
Pstart Pstop	29.91 29.85			29.92 29.96			29.99 30.02		
lpm Total Liters	276.3775 157535.2			276.6455 176278.5			281.1145 86189.71		

Downwind Total Liters 420003.4 pg 768 pg¹ 0.001828557 TEQ pg/cubic meter 1.828556731 TEQ mg/cubic meter 1.82856E-09

	Total Hrs Minutes			Total Hrs Minutes			Total Hrs Minutes		
Start Meter	UW	9:20		UW	8:40		UW	8:03	
End Meter	123.47	10.42	625.2	133.89	10.58	634.8	144.47	5.17	310.2
Total Liters	133.89			144.47			149.64		
Tav Pav	68 29.88	293 758.952	1.017065 0.998621	68 29.94	293 760.476	1.017065 1.000626	55 30.005	286 762.127	1.041958042 1.002798684
Pstart Pstop	29.91 29.85			29.92 29.96			29.99 30.02		
lpm Total Liters	278.4213 174069			278.6762 176903.7			282.0491 87491.62		

Upwind Total Liters 438464.2 pg 8.44 pg¹ 1.9249E-05 TEQ pg/cubic meter 0.019249004 TEQ mg/cubic meter 1.9249E-11

	91303	91303	91403	91403	91503	91503
DW		UW	DW	UW	DW	UW
64		60	62	57	53	59
71		71	75	73	60	62
71		71	75	73	53	51
75		69	75	73	53	53
84		73	69	69	54.75 Temp Ave	60
69		68	69	69		57 Temp Ave
73		68	73	69		
73		69	71.14286 Temp Ave	62		
59		59		68.125 Temp Ave		
71 Temp Ave		67.55556 Temp Ave				

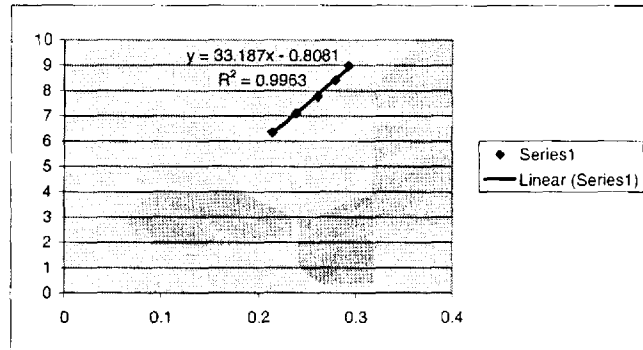
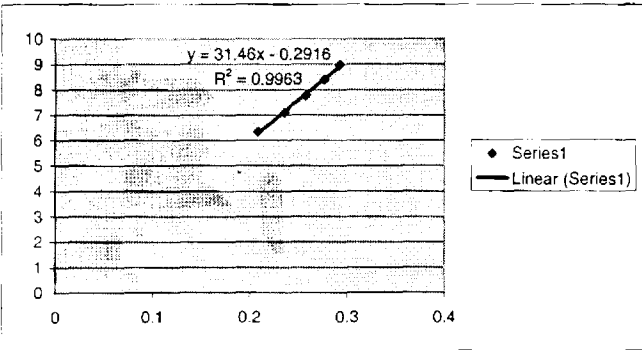
9/12/2003 24 degrees C 30.01 inches Hg 297

UW-3076

Magnehelic Guage	H2O		Pa	Calibration		Pa/760	298/Ta	H2O(Pa/Pstd)/(Tstd/Ta)	Sqrt K	Qstd	FLOW (corrected)	m	b	Pav	Tav
	Manometer	Ta		Orifice m	Orifice b										
80.0	7.7	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	7.748839396	2.783674	0.292182	8.972592841	31.46	-0.2916		
70.0	6.9	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	6.943765173	2.635102	0.276784	8.393092071	31.46	-0.2916		
60.0	6.0	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	6.038056672	2.457246	0.258351	7.770493338	31.46	-0.2916		
50.0	5.0	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	5.031713893	2.243148	0.236162	7.093457474	31.46	-0.2916		
40.0	3.9	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	3.924736837	1.981095	0.209003	6.344581243	31.46	-0.2916		

DW-3074

Magnehelic Guage	H2O		Pa	Calibration		Pa/760	298/Ta	H2O(Pa/Pstd)/(Tstd/Ta)	Sqrt K	Qstd	FLOW (corrected)	m	b	Pav	Tav
	Manometer	Ta		Orifice m	Orifice b										
80.0	7.7	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	7.748839396	2.783674	0.292182	8.972592841	33.187	-0.8081		
70.0	7.0	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	7.044399451	2.654129	0.278756	8.393092071	33.187	-0.8081		
60.0	6.1	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	6.13869095	2.477638	0.260465	7.770493338	33.187	-0.8081		
50.0	5.1	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	5.132348171	2.265469	0.238475	7.093457474	33.187	-0.8081		
40.0	4.1	297	762.254	9.64887	-0.03555	1.002965789	1.003367003	4.126005393	2.031257	0.214202	6.344581243	33.187	-0.8081		



9/13/2003

Upwind

time	Dust mg/m3	wind speed	Temp
0935	0.161	2	60
	0.078	0	71
	0.045	3	71
	0.05	3	69
	0.041	5	73
Mill start-up 1515	0.096	6	68
	0.07	5	68
	0.064	4	69
1910	0.119	2	59
Averages	0.08	3.33	67.56

Mill start-up

9/13/2003

Downwind

time	Dust mg/m3	wind speed	Temp
0925	0.17	0	64
	0.076	2	71
	0.039	0	71
	0.025	4	75
	0.053	3	84
Mill start-up 1510	0.166	5	69
	0.056	2	73
	0.137	2	73
1905	0.147	5	59
Averages	0.10	2.56	71.00

Mill start-up

9/14/2003

Upwind

time	Dust mg/m3	wind speed	Temp
0855	0.03	0	57
	0	3	73
	0.001	4	69
	0	6	69
	0.025	9	69
1805	0.025	2	62
Averages	0.01	4.00	66.50

9/14/2003

Downwind

time	Dust mg/m3	wind speed	Temp
0850	0.096	0	62
	0.012	4	75
	0	4	75
	0	0	69
	0	0	73
1815	0.118	0	69
Averages	0.04	1.33	70.50

9/15/2003

Upwind			
time	Dust mg/m3	wind speed	Temp
0803	0.04	4	59
	0.03	2	62
	0.034	6	51
	0.05	6	53
	0	6	60
1512	0.025	3	69
Averages	0.03	4.50	59.00

9/15/2003

Downwind			
time	Dust mg/m3	wind speed	Temp
0759	0.042	3	53
	0.025	5	60
	0.04	4	53
	0.05	4	53
	0.035	4	57
1507	0.05	0	69
Averages	0.04	3.33	57.50

APPENDIX D

Laboratory Analytical Reports and Chain-of-Custody Record

- D-1 Storm Water and Storm Water Solids Samples**
- D-2 Samples from Shallow Pit Beneath the South Catwalk**
- D-3 Concrete and Upper Fill Material Samples**
- D-4 First Phase of Excavation Samples**
- D-5 Lower Fill Material Samples**
- D-6 Drainage Ditch #2 Sample**
- D-7 Soil Borings Near Monitoring Well MW-7**
- D-8 Second Phase of Excavation Samples**
- D-9 Third Phase of Excavation Samples**
- D-2 Air and Dust Monitoring Data**

D-1 Storm Water and Storm Water Solids Samples



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

14 May 2003

MFG, Inc - Arcata

Attn: Orrin Plocher

1165 G. Street, Suite E

Arcata, CA 95521

RE: SPI Arcata Sawmill

Work Order: A305081

STORM WATER AND
STORM WATER SOLIDS
SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 05/05/03 15:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly For Sheri L. Speaks
Project Manager

RECEIVED

MAY 19 2003

Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

<u>Sample ID</u>	<u>Laboratory ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
S-Near MW-7 Water	A305081-01	Water	05/01/03 00:00	05/05/03 15:35
S-Near MW-7 Sediment	A305081-02	Soil	05/01/03 00:00	05/05/03 15:35
S-Near B-14 Water	A305081-03	Water	05/01/03 00:00	05/05/03 15:35
S-Near B-14 Sediment	A305081-04	Soil	05/01/03 00:00	05/05/03 15:35
S-Near B-33 Sediment	A305081-05	Soil	05/01/03 00:00	05/05/03 15:35
S-Near B-33 Water	A305081-06	Water	05/01/03 00:00	05/05/03 15:35
S-Near MW-8 Water	A305081-07	Water	05/01/03 00:00	05/05/03 15:35
S-Near MW-8 Sediment	A305081-08	Soil	05/01/03 00:00	05/05/03 15:35
SS-Near B-37 Water	A305081-09	Water	05/01/03 00:00	05/05/03 15:35
SS-Near B-37 Sediment	A305081-10	Soil	05/01/03 00:00	05/05/03 15:35
S-Near B-36 Water	A305081-11	Water	05/01/03 00:00	05/05/03 15:35
S-Near B-36 Sediment	A305081-12	Soil	05/01/03 00:00	05/05/03 15:35

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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MAY 19 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 2 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
S-Near MW-7 Water (A305081-01)		Sample Type: Water		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	8.1 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	2.6 "	1.0
Pentachlorophenol	"	"	"	05/11/03	"	28 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	05/09/03	"	79.9 %	50-150
S-Near MW-7 Sediment (A305081-02)		Sample Type: Soil		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"	"	66.9 %	23-140
S-Near B-14 Water (A305081-03)		Sample Type: Water		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"	"	71.1 %	50-150
S-Near B-14 Sediment (A305081-04)		Sample Type: Soil		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03

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MAY 19 2003

Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 3 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
S-Near B-14 Sediment (A305081-04)		Sample Type: Soil			Sampled: 05/01/03 00:00		
Chlorinated Phenols by Canadian Pulp Method (cont'd)							
Pentachlorophenol	EnvCan	"	"	05/09/03	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		77.4 %	23-140
S-Near B-33 Sediment (A305081-05)		Sample Type: Soil			Sampled: 05/01/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		62.9 %	23-140
S-Near B-33 Water (A305081-06)		Sample Type: Water			Sampled: 05/01/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		82.3 %	50-150
S-Near MW-8 Water (A305081-07)		Sample Type: Water			Sampled: 05/01/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		79.1 %	50-150
S-Near MW-8 Sediment (A305081-08)		Sample Type: Soil			Sampled: 05/01/03 00:00		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
S-Near MW-8 Sediment (A305081-08)		Sample Type: Soil		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"		77.4 %	23-140

SS-Near B-37 Water (A305081-09)		Sample Type: Water		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	2.0 ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	05/12/03	"	7900 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	05/11/03	"	110 "	1.0
Pentachlorophenol	"	"	"	05/12/03	"	33000 "	1.0
Surrogate: Tribromophenol	"	"	"	05/09/03		127 %	50-150

SS-Near B-37 Sediment (A305081-10)		Sample Type: Soil		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	05/12/03	"	11 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	1.3 "	1.0
Pentachlorophenol	"	"	"	"	"	94 "	1.0
Surrogate: Tribromophenol	"	"	"	05/09/03		103 %	23-140

S-Near B-36 Water (A305081-11)		Sample Type: Water		Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0

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Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



alpha

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208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

Order Number: A305081
Receipt Date/Time: 05/05/2003 15:35
Client Code: MFGARC
Client PO/Reference:

Alpha Analytical Laboratories, Inc.

Table with columns: METHOD, BATCH, PREPARED, ANALYZED, DILUTION, RESULT, POL, NOTE. Contains data for S-Near B-36 Water and S-Near B-36 Sediment.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen Daly (signature)

MAY 19 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



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CHEMICAL EXAMINATION REPORT

Page 6 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

SourceResult
Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AE31209 - Solvent Extraction										
Blank (AE31209-BLK1) Prepared: 05/08/03 Analyzed: 05/09/03										
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
<i>Surrogate: Tribromophenol</i>	23.8		"	24.9		95.6	50-150			
LCS (AE31209-BS1) Prepared: 05/08/03 Analyzed: 05/09/03										
2,4,6-Trichlorophenol	5.37	1.0	ug/l	5.00		107	85-115			
2,3,5,6-Tetrachlorophenol	4.85	1.0	"	5.00		97.0	85-115			
2,3,4,6-Tetrachlorophenol	5.02	1.0	"	5.00		100	85-115			
2,3,4,5-Tetrachlorophenol	5.14	1.0	"	5.00		103	85-115			
Pentachlorophenol	5.35	1.0	"	5.00		107	85-115			
<i>Surrogate: Tribromophenol</i>	26.1		"	24.9		105	50-150			
Matrix Spike (AE31209-MS1) Source: A305159-01 Prepared: 05/08/03 Analyzed: 05/09/03										
2,4,6-Trichlorophenol	3.79	1.0	ug/l	5.00	ND	75.8	80-120			QM-05
2,3,5,6-Tetrachlorophenol	ND	1.0	"	5.00	ND		80-120			QM-05
2,3,4,6-Tetrachlorophenol	1700	1.0	"	5.00	1100	NR	80-120			QM-4X
2,3,4,5-Tetrachlorophenol	230	1.0	"	5.00	69	NR	80-120			QM-4X
Pentachlorophenol	31000	1.0	"	5.00	11000	NR	80-120			QM-4X
<i>Surrogate: Tribromophenol</i>	24.0		"	24.9		96.4	50-150			
Matrix Spike Dup (AE31209-MSD1) Source: A305159-01 Prepared: 05/08/03 Analyzed: 05/09/03										
2,4,6-Trichlorophenol	3.10	1.0	ug/l	5.00	ND	62.0	80-120	20.0	20	QM-05
2,3,5,6-Tetrachlorophenol	ND	1.0	"	5.00	ND		80-120		20	QM-05

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Karen A. Daly For Sheri L. Speaks
Project Manager

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CHEMICAL EXAMINATION REPORT

Page 7 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

Order Number Receipt Date/Time Client Code Client PO/Reference
A305081 05/05/2003 15:35 MFGARC

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AE31209 - Solvent Extraction										
Matrix Spike Dup (AE31209-MSD1) Source: A305159-01 Prepared: 05/08/03 Analyzed: 05/11/03										
2,3,4,6-Tetrachlorophenol	1400	1.0	"	5.00	1100	NR	80-120	19.4	20	QM-4X
2,3,4,5-Tetrachlorophenol	1100	1.0	"	5.00	69	NR	80-120	131	20	QM-4X
Pentachlorophenol	16000	1.0	"	5.00	11000	NR	80-120	63.8	20	QM-4X
Surrogate: Tribromophenol	25.3		"	24.9		102	50-150			

Batch AE31210 - Solvent Extraction

Blank (AE31210-BLK1) Prepared & Analyzed: 05/09/03										
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.0700		"	0.124		56.5	23-140			

LCS (AE31210-BS1) Prepared & Analyzed: 05/09/03										
2,4,6-Trichlorophenol	0.0181	1.0	mg/kg	0.0250		72.4	20-99			
2,3,5,6-Tetrachlorophenol	0.0127	1.0	"	0.0250		50.8	23-110			
2,3,4,6-Tetrachlorophenol	0.0137	1.0	"	0.0250		54.8	21-97			
2,3,4,5-Tetrachlorophenol	0.0156	1.0	"	0.0250		62.4	14-151			
Pentachlorophenol	0.0135	1.0	"	0.0250		54.0	10-168			
Surrogate: Tribromophenol	0.0760		"	0.124		61.3	23-140			

Matrix Spike (AE31210-MS1) Source: A305156-02 Prepared: 05/09/03 Analyzed: 05/13/03										
2,4,6-Trichlorophenol	0.0161	1.0	mg/kg	0.0250	ND	64.4	20-99			
2,3,5,6-Tetrachlorophenol	0.0120	1.0	"	0.0250	ND	48.0	23-110			
2,3,4,6-Tetrachlorophenol	0.340	1.0	"	0.0250	ND	480	21-97			QM-4X
2,3,4,5-Tetrachlorophenol	0.0222	1.0	"	0.0250	ND	88.8	14-151			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. The analytical report must be reproduced in its entirety.

MAY 19 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



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CHEMICAL EXAMINATION REPORT

Page 8 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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Batch AE31210 - Solvent Extraction

Matrix Spike (AE31210-MS1) Source: A305156-02 Prepared: 05/09/03 Analyzed: 05/14/03

Pentachlorophenol	1.65	1.0	"	0.0250	1.4	1000	10-168			QM-4X
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Surrogate: Tribromophenol 0.0810 " 0.124 65.3 23-140

Matrix Spike Dup (AE31210-MSD1) Source: A305156-02 Prepared: 05/09/03 Analyzed: 05/13/03

2,4,6-Trichlorophenol	0.0155	1.0	mg/kg	0.0250	ND	62.0	20-99	3.80	50	
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2,3,5,6-Tetrachlorophenol	0.0105	1.0	"	0.0250	ND	42.0	23-110	13.3	50	
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2,3,4,6-Tetrachlorophenol	0.300	1.0	"	0.0250	ND	320	21-97	12.5	50	QM-4X
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2,3,4,5-Tetrachlorophenol	0.0224	1.0	"	0.0250	ND	89.6	14-151	0.897	50	
---------------------------	--------	-----	---	--------	----	------	--------	-------	----	--

Pentachlorophenol	1.48	1.0	"	0.0250	1.4	320	10-168	10.9	50	QM-4X
-------------------	------	-----	---	--------	-----	-----	--------	------	----	-------

Surrogate: Tribromophenol 0.0790 " 0.124 63.7 23-140

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/14/03



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CHEMICAL EXAMINATION REPORT

Page 9 of 9

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 05/14/03 13:37
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305081	05/05/2003 15:35	MFGARC	

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- DFT Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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Tetra Tech/MFG, Inc.

MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **43296**

Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-8430
Fax: (707) 826-8437

Boulder Office
4900 Pearl East Circle
Suite 300W
Boulder, CO 80501-6118
Tel: (303) 447-1823
Fax: (303) 447-1836

Irvine Office
17770 Cartwright Road
Suite 500
Irvine, CA 92614-5850
Tel: (949) 253-2951
Fax: (949) 253-2954

San Francisco Office
180 Howard Street, Suite 200
San Francisco, CA 94105-1617
Phone (415) 495-7110 - Fax (415) 495-7107

Seattle Office
19203 36th Avenue W.
Suite 101 WA 98036-5707
Lynnwood, WA 98036-5707
Tel: (425) 921-4000
Fax: (425) 921-4040

PROJECT NO: 030229 PROJECT NAME: SPI-Arcata PAGE: 1 OF: 2
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Orrin Plocher DATE: 5-1-03
 METHOD OF SHIPMENT: Carrier CARRIER/WAYBILL NO.: _____ DESTINATION: Alpha Analytica

RECEIVED		SAMPLES		ANALYSIS REQUEST																	
DATE	TIME	Matrix*	Preservation	FILTRATION*	VOLUME (ml/oz)	CONTAINERS TYPE*	NO.	Constituents/Method	Handling	Remarks	LABORATORY COMMENTS/CONDITION OF SAMPLES										
5-1-03		AQ	Y		125ml	1			STANDARD	A305081-1	Cooler Temp: _____										
		OT			402	1			RUSH		Cooler Temp: _____										
		AQ			125ml	1					Cooler Temp: _____										
		OT			402	1					Cooler Temp: _____										
		OT			402	1					Cooler Temp: _____										
		AQ			125ml	1					Cooler Temp: _____										
		AQ			125ml	1					Cooler Temp: _____										
		OT			402	1					Cooler Temp: _____										
		AQ			125ml	1					Cooler Temp: _____										
		OT			402	1					Cooler Temp: _____										
		OT			402	1					Cooler Temp: _____										
TOTAL NUMBER OF CONTAINERS												10									

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<u>[Signature]</u>	Orrin Plocher	<u>[Signature]</u>	T. DAIY
<u>[Signature]</u>	T. DAIY	<u>[Signature]</u>	S. SPEAKS
	MFG		Alpha Labs
	Alpha Labs		Alpha Labs
			LABORATORY

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - tiffin B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

D-2 Samples from Shallow Pit Beneath the South Catwalk



Alpha

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15 May 2003

MFG, Inc - Arcata

Attn: Ed Conti

1165 G. Street, Suite E

Arcata, CA 95521

RE: SPI Arcata Sawmill

Work Order: A305159

SAMPLES FROM SHALLOW PIT BENEATH
THE SOUTH CATWALK - WATER

Enclosed are the results of analyses for samples received by the laboratory on 05/07/03 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly For Sheri L. Speaks
Project Manager

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Tetra Tech/MFG, Inc.



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CHEMICAL EXAMINATION REPORT

Page 1 of 5

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 05/15/03 09:26
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305159	05/07/2003 16:00	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

<u>Sample ID</u>	<u>Laboratory ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
UCW-South-Water	A305159-01	Water	05/05/03 00:00	05/07/03 16:00

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Karen A. Daly For Sheri L. Speaks
Project Manager

5/15/03



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CHEMICAL EXAMINATION REPORT

Page 2 of 5

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 05/15/03 09:26
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305159	05/07/2003 16:00	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
UCW-South-Water (A305159-01)		Sample Type: Water		Sampled: 05/05/03 00:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	8.5 R-01
2,3,4,6-Tetrachlorophenol	"	"	"	05/11/03	"	1100 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	05/09/03	"	69 "	1.0
Pentachlorophenol	"	"	"	"	"	11000 "	1.0
Surrogate: Tribromophenol	"	"	"	"	"	97.2 %	50-150

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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MAY 19 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/15/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 3 of 5

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 05/15/03 09:26
Project No: 030229
Project ID: SPI Arcata Sawmill

Order Number: A305159
Receipt Date/Time: 05/07/2003 16:00
Client Code: MFGARC
Client PO/Reference:

SourceResult
Chlorinated Phenols by Canadian Pulp Method - Quality Control

Table with columns: Analyte(s), Result, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Batch AE31209 - Solvent Extraction, LCS (AE31209-BS1), Matrix Spike (AE31209-MS1), and Matrix Spike Dup (AE31209-MSD1).

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Tetra Tech/MFG Inc

Karen A. Daly (Signature)

Karen A. Daly For Sheri L. Speaks
Project Manager

5/15/03



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CHEMICAL EXAMINATION REPORT

Page 4 of 5

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 05/15/03 09:26
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305159	05/07/2003 16:00	MFGARC	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AE31209 - Solvent Extraction										
Matrix Spike Dup (AE31209-MSD1)					Source: A305159-01					
2,3,4,6-Tetrachlorophenol	1400	1.0	"	5.00	1100	NR	80-120	19.4	20	QM-4X
2,3,4,5-Tetrachlorophenol	1100	1.0	"	5.00	69	NR	80-120	131	20	QM-4X
Pentachlorophenol	16000	1.0	"	5.00	11000	NR	80-120	63.8	20	QM-4X
Surrogate: Tribromophenol	25.3		"	24.9		102	50-150			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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MAY 19 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks
Project Manager

5/15/03



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CHEMICAL EXAMINATION REPORT

Page 5 of 5

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 05/15/03 09:26
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305159	05/07/2003 16:00	MFGARC	

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- DFT Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- drv Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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24 July 2003

MFG, Inc - Arcata

Attn: Ed Conti

875 Crescent Way

Arcata, CA 95521

RE: SPI Arcata Sawmill

Work Order: A305156

SAMPLES FROM SHALLOW PIT BENEATH
THE SOUTH CATWALK - WOOD & SAND

Enclosed are the results of analyses for samples received by the laboratory on 05/07/03 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly For Sheri L. Speaks
Project Manager

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JUL 28 2003
Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 1 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/24/03 13:53
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305156	05/07/2003 16:00	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
UCW-South Wood	A305156-01	Other (W)	05/06/03 00:00	05/07/03 16:00
UCW-South Sand	A305156-02	Soil	05/06/03 00:00	05/07/03 16:00

This is a copy of the original report.

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

7/24/03



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CHEMICAL EXAMINATION REPORT

Page 2 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/24/03 13:53
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u> A305156	<u>Receipt Date/Time</u> 05/07/2003 16:00	<u>Client Code</u> MFGARC	<u>Client PO/Reference</u>
--------------------------------	--	------------------------------	----------------------------

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
UCW-South Wood (A305156-01)		Sample Type: Other (W)			Sampled: 05/06/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	05/12/03	25	ND "	25 R-01
2,3,4,6-Tetrachlorophenol	"	"	"	"	1	1400 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	25	ND "	25 R-01
Pentachlorophenol	"	"	"	"	1	4600 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	05/09/03		% 23-140	S-06
UCW-South Sand (A305156-02)		Sample Type: Soil			Sampled: 05/06/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/14/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	1.4 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		73.4 % 23-140	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

7/24/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 3 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/24/03 13:53
Project No: 030229
Project ID: SPI Arcata Sawmill

Order Number: A305156 Receipt Date/Time: 05/07/2003 16:00 Client Code: MFGARC Client PO/Reference:

SourceResult
Chlorinated Phenols by Canadian Pulp Method - Quality Control

Table with columns: Analyte(s), Result, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Batch AE31210 - Solvent Extraction, LCS (AE31210-BS1), Matrix Spike (AE31210-MS1), and Matrix Spike Dup (AE31210-MSD1).

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Karen Daly

JUL 28 2003

Karen A. Daly For Sheri L. Speaks
Project Manager

7/24/03

Tetra Tech/MFG, Inc.



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CHEMICAL EXAMINATION REPORT

Page 5 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/24/03 13:53
Project No: 030229
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A305156	05/07/2003 16:00	MFGARC	

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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Tetra Tech/MFG, Inc.

June 18, 2003

FAL Project ID: 1759 Addendum

Mr. Jason Triolo
MFG, Inc.
180 Howard Street, Suite 200
San Francisco, CA 94105-1617

SAMPLES FROM SHALLOW PIT
BENEATH THE SOUTH CATWALK-
WOOD & SAND

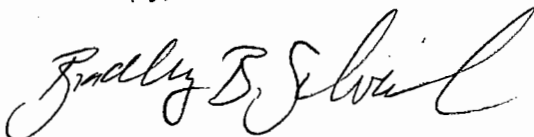
Dear Mr. Triolo,

Enclosed is the amended report for Frontier Analytical Laboratory project 1759. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A305156. The two solid samples received on 5/9/03 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Due to high levels of dioxins/furans found in sample 1759-01-SA, a smaller sample size was re-extracted and analyzed. In addition, both samples had to be diluted and re-analyzed for several of the analytes. All results taken from the dilution are marked with the "*" qualifier. Alpha Analytical Laboratories, Inc. requested a turnaround time of 14 days for project 1759. Frontier Analytical Laboratory completed this project in fifteen days. The report was amended to include MS/MSD data as well as to customize the analytical data sheets to include all the MFG, Inc. requested reporting information. The pagination for the entire project has the suffix "A" signifying the report has been amended.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains a copy of your original chain of custody, our sample login form and a sample photo.

If you have any questions regarding project 1759, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

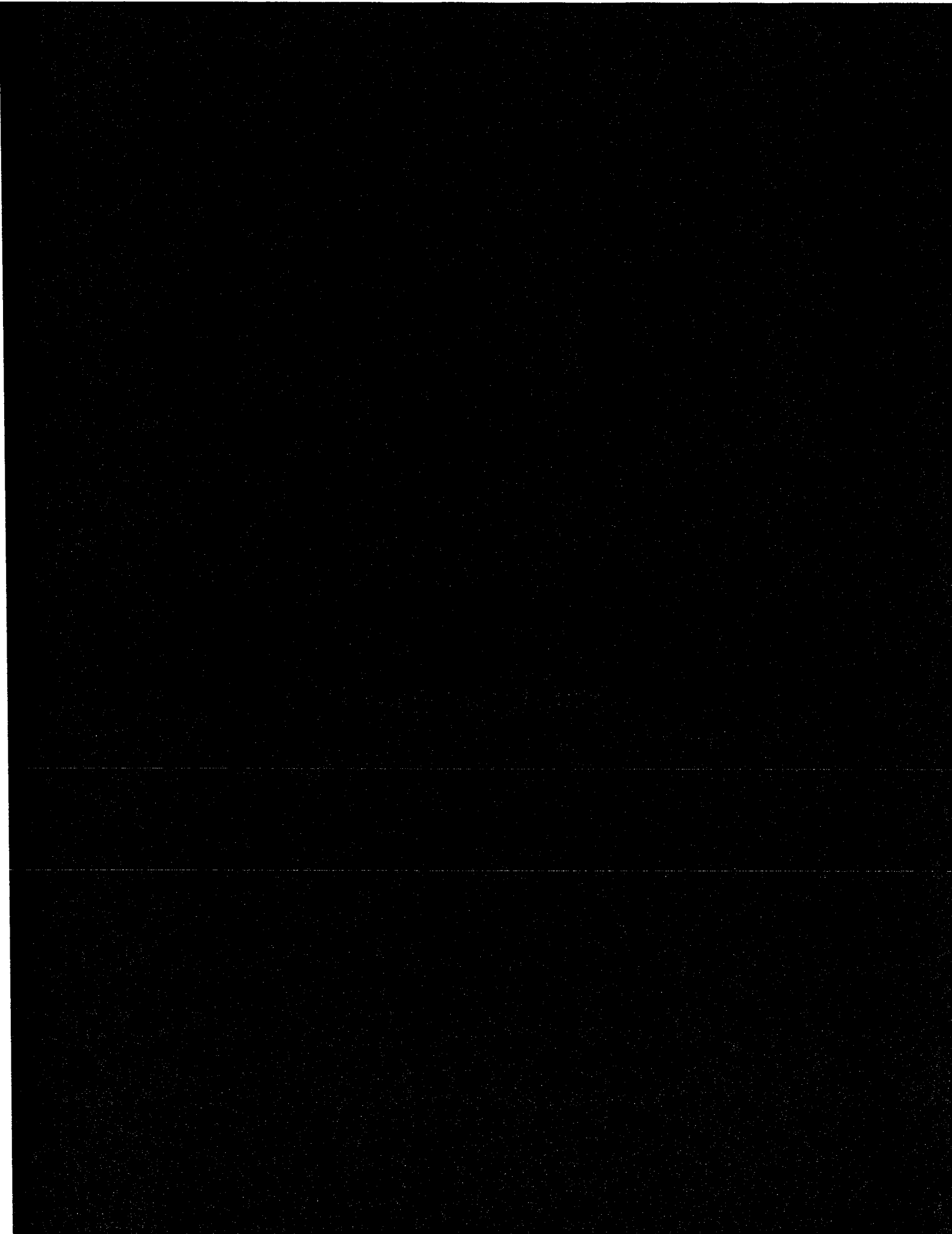


Bradley B. Silverbush
Director of Operations

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MFG, Inc.



Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: 1759

Received on: 05/09/03

Project Due: 05/26/03

Storage: R-1

FAL Sample ID	Client Project ID	Client Sample ID	Requested Method/s	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
1759-01-SA	A305156	A305156-01	1613	Solid	5/6/03	not provided	05/05/04
1759-02-SA	A305156	A305156-02	1613	Soil	5/6/03	not provided	05/05/04

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[‡] Analyte concentration is below calibration range
- M Maximum possible concentration
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

‡ "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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K

EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

REC-1111

JUN 19 2003

MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 1759-01-MB
Client ID: Method Blank
Matrix: Solid
Extraction Batch No.: 1759

Date Extracted: 5/19/03
Date Received: NA
Amount: 1.00 g
% Solids: NA

ICal: pcddfal1-3-8
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 20-MAY-03
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.63	-	-					
1,2,3,7,8-PeCDD	-	4.26	-	-					
1,2,3,4,7,8-HxCDD	-	5.96	-	-					
1,2,3,6,7,8-HxCDD	-	6.87	-	-	Total Tetra-Dioxins	-	1.63		0
1,2,3,7,8,9-HxCDD	-	4.53	-	-	Total Penta-Dioxins	-	4.26		0
1,2,3,4,6,7,8-HpCDD	-	7.77	-	-	Total Hexa-Dioxins	-	6.87		0
OCDD	-	11.9	-	-	Total Hepta-Dioxins	-	7.77		0
2,3,7,8-TCDF	-	2.14	-	-					
1,2,3,7,8-PeCDF	-	3.37	-	-					
2,3,4,7,8-PeCDF	-	3.58	-	-					
1,2,3,4,7,8-HxCDF	-	1.55	-	-	Total Tetra-Furans	-	2.14		0
1,2,3,6,7,8-HxCDF	-	1.82	-	-	Total Penta-Furans	-	3.58		0
2,3,4,6,7,8-HxCDF	-	2.36	-	-	Total Hexa-Furans	-	2.78		0
1,2,3,7,8,9-HxCDF	-	2.78	-	-	Total Hepta-Furans	-	2.53		0
1,2,3,4,6,7,8-HpCDF	-	2.23	-	-					
1,2,3,4,7,8,9-HpCDF	-	2.53	-	-					
OCDF	-	7.97	-	-					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	80.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	73.1	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	101	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	68.9	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	70.5	23.0 - 140	
13C-OCDD	60.4	17.0 - 157	
13C-2,3,7,8-TCDF	84.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	80.7	24.0 - 185	
13C-2,3,4,7,8-PeCDF	76.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	89.5	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	87.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	75.4	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	75.6	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	79.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	89.0	26.0 - 138	
13C-OCDF	68.5	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 85.9 35.0 - 197

Analyst: J
Date: 6/18/03

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JUN 19 2003

MFG, Inc.

Reviewed by: SN
Date: 6/18/2003

EPA Method 1613
PCDD/F



UCW-SOUTH WOOD

FAL ID: 1759-01-SA
Client ID: A305156-01
Matrix: Solid
Extraction Batch No.: 1759

Date Extracted: 5/19/03
Date Received: 5/9/03
Amount: 1.00 g
% Solids: 29.9

ICal: PCDDFAL1-3-8
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 21-MAY-03
WHO TEQ: 1940000

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	651	-		651					
1,2,3,7,8-PeCDD	37300	-		37300					
1,2,3,4,7,8-HxCDD	860000	-	*	86000	Total Tetra-Dioxins	6380	-		16
1,2,3,6,7,8-HxCDD	5180000	-	*	518000	Total Penta-Dioxins	177000	-	M	12
1,2,3,7,8,9-HxCDD	162000	-	*	16200	Total Hexa-Dioxins	10900000	-	*	7
1,2,3,4,6,7,8-HpCDD	43400000	-	*	434000	Total Hepta-Dioxins	62500000	-	*	2
OCDD	109000000	-	*	10900					
2,3,7,8-TCDF	323000	-	F	32300					
1,2,3,7,8-PeCDF	295000	-	*	14800					
2,3,4,7,8-PeCDF	835000	-	*,M,X	418000					
1,2,3,4,7,8-HxCDF	482000	-	*	48200					
1,2,3,6,7,8-HxCDF	214000	-	*	21400					
2,3,4,6,7,8-HxCDF	960000	-	*	96000					
1,2,3,7,8,9-HxCDF	519000	-	*	51900	Total Tetra-Furans	1650000	-	D,M	18
1,2,3,4,6,7,8-HpCDF	14300000	-	*	143000	Total Penta-Furans	10900000	-	*,M,X	12
1,2,3,4,7,8,9-HpCDF	522000	-	*	5220	Total Hexa-Furans	45200000	-	*	9
OCDF	15300000	-	*	1530	Total Hepta-Furans	55400000	-	*	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	96.0	25.0 - 164	
13C-1,2,3,7,8-PeCDD	82.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	136	32.0 - 141	*
13C-1,2,3,6,7,8-HxCDD	111	28.0 - 130	*
13C-1,2,3,4,6,7,8-HpCDD	107	23.0 - 140	*
13C-OCDD	116	17.0 - 157	*
13C-2,3,7,8-TCDF	86.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	107	24.0 - 185	*
13C-2,3,4,7,8-PeCDF	113	21.0 - 178	*
13C-1,2,3,4,7,8-HxCDF	131	26.0 - 152	*
13C-1,2,3,6,7,8-HxCDF	104	26.0 - 123	*
13C-2,3,4,6,7,8-HxCDF	87.4	29.0 - 147	*
13C-1,2,3,7,8,9-HxCDF	78.6	28.0 - 136	*
13C-1,2,3,4,6,7,8-HpCDF	97.0	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	108	26.0 - 138	*
13C-OCDF	106	17.0 - 157	*

* = Dilution

Acquired: 21-MAY-03
Acquired: 23-MAY-03

F = DB225 Confirmation

Acquired: 23-MAY-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 110 35.0 - 197

Analyst: h
Date: 6/18/03

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JUN 19 2003

Reviewed by: DN
Date: 6/18/2003

MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 1759-02-MB
Client ID: Method Blank
Matrix: Solid
Extraction Batch No.: 1745

Date Extracted: 5/12/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-3-8
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 13-MAY-03
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.164	-	-					
1,2,3,7,8-PeCDD	-	0.306	-	-					
1,2,3,4,7,8-HxCDD	-	0.432	-	-					
1,2,3,6,7,8-HxCDD	-	0.461	-	-	Total Tetra-Dioxins	-	0.164		0
1,2,3,7,8,9-HxCDD	-	0.389	-	-	Total Penta-Dioxins	-	0.306		0
1,2,3,4,6,7,8-HpCDD	-	0.332	-	-	Total Hexa-Dioxins	-	0.461		0
OCDD	-	0.802	-	-	Total Hepta-Dioxins	-	0.332		0
2,3,7,8-TCDF	-	0.154	-	-					
1,2,3,7,8-PeCDF	-	0.319	-	-					
2,3,4,7,8-PeCDF	-	0.324	-	-					
1,2,3,4,7,8-HxCDF	-	0.108	-	-					
1,2,3,6,7,8-HxCDF	-	0.137	-	-					
2,3,4,6,7,8-HxCDF	-	0.134	-	-					
1,2,3,7,8,9-HxCDF	-	0.170	-	-	Total Tetra-Furans	-	0.154		0
1,2,3,4,6,7,8-HpCDF	-	0.150	-	-	Total Penta-Furans	-	0.324		0
1,2,3,4,7,8,9-HpCDF	-	0.176	-	-	Total Hexa-Furans	-	0.170		0
OCDF	-	0.545	-	-	Total Hepta-Furans	-	0.176		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	86.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	84.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	85.6	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	93.5	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	79.9	23.0 - 140	
13C-OCDD	72.9	17.0 - 157	
13C-2,3,7,8-TCDF	85.9	24.0 - 169	
13C-1,2,3,7,8-PeCDF	90.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	85.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	84.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	85.2	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	81.1	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	78.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	87.8	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	95.9	26.0 - 138	
13C-OCDF	79.7	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 97.0 35.0 - 197

Analyst: JK
Date: 6/18/03

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JUN 19 2003

MFG, Inc.

Reviewed by: SPV
Date: 6/18/2003

EPA Method 1613
PCDD/F



FAL ID: 1759-02-OPR
Client ID: OPR
Matrix: Solid
Extraction Batch No.: 1745

Date Extracted: 5/12/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-3-8
GC Column: db5
Units: ng/mL
MS/MSD Batch No.: 1769

Acquired: 13-MAY-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.9	6.70 - 15.8
1,2,3,7,8-PeCDD	51.5	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50.5	35.0 - 82.0
1,2,3,6,7,8-HxCDD	53.8	38.0 - 67.0
1,2,3,7,8,9-HxCDD	47.2	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	55.1	35.0 - 70.0
OCDD	109	78.0 - 144
2,3,7,8-TCDF	10.5	7.50 - 15.8
1,2,3,7,8-PeCDF	48.9	40.0 - 67.0
2,3,4,7,8-PeCDF	49.5	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50.0	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50.3	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	52.4	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	50.5	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	51.6	39.0 - 69.0
OCDF	104	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	86.6	20.0 - 175
13C-1,2,3,7,8-PeCDD	85.2	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	90.2	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	93.2	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	79.6	26.0 - 166
13C-OCDD	66.9	13.0 - 198
13C-2,3,7,8-TCDF	90.0	22.0 - 152
13C-1,2,3,7,8-PeCDF	97.0	21.0 - 192
13C-2,3,4,7,8-PeCDF	91.9	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	87.3	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	90.9	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	84.3	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	79.9	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	89.1	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	101	20.0 - 186
13C-OCDF	78.2	13.0 - 198

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	97.9	31.0 - 191
-------------------	------	------------

Analyst: 8
Date: 6/18/03

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JUN 19 2003

Reviewed by: SPJ
Date: 6/18/2003

EPA Method 1613
PCDD/F



UCW-SOUTH SAND

FAL ID: 1759-02-SA
Client ID: A305156-02
Matrix: Solid
Extraction Batch No.: 1745

Date Extracted: 5/12/03
Date Received: 5/9/03
Amount: 10.26 g
% Solids: 81.3

ICal: PCDDFAL1-3-8
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 13-MAY-03
WHO TEQ: 4910

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	2.87	-		2.87					
1,2,3,7,8-PeCDD	119	-		119					
1,2,3,4,7,8-HxCDD	112	-		11.2					
1,2,3,6,7,8-HxCDD	15200	-		1520	Total Tetra-Dioxins	128	-		17
1,2,3,7,8,9-HxCDD	1550	-		155	Total Penta-Dioxins	1140	-		10
1,2,3,4,6,7,8-HpCDD	119000	-	*	1190	Total Hexa-Dioxins	38800	-		8
OCDD	263000	-	*	26.3	Total Hepta-Dioxins	163000	-		2
2,3,7,8-TCDF	227	-	F	22.7					
1,2,3,7,8-PeCDF	155	-		7.73					
2,3,4,7,8-PeCDF	519	-	M,X	259					
1,2,3,4,7,8-HxCDF	1610	-		161					
1,2,3,6,7,8-HxCDF	643	-		64.3					
2,3,4,6,7,8-HxCDF	2140	-		214					
1,2,3,7,8,9-HxCDF	361	-		36.1	Total Tetra-Furans	2280	-	D,M	20
1,2,3,4,6,7,8-HpCDF	102000	-	*	1020	Total Penta-Furans	9330	-	D,M,X	15
1,2,3,4,7,8,9-HpCDF	6390	-		63.9	Total Hexa-Furans	118000	-	*D,M	11
OCDF	302000	-	*	30.2	Total Hepta-Furans	517000	-	*	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	88.4	25.0 - 164	
13C-1,2,3,7,8-PeCDD	112	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	91.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	95.2	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	98.3	23.0 - 140	*
13C-OCDD	92.6	17.0 - 157	*
13C-2,3,7,8-TCDF	96.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	113	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.4	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	89.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	89.3	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	81.2	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	77.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	99.4	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	81.5	26.0 - 138	*
13C-OCDF	109	17.0 - 157	*

* = Dilution

Acquired: 21-MAY-03

F = DB225 Confirmation

Acquired: 23-MAY-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	94.3	35.0 - 197	*
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Analyst: 8

Date: 6/18/03

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JUN 19 2003

MFG, Inc.

Reviewed by: DPN

Date: 6/18/2003

EPA Method 1613
PCDD/F



FAL ID: 1769-01-MS/MSD Date Extracted: 5/19/03 ICal: pcddfal1-3-8 MS Acquired: 21-MAY-03
 Client ID: KOX0305122401A MS/MSD Date Received: 5/13/03 GC Column: db5 MSD Acquired: 21-MAY-03
 Matrix: Solid Sample Amount: 9.82 g Units: pg WHO TEQ: NA
 Extraction Batch No.: 1759 MS Amount: 9.28 g MS/MSD Batch No.: 1769 % Solids: 77.2
 MSD Amount: 9.57 g

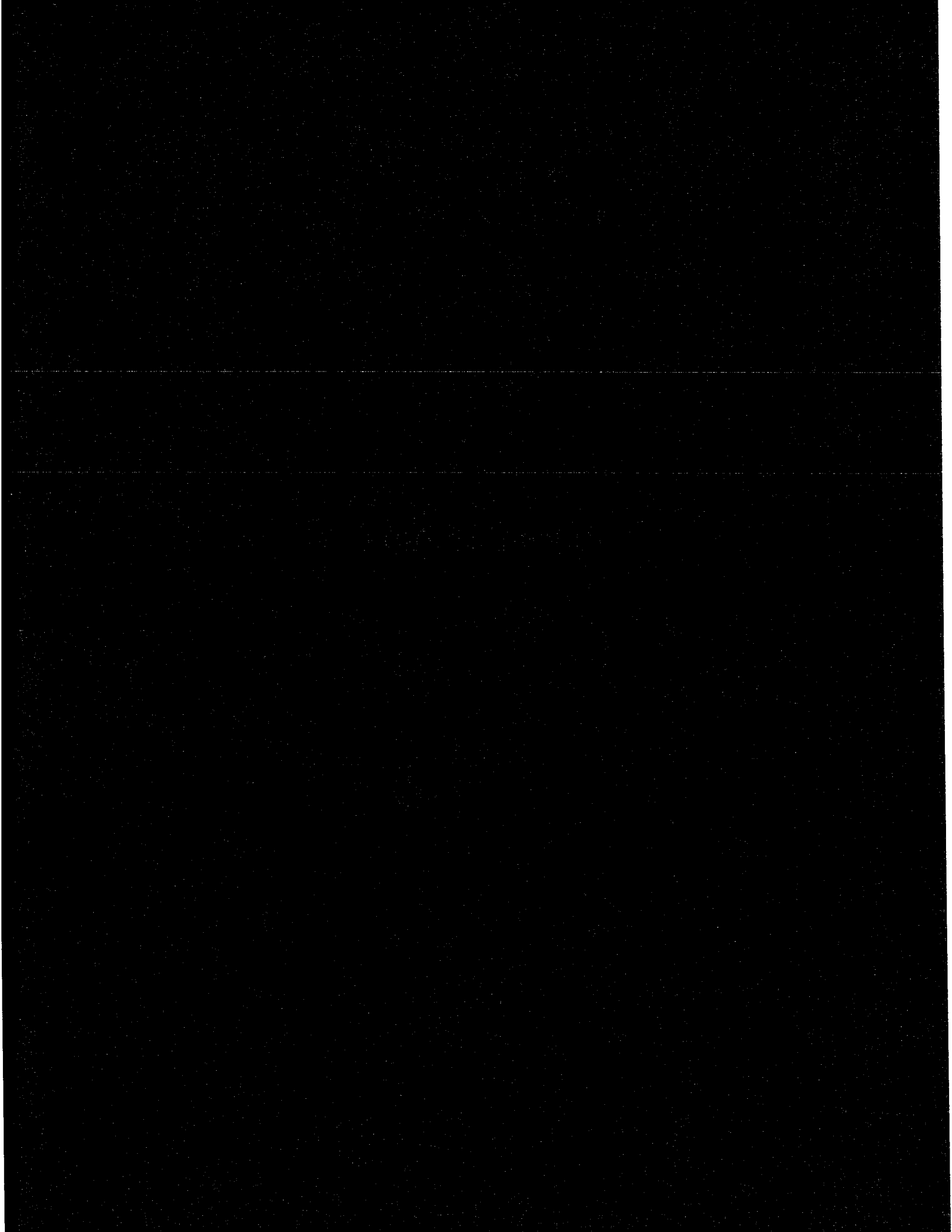
Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	206	211	2.40	
1,2,3,7,8-PeCDD	1000	-	1040	964	7.58	
1,2,3,4,7,8-HxCDD	1000	-	1020	982	3.80	
1,2,3,6,7,8-HxCDD	1000	-	1080	1000	7.69	
1,2,3,7,8,9-HxCDD	1000	-	988	898	9.54	
1,2,3,4,6,7,8-HpCDD	1000	19.0	1010	1090	7.76	
OCDD	2000	128	2280	2330	2.97	
2,3,7,8-TCDF	200	-	209	206	1.45	
1,2,3,7,8-PeCDF	1000	-	1030	979	5.08	
2,3,4,7,8-PeCDF	1000	-	1020	978	4.10	
1,2,3,4,7,8-HxCDF	1000	-	1050	996	5.28	
1,2,3,6,7,8-HxCDF	1000	-	1050	994	5.48	
2,3,4,6,7,8-HxCDF	1000	-	1050	1020	2.90	
1,2,3,7,8,9-HxCDF	1000	-	1090	1030	5.66	
1,2,3,4,6,7,8-HpCDF	1000	4.70	1020	978	4.22	
1,2,3,4,7,8,9-HpCDF	1000	-	1050	998	5.08	
OCDF	2000	-	2150	2080	3.31	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	95.2	86.9	90.0	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	81.2	81.0	92.2	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	107	94.8	111	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	80.2	74.0	80.8	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	84.2	74.1	80.7	25.0 - 150	
13C-OCDD	4000	76.9	70.6	71.4	25.0 - 150	
13C-2,3,7,8-TCDF	2000	92.4	96.4	101	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	89.8	87.0	97.3	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	90.2	91.3	103	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	101	91.7	105	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	94.3	80.9	91.1	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	89.9	79.4	85.7	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	85.0	74.1	82.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	80.2	79.7	89.8	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	104	90.7	101	25.0 - 150	
13C-OCDF	4000	77.5	78.1	82.0	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	106	93.6	95.0	25.0 - 150	

Analyst: 8
 Date: 6/18/03

RECEIVED
 JUN 19 2003

Reviewed by: SPV
 Date: 6/18/2003

MFG, Inc.



1759
00

SUBCONTRACT ORDER
Alpha Analytical Laboratories, Inc.
A305156

14

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
P.O. Box 1508 (208 Mason St.)
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Sheri L. Speaks

RECEIVING LABORATORY:

Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado, CA 95762
Phone :916-934-0900
Fax: 916-934-0999
Terms: Net 30

Analysis	Due	Expires	Comments
----------	-----	---------	----------

A305156-01 UCW-South Wood [Other (W)] Sampled 05/06/03 00:00 Pacific

Dioxins Full List 05/21/03 12:00 05/05/04 00:00

Containers Supplied:

A305156-02 UCW-South Sand [Soil] Sampled 05/06/03 00:00 Pacific

Dioxins Full List 05/21/03 12:00 05/05/04 00:00

Containers Supplied:

Report to State

System Name: _____ Employed by: _____

User ID: _____ Sampler: _____

System Number: _____

Bill to Sierra Pacific
MFG INC Project

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JUN 19 2003

MFG, Inc.

Sheri Speaks 5-7-03 [Signature] 5/9/03 @ 0730

Released By Date Received By Date

Released By Date Received By Date

Frontier Analytical Laboratory

Sample Login Form

Project ID: 1759

Client:	Alpha Analytical - Ukiah		
Client Project ID:	A305156		
Date Received:	05/09/03	TAT:	14
Time Received:	7:30 AM		
Received By:	nmm		
# of Samples Received:	2	# of Dups:	0
Storage Location:	R-1		

Checklist

	Yes	No	N/A	Comments
Method of Delivery:	X			Fed-Ex/UPS/Courier/Other
Shipping container received intact?	X			
Custody seals(s) present and intact?			X	
Method of cooling:	X			Ice/Blue ice/Dry ice/Other
Sample arrival temperature (C):	X			0 degrees C
Sample containers intact?	X			
Chain of Custody present and complete?	X			
Return shipping container to client?	X			
Test for residual chlorine?			X	Thiosulfate added? no
Earliest sample hold time expiration:	X			Date: 5/5/04
Adequate Sample Volume?	X			
Anomalies or additional comments:				

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MFG, Inc.

000014A of 000014A

D-3 Concrete and Upper Fill Material Samples



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

30 July 2003

MFG, Inc - Arcata

Attn: Ed Conti

875 Crescent Way

Arcata, CA 95521

RE: SPI Arcata Sawmill

Work Order: A306459

*CONCRETE AND UPPER FILL MATERIAL
SAMPLES*

Enclosed are the results of analyses for samples received by the laboratory on 06/20/03 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly For Sheri L. Speaks
Project Manager

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AUG 01 2003

Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/30/03 09:24
Project No: 030229.11
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A306459	06/20/2003 15:55	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1-1'	A306459-01	Soil	06/19/03 00:00	06/20/03 15:55
S-2-1'	A306459-02	Soil	06/19/03 00:00	06/20/03 15:55

This represents an amended copy of the original report

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Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

7/30/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 2 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/30/03 09:24
Project No: 030229.11
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A306459	06/20/2003 15:55	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-1-1' (A306459-01)		Sample Type: Soil			Sampled: 06/19/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AF33012	06/25/03	06/26/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		85.5 %	23-140
S-2-1' (A306459-02)		Sample Type: Soil			Sampled: 06/19/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AF33012	06/25/03	06/26/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	06/27/03	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	06/26/03		80.6 %	23-140

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AUG 01 2003

Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

7/30/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 3 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/30/03 09:24
Project No: 030229.11
Project ID: SPI Arcata Sawmill

Order Number: A306459 Receipt Date/Time: 06/20/2003 15:55 Client Code: MFGARC Client PO/Reference:

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Table with columns: Analyte(s), Result, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Blank (AF33012-BLK1), LCS (AF33012-BS1), Matrix Spike (AF33012-MS1), and Matrix Spike Dup (AF33012-MSD1).

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AUG 01 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen Daly

Karen A. Daly For Sheri L. Speaks
Project Manager

7/30/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 4 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/30/03 09:24
Project No: 030229.11
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A306459	06/20/2003 15:55	MFGARC	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AF33012 - Solvent Extraction										
Matrix Spike Dup (AF33012-MSD1)										
Source: A306459-02										
Prepared: 06/25/03 Analyzed: 06/26/03										
2,3,4,6-Tetrachlorophenol	0.0508	1.0	"	0.0250	ND	NR	35-111	108	50	QM-04
2,3,4,5-Tetrachlorophenol	0.0378	1.0	"	0.0250	ND	23.2	40-95	21.9	50	QM-04
Pentachlorophenol	0.440	1.0	"	0.0250	ND	NR	40-104	114	50	QM-04
Surrogate: Tribromophenol	0.112		"	0.124		90.3	23-140			

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly For Sheri L. Speaks
Project Manager

7/30/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 5 of 5

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 07/30/03 09:24
Project No: 030229.11
Project ID: SPI Arcata Sawmill

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A306459	06/20/2003 15:55	MFGARC	

Notes and Definitions

- QM-04 High RPD and/or poor percent recovery may reflect sample non-homogeneity.
- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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Tetra Tech/MFG, Inc.

June 27, 2003

FAL Project ID: 2102

Mr. Orrin Plocher
MFG, Inc.
1165 G Street, Suite E
Arcata, CA 95521

*CONCRETE AND UPPER FILL
MATERIAL SAMPLES*

Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2102**. This corresponds to your project number 030229.11. The four solid samples received on 6/24/03 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. MFG, Inc. requested a five-day **RUSH** turnaround time for samples 2102-01-SA and 2102-04-SA and a standard turnaround time of 14 days for samples 2102-02-SA and 2102-03-SA. All four samples required dilution and reanalysis due to high levels of several analytes. All results taken from the dilution are noted with the "*" qualifier. Frontier Analytical Laboratory provided the five-day **RUSH** results for all four solid samples without an additional charge for the two non-rush samples.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project **2102**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

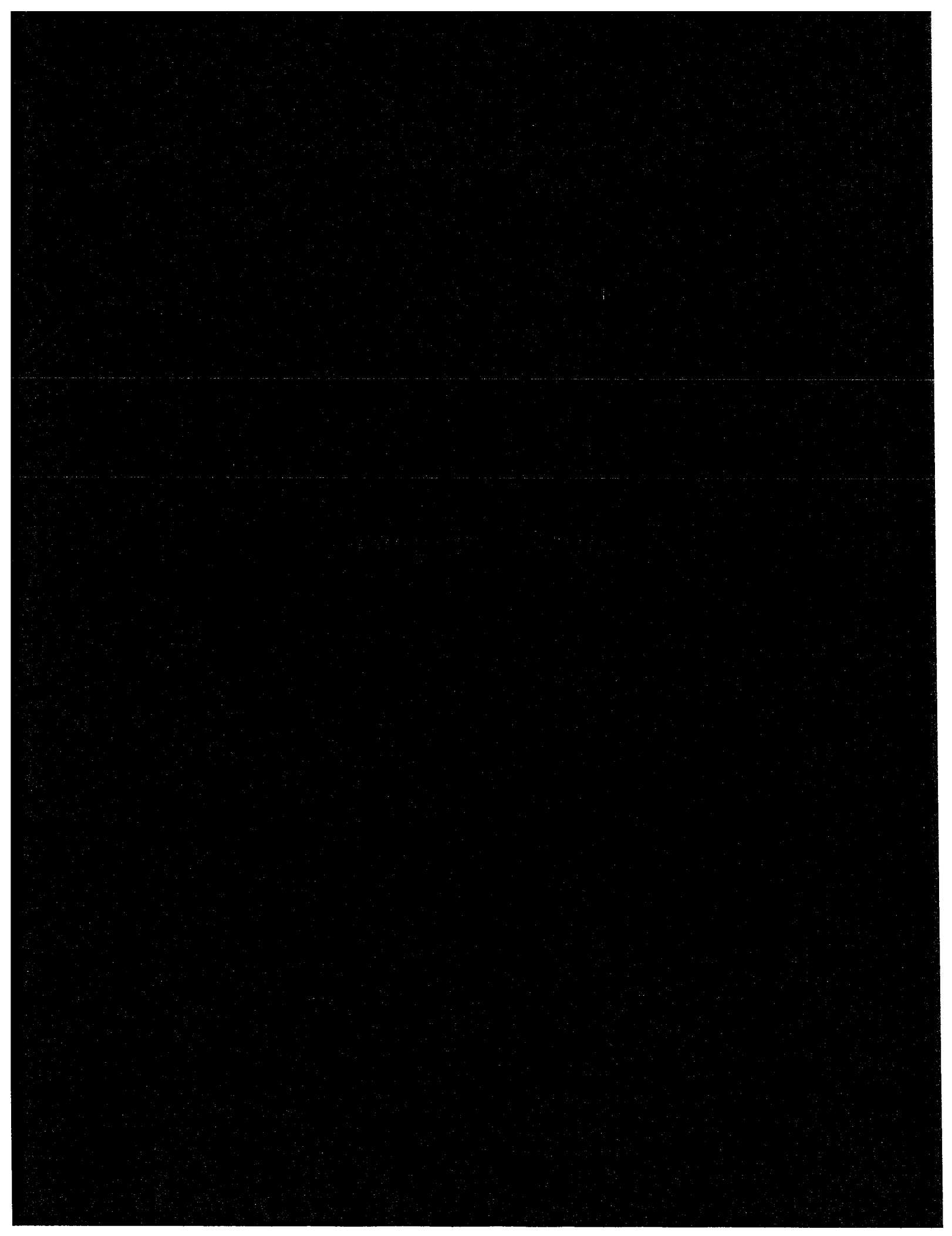


Bradley B. Silverbush
Director of Operations

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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **2102**

Received on: **06/24/2003**

Project Due: **07/09/2003**

Storage: **R1**

FAL Sample ID	Dupes	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2102-001-0001-SA	0	030229.11	S-1-1	EPA 1613 D/F	Soil	06/19/2003		06/18/2004
2102-002-0001-SA	0	030229.11	S-2-1	EPA 1613 D/F	Soil	06/19/2003		06/18/2004
2102-003-0001-SA	0	030229.11	C-1	EPA 1613 D/F	Solid	06/19/2003		06/18/2004
2102-004-0001-SA	0	030229.11	C-2	EPA 1613 D/F	Solid	06/19/2003		06/18/2004

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[‡] Analyte concentration is below calibration range
- M Maximum possible concentration
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[‡] "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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**EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)**



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample.

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Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2102-001-OPR
Client ID: OPR
Matrix: Solid
Extraction Batch No.: 0035

Date Extracted: 6/24/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: pcddfal1-3-8
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: 1769

Acquired: 25-JUN-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.9	6.70 - 15.8
1,2,3,7,8-PeCDD	54.3	35.0 - 71.0
1,2,3,4,7,8-HxCDD	52.1	35.0 - 82.0
1,2,3,6,7,8-HxCDD	56.4	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50.7	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	54.2	35.0 - 70.0
OCDD	115	78.0 - 144
2,3,7,8-TCDF	11.0	7.50 - 15.8
1,2,3,7,8-PeCDF	49.1	40.0 - 67.0
2,3,4,7,8-PeCDF	49.6	34.0 - 80.0
1,2,3,4,7,8-HxCDF	49.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	49.6	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50.5	39.0 - 65.0
1,2,3,7,8,9-HxCDF	51.2	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	51.1	39.0 - 69.0
OCDF	94.9	63.0 - 170
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	91.8	20.0 - 175
13C-1,2,3,7,8-PeCDD	85.7	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	99.9	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	98.4	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	89.1	26.0 - 166
13C-OCDD	70.5	13.0 - 198
13C-2,3,7,8-TCDF	95.2	22.0 - 152
13C-1,2,3,7,8-PeCDF	97.1	21.0 - 192
13C-2,3,4,7,8-PeCDF	94.8	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	114	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	112	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	102	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	94.6	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	98.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	118	20.0 - 186
13C-OCDF	90.2	13.0 - 198
Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	99.6	31.0 - 191

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JUN 30 2003

Tetra Tech/MFG, Inc.

Analyst: 8
Date: 6/26/03

Reviewed by: [Signature]
Date: 6/27/03

EPA Method 1613
PCDD/F



FAL ID: 1769-01-MS/MSD Date Extracted: 5/19/03 ICal: pcddfal1-3-8 MS Acquired: 21-MAY-03
 Client ID: KOX0305122401A MS/MSD Date Received: 5/13/03 GC Column: db5 MSD Acquired: 21-MAY-03
 Matrix: Solid Sample Amount: 9.82 g Units: pg WHO TEQ: NA
 Extraction Batch No.: 0035 MS Amount: 9.28 g MS/MSD Batch No.: 1769 % Solids: 77.2
 MSD Amount: 9.57 g

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	206	211	2.40	
1,2,3,7,8-PeCDD	1000	-	1040	964	7.58	
1,2,3,4,7,8-HxCDD	1000	-	1020	982	3.80	
1,2,3,6,7,8-HxCDD	1000	-	1080	1000	7.69	
1,2,3,7,8,9-HxCDD	1000	-	988	898	9.54	
1,2,3,4,6,7,8-HpCDD	1000	19.0	1010	1090	7.76	
OCDD	2000	128	2280	2330	2.97	
2,3,7,8-TCDF	200	-	209	206	1.45	
1,2,3,7,8-PeCDF	1000	-	1030	979	5.08	
2,3,4,7,8-PeCDF	1000	-	1020	978	4.10	
1,2,3,4,7,8-HxCDF	1000	-	1050	996	5.28	
1,2,3,6,7,8-HxCDF	1000	-	1050	994	5.48	
2,3,4,6,7,8-HxCDF	1000	-	1050	1020	2.90	
1,2,3,7,8,9-HxCDF	1000	-	1090	1030	5.66	
1,2,3,4,6,7,8-HpCDF	1000	4.70	1020	978	4.22	
1,2,3,4,7,8,9-HpCDF	1000	-	1050	998	5.08	
OCDF	2000	-	2150	2080	3.31	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	95.2	86.9	90.0	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	81.2	81.0	92.2	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	107	94.8	111	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	80.2	74.0	80.8	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	84.2	74.1	80.7	25.0 - 150	
13C-OCDD	4000	76.9	70.6	71.4	25.0 - 150	
13C-2,3,7,8-TCDF	2000	92.4	96.4	101	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	89.8	87.0	97.3	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	90.2	91.3	103	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	101	91.7	105	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	94.3	80.9	91.1	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	89.9	79.4	85.7	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	85.0	74.1	82.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	80.2	79.7	89.8	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	104	90.7	101	25.0 - 150	
13C-OCDF	4000	77.5	78.1	82.0	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	106	93.6	95.0	25.0 - 150	

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Analyst: 6
 Date: 6/26/03

Reviewed by: [Signature]
 Date: 6/27/03

EPA Method 1613
PCDD/F



FAL ID: 2102-001-SA
Client ID: S-1-1
Matrix: Solid
Extraction Batch No.: 0035

Date Extracted: 6/24/03
Date Received: 6/24/03
Amount: 10.18 g
% Solids: 81.0

ICal: pcddfal1-3-8
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 25-JUN-03
WHO TEQ: 1410

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	1.12	-		1.12					
1,2,3,7,8-PeCDD	26.1	-		26.1					
1,2,3,4,7,8-HxCDD	48.6	-	*	4.86					
1,2,3,6,7,8-HxCDD	4720	-	*	472	Total Tetra-Dioxins	508	-		14
1,2,3,7,8,9-HxCDD	190	-	*	19.0	Total Penta-Dioxins	1210	-		10
1,2,3,4,6,7,8-HpCDD	58500	-	*	585	Total Hexa-Dioxins	12300	-	B,*	7
OCDD	387000	-	B,*	38.7	Total Hepta-Dioxins	97500	-	*	2
2,3,7,8-TCDF	146	-	F	14.6					
1,2,3,7,8-PeCDF	123	-		6.16					
2,3,4,7,8-PeCDF	168	-		84.2					
1,2,3,4,7,8-HxCDF	257	-		25.7					
1,2,3,6,7,8-HxCDF	151	-		15.1					
2,3,4,6,7,8-HxCDF	454	-		45.4	Total Tetra-Furans	2280	-	D,M	22
1,2,3,7,8,9-HxCDF	261	-		26.1	Total Penta-Furans	7460	-		14
1,2,3,4,6,7,8-HpCDF	4780	-		47.8	Total Hexa-Furans	18000	-		11
1,2,3,4,7,8,9-HpCDF	169	-		1.69	Total Hepta-Furans	17600	-		3
OCDF	5960	-	*	0.596					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	91.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	86.5	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	87.0	32.0 - 141	*
13C-1,2,3,6,7,8-HxCDD	81.5	28.0 - 130	*
13C-1,2,3,4,6,7,8-HpCDD	103	23.0 - 140	*
13C-OCDD	154	17.0 - 157	*
13C-2,3,7,8-TCDF	90.7	24.0 - 169	
13C-1,2,3,7,8-PeCDF	95.1	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	122	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	115	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	105	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	95.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	118	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	113	26.0 - 138	
13C-OCDF	99.7	17.0 - 157	*

* = Dilution

Acquired: 26-JUN-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 101 35.0 - 197

Acquired: 26-JUN-03

Analyst: J
Date: 6/27/03

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JUN 30 2003
Tetra Tech/MFG, Inc.

Reviewed by: [Signature]
Date: 6/27/03

EPA Method 1613
PCDD/F



FAL ID: 2102-002-SA
Client ID: S-2-1
Matrix: Solid
Extraction Batch No.: 0035

Date Extracted: 6/24/03
Date Received: 6/24/03
Amount: 10.14 g
% Solids: 82.0

ICal: pcddfal1-3-8
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 25-JUN-03
WHO TEQ: 720

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	9.24	-		9.24					
1,2,3,7,8-PeCDD	59.0	-		59.0					
1,2,3,4,7,8-HxCDD	76.2	-	*	7.62					
1,2,3,6,7,8-HxCDD	2060	-	*	206	Total Tetra-Dioxins	577	-		18
1,2,3,7,8,9-HxCDD	234	-	*	23.4	Total Penta-Dioxins	1550	-		10
1,2,3,4,6,7,8-HpCDD	25400	-	*	254	Total Hexa-Dioxins	8180	-	B,*	8
OCDD	130000	-	B,*	13.0	Total Hepta-Dioxins	42700	-	*	2
2,3,7,8-TCDF	67.2	-	F	6.72					
1,2,3,7,8-PeCDF	44.2	-		2.21					
2,3,4,7,8-PeCDF	56.3	-		28.2					
1,2,3,4,7,8-HxCDF	132	-		13.2					
1,2,3,6,7,8-HxCDF	87.5	-		8.75					
2,3,4,6,7,8-HxCDF	212	-		21.2					
1,2,3,7,8,9-HxCDF	98.9	-		9.89	Total Tetra-Furans	1140	-		17
1,2,3,4,6,7,8-HpCDF	5240	-	*	52.4	Total Penta-Furans	3560	-		15
1,2,3,4,7,8,9-HpCDF	213	-	*	2.13	Total Hexa-Furans	10500	-		11
OCDF	11600	-	*	1.16	Total Hepta-Furans	19700	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	94.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	91.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	111	32.0 - 141	*
13C-1,2,3,6,7,8-HxCDD	105	28.0 - 130	*
13C-1,2,3,4,6,7,8-HpCDD	95.9	23.0 - 140	*
13C-OCDD	99.7	17.0 - 157	*
13C-2,3,7,8-TCDF	93.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	100	24.0 - 185	
13C-2,3,4,7,8-PeCDF	98.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	126	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	102	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	122	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	113	26.0 - 138	*
13C-OCDF	102	17.0 - 157	*

* = Dilution

Acquired: 26-JUN-03

F = DB225 Confirmation

Acquired: 26-JUN-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 102 35.0 - 197

Analyst: g

Date: 6/27/03

Reviewed by: [Signature]

Date: 6/27/03

RECEIVED
JUN 30 2003
Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2102-003-SA
Client ID: C-1
Matrix: Solid
Extraction Batch No.: 0035

Date Extracted: 6/24/03
Date Received: 6/24/03
Amount: 10.14 g
% Solids: 89.3

ICal: pcddfal1-3-8
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 25-JUN-03
WHO TEQ: 3050

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	24.9	-		24.9					
1,2,3,7,8-PeCDD	282	-		282					
1,2,3,4,7,8-HxCDD	230	-	*	23.0					
1,2,3,6,7,8-HxCDD	14800	-	*	1480	Total Tetra-Dioxins	439	-		18
1,2,3,7,8,9-HxCDD	4740	-	*	474	Total Penta-Dioxins	2580	-		10
1,2,3,4,6,7,8-HpCDD	64700	-	*	647	Total Hexa-Dioxins	75000	-	B,*	7
OCDD	137000	-	B,*	13.7	Total Hepta-Dioxins	96400	-	*	2
2,3,7,8-TCDF	38.5	-	F	3.85					
1,2,3,7,8-PeCDF	49.6	-		2.48					
2,3,4,7,8-PeCDF	51.3	-		25.7					
1,2,3,4,7,8-HxCDF	89.2	-		8.92					
1,2,3,6,7,8-HxCDF	156	-		15.6					
2,3,4,6,7,8-HxCDF	242	-		24.2	Total Tetra-Furans	1380	-		17
1,2,3,7,8,9-HxCDF	46.9	-		4.69	Total Penta-Furans	2920	-		14
1,2,3,4,6,7,8-HpCDF	2290	-		22.9	Total Hexa-Furans	5640	-		11
1,2,3,4,7,8,9-HpCDF	98.6	-		0.986	Total Hepta-Furans	6200	-		3
OCDF	3100	-	*	0.310					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	93.4	25.0 - 164	
13C-1,2,3,7,8-PeCDD	92.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	92.1	32.0 - 141	*
13C-1,2,3,6,7,8-HxCDD	102	28.0 - 130	*
13C-1,2,3,4,6,7,8-HpCDD	112	23.0 - 140	*
13C-OCDD	110	17.0 - 157	*
13C-2,3,7,8-TCDF	85.9	24.0 - 169	
13C-1,2,3,7,8-PeCDF	96.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	90.1	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	102	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	113	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	86.6	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	82.8	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	99.5	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	100	26.0 - 138	
13C-OCDF	94.6	17.0 - 157	*

* = Dilution

Acquired: 26-JUN-03

F = DB225 Confirmation

Acquired: 26-JUN-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 102 35.0 - 197

Analyst: [Signature]

Date: 6/27/03

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JUN 30 2003
Tetra Tech/MFG, Inc.

Reviewed by: [Signature]

Date: 6/27/03

EPA Method 1613
PCDD/F



FAL ID: 2102-004-SA
Client ID: C-2
Matrix: Solid
Extraction Batch No.: 0035

Date Extracted: 6/24/03
Date Received: 6/24/03
Amount: 9.98 g
% Solids: 95.2

ICal: pcddfal1-3-8
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 1769

Acquired: 25-JUN-03
WHO TEQ: 52900

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	57.5	-		57.5					
1,2,3,7,8-PeCDD	1030	-		1030					
1,2,3,4,7,8-HxCDD	1580	-	*	158					
1,2,3,6,7,8-HxCDD	232000	-	*	23200	Total Tetra-Dioxins	1120	-		16
1,2,3,7,8,9-HxCDD	31100	-	*	3110	Total Penta-Dioxins	10100	-		10
1,2,3,4,6,7,8-HpCDD	1940000	-	*	19400	Total Hexa-Dioxins	1280000	-	B,*	7
OCDD	10500000	-	B,*	1050	Total Hepta-Dioxins	3550000	-	*	2
2,3,7,8-TCDF	2100	-	F	210					
1,2,3,7,8-PeCDF	2420	-		121					
2,3,4,7,8-PeCDF	3350	-		1670					
1,2,3,4,7,8-HxCDF	4260	-	*	426					
1,2,3,6,7,8-HxCDF	3390	-	*	339					
2,3,4,6,7,8-HxCDF	9220	-	*	922					
1,2,3,7,8,9-HxCDF	3830	-	*	383	Total Tetra-Furans	26000	-	D,M	22
1,2,3,4,6,7,8-HpCDF	79000	-	*	790	Total Penta-Furans	170000	-	*	13
1,2,3,4,7,8,9-HpCDF	3170	-	*	31.7	Total Hexa-Furans	355000	-	*	13
OCDF	76800	-	*	7.68	Total Hepta-Furans	297000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	102	25.0 - 164	
13C-1,2,3,7,8-PeCDD	98.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	126	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	127	28.0 - 130	*
13C-1,2,3,4,6,7,8-HpCDD	70.9	23.0 - 140	*
13C-OCDD	6.70	17.0 - 157	A,*
13C-2,3,7,8-TCDF	99.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	107	24.0 - 185	
13C-2,3,4,7,8-PeCDF	106	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	149	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	116	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	126	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	135	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	104	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	138	26.0 - 138	*
13C-OCDF	48.6	17.0 - 157	*

* = Dilution

Acquired: 26-JUN-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 113 35.0 - 197

Acquired: 26-JUN-03

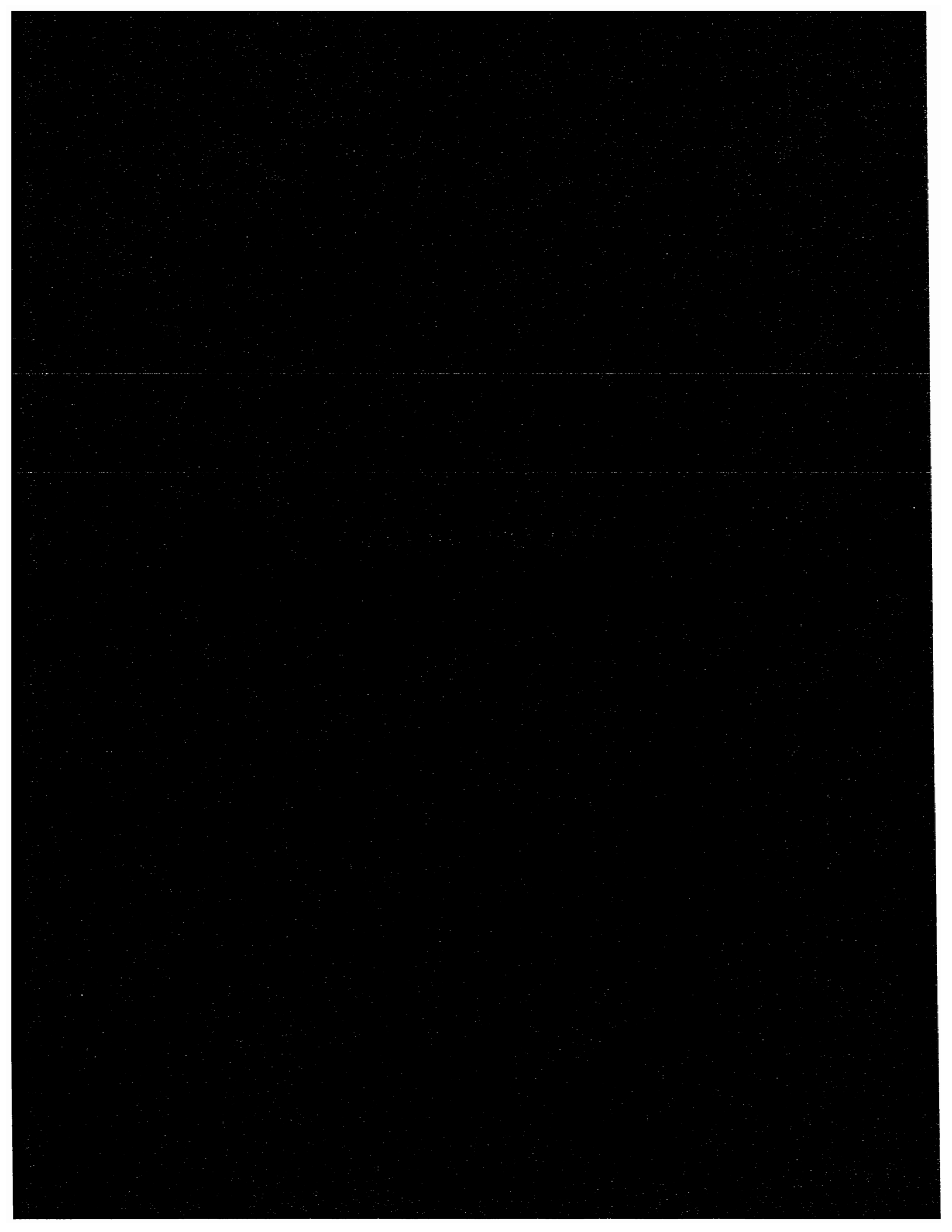
Analyst: [Signature]

Date: 6/27/03

RECEIVED
JUN 30 2003
Tetra Tech/MFG, Inc.

Reviewed by: [Signature]

Date: 6/27/03



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **2102**

Client:	MFG
Client Project ID:	030229.11
Date Received:	06/24/2003
Time Received:	10:05 am
Received By:	KZ
# of Samples Received:	4
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Fed-Ex
Tracking Number:	7908 1857 2585
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	2
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	06/18/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	

RECEIVED
 JUN 24 10 2003
 Tetra Tech-MFG, Inc.

CHAIN OF CUSTODY RECORD AND REQUEST FOR ANALYSIS

MFG, INC. DOC NO. 41378

PROJECT NO. <u>030229-111</u>	PROJECT NAME <u>Sierra Nevada T-4-A Archa Summit</u>	PAGE <u>1</u> OF <u>1</u>
SAMPLER (Signature) <u>[Signature]</u>	PROJECT MANAGER <u>[Signature]</u>	DATE <u>6/10/03</u>
METHOD OF SHIPMENT <u>Fed Ex</u>	CARRIER/WAYBILL NO. <u>2102 1657 258</u>	DESTINATION <u>Frontier Analytical</u>

SAMPLES	ANALYSIS REQUEST															
	Sample		Preservation				Container		Component/Method		Handling		Remarks			
	DATE	TIME	MARK	ICE	IND	PSO	COLD	FILTRATION	VOLUME (ml)	TYPE	NO.	Other		FOLD	RUSA	STANDARD



RECEIVED

JUN 30 2003

Tetra Tech/MFG, Inc.

June 24, 2003

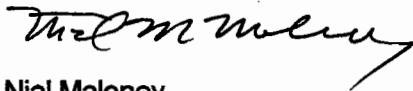
Mr. Orrin Plocher
MFG, Inc.
1165 G Street, Suite E
Arcata, CA 95521

Dear Mr. Plocher,

This letter confirms the receipt of your four solid samples on June 24, 2003. The samples were received in good condition. Enclosed are copies of your chain of custody, our sample login form and our project-sample tracking form. The samples have been assigned a Frontier Analytical Laboratory (FAL) project number of **2102** (your project ID: 030229.11). In order to expedite inquiries, please reference this project number. The samples will be analyzed following EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. As requested, a RUSH turnaround will be provided for samples 1 and 4, and our standard fourteen (14) day turnaround time will be provided for the remaining samples.

Thank you for choosing Frontier Analytical Laboratory for your analytical needs. If you have any questions regarding this project, please contact me at (916) 934-0900.

Sincerely,



Nial Maloney
Director of Technical Services
Frontier Analytical Laboratory

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

MFG, INC.

COO No. 41379

- Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-8430
Fax: (707) 826-8437
- Boulder Office
4900 Pearl East Circle
Suite 300W
Boulder CO 80301-6118
Tel: (303) 447-1823
Fax: (303) 447-1836
- Missoula Office
P.O. Box 7158
Missoula, MT
59907-7158
Tel: (406) 728-4600
Fax: (406) 728-4698
- Oshburn Office
P.O. Box 30
Wallace, ID
83973-0030
Tel: (208) 556-6811
Fax: (208) 556-7271
- San Francisco Office
[Redacted]
Tel: (415) 495-7107
Fax: (415) 495-7107
- Santa Ana Office
640 North Tustin Avenue
Suite 101
Santa Ana, CA 92705-3731
Tel: (714) 973-3090
Fax: (714) 973-3097
- Seattle Office
19203 36th Avenue
Suite 101
Lynnwood, WA 98036-5707
Tel: (425) 921-4000
Fax: (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: Siena Pacific Ind: Arcata Summit PAGE: 1 OF: 1
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Ed Conti DATE: 6/19/03
 METHOD OF SHIPMENT: Fed Ex CARRIER/WAYBILL NO: 708.1857 2585 DESTINATION: Frazier Analytical

Field Sample Identification	DATE	TIME	Matrix*	Preservation			FILTRATION*	Containers		Constituents/Method	Handling			Remarks
				HCl	HNO ₃	H ₂ SO ₄		COLD	VOLUME (ml/oz)		TYPE*	NO.	HOLD	
S-1-1'	6/19	Pm	SD					4oz	1					Per Dan Vickers
S-2-1'	6/19	Pm	SD					4oz	1					Rush Data plate
C-1	6/19	Pm	OT					4oz	1					provided by June 20th
C-2	6/19	Pm	OT					4oz	1					
TOTAL NUMBER OF CONTAINERS: <u>4</u> LABORATORY COMMENTS/CONDITION OF SAMPLES: _____ Cooler Temp: _____														

RELINQUISHED BY:				RECEIVED BY:			
SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<u>[Signature]</u>	<u>Orrin Proctor</u>	<u>MFR</u>	<u>6/23/03</u>	<u>1:30pm</u>	<u>[Signature]</u>	<u>Kathy Zipp</u>	<u>SenTex Analytical</u>
				LABORATORY			

KEY Matrix: AQ - aqueous NA - non-aqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **2102**

Client:	MFG
Client Project ID:	03229.11
Date Received:	06/24/2003
Time Received:	10:05 am
Received By:	KZ
# of Samples Received:	4
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Fed-Ex
Tracking Number:	7908 1857 2585
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	2
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	06/18/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	

Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **2102**

Received on: **06/24/2003**

Project Due: **07/09/2003**

Storage: **R1**

FAL Sample ID	Dupes	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2102-001-0001-SA	0	03229.11	S-1-1	EPA 1613 D/F	Soil	06/19/2003		06/18/2004
2102-002-0001-SA	0	03229.11	S-2-1	EPA 1613 D/F	Soil	06/19/2003		06/18/2004
2102-003-0001-SA	0	03229.11	C-1	EPA 1613 D/F	Solid	06/19/2003		06/18/2004
2102-004-0001-SA	0	03229.11	C-2	EPA 1613 D/F	Solid	06/19/2003		06/18/2004

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

MFG, INC.

COC No. **41379**

- Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-8430
Fax: (707) 826-8437
- Boulder Office
4900 Pearl East Circle
Suite 300W
Boulder, CO 80301-6118
Tel: (303) 447-1823
Fax: (303) 447-1836
- Missoula Office
P.O. Box 7158
Missoula, MT
59807-7158
Tel: (406) 728-4600
Fax: (406) 728-4698
- Oshburn Office
P.O. Box 30
Wallace, ID
83873-0030
Tel: (208) 556-6811
Fax: (208) 556-7271
- San Francisco Office
400 Montgomery Street
San Francisco, CA 94102-3907
Tel: (415) 495-7110
Fax: (415) 495-7107
- Santa Ana Office
640 North Tustin Avenue
Suite 101
Santa Ana, CA 92705-9731
Tel: (714) 973-3080
Fax: (714) 973-3097
- Seattle Office
18203 36th Avenue
Suite 101
Lynnwood, WA 98026-5707
Tel: (425) 921-4000
Fax: (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: Sierra Pacific Ind. Arcata Summit PAGE: 1 OF: 1
 SAMPLER (Signature): Della PROJECT MANAGER: Ed Conti DATE: 6/19/03
 METHOD OF SHIPMENT: Fed Ex CARRIER/WAYBILL NO: 748 18 57 2585 DESTINATION: Foster Analytical

SAMPLES

Field Sample Identification	DATE	TIME	Matrix*	Preservation			COLD	FILTRATION*		VOLUME (ml/oz)	Containers		Constituents/Method	Handling			Remarks
				HCl	HNO ₃	H ₂ SO ₄					TYPE*	NO.		HOLD	RUSH	STANDARD	
S-1-1'	6/19	Pm	SO				<input checked="" type="checkbox"/>			4oz	C	1					Lab to grind concrete samples Prior to analysis.
S-2-1'	6/19	Pm	SO				<input checked="" type="checkbox"/>			4oz	C	1					For Dan Vickers
C-1	6/19	Pm	OT				<input checked="" type="checkbox"/>			4oz	L	1					Rush Data please
C-2	6/19	Pm	OT				<input checked="" type="checkbox"/>			4oz	L	1					Provided by June 30th

RELINQUISHED BY: _____ RECEIVED BY: _____
 PRINTED NAME: _____ SIGNATURE: _____
 COMPANY: _____ PRINTED NAME: _____
 DATE: 6/23/03 TIME: 1:30pm

SIGNATURE: Della PRINTED NAME: Orrin Proctor COMPANY: MFG DATE: 6/23/03 TIME: 1:30pm

LABORATORY COMMENTS/CONDITION OF SAMPLES: 4 Cooler Temp: _____
 RECEIVED BY: _____ SIGNATURE: _____
 PRINTED NAME: _____ COMPANY: _____
 DATE: _____ TIME: _____
 SIGNATURE: _____ PRINTED NAME: _____
 COMPANY: _____

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy WHITE: Return to Originator

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

MFG, Inc.

COC No. 41379

- Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-9430
Fax: (707) 826-9437
- Boulder Office
4900 Pearl East Circle
Suite 300W
Boulder, CO 80301-6118
Tel: (303) 447-1823
Fax: (303) 447-1836
- Missoula Office
P.O. Box 7158
Missoula, MT
59807-7158
Tel: (406) 728-4600
Fax: (406) 728-4698
- Osburn Office
P.O. Box 30
Wallace, ID
83873-0030
Tel: (208) 556-6811
Fax: (208) 556-7271
- San Francisco Office
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Emeryville, CA 94608
Tel: (415) 495-7110
Fax: (415) 495-7107
- Santa Ana Office
640 North Tustin Avenue
Suite 101
Santa Ana, CA 92705-3731
Tel: (714) 973-3090
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- Seattle Office
19203 36th Avenue
Suite 101
Lynnwood, WA 98036-5707
Tel: (425) 921-4000
Fax: (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: Sierra Pacific Ind. Arcata Summit PAGE: 1 OF: 1
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Ed Conti DATE: 6/19/03
 METHOD OF SHIPMENT: Fed Ex CARRIERWAYBILL NO: 740818572585 DESTINATION: Frantier Analytical

SAMPLES

Field Sample Identification	DATE	TIME	Matrix*	Preservation				FILTRATION*	VOLUME (ml/oz)	Containers		Constituents/Method	Handling			Remarks
				HCl	HNO ₃	H ₂ SO ₄	COLD			TYPE*	NO.		HOLD	RUSH	STANDARD	
S-1-1'	6/19	Pm	SO						4oz C	1	V					Per Dan Vickers
S-2-1'	6/19	Pm	SO						4oz C	1	V					Rush Data take
C-1	6/19	Pm	OT						4oz L	1	V					provided by
C-2	6/19	Pm	OT						4oz L	1	V					June 30th

TOTAL NUMBER OF CONTAINERS 4

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY:

RECEIVED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<u>[Signature]</u>	<u>Orrin Prodan</u>	<u>MFR</u>	<u>6/23/03</u>	<u>1:30pm</u>	<u>[Signature]</u>	<u>Kathy Zipp</u>	<u>Frantier Analytical</u>
							LABORATORY

Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: GREEN - Original PINK - Field Copy YELLOW - Laboratory Copy WHITE - Return to Originator

D-4 First Phase of Excavation Samples



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

30 July 2003

FIRST PHASE EXCAVATION

MFG, Inc - Arcata
Attn: Orrin Plocher
875 Crescent Way
Arcata, CA 95521
RE: SPI - Arcata
Work Order: A307295

Enclosed are the results of analyses for samples received by the laboratory on 07/10/03 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen A. Daly
Project Manager

RECEIVED

AUG 01 2003

Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/30/03 09:26
Project No: 030229.11
Project ID: SPI - Arcata

<u>Order Number</u> A307295	<u>Receipt Date/Time</u> 07/10/2003 17:45	<u>Client Code</u> MFGARC	<u>Client PO/Reference</u>
--------------------------------	--	------------------------------	----------------------------

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Pit Under 2nd Slab	A307295-01	Soil	07/09/03 17:05	07/10/03 17:45
Pit Bottom	A307295-02	Soil	07/09/03 17:00	07/10/03 17:45

This represents an amended copy of the original report.

RECEIVED

AUG 01 2003

Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly
Project Manager

7/30/03



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 2 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/30/03 09:26
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A307295	07/10/2003 17:45	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Pit Under 2nd Slab (A307295-01)		Sample Type: Soil			Sampled: 07/09/03 17:05		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AG31514	07/11/03	07/14/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	2.3 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		90.3 %	23-140
Pit Bottom (A307295-02)		Sample Type: Soil			Sampled: 07/09/03 17:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AG31514	07/11/03	07/14/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	100 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	1.7 "	1.0
Pentachlorophenol	"	"	"	"	"	380 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		53.2 %	23-140

RECEIVED
AUG 01 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karen A. Daly
Project Manager

7/30/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 3 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/30/03 09:26
Project No: 030229.11
Project ID: SPI - Arcata

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A307295	07/10/2003 17:45	MFGARC	

SourceResult

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
------------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	------

Batch AG31514 - Solvent Extraction

Blank (AG31514-BLK1)

Prepared: 07/11/03 Analyzed: 07/14/03

2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.0980		"	0.124		79.0	23-140			

LCS (AG31514-BS1)

Prepared: 07/11/03 Analyzed: 07/14/03

2,4,6-Trichlorophenol	0.0221	1.0	mg/kg	0.0250		88.4	32-116			
2,3,5,6-Tetrachlorophenol	0.0151	1.0	"	0.0250		60.4	18-80			
2,3,4,6-Tetrachlorophenol	0.0179	1.0	"	0.0250		71.6	28-89			
2,3,4,5-Tetrachlorophenol	0.0193	1.0	"	0.0250		77.2	54-85			
Pentachlorophenol	0.0172	1.0	"	0.0250		68.8	17-85			
Surrogate: Tribromophenol	0.111		"	0.124		89.5	23-140			

LCS Dup (AG31514-BSD1)

Prepared: 07/11/03 Analyzed: 07/14/03

2,4,6-Trichlorophenol	0.0232	1.0	mg/kg	0.0250		92.8	32-116	4.86	50	
2,3,5,6-Tetrachlorophenol	0.0158	1.0	"	0.0250		63.2	18-80	4.53	50	
2,3,4,6-Tetrachlorophenol	0.0203	1.0	"	0.0250		81.2	28-89	12.6	50	
2,3,4,5-Tetrachlorophenol	0.0201	1.0	"	0.0250		80.4	54-85	4.06	50	
Pentachlorophenol	0.0170	1.0	"	0.0250		68.0	17-85	1.17	50	
Surrogate: Tribromophenol	0.116		"	0.124		93.5	23-140			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be read in conjunction with the chain of custody document.

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AUG 01 2003

Tetra Tech/MFG, Inc.

Karen A. Daly
Project Manager

7/30/03



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 4 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/30/03 09:26
Project No: 030229.11
Project ID: SPI - Arcata

<u>Order Number</u>	<u>Receipt Date/Time</u>	<u>Client Code</u>	<u>Client PO/Reference</u>
A307295	07/10/2003 17:45	MFGARC	

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
PQL Practical Quantitation Limit

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Tetra Tech/MFG, Inc.

875 Crescent way

MFG, INC.
 CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 43302

Boulder Office 4900 Pearl East Circle Suite 300W Arcata, CA 95521-5617 Tel: (707) 826-8430 Fax: (707) 826-8437
 Irvine Office 17770 Cartwright Road Suite 500 Irvine, CA 92614-5650 Tel: (949) 253-2951 Fax: (949) 253-2954
 Oshum Office P.O. Box 30 Wallace, ID 83873-0030 Tel: (208) 556-6811 Fax: (208) 556-7271
 San Francisco Office 180 Howard Street, Suite 200 San Francisco, CA 94105-1617 Phone (415) 465-7110 - Fax (415) 495-7107
 Seattle Office 19203 36th Avenue W. Suite 101 Lynnwood, WA 98036-5707 Tel: (425) 921-4000 Fax: (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: SPI - Arcata Green Chain PAGE: 1 OF 1
 SAMPLER (Signature): Matt Hilliard PROJECT MANAGER: Orrin Plocher DATE: 7/10/03
 METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES										ANALYSIS REQUEST					
Field Sample Identification	Sample			Preservation			Containers			Constituents/Method	Handling	Remarks			
	DATE	TIME	Matrix*	HCl	HNO ₃	H ₂ SO ₄	COLD	FILTRATION*	VOLUME (ml/oz)				TYPE	NO.	
Pit Under 2nd Slab	7/9	1705	SO				X		4oz	G	1	X	PCP/TCF	STANDARD	Custody Seal intact
Pit Under 2nd Slab	7/9	1709	SO				X		4oz	G	1	X	PCP/TCF	X	PCP/TCF by comparison
Pit Bottom	7/9	1700	SO				X		4oz	G	1	X	PCP/TCF	X	Pulp Method
Pit Bottom	7/9	1700	SO				X		4oz	G	1	X	PCP/TCF	X	
Wood Composite	7/9	1720	OT				X		4oz	G	1	X	PCP/TCF		Dioxin/Furan by Method 1613

RELINQUISHED BY:			RECEIVED BY:				
SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<u>Matt Hilliard</u>	Matt Hilliard	MFG	7/10/03	1:25	<u>J. Matthews</u>	J. Matthews	ALPHA
<u>J. Matthews</u>	J. Matthews	Alpha	7/10/03	15:45	<u>K. Daly</u>	K. DALY	ALPHA LABORATORY
				17:45			

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 Tetra Tech/MFG, Inc

*KEY Matrix: AO - aqueous NA - nonaqueous SO - soil SI - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator



July 28, 2003

FAL Project ID: 2133

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

FIRST PHASE EXCAVATION

Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2133**. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A307302. The two soil samples received on 7/15/03 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Alpha Analytical Laboratories, Inc. requested a turnaround time of 14 days for project **2133**. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our project-sample tracking log, a qualifier reference guide, a ML/MDL form and the analytical results. The Sample Receipt section contains the original chain of custody, our sample login form and a sample photo.

If you have any questions regarding project **2133**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Dan Vickers

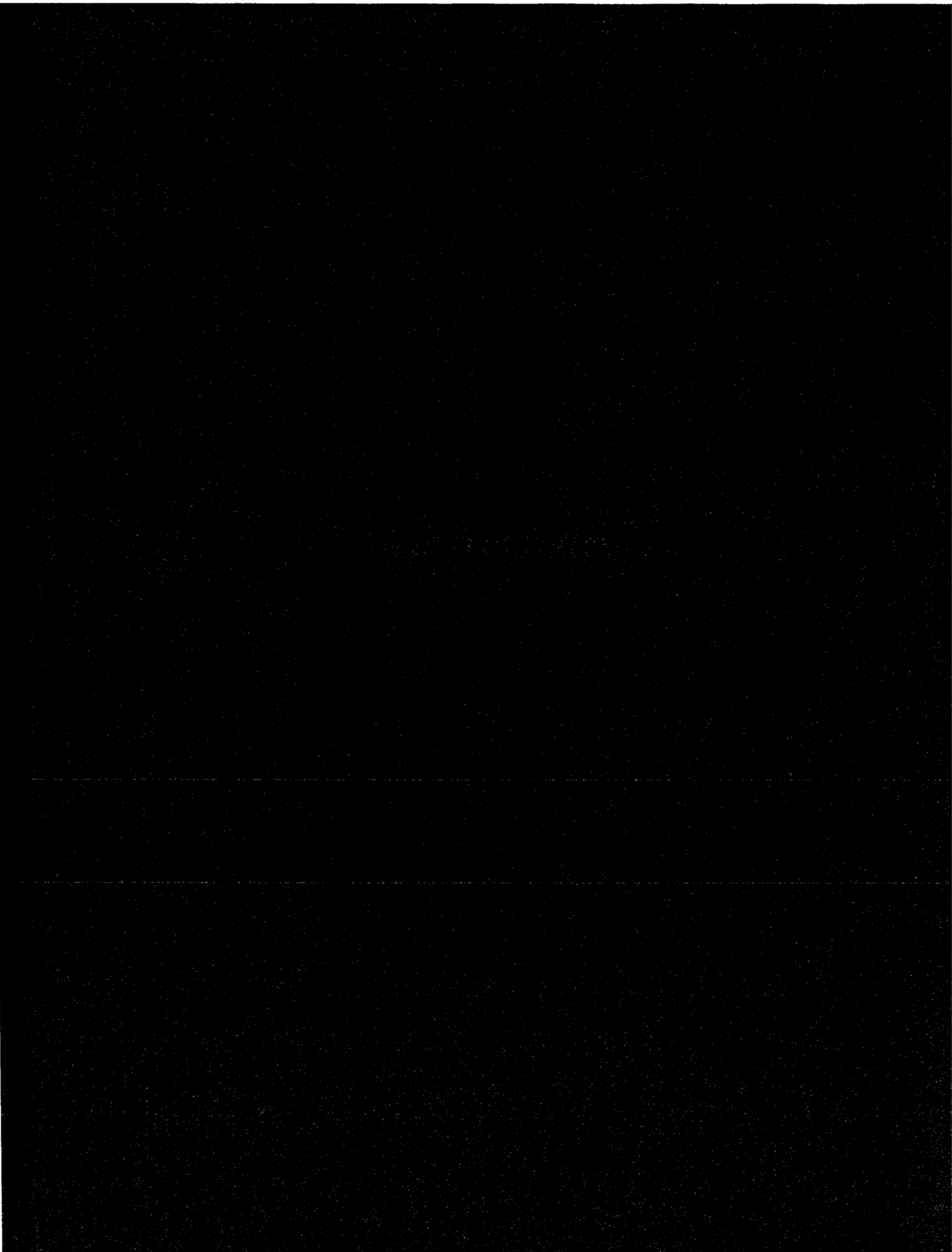
Dan Vickers
Director of Air Toxics

FRONTIER ANALYTICAL LABORATORY
5172 Hillsdale Circle • El Dorado Hills, CA 95762
Tel (916) 934-0900 • Fax (916) 934-0999
dioxin@frontieranalytical.com

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Tetra Tech MFG, Inc. 000001 of 000012



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2133

Received on: 07/15/2003

Project Due: 07/30/2003 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2133-001-SA	0	A307302	A307302-01	EPA 1613 D/F	Soil	07/09/2003	05:05 pm	07/08/2004
2133-002-SA	0	A307302	A307302-02	EPA 1613 D/F	Soil	07/09/2003	05:00 pm	07/08/2004

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[‡] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[‡] "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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Tetra Tech/MFG, Inc.

EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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000004 of 000012
Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2133-001-MB
Client ID: Method Blank
Matrix: Soil
Extraction Batch No.: 0056

Date Extracted: 7/22/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-6-13
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 24-JUL-03
WHO TEQ: 0.000342

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.174	-	-					
1,2,3,7,8-PeCDD	-	0.439	-	-					
1,2,3,4,7,8-HxCDD	-	0.502	-	-					
1,2,3,6,7,8-HxCDD	-	0.549	-	-	Total Tetra-Dioxins	-	0.174		0
1,2,3,7,8,9-HxCDD	-	0.476	-	-	Total Penta-Dioxins	-	0.439		0
1,2,3,4,6,7,8-HpCDD	1.10	-	-	-	Total Hexa-Dioxins	-	0.749		0
OCDD	3.42	-	J	0.000342	Total Hepta-Dioxins	-	1.10		0
2,3,7,8-TCDF	-	0.107	-	-					
1,2,3,7,8-PeCDF	-	0.323	-	-					
2,3,4,7,8-PeCDF	-	0.319	-	-					
1,2,3,4,7,8-HxCDF	-	0.110	-	-					
1,2,3,6,7,8-HxCDF	-	0.144	-	-					
2,3,4,6,7,8-HxCDF	-	0.169	-	-					
1,2,3,7,8,9-HxCDF	-	0.219	-	-	Total Tetra-Furans	-	0.107		0
1,2,3,4,6,7,8-HpCDF	-	0.255	-	-	Total Penta-Furans	-	0.324		0
1,2,3,4,7,8,9-HpCDF	-	0.300	-	-	Total Hexa-Furans	-	0.219		0
OCDF	-	0.538	-	-	Total Hepta-Furans	-	0.300		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	84.7	25.0 - 164	
13C-1,2,3,7,8-PeCDD	81.0	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	92.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	86.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	99.2	23.0 - 140	
13C-OCDD	109	17.0 - 157	
13C-2,3,7,8-TCDF	90.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	83.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	81.9	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	91.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	80.3	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	83.5	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	84.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	95.8	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 138	
13C-OCDF	107	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 78.7 35.0 - 197

Analyst: [Signature]
Date: 7/25/03

Reviewed by: [Signature]
Date: 7/25/03

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JUL 29 2003

EPA Method 1613
PCDD/F



FAL ID: 2133-001-MB
Client ID: Method Blank
Matrix: Soil
Extraction Batch No.: 0056

Date Extracted: 7/22/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-6-13
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 24-JUL-03
WHO TEQ: 0.000342

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.174	-	-					
1,2,3,7,8-PeCDD	-	0.439	-	-					
1,2,3,4,7,8-HxCDD	-	0.502	-	-					
1,2,3,6,7,8-HxCDD	-	0.549	-	-	Total Tetra-Dioxins	-	0.174		0
1,2,3,7,8,9-HxCDD	-	0.476	-	-	Total Penta-Dioxins	-	0.439		0
1,2,3,4,6,7,8-HpCDD	1.10	-	-	-	Total Hexa-Dioxins	-	0.749		0
OCDD	3.42	-	J	0.000342	Total Hepta-Dioxins	-	1.10		0
2,3,7,8-TCDF	-	0.107	-	-					
1,2,3,7,8-PeCDF	-	0.323	-	-					
2,3,4,7,8-PeCDF	-	0.319	-	-					
1,2,3,4,7,8-HxCDF	-	0.110	-	-					
1,2,3,6,7,8-HxCDF	-	0.144	-	-					
2,3,4,6,7,8-HxCDF	-	0.169	-	-					
1,2,3,7,8,9-HxCDF	-	0.219	-	-	Total Tetra-Furans	-	0.107		0
1,2,3,4,6,7,8-HpCDF	-	0.255	-	-	Total Penta-Furans	-	0.324		0
1,2,3,4,7,8,9-HpCDF	-	0.300	-	-	Total Hexa-Furans	-	0.219		0
OCDF	-	0.538	-	-	Total Hepta-Furans	-	0.300		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	84.7	25.0 - 164	
13C-1,2,3,7,8-PeCDD	81.0	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	92.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	86.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	99.2	23.0 - 140	
13C-OCDD	109	17.0 - 157	
13C-2,3,7,8-TCDF	90.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	83.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	81.9	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	91.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	80.3	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	83.5	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	84.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	95.8	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 138	
13C-OCDF	107	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 78.7 35.0 - 197

Analyst: [Signature]
Date: 7/25/03

Reviewed by: [Signature]
Date: 7/22/03

JUL 29 2003

Tetra Tech, Inc.

EPA Method 1613
PCDD/F



PIT UNDER 2ND SLAB

FAL ID: 2133-001-SA
Client ID: A307302-01
Matrix: Soil
Extraction Batch No.: 0056

Date Extracted: 7/22/03
Date Received: 7/15/03
Amount: 10.10 g
% Solids: 77.0

ICal: PCDDFAL1-6-13
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 24-JUL-03
WHO TEQ: 2570

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	24.1	-		24.1					
1,2,3,7,8-PeCDD	240	-		240					
1,2,3,4,7,8-HxCDD	287	-		28.7					
1,2,3,6,7,8-HxCDD	3940	-		394	Total Tetra-Dioxins	44.2	-		8
1,2,3,7,8,9-HxCDD	295	-		29.5	Total Penta-Dioxins	369	-		8
1,2,3,4,6,7,8-HpCDD	135000	-	*	1350	Total Hexa-Dioxins	12100	-		6
OCDD	1280000	-	B,*	128	Total Hepta-Dioxins	249000	-	*	2
2,3,7,8-TCDF	0.915	-		0.0915					
1,2,3,7,8-PeCDF	3.42	-		0.171					
2,3,4,7,8-PeCDF	5.76	-		2.88					
1,2,3,4,7,8-HxCDF	309	-		30.9					
1,2,3,6,7,8-HxCDF	80.7	-		8.07					
2,3,4,6,7,8-HxCDF	257	-		25.7					
1,2,3,7,8,9-HxCDF	74.3	-		7.43	Total Tetra-Furans	49.9	-		12
1,2,3,4,6,7,8-HpCDF	26200	-	*	262	Total Penta-Furans	282	-	D,M	14
1,2,3,4,7,8,9-HpCDF	2990	-	*	29.9	Total Hexa-Furans	23400	-	D,M	11
OCDF	128000	-	*	12.8	Total Hepta-Furans	165000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	101	25.0 - 164	
13C-1,2,3,7,8-PeCDD	99.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	102	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	116	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	85.9	23.0 - 140	*
13C-OCDD	41.8	17.0 - 157	*
13C-2,3,7,8-TCDF	98.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	93.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	92.2	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	100	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	98.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	97.6	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	105	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	97.6	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	96.3	26.0 - 138	*
13C-OCDF	86.3	17.0 - 157	*

* = Dilution

Acquired: 24-JUL-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 100 35.0 - 197

Acquired: 24-JUL-03

Analyst: 8
Date: 7/25/03

RECEIVED
JUL 29 2003

Reviewed by: DPV
Date: 7/28/2003

EPA Method 1613
PCDD/F



PIT BOTTOM

FAL ID: 2133-002-SA
Client ID: A307302-02
Matrix: Soil
Extraction Batch No.: 0056

Date Extracted: 7/22/03
Date Received: 7/15/03
Amount: 10.15 g
% Solids: 79.9

ICal: PCDDFAL1-6-13
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 24-JUL-03
WHO TEQ: 10700

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	100	-		100					
1,2,3,7,8-PeCDD	632	-		632					
1,2,3,4,7,8-HxCDD	1160	-		116					
1,2,3,6,7,8-HxCDD	23600	-		2360	Total Tetra-Dioxins	197	-		14
1,2,3,7,8,9-HxCDD	1600	-		160	Total Penta-Dioxins	1460	-		10
1,2,3,4,6,7,8-HpCDD	449000*	-	*	4490	Total Hexa-Dioxins	62600	-		7
OCDD	2070000	-	B,*	207	Total Hepta-Dioxins	701000	-	*	2
2,3,7,8-TCDF	249	-	F	24.9					
1,2,3,7,8-PeCDF	374	-		18.7					
2,3,4,7,8-PeCDF	511	-		256					
1,2,3,4,7,8-HxCDF	2090	-		209					
1,2,3,6,7,8-HxCDF	818	-		81.8					
2,3,4,6,7,8-HxCDF	2310	-		231					
1,2,3,7,8,9-HxCDF	913	-		91.3	Total Tetra-Furans	2070	-	D,M	23
1,2,3,4,6,7,8-HpCDF	154000	-	*	1540	Total Penta-Furans	18400	-	D,M	16
1,2,3,4,7,8,9-HpCDF	11900	-	*	119	Total Hexa-Furans	189000	-	D,M,*	11
OCDF	580000	-	*	58.0	Total Hepta-Furans	845000	-	*	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	104	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	128	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	86.2	23.0 - 140	*
13C-OCDD	38.7	17.0 - 157	*
13C-2,3,7,8-TCDF	104	24.0 - 169	
13C-1,2,3,7,8-PeCDF	100	24.0 - 185	
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	106	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	96.7	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	101	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	93.2	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	81.8	26.0 - 138	*
13C-OCDF	58.4	17.0 - 157	*

* = Dilution

Acquired: 24-JUL-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 112 35.0 - 197

Acquired: 25-JUL-03

Analyst: 6
Date: 7/25/03

RECEIVED

JUL 29 2003

Reviewed by: DN
Date: 7/28/2003

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



PIT BOTTOM

FAL ID: 2133-002-SA
Client ID: A307302-02
Matrix: Soil
Extraction Batch No.: 0056

Date Extracted: 7/22/03
Date Received: 7/15/03
Amount: 10.15 g
% Solids: 79.9

ICal: PCDDFAL1-6-13
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 0038
Acquired: 24-JUL-03
WHO TEQ: 10700

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	100	-		100					
1,2,3,7,8-PeCDD	632	-		632					
1,2,3,4,7,8-HxCDD	1160	-		116					
1,2,3,6,7,8-HxCDD	23600	-		2360	Total Tetra-Dioxins	197	-		14
1,2,3,7,8,9-HxCDD	1600	-		160	Total Penta-Dioxins	1460	-		10
1,2,3,4,6,7,8-HpCDD	449000*	-	*	4490	Total Hexa-Dioxins	62600	-		7
OCDD	2070000	-	B,*	207	Total Hepta-Dioxins	701000	-	*	2
2,3,7,8-TCDF	249	-	F	24.9					
1,2,3,7,8-PeCDF	374	-		18.7					
2,3,4,7,8-PeCDF	511	-		256					
1,2,3,4,7,8-HxCDF	2090	-		209					
1,2,3,6,7,8-HxCDF	818	-		81.8					
2,3,4,6,7,8-HxCDF	2310	-		231					
1,2,3,7,8,9-HxCDF	913	-		91.3	Total Tetra-Furans	2070	-	D,M	23
1,2,3,4,6,7,8-HpCDF	154000	-	*	1540	Total Penta-Furans	18400	-	D,M	16
1,2,3,4,7,8,9-HpCDF	11900	-	*	119	Total Hexa-Furans	189000	-	D,M,*	11
OCDF	580000	-	*	58.0	Total Hepta-Furans	845000	-	*	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	104	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	128	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	86.2	23.0 - 140	*
13C-OCDD	38.7	17.0 - 157	*
13C-2,3,7,8-TCDF	104	24.0 - 169	
13C-1,2,3,7,8-PeCDF	100	24.0 - 185	
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	106	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	96.7	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	101	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	93.2	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	81.8	26.0 - 138	*
13C-OCDF	58.4	17.0 - 157	*

* = Dilution

Acquired: 24-JUL-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 112 35.0 - 197

Acquired: 25-JUL-03

Analyst: 6
Date: 7/25/03

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JUL 29 2003

Reviewed by: DN
Date: 7/28/2003

Tetra Tech/MFG, Inc.

**EPA Method 1613
PCDD/F**



FAL ID: 2095-008-MS/MSD
Client ID: WRD2-IS-009 MS/MSD
Matrix: Soil
Extraction Batch No.: 0038

Date Extracted: 6/30/03
Date Received: 6/23/03
Sample Amount: 10.03 g
MS Amount: 10.05 g
MSD Amount: 10.06 g

ICal: PCDDFAL2-6-5
GC Column: db5
Units: pg

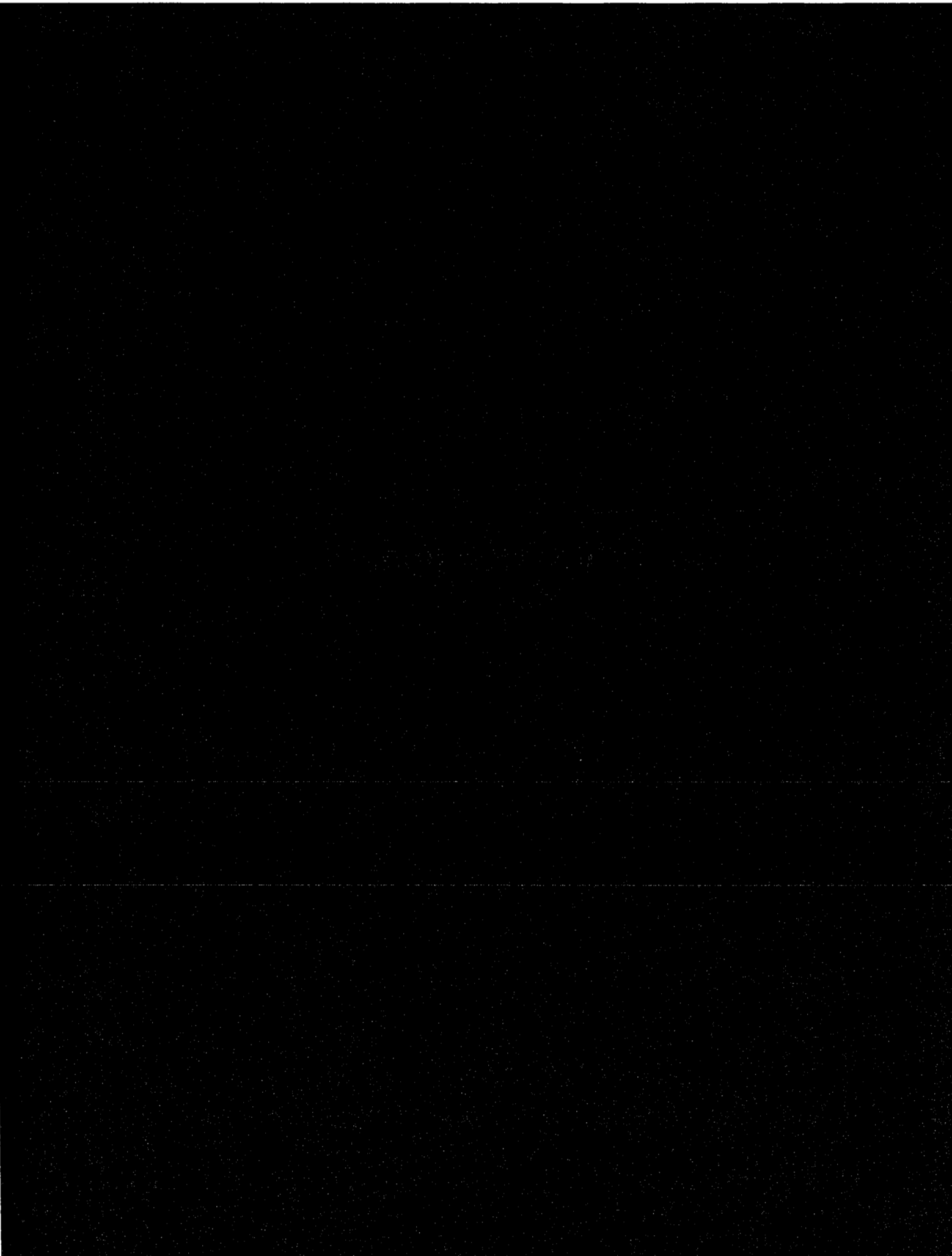
MS Acquired: 2-JUL-03
MSD Acquired: 2-JUL-03
WHO TEQ: NA
% Solids: 79.7

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	155	169	8.64	
1,2,3,7,8-PeCDD	1000	-	840	871	3.62	
1,2,3,4,7,8-HxCDD	1000	6.03	816	846	3.64	
1,2,3,6,7,8-HxCDD	1000	18.1	836	866	3.60	
1,2,3,7,8,9-HxCDD	1000	11.0	795	857	7.61	
1,2,3,4,6,7,8-HpCDD	1000	364	1230	1300	7.77	
OCDD	2000	1840	3570	3500	4.13	
2,3,7,8-TCDF	200	30.4	208	194	8.19	
1,2,3,7,8-PeCDF	1000	22.4	922	953	3.38	
2,3,4,7,8-PeCDF	1000	21.8	941	951	1.08	
1,2,3,4,7,8-HxCDF	1000	15.1	890	929	4.36	
1,2,3,6,7,8-HxCDF	1000	19.2	923	936	1.43	
2,3,4,6,7,8-HxCDF	1000	21.6	891	904	1.48	
1,2,3,7,8,9-HxCDF	1000	-	878	899	2.36	
1,2,3,4,6,7,8-HpCDF	1000	62.5	945	978	3.67	
1,2,3,4,7,8,9-HpCDF	1000	8.18	856	909	6.06	
OCDF	2000	51.3	1800	1770	1.73	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	89.6	92.1	80.1	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	91.5	90.8	83.7	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	92.5	85.3	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	97.8	91.6	83.1	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	95.6	82.8	79.0	25.0 - 150	
13C-OCDD	4000	99.8	90.4	85.7	25.0 - 150	
13C-2,3,7,8-TCDF	2000	90.2	92.1	89.1	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	89.6	88.3	82.8	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	89.0	85.0	84.5	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	75.8	69.3	62.7	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	73.4	66.9	62.0	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	74.9	64.6	61.7	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	77.0	62.9	66.2	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	78.4	66.4	62.6	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	82.4	72.1	68.7	25.0 - 150	
13C-OCDF	4000	85.4	76.4	73.4	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	89.1	85.4	77.8	25.0 - 150	

Analyst:
Date: 7/25/03

RECEIVED
JUL 29 2003

Reviewed by:
Date: 7/29/03



SUBCONTRACT ORDER
Alpha Analytical Laboratories, Inc.
A307302

2133/2

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
P.O. Box 1508 (208 Mason St.)
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Karen A. Daly

RECEIVING LABORATORY:

Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado, CA 95762
Phone :916-934-0900
Fax: 916-934-0999
Terms: Net 30

Analysis	Due	Expires	Comments
----------	-----	---------	----------

A307302-01 Pit Under 2nd Slab [Soil] Sampled 07/09/03 17:05 Pacific

Dioxins Full List - 1613 07/25/03 12:00 07/08/04 17:05

Containers Supplied:

4 oz. jar (A)

A307302-02 Pit Bottom [Soil] Sampled 07/09/03 17:00 Pacific

Dioxins Full List - 1613 07/25/03 12:00 07/08/04 17:00

Containers Supplied:

4 oz. jar (A)

Report to State

System Name: _____ Employed by: _____

User ID: _____ Sampler: _____

System Number: _____

MFG, INC Project

RECEIVED

JUL 29 2003

Tetra Tech/MFG, Inc.

Released By: K. Daly Date: 7/14/03 Received By: Kathy Sie Date: 7/15/03 9:05

Date Received By Date

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **2133**

Client:	MFG
Client Project ID:	A307302
Date Received:	07/15/2003
Time Received:	09:05 am
Received By:	KZ
# of Samples Received:	2
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Courier
Tracking Number:	
Shipping Container Received Intact	Yes
Custody seals(s) present?	Yes
Custody seals(s) intact?	Yes
Sample Arrival Temperature (C)	2
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	07/08/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
<p>RECEIVED</p> <p>JUL 29 2003</p>	

Tetra Tech/MFG, Inc.



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Tetra Tech/MFG, Inc.

D-5 Lower Fill Material Samples



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

22 July 2003

MFG, Inc - Arcata
Attn: Orrin Plocher
1165 G. Street, Suite E
Arcata, CA 95521
RE: SPI - Arcata
Work Order: A307456

LOWER FILL MATERIAL SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 07/18/03 13:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece For Sheri L. Speaks
Project Manager

RECEIVED
JUL 25 2003
Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 4

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/22/03 17:02
Project No: 030229.11
Project ID: SPI - Arcata

Order Number
A307456

Receipt Date/Time
07/18/2003 13:30

Client Code
MFGARC

Client PO/Reference

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
4" Under 2nd Slab	A307456-01	Soil	07/17/03 16:00	07/18/03 13:30

RECEIVED
JUL 25 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

7/22/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 2 of 4

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/22/03 17:02
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A307456	Receipt Date/Time 07/18/2003 13:30	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
4" Under 2nd Slab (A307456-01)		Sample Type: Soil		Sampled: 07/17/03 16:00			
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AG32121	07/18/03	07/19/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"		85.5 %	23-140

RECEIVED
JUL 25 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

7/22/03



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 3 of 4

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/22/03 17:02
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A307456	Receipt Date/Time 07/18/2003 13:30	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

SourceResult

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG32121 - Solvent Extraction										
Blank (AG32121-BLK1)				Prepared: 07/18/03 Analyzed: 07/21/03						
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.0990		"	0.124		79.8	23-140			
LCS (AG32121-BS1)				Prepared: 07/18/03 Analyzed: 07/21/03						
2,4,6-Trichlorophenol	0.0164	1.0	mg/kg	0.0250		65.6	32-116			
2,3,5,6-Tetrachlorophenol	0.00870	1.0	"	0.0250		34.8	18-80			
2,3,4,6-Tetrachlorophenol	0.0151	1.0	"	0.0250		60.4	28-89			
2,3,4,5-Tetrachlorophenol	0.0144	1.0	"	0.0250		57.6	54-85			
Pentachlorophenol	0.0103	1.0	"	0.0250		41.2	17-85			
Surrogate: Tribromophenol	0.0770		"	0.124		62.1	23-140			
LCS Dup (AG32121-BS1)				Prepared: 07/18/03 Analyzed: 07/21/03						
2,4,6-Trichlorophenol	0.0180	1.0	mg/kg	0.0250		72.0	32-116	9.30	50	
2,3,5,6-Tetrachlorophenol	0.0113	1.0	"	0.0250		45.2	18-80	26.0	50	
2,3,4,6-Tetrachlorophenol	0.0155	1.0	"	0.0250		62.0	28-89	2.61	50	
2,3,4,5-Tetrachlorophenol	0.0153	1.0	"	0.0250		61.2	54-85	6.06	50	
Pentachlorophenol	0.0107	1.0	"	0.0250		42.8	17-85	3.81	50	
Surrogate: Tribromophenol	0.0870		"	0.124		70.2	23-140			

RECEIVED
Jul 25 2003
Tetra Tech/MFG/AG

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

7/22/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 4 of 4

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/22/03 17:02
Project No: 030229.11
Project ID: SPI - Arcata

Order Number
A307456

Receipt Date/Time
07/18/2003 13:30

Client Code
MFGARC

Client PO/Reference

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
PQL Practical Quantitation Limit

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JUL 25 2003
Tetra Tech/MFG, Inc.

875 Crescent way

MFG, INC.
CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **43274**

Arcata Office 4900 Pearl East Circle Suite 300W Arcata, CA 95521-5817 Tel: (707) 826-9430 Fax: (707) 826-9437
 Boulder Office 17770 Cartwright Road Suite 500 Irvine, CA 92614-5850 Tel: (949) 253-2951 Fax: (949) 253-2954
 Inver Office 17770 Cartwright Road Suite 500 Wallace, ID 83873-0030 Tel: (208) 556-6811 Fax: (208) 556-7271
 Osburn Office P.O. Box 30 Wallace, ID 83873-0030 Tel: (208) 556-6811 Fax: (208) 556-7271
 San Francisco Office 180 Howard Street, Suite 200 San Francisco, CA 94105-1617 Phone (415) 495-7110 - Fax (415) 495-7107
 Seattle Office 19203 36th Avenue W, Suite 101 Lynnwood, WA 98036-5707 Tel: (425) 921-4000 Fax: (425) 921-4040

PROJECT NO: **030229.11** PROJECT NAME: **SPI-Arcata Green Churn** PAGE: **1** OF: **1**
 SAMPLER (Signature): **Mont Willard** PROJECT MANAGER: **Orrin Plocher** DATE: **7/17/03**
 METHOD OF SHIPMENT: **Courier** CARRIER/WAYBILL NO: _____ DESTINATION: **Alpha**

SAMPLES										ANALYSIS REQUEST							
Field Sample Identification	Sample		Preservation			Containers		Constituents/Method		Handling		Remarks					
	DATE	TIME	HCl	HNO ₃	H ₂ SO ₄	COLD	FILTRATION*	VOLUME (ml/oz)	TYPE*	NO.	Dioxin/Furan		PCP/TCB	HOLD	RUSH 48hr	STANDARD	
2nd slab	7/17	1530 OT				X			4oz G	1	X	X	X		Dioxin/Furan by EPA 1613		
4" under 2nd slab	"	1600 50				X			4oz G	1	X			X			
4" under 2nd slab	"	1600 50				X			4oz G	1	X	X			PCP/TCB by Canadian pulp mtd		
12" under 2nd slab	"	1730 50				X			4oz G	1	X	X					
12" under 2nd slab	"	1730 50				X			4oz G	1	X	X					
RECEIVED																	
JUL 25 2003																	
Tetra Tech/MFG, Inc.																	
TOTAL NUMBER OF CONTAINERS										5		LABORATORY COMMENTS/CONDITION OF SAMPLES				Cooler Temp:	

RELINQUISHED BY:				RECEIVED BY:			
SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<i>Mont Willard</i>	Mont Willard	MFG	7/18/03	9:40	<i>J. Matthews</i>	J. Matthews	Alpha
<i>J. Matthews</i>	J. Matthews	Alpha	7/18/03	9:48	<i>S. Speaks</i>	S. Speaks	Alpha
			7/18/03	13:30			LABORATORY

*KEY: Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

August 4, 2003

FAL Project ID: 2147

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

LOWER FILL MATERIAL SAMPLES


Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2147**. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A307469. Three solid samples were received on 7/22/03 in good condition. The sample receipt temperature was outside the recommended temperature range. MFG, Inc. was notified and analysis continued per the method. Samples A307469-01 and A307469-03 were placed on hold per your request. Sample A307469-02 was extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Alpha Analytical Laboratories, Inc. requested a turnaround time of 14 days for project **2147**. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project **2147**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

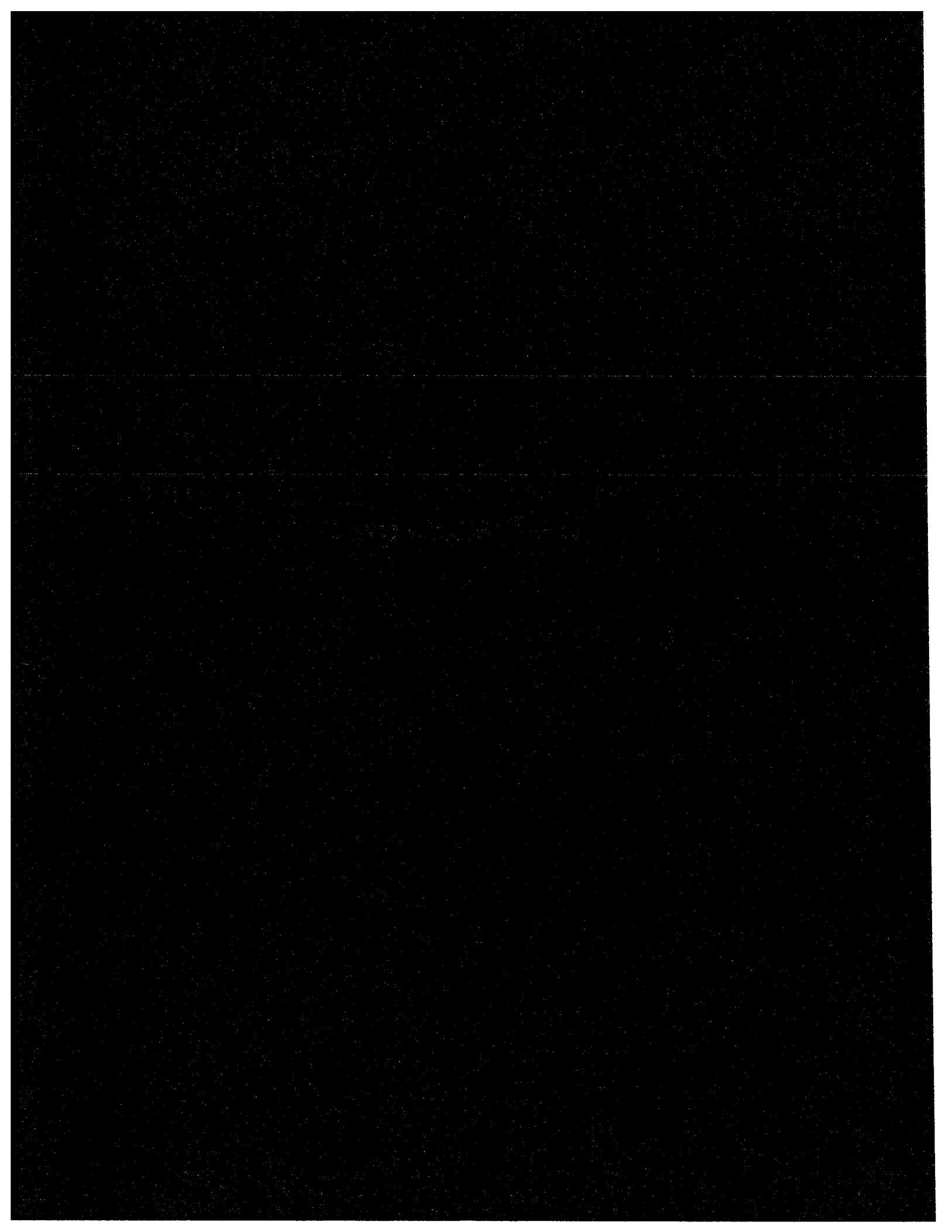
Sincerely,


Bradley B. Silverbush
Director of Operations

RECEIVED

AUG 06 2003

Tetra Tech/MFG, Inc.



Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: 2147

Received on: 07/22/03

Project Due: 08/06/03

Storage: R-1

FAL Sample ID	Client Project ID	Client Sample ID	Requested Method/s	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2147-01-SA	A307469	A307469-01	1613	Solid	7/17/03	3:30 PM	07/16/04
2147-02-SA	A307469	A307469-02	1613	Solid	7/17/03	4:00 PM	07/16/04
2147-03-SA	A307469	A307469-03	1613	Solid	7/17/03	5:30 PM	07/16/04

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000002 of 000012

Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[‡] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

‡ "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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000003 of 000012

EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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Tetra Tech/MFG, Inc.

000004 of 000012

EPA Method 1613
PCDD/F



FAL ID: 2147-002-MB
Client ID: Method Blank
Matrix: Solid
Extraction Batch No.: 0060

Date Extracted: 7/28/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-6-13
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 29-JUL-03
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.110	-	-					
1,2,3,7,8-PeCDD	-	0.177	-	-					
1,2,3,4,7,8-HxCDD	-	0.278	-	-					
1,2,3,6,7,8-HxCDD	-	0.309	-	-	Total Tetra-Dioxins	-	0.110		0
1,2,3,7,8,9-HxCDD	-	0.278	-	-	Total Penta-Dioxins	-	0.177		0
1,2,3,4,6,7,8-HpCDD	-	0.180	-	-	Total Hexa-Dioxins	-	0.309		0
OCDD	-	0.722	-	-	Total Hepta-Dioxins	-	0.180		0
2,3,7,8-TCDF	-	0.106	-	-					
1,2,3,7,8-PeCDF	-	0.162	-	-					
2,3,4,7,8-PeCDF	-	0.169	-	-					
1,2,3,4,7,8-HxCDF	-	0.101	-	-					
1,2,3,6,7,8-HxCDF	-	0.130	-	-					
2,3,4,6,7,8-HxCDF	-	0.145	-	-	Total Tetra-Furans	-	0.106		0
1,2,3,7,8,9-HxCDF	-	0.163	-	-	Total Penta-Furans	-	0.169		0
1,2,3,4,6,7,8-HpCDF	-	0.119	-	-	Total Hexa-Furans	-	0.163		0
1,2,3,4,7,8,9-HpCDF	-	0.116	-	-	Total Hepta-Furans	-	0.119		0
OCDF	-	0.298	-	-					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	98.8	25.0 - 164	
13C-1,2,3,7,8-PeCDD	103	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	88.7	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	87.3	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	94.4	23.0 - 140	
13C-OCDD	93.4	17.0 - 157	
13C-2,3,7,8-TCDF	99.3	24.0 - 169	
13C-1,2,3,7,8-PeCDF	99.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	97.4	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	94.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	89.2	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	88.0	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	97.6	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	81.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	111	26.0 - 138	
13C-OCDF	93.9	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 100 35.0 - 197

Analyst: 8
Date: 7/30/03

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Reviewed by: AN
Date: 8/5/2003

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2147-002-OPR
Client ID: OPR
Matrix: Solid
Extraction Batch No.: 0060

Date Extracted: 7/28/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL1-6-13
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: 0038

Acquired: 29-JUL-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.21	6.70 - 15.8
1,2,3,7,8-PeCDD	49.5	35.0 - 71.0
1,2,3,4,7,8-HxCDD	52.6	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50.7	38.0 - 67.0
1,2,3,7,8,9-HxCDD	54.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	53.0	35.0 - 70.0
OCDD	105	78.0 - 144
2,3,7,8-TCDF	9.19	7.50 - 15.8
1,2,3,7,8-PeCDF	54.3	40.0 - 67.0
2,3,4,7,8-PeCDF	55.3	34.0 - 80.0
1,2,3,4,7,8-HxCDF	52.9	36.0 - 67.0
1,2,3,6,7,8-HxCDF	55.3	42.0 - 65.0
2,3,4,6,7,8-HxCDF	54.1	39.0 - 65.0
1,2,3,7,8,9-HxCDF	55.1	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	57.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	58.9	39.0 - 69.0
OCDF	112	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	86.7	20.0 - 175
13C-1,2,3,7,8-PeCDD	85.9	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	71.2	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	70.3	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	70.2	26.0 - 166
13C-OCDD	80.0	13.0 - 198
13C-2,3,7,8-TCDF	78.4	22.0 - 152
13C-1,2,3,7,8-PeCDF	85.5	21.0 - 192
13C-2,3,4,7,8-PeCDF	84.7	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	77.8	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	72.5	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	68.3	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	81.9	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	71.6	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	88.7	20.0 - 186
13C-OCDF	78.1	13.0 - 198

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	82.1	31.0 - 191
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Analyst: J
Date: 7/30/03

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Reviewed by: [Signature]
Date: 7/30/03

Tetra Tech/MFG, Inc.

**EPA Method 1613
PCDD/F**



FAL ID: 2095-008-MS/MSD
Client ID: WRD2-IS-009
Matrix: Solid
Extraction Batch No.: 0060

Date Extracted: 6/30/03
Date Received: 6/23/03
Sample Amount: 10.03 g
MS Amount: 10.05 g
MSD Amount: 10.06 g

ICal: PCDDFAL2-6-5
GC Column: db5
Units: pg
MS/MSD Batch No.: 0038

MS Acquired: 2-JUL-03
MSD Acquired: 2-JUL-03
WHO TEQ: NA
% Solids: 79.7

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	155	169	8.64	
1,2,3,7,8-PeCDD	1000	-	840	871	3.62	
1,2,3,4,7,8-HxCDD	1000	6.03	816	846	3.64	
1,2,3,6,7,8-HxCDD	1000	18.1	836	866	3.60	
1,2,3,7,8,9-HxCDD	1000	11.0	795	857	7.61	
1,2,3,4,6,7,8-HpCDD	1000	364	1230	1300	7.77	
OCDD	2000	1840	3570	3500	4.13	
2,3,7,8-TCDF	200	30.4	208	194	8.19	
1,2,3,7,8-PeCDF	1000	22.4	922	953	3.38	
2,3,4,7,8-PeCDF	1000	21.8	941	951	1.08	
1,2,3,4,7,8-HxCDF	1000	15.1	890	929	4.36	
1,2,3,6,7,8-HxCDF	1000	19.2	923	936	1.43	
2,3,4,6,7,8-HxCDF	1000	21.6	891	904	1.48	
1,2,3,7,8,9-HxCDF	1000	-	878	899	2.36	
1,2,3,4,6,7,8-HpCDF	1000	62.5	945	978	3.67	
1,2,3,4,7,8,9-HpCDF	1000	8.13	856	909	6.06	
OCDF	2000	51.3	1800	1770	1.73	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	89.6	92.1	80.1	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	91.5	90.8	83.7	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	92.5	85.3	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	97.8	91.6	83.1	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	95.6	82.8	79.0	25.0 - 150	
13C-OCDD	4000	99.8	90.4	85.7	25.0 - 150	
13C-2,3,7,8-TCDF	2000	90.2	92.1	89.1	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	89.6	88.3	82.8	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	89.0	85.0	84.5	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	75.8	69.3	62.7	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	73.4	66.9	62.0	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	74.9	64.6	61.7	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	77.0	62.9	66.2	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	78.4	66.4	62.6	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	82.4	72.1	68.7	25.0 - 150	
13C-OCDF	4000	85.4	76.4	73.4	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	89.1	85.4	77.8	25.0 - 150	

Analyst: 8
Date: 7/30/03

Reviewed by: [Signature]
Date: 7/30/03

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Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



4" UNDER 2ND SLAB

FAL ID: 2147-002-SA
Client ID: A307469-02
Matrix: Solid
Extraction Batch No.: 0060

Date Extracted: 7/28/03
Date Received: 7/22/03
Amount: 10.03 g
% Solids: 86.2

ICal: PCDDFAL1-6-13
GC Column: db5
Units: pg/g
MS/MSD Batch No.: 0038

Acquired: 30-JUL-03
WHO TEQ: 3020

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	1.53	-		1.53					
1,2,3,7,8-PeCDD	46.2	-		46.2					
1,2,3,4,7,8-HxCDD	302	-		30.2					
1,2,3,6,7,8-HxCDD	9090	-		909	Total Tetra-Dioxins	284	-		14
1,2,3,7,8,9-HxCDD	2710	-		271	Total Penta-Dioxins	1570	-		10
1,2,3,4,6,7,8-HpCDD	150000	-	*	1500	Total Hexa-Dioxins	72800	-	*	7
OCDD	545000	-	*	54.5	Total Hepta-Dioxins	313000	-	*	2
2,3,7,8-TCDF	29.3	-	F	2.93					
1,2,3,7,8-PeCDF	29.6	-		1.48					
2,3,4,7,8-PeCDF	38.5	-		19.2					
1,2,3,4,7,8-HxCDF	192	-		19.2					
1,2,3,6,7,8-HxCDF	82.4	-		8.24					
2,3,4,6,7,8-HxCDF	198	-		19.8					
1,2,3,7,8,9-HxCDF	62.3	-		6.23	Total Tetra-Furans	431	-	D,M	19
1,2,3,4,6,7,8-HpCDF	11800	-		118	Total Penta-Furans	2040	-	D,M	15
1,2,3,4,7,8,9-HpCDF	512	-		5.12	Total Hexa-Furans	12000	-	D,M	13
OCDF	36700	-	*	3.67	Total Hepta-Furans	55700	-	*	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	101	25.0 - 164	
13C-1,2,3,7,8-PeCDD	109	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	84.0	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	97.5	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	80.6	23.0 - 140	*
13C-OCDD	41.7	17.0 - 157	*
13C-2,3,7,8-TCDF	102	24.0 - 169	
13C-1,2,3,7,8-PeCDF	102	24.0 - 185	
13C-2,3,4,7,8-PeCDF	101	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	83.6	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	89.1	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	83.6	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	94.8	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	91.1	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	100	26.0 - 138	
13C-OCDF	48.8	17.0 - 157	*

* = Dilution

Acquired: 31-JUL-03

F = DB225 Confirmation

Acquired: 30-JUL-03

Cleanup Surrogate

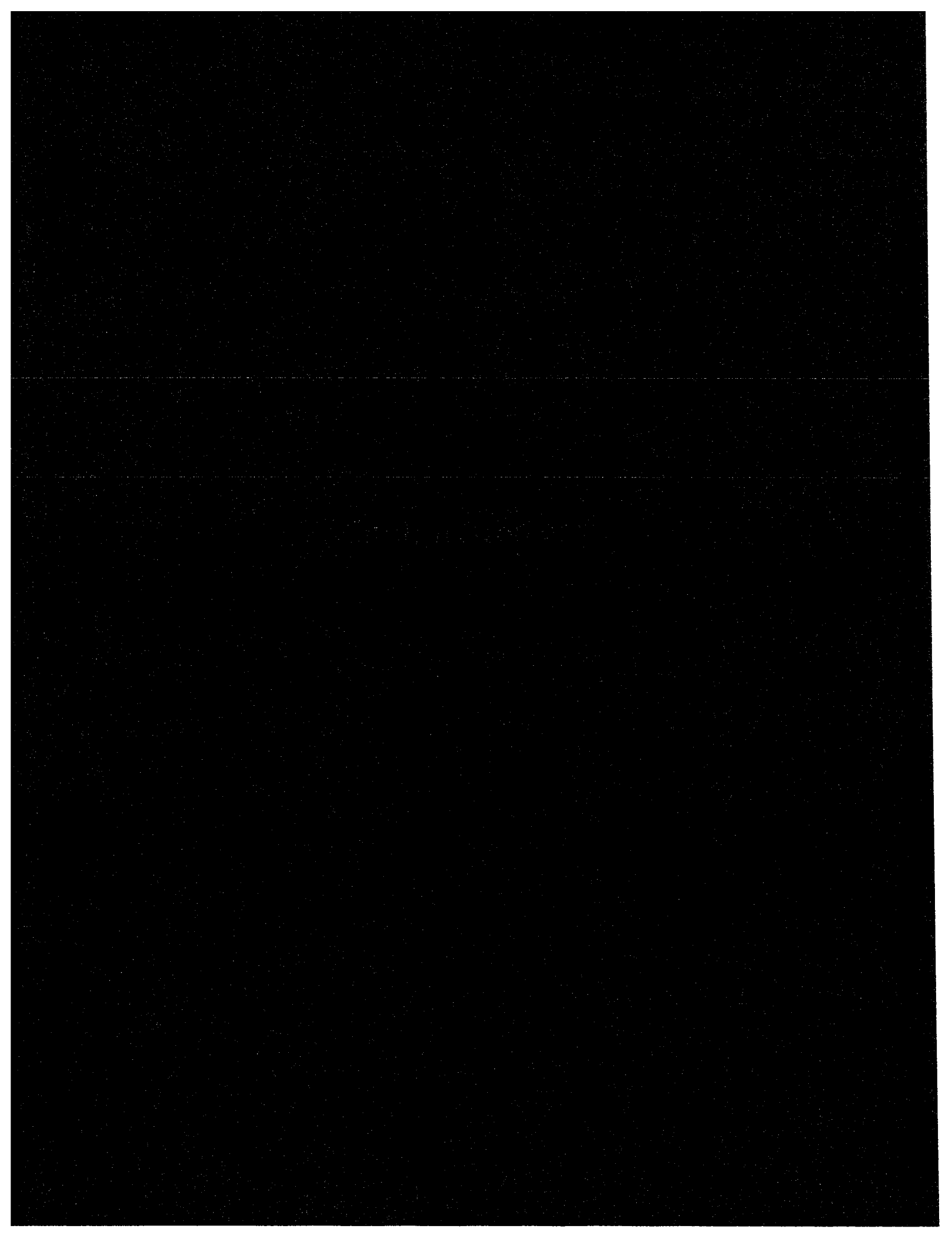
37Cl-2,3,7,8-TCDD 100 35.0 - 197

Analyst: 8
Date: 8/4/03

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Reviewed by: [Signature]
Date: 8/4/03

Tetra Tech/MFG, Inc.



SUBCONTRACT ORDER
Alpha Analytical Laboratories, Inc.
A307469

2147/21⁰

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
P.O. Box 1508 (208 Mason St.)
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Karen A. Daly

RECEIVING LABORATORY:

Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado, CA 95762
Phone :916-934-0900
Fax: 916-934-0999
Terms: Net 30

Analysis	Due	Expires	Comments
A307469-01 2ND Slab [Soil] Sampled 07/17/03 15:30 Pacific			HOLD SAMPLE
Dioxin 8290 Low	08/01/03 12:00	08/16/03 15:30	
Containers Supplied: 4 oz. jar (A)			
A307469-02 4" Under 2nd Slab [Soil] Sampled 07/17/03 16:00 Pacific			
Dioxin 8290 Low	08/01/03 12:00	08/16/03 16:00	
Containers Supplied: 4 oz. jar (A)			
A307469-03 12" Under 2nd Slab [Soil] Sampled 07/17/03 17:30 Pacific			HOLD SAMPLE
Dioxin 8290 Low	08/01/03 12:00	08/16/03 17:30	
Containers Supplied: 4 oz. jar (A)			

Report to State

~~System Name: _____ Employed By: _____~~

~~User ID: _____ Sampler: _____~~

~~System Number: _____~~

MFG, INC Arcata -

Bill + Results Direct to Sierra Pacific

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Tetra Tech/MFG, Inc.

Shari Speaks 7-21-03 Released By Date Received By *[Signature]* 7/22/03 07:15 Date

Released By Date Received By Date

SUBCONTRACT ORDER
Alpha Analytical Laboratories, Inc.
A307469

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
P.O. Box 1508 (208 Mason St.)
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Karen A. Daly

RECEIVING LABORATORY:

Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado, CA 95762
Phone :916-934-0900
Fax: 916-934-0999
Terms: Net 30

Analysis **Due** **Expires** **Comments**

A307469-01 2nd Slab [Soil] Sampled 07/17/03 15:30 Pacific **HOLD SAMPLE**

Dioxins Full List 1613 08/01/03 12:00 07/16/04 15:30

Containers Supplied:
4 oz. jar (A)

A307469-02 4" Under 2nd Slab [Soil] Sampled 07/17/03 16:00 Pacific

Dioxins Full List 1613 08/01/03 12:00 07/16/04 16:00

Containers Supplied:
4 oz. jar (A)

A307469-03 12" Under 2nd Slab [Soil] Sampled 07/17/03 17:30 Pacific **HOLD SAMPLE**

Dioxins Full List 1613 08/01/03 12:00 07/16/04 17:30

Containers Supplied:
4 oz. jar (A)

Report to State

System Name: _____ Employed by: _____
User ID: _____ Sampler: _____
System Number: _____

REVISED COC

MFG. Project

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Tetra Tech/MFG, Inc.

Shari Speaks 7-22-03

Released By Date Received By Date

Released By Date Received By Date

Frontier Analytical Laboratory

Sample Login Form

Project ID: 2147

Client:	MFG		
Client Project ID:	A307469		
Date Received:	07/22/03	TAT:	14
Time Received:	7:15 AM		
Received By:	BS		
# of Samples Received:	3	# of Dups:	0
Storage Location:	R-1		

Checklist

	Yes	No	N/A	Comments
Method of Delivery:	X			Fed-Ex/UPS/Courier/Other
Shipping container received intact?	X			
Custody seals(s) present and intact?			X	
Method of cooling:	X			Ice/Blue ice/Dry ice/Other
Sample arrival temperature (C):	X			21 degrees celsius
Sample containers intact?	X			
Chain of Custody present and complete?	X			
Return shipping container to client?	X			
Test for residual chlorine?		X		Thiosulfate added? no
Earliest sample hold time expiration:	X			Date: 7/16/04
Adequate Sample Volume?	X			
Anomalies or additional comments:				<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="margin: 0;">RECEIVED</p> <p style="margin: 0;">AUG 06 2003</p> </div>

Tetra Tech/MFG, Inc.



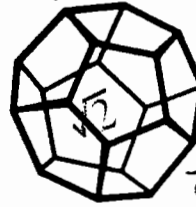
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AUG 06 2003

Tetra Tech/MFG, Inc.

D-6 Drainage Ditch #2 Sample

FILE 4329



**NORTH COAST
LABORATORIES LTD.**

Task 11
Task 6
Task 19

August 15, 2003

Sierra Pacific Industries
P.O. Box 1189
Arcata, CA 95518

Order No.: 0308059
Invoice No.: 35934
PO No.:
ELAP No. 1247-Expires July 2004

Attn: Gordie Amos

RE: Log Sprinkle Ditch

SAMPLE IDENTIFICATION

Fraction Client Sample Description

Fraction	Client Sample Description
01A	Log Sprinkle Ditch
01B	Log Sprinkle Ditch
01D	Log Sprinkle Ditch
02A	} DRAINAGE DITCH #2 SAMPLES
02B	
02C	
02D	

ND = Not Detected at the Reporting Limit
Limit = Reporting Limit
All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s)

QA Unit

Jesse G. Chaney, Jr.
Laboratory Director

CLIENT: Sierra Pacific Industries
Project: Log Sprinkle Ditch
Lab Order: 0308059

CASE NARRATIVE

EPA 1664:

Individual chemicals are not differentiated by this method. Analytical results represent material which is extracted with n-hexane.

TPH as Diesel:

The Log Sprinkle Ditch sample contains some material lighter than diesel. However, some of this material extends into the diesel range of molecular weights.

Both samples contain material in the diesel range of molecular weights, but the material does not exhibit the peak pattern typical of diesel oil. These samples also contain material in the diesel range of molecular weights and beyond. This suggests the presence of an oil heavier than diesel.

The surrogate for the #2 sample could not be quantified due to matrix interference.

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries were above the upper acceptance limit for the surrogate. The LCS/LCSD recoveries for diesel were within acceptance limits; therefore, the data were accepted.

PCP/TCP:

The surrogate recovery for sample Log Sprinkle Ditch was outside of the acceptance limits. The surrogate recoveries for the quality control samples were within acceptance limits. This indicates that the high surrogate recovery may be due to matrix effects from the sample.

Date: 15-Aug-03
WorkOrder: 0308059

ANALYTICAL REPORT

Client Sample ID: Log Sprinkle Ditch
Lab ID: 0308059-01A

Received: 8/4/03

Collected: 8/4/03 10:50

Test Name: Penta- and Tetrachlorophenol

Reference: Canadian Pulp Report

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Tetrachlorophenol	ND	1.0	µg/L	1.0	8/11/03	8/13/03
Pentachlorophenol	ND	0.30	µg/L	1.0	8/11/03	8/13/03
Surrogate: Dibromophenol	136	69.7-119	% Rec	1.0	8/11/03	8/13/03

Client Sample ID: Log Sprinkle Ditch
Lab ID: 0308059-01B

Received: 8/4/03

Collected: 8/4/03 10:50

Test Name: Hexane Extractable Material

Reference: EPA 1664

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Grease and Oil (TPH fraction)	ND	5.0	mg/L	1.0	8/4/03	8/6/03

Client Sample ID: Log Sprinkle Ditch
Lab ID: 0308059-01D

Received: 8/4/03

Collected: 8/4/03 10:50

Test Name: TPH as Diesel

Reference: EPA 3510/GCFID(LUFT)/EPA 801

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel	640	50	µg/L	1.0	8/6/03	8/6/03
Surrogate: N-Tricosane	32.8	27.6-107	% Rec	1.0	8/6/03	8/6/03

Client Sample ID: #2
Lab ID: 0308059-02A

Received: 8/4/03

Collected: 8/4/03 11:10

Test Name: Penta- and Tetrachlorophenol

Reference: Canadian Pulp Report

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Tetrachlorophenol	ND	1.0	µg/L	1.0	8/11/03	8/13/03
Pentachlorophenol	ND	0.30	µg/L	1.0	8/11/03	8/13/03
Surrogate: Dibromophenol	113	69.7-119	% Rec	1.0	8/11/03	8/13/03

Date: 15-Aug-03
WorkOrder: 0308059

ANALYTICAL REPORT

Client Sample ID: #2
Lab ID: 0308059-02B

Received: 8/4/03

Collected: 8/4/03 11:10

Test Name: Hexane Extractable Material

Reference: EPA 1664

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Grease and Oil (TPH fraction)	ND	5.0	mg/L	1.0	8/4/03	8/6/03

Client Sample ID: #2
Lab ID: 0308059-02D

Received: 8/4/03

Collected: 8/4/03 11:10

Test Name: TPH as Diesel

Reference: EPA 3510/GCFID(LUFT)/EPA 801

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel	2,700	50	µg/L	1.0	8/6/03	8/6/03
Surrogate: N-Tricosane	NQ	27.6-107	% Rec	1.0	8/6/03	8/6/03

North Coast Laboratories, Ltd.

Date: 15-Aug-03

QC SUMMARY REPORT
Method Blank

CLIENT: Sierra Pacific Industries
Work Order: 0308059
Project: Log Sprinkle Ditch

Sample ID: **MBLK** Batch ID: **R24105** Test Code: **1664SGW** Units: **mg/L** Analysis Date: **8/6/03** Prep Date: **8/4/03**
Client ID: **WC_030804F** Run ID: **WC_030804F** SeqNo: **357649**

Analyte Result Limit SPK value SPK Ref Val % Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Grease and Oil (TPH fraction) 1.800 5.0

Sample ID: **MB-9617** Batch ID: **9617** Test Code: **PCPTW** Units: **µg/L** Analysis Date: **8/13/03 2:30:10 PM** Prep Date: **8/11/03**
Client ID: **ORGC4_030812C** Run ID: **ORGC4_030812C** SeqNo: **359872**

Analyte Result Limit SPK value SPK Ref Val % Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Tetrachlorophenol ND 1.0
Pentachlorophenol ND 0.30
Dibromophenol 5.09 0.10 5.00 0 102% 70 119 0

Sample ID: **MB-9591** Batch ID: **9591** Test Code: **TPHDIW** Units: **µg/L** Analysis Date: **8/6/03 5:56:33 PM** Prep Date: **8/6/03**
Client ID: **ORGC5_030806A** Run ID: **ORGC5_030806A** SeqNo: **358169**

Analyte Result Limit SPK value SPK Ref Val % Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TPHC Diesel ND 50
N-Tricosane 52.2 0.10 50.0 0 104% 28 107 0

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

North Coast Laboratories, Ltd.

Date: 15-Aug-03

CLIENT: Sierra Pacific Industries
Work Order: 0308059
Project: Log Sprinkle Ditch

QC SUMMARY REPORT
 Laboratory Control Spike

Sample ID: LCS	Batch ID: R24105	Test Code: 1664SGW	Units: mg/L	Analysis Date: 8/6/03	Prep Date: 8/4/03
Client ID:	Run ID: WC_030804F	SeqNo: 357650			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
Grease and Oil (TPH fraction)	17.90	5.0	20.0	1.80	80.5%
				LowLimit	HighLimit
				66	114
				RPD Ref Val	RPDLimit
				0	0

Sample ID: LCSD	Batch ID: R24105	Test Code: 1664SGW	Units: mg/L	Analysis Date: 8/6/03	Prep Date: 8/4/03
Client ID:	Run ID: WC_030804F	SeqNo: 357651			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
Grease and Oil (TPH fraction)	16.50	5.0	20.0	1.80	73.5%
				LowLimit	HighLimit
				66	114
				RPD Ref Val	RPDLimit
				17.9	24

Sample ID: LCS-9617	Batch ID: 9617	Test Code: PCPTW	Units: µg/L	Analysis Date: 8/13/03 2:52:05 PM	Prep Date: 8/11/03
Client ID:	Run ID: ORGC4_030812C	SeqNo: 359873			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
Tetrachlorophenol	4.669	1.0	5.00	0	93.4%
Pentachlorophenol	1.442	0.30	1.50	0	96.1%
Dibromophenol	5.05	0.10	5.00	0	101%

Sample ID: LCSD-9617	Batch ID: 9617	Test Code: PCPTW	Units: µg/L	Analysis Date: 8/13/03 3:14:05 PM	Prep Date: 8/11/03
Client ID:	Run ID: ORGC4_030812C	SeqNo: 359874			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
Tetrachlorophenol	4.499	1.0	5.00	0	90.0%
Pentachlorophenol	1.441	0.30	1.50	0	96.0%
Dibromophenol	5.05	0.10	5.00	0	101%

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: Sierra Pacific Industries
 Work Order: 0308059
 Project: Log Sprinkle Ditch

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: LCS-9591 Batch ID: 9591 Test Code: TPHDIW Units: µg/L Analysis Date: 8/6/03 3:32:56 PM Prep Date: 8/6/03
 Client ID: Run ID: ORGC5_030806A SeqNo: 358165

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	515.8	50	500	0	103%	80	120	0			
N-Tricosane	62.2	0.10	50.0	0	124%	28	107	0			S

Sample ID: LCSD-9591 Batch ID: 9591 Test Code: TPHDIW Units: µg/L Analysis Date: 8/6/03 4:01:26 PM Prep Date: 8/6/03
 Client ID: Run ID: ORGC5_030806A SeqNo: 358166

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	525.8	50	500	0	105%	80	120	516	1.91%	15	
N-Tricosane	60.3	0.10	50.0	0	121%	28	107	62.2	3.20%	15	S

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

D-7 Soil Borings Near Monitoring Well MW-7



alpha

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SOIL BORINGS B-61, 62, 63 - 8/2003

17 September 2003

MFG, Inc - Arcata
Attn: Ed Conti
875 Crescent Way
Arcata, CA 95521
RE: SPI - Arcata
Work Order: A309048

Enclosed are the results of analyses for samples received by the laboratory on 09/02/03 13:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Karen A. Daly
Project Manager

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Tetra Tech/MFG, Inc.



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CHEMICAL EXAMINATION REPORT

Page 1 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309048	Receipt Date/Time 09/02/2003 13:30	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-61-1.2'	A309048-01	Soil	08/29/03 00:00	09/02/03 13:30
B-62-1'	A309048-02	Soil	08/29/03 00:00	09/02/03 13:30
B-63-1'	A309048-03	Soil	08/29/03 00:00	09/02/03 13:30
B-61-3'	A309048-04	Soil	08/29/03 00:00	09/02/03 13:30
B-62-3'	A309048-05	Soil	08/29/03 00:00	09/02/03 13:30
B-63-3'	A309048-06	Soil	08/29/03 00:00	09/02/03 13:30
Temp Blank	A309048-07	Water	08/29/03 00:00	09/02/03 13:30
B-61-Concrete Upper	A309048-08	Other (W)	08/29/03 00:00	09/02/03 13:30
B-61-Concrete Lower	A309048-09	Other (W)	08/29/03 00:00	09/02/03 13:30
B-62-Concrete Upper	A309048-10	Other (W)	08/29/03 00:00	09/02/03 13:30
B-62-Concrete Lower	A309048-11	Other (W)	08/29/03 00:00	09/02/03 13:30

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Nena M. Burgess For Karen A. Daly
Project Manager

9/17/03



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CHEMICAL EXAMINATION REPORT

Page 2 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309048	Receipt Date/Time 09/02/2003 13:30	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-61-1.2' (A309048-01)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	2.5 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"	"	82.3 %	23-140
B-62-1' (A309048-02)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"	"	89.5 %	23-140
B-63-1' (A309048-03)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"	"	91.1 %	23-140
B-61-3' (A309048-04)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0

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Nena M. Burgess For Karen A. Daly
Project Manager

9/17/03

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CHEMICAL EXAMINATION REPORT

Page 3 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309048 Receipt Date/Time 09/02/2003 13:30 Client Code MFGARC Client PO/Reference

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-61-3' (A309048-04)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method (cont'd)							
Pentachlorophenol	EnvCan	"	"	09/12/03	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		73.8 %	23-140
B-62-3' (A309048-05)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	21 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		108 %	23-140
B-63-3' (A309048-06)		Sample Type: Soil			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	17 "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		96.8 %	23-140
Temp Blank (A309048-07)		Sample Type: Water			Sampled: 08/29/03 00:00		
Conventional Chemistry Parameters by APHA/EPA Methods							
Temperature	Temperature	AI30409	09/03/03	09/03/03	1	4.0 °C	
B-61-Concrete Upper (A309048-08)		Sample Type: Other (W)			Sampled: 08/29/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	12 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Karen A. Daly
Project Manager

9/17/03



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CHEMICAL EXAMINATION REPORT

Page 4 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number: A309048, Receipt Date/Time: 09/02/2003 13:30, Client Code: MFGARC, Client PO/Reference:

Alpha Analytical Laboratories, Inc.

Table with columns: METHOD, BATCH, PREPARED, ANALYZED, DILUTION, RESULT, PQL, NOTE. Contains data for B-61-Concrete Upper and Lower, and B-62-Concrete Upper and Lower, listing various chlorinated phenols and their results.

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Nena M. Burgess For Karen A. Daly
Project Manager

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CHEMICAL EXAMINATION REPORT

Page 5 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309048	Receipt Date/Time 09/02/2003 13:30	Client Code MFGARC	Client PO/Reference
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SourceResult

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AI31110 - Solvent Extraction										
Blank (AI31110-BLK1)				Prepared: 09/10/03 Analyzed: 09/12/03						
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
<i>Surrogate: Tribromophenol</i>	0.0835		"	0.124		67.3	23-140			
LCS (AI31110-BS1)				Prepared: 09/10/03 Analyzed: 09/12/03						
2,4,6-Trichlorophenol	0.0136	1.0	mg/kg	0.0250		54.4	32-116			
2,3,5,6-Tetrachlorophenol	0.0136	1.0	"	0.0250		54.4	18-80			
2,3,4,6-Tetrachlorophenol	0.0149	1.0	"	0.0250		59.6	28-89			
2,3,4,5-Tetrachlorophenol	0.0145	1.0	"	0.0250		58.0	54-85			
Pentachlorophenol	0.00865	1.0	"	0.0250		34.6	17-85			
<i>Surrogate: Tribromophenol</i>	0.0801		"	0.124		64.6	23-140			
LCS Dup (AI31110-BSD1)				Prepared: 09/10/03 Analyzed: 09/12/03						
2,4,6-Trichlorophenol	0.0176	1.0	mg/kg	0.0250		70.4	32-116	25.6	50	
2,3,5,6-Tetrachlorophenol	0.0168	1.0	"	0.0250		67.2	18-80	21.1	50	
2,3,4,6-Tetrachlorophenol	0.0180	1.0	"	0.0250		72.0	28-89	18.8	50	
2,3,4,5-Tetrachlorophenol	0.0173	1.0	"	0.0250		69.2	54-85	17.6	50	
Pentachlorophenol	0.0100	1.0	"	0.0250		40.0	17-85	14.5	50	
<i>Surrogate: Tribromophenol</i>	0.141		"	0.124		114	23-140			

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Karen A. Daly
Project Manager

9/17/03



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CHEMICAL EXAMINATION REPORT

Page 6 of 6

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309048	09/02/2003 13:30	MFGARC	

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits possibly due to a sample matrix effect.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

PQL Practical Quantitation Limit

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Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 1

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 09/17/03 16:03
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309048	Receipt Date/Time 09/02/2003 13:30	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
A309048-08	EnvCan PCP/TCP		Default Report (not modified)
A309048-09	EnvCan PCP/TCP	Tribromophenol	Other (W) batched as Soil S-04
A309048-09	EnvCan PCP/TCP	Tribromophenol	Exceeds lower control limit
A309048-09	EnvCan PCP/TCP		Other (W) batched as Soil
A309048-10	EnvCan PCP/TCP	Tribromophenol	S-04
A309048-10	EnvCan PCP/TCP	Tribromophenol	Exceeds lower control limit
A309048-10	EnvCan PCP/TCP		Other (W) batched as Soil
A309048-11	EnvCan PCP/TCP	Tribromophenol	S-04
A309048-11	EnvCan PCP/TCP	Tribromophenol	Exceeds lower control limit
A309048-11	EnvCan PCP/TCP		Other (W) batched as Soil

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MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 46194

Arcata Office
75 Crescent Way
Arcata, CA 95521-6741
Phone (707) 826-8430 - FAX (707) 826-8437

CA - Irvine
17770 Cartwright Rd.
Irvine, CA 92614
Tel (949) 253-2951
Fax (949) 253-2954

CA - San Francisco
180 Howard St., Ste. 200
San Francisco, CA 94105
Tel (415) 495-7110
Fax (415) 495-7107

CO - Boulder
4900 Pearl East Cir.
Boulder, CO 80301
Tel (303) 447-1823
Fax (303) 447-1836

ID - Osburn
PO Box 30
Wallace, ID 83873
Tel (208) 556-6811
Fax (208) 556-7271

MT - Missoula
PO Box 7158
Missoula, MT 59807
Tel (406) 728-4600
Fax (406) 728-4698

NJ - Edison
1090 King Georges Post Rd.
Edison, NJ 08837
Tel (732) 738-5707
Fax (732) 738-5711

TX - Tarrant
4532 Summerhill Rd.
Tarrant, TX 75503
Tel (903) 794-0625
Fax (903) 794-0626

WA - Seattle
19203 36th Ave. W.
Lynnwood, WA 98036
Tel (425) 921-4000
Fax (425) 921-4040

OR - Portland
1020 SW Taylor St.
Ste. 530
Portland, OR 97205
Tel (503) 228-8616
Fax (503) 228-8631

PA - Pittsburgh
800 Vinal St., Bldg. A
Pittsburgh, PA 15212
Tel (412) 321-2278
Fax (412) 321-2283

TX - Austin
4807 Spicewood Springs Rd.
Bldg. IV, 1st Floor
Austin, TX 77070
Tel (512) 338-1667
Fax (512) 338-1331

TX - Houston
12337 Jones Rd.
Ste. 230
Houston, TX 77070
Tel (281) 890-5068
Fax (281) 890-5044

TX - Port Lavaca
320 East Main
Port Lavaca, TX 77979
Tel (361) 552-8839
Fax (361) 553-6115

TX - Tarrant
4532 Summerhill Rd.
Tarrant, TX 75503
Tel (903) 794-0625
Fax (903) 794-0626

WA - Seattle
19203 36th Ave. W.
Lynnwood, WA 98036
Tel (425) 921-4000
Fax (425) 921-4040

PROJECT NO: 030229.11

PROJECT NAME: SPI-Arcata

PAGE: 1 OF: 2

SAMPLER (Signature): [Signature]

PROJECT MANAGER: Ed Conti

DATE: 8/29/03

METHOD OF SHIPMENT: Courier

CARRIER/WAYBILL NO: _____

DESTINATION: Alpha Analytical

SAMPLES		ANALYSIS REQUEST														
Field Sample Identification	DATE	TIME	Matrix*	Preservation			FILTRATION*	Containers			Constituents/Method	Handling		Remarks		
				HCl	HNO ₃	H ₂ SO ₄		COLD	VOLUME (ml/oz)	TYPE*		NO.	HOLD		RUSH	STANDARD
B-61-1.2'	8/29		SO												A 309048-1	
B-62-1'																
B-63-1'																
B-61-3'																
B-62-3'																
B-63-3'																
Temp Blank (4.0°C)	8/29		Ag													
TOTAL NUMBER OF CONTAINERS										LABORATORY COMMENTS/CONDITION OF SAMPLES					Cooler Temp: <u>2.6°C</u>	

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<u>[Signature]</u>	Orrin Plodke	<u>[Signature]</u>	John Taylor
<u>[Signature]</u>	John Taylor	<u>[Signature]</u>	K. Day
	MFG		Alpha
	Alpha		Alpha
			RECEIVED
			COMPANY
			DATE
			TIME
			DATE
			TIME
			DATE
			TIME

*KEY Matrix: AO - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

SEP 24 2003

Tetra Tech/MFG, Inc.



September 17, 2003

FAL Project ID: 2217

SOIL BORINGS B-61, 62, 63 - 8/2003

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project 2217. This corresponds to your Project No. 030229.11. Twelve solid samples were received on 9/3/03 in good condition. Per the chain of custody, the following samples were put on hold; 2217-004-SA, 2217-005-SA, 2217-006-SA, 2217-011-SA, 2217-012-SA. The seven remaining samples were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and dibenzo furans. Due to high levels of several analytes, all samples, except 2217-002-SA, required dilution and reanalysis. All results taken from the dilution and reanalysis are noted with the "*" qualifier. MFG, Inc. requested a turnaround time of 10 business days for project 2217. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project 2217, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

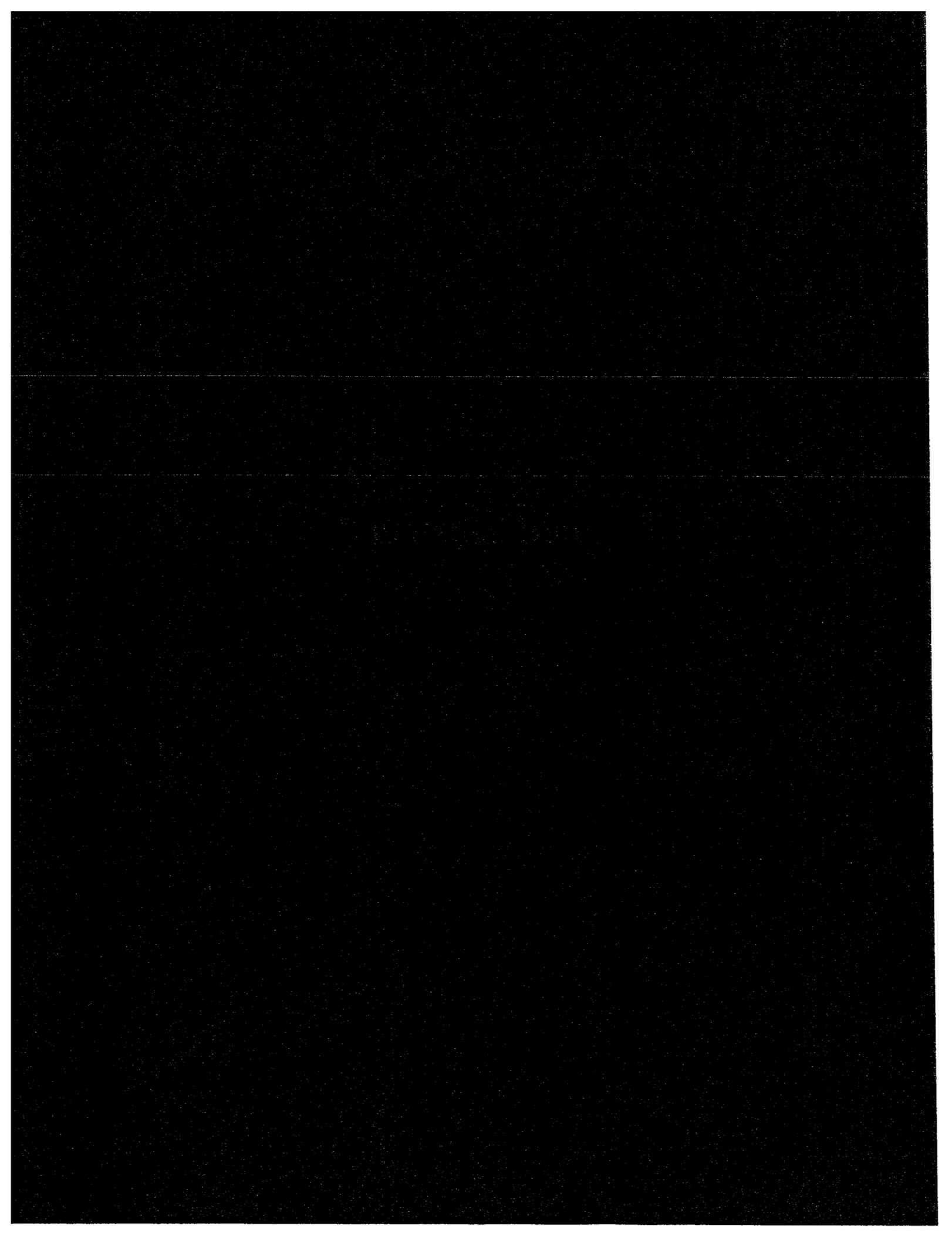
A handwritten signature in black ink, appearing to read "Bradley B. Silverbush".

Bradley B. Silverbush
Director of Operations

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Tetra Tech/MFG, Inc.

FRONTIER ANALYTICAL LABORATORY
5172 Hillsdale Circle • El Dorado Hills, CA 95762
Tel (916) 934-0900 • Fax (916) 934-0999
dioxin@frontieranalytical.com

000001 of 000019



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2217

Received on: 09/03/2003

Project Due: 09/18/2003 Storage: R2

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2217-001-SA	0	SPI - Arcata	B-61-1.2	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-002-SA	0	SPI - Arcata	B-62-1	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-003-SA	0	SPI - Arcata	B-63-1	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-004-SA	0	SPI - Arcata	B-61-3	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-005-SA	0	SPI - Arcata	B-62-3	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-006-SA	0	SPI - Arcata	B-63-3	EPA 1613 D/F	Soil	08/29/2003	NP	08/30/2004
2217-007-SA	0	SPI - Arcata	B-61-Concrete Upper	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004
2217-008-SA	0	SPI - Arcata	B-61-Concrete Lower	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004
2217-009-SA	0	SPI - Arcata	B-62-Concrete Upper	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004
2217-010-SA	0	SPI - Arcata	B-62-Concrete Lower	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004
2217-011-SA	0	SPI - Arcata	B-63-Concrete Upper	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004
2217-012-SA	0	SPI - Arcata	B-63-Concrete Lower	EPA 1613 D/F	Other	08/29/2003	NP	08/30/2004

*Samples 2217-004,005,006,011,012 are on hold per chain of custody

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[†] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[†] "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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EPA Method 1613
PCDD/F



FAL ID: 2217-001-MB
Client ID: Method Blank
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/L
MS/MSD Batch No.: X0079
Acquired: 12-SEP-03
WHO-TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.169	-	-					
1,2,3,7,8-PeCDD	-	0.240	-	-					
1,2,3,4,7,8-HxCDD	-	0.240	-	-					
1,2,3,6,7,8-HxCDD	-	0.253	-	-	Total Tetra-Dioxins	-	0.169		0
1,2,3,7,8,9-HxCDD	-	0.212	-	-	Total Penta-Dioxins	-	0.240		0
1,2,3,4,6,7,8-HpCDD	-	0.296	-	-	Total Hexa-Dioxins	-	0.253		0
OCDD	-	0.729	-	-	Total Hepta-Dioxins	-	0.296		0
2,3,7,8-TCDF	-	0.0888	-	-					
1,2,3,7,8-PeCDF	-	0.285	-	-					
2,3,4,7,8-PeCDF	-	0.269	-	-					
1,2,3,4,7,8-HxCDF	-	0.138	-	-					
1,2,3,6,7,8-HxCDF	-	0.169	-	-					
2,3,4,6,7,8-HxCDF	-	0.201	-	-	Total Tetra-Furans	-	0.0888		0
1,2,3,7,8,9-HxCDF	-	0.195	-	-	Total Penta-Furans	-	0.285		0
1,2,3,4,6,7,8-HpCDF	-	0.114	-	-	Total Hexa-Furans	-	0.201		0
1,2,3,4,7,8,9-HpCDF	-	0.131	-	-	Total Hepta-Furans	-	0.131		0
OCDF	-	0.539	-	-					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	95.6	25.0 - 164	
13C-1,2,3,7,8-PeCDD	90.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	93.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	91.7	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	78.6	23.0 - 140	
13C-OCDD	65.7	17.0 - 157	
13C-2,3,7,8-TCDF	98.8	24.0 - 169	
13C-1,2,3,7,8-PeCDF	88.9	24.0 - 185	
13C-2,3,4,7,8-PeCDF	86.2	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	84.0	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	81.0	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	72.0	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	74.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	76.4	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	81.3	26.0 - 138	
13C-OCDF	59.5	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 101 35.0 - 197

Analyst: J
Date: 9/15/03

Reviewed by: [Signature]
Date: 9/15/03

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EPA Method 1613
PCDD/F



FAL ID: 2217-001-OPR
Client ID: OPR
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: X0079
Acquired: 12-SEP-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.74	6.70 - 15.8
1,2,3,7,8-PeCDD	50.7	35.0 - 71.0
1,2,3,4,7,8-HxCDD	44.7	35.0 - 82.0
1,2,3,6,7,8-HxCDD	45.2	38.0 - 67.0
1,2,3,7,8,9-HxCDD	41.4	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	49.7	35.0 - 70.0
OCDD	92.6	78.0 - 144
2,3,7,8-TCDF	8.62	7.50 - 15.8
1,2,3,7,8-PeCDF	45.7	40.0 - 67.0
2,3,4,7,8-PeCDF	45.9	34.0 - 80.0
1,2,3,4,7,8-HxCDF	48.9	36.0 - 67.0
1,2,3,6,7,8-HxCDF	47.0	42.0 - 65.0
2,3,4,6,7,8-HxCDF	47.5	39.0 - 65.0
1,2,3,7,8,9-HxCDF	45.8	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.6	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	47.7	39.0 - 69.0
OCDF	94.4	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	94.6	20.0 - 175
13C-1,2,3,7,8-PeCDD	83.8	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	100	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	100	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	79.8	26.0 - 166
13C-OCDD	71.7	13.0 - 198
13C-2,3,7,8-TCDF	96.8	22.0 - 152
13C-1,2,3,7,8-PeCDF	81.4	21.0 - 192
13C-2,3,4,7,8-PeCDF	83.1	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	91.4	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	91.5	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	78.9	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	71.8	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	77.6	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	77.1	20.0 - 186
13C-OCDF	65.7	13.0 - 198

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 106 31.0 - 191

Analyst: [Signature]
Date: 9/15/03

Reviewed by: [Signature]
Date: 9/15/03

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Tetra Tech/MFG, Inc.

**EPA Method 1613
PCDD/F**



FAL ID: 2199-001-MS/MSD
Client ID: C4-SNS03
Matrix: Solid
Extraction Batch No.: X0079

Date Extracted: 8/25/03
Date Received: 8/20/03
Sample Amount: 10.07 g
MS Amount: 10.03 g
MSD Amount: 10.11 g

ICal: PCDDFAL1-6-13
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079

MS Acquired: 2-SEP-03
MSD Acquired: 2-SEP-03
WHO TEQ: NA
% Solids: 99.2

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	170	170	0.00	
1,2,3,7,8-PeCDD	1000	-	848	889	4.72	
1,2,3,4,7,8-HxCDD	1000	-	889	903	1.56	
1,2,3,6,7,8-HxCDD	1000	-	866	879	1.49	
1,2,3,7,8,9-HxCDD	1000	-	923	898	6.90	
1,2,3,4,6,7,8-HpCDD	1000	97.8	965	1030	7.22	
OCDD	2000	827	2470	2660	10.9	
2,3,7,8-TCDF	200	-	159	168	5.50	
1,2,3,7,8-PeCDF	1000	-	910	937	2.92	
2,3,4,7,8-PeCDF	1000	-	929	926	0.320	
1,2,3,4,7,8-HxCDF	1000	-	890	914	2.66	
1,2,3,6,7,8-HxCDF	1000	-	932	958	2.75	
2,3,4,6,7,8-HxCDF	1000	-	941	962	2.21	
1,2,3,7,8,9-HxCDF	1000	-	900	953	5.72	
1,2,3,4,6,7,8-HpCDF	1000	38.3	996	1040	4.49	
1,2,3,4,7,8,9-HpCDF	1000	-	959	973	1.45	
OCDF	2000	110	2000	2070	3.64	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	116	112	119	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	121	123	124	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	93.7	90.0	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	104	100	93.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	111	105	96.7	25.0 - 150	
13C-OCDD	4000	97.5	92.8	88.9	25.0 - 150	
13C-2,3,7,8-TCDF	2000	112	122	111	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	116	118	112	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	111	115	113	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	102	97.2	91.9	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	100	99.9	92.8	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	103	97.6	91.4	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	107	110	101	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	103	99.9	92.1	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	133	129	117	25.0 - 150	
13C-OCDF	4000	100	96.0	88.6	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	107	105	105	25.0 - 150	

Analyst: 8
Date: 9/16/03

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SEP 18 2003

Reviewed by: [Signature]
Date: 9/16/03

EPA Method 1613
PCDD/F



FAL ID: 2217-001-SA
Client ID: B-61-1.2
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 9.99 g
% Solids: 91.7

ICal: PCDDFAL2-9-07-03
GC Column: db5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 3820

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	12.1	-		12.1					
1,2,3,7,8-PeCDD	102	-		102					
1,2,3,4,7,8-HxCDD	131	-		13.1					
1,2,3,6,7,8-HxCDD	11500	-		1150	Total Tetra-Dioxins	207	-		12
1,2,3,7,8,9-HxCDD	2750	-		275	Total Penta-Dioxins	3380	-		10
1,2,3,4,6,7,8-HpCDD	170000	-	*	1700	Total Hexa-Dioxins	67100	-		6
OCDD	1020000	-	*	102	Total Hepta-Dioxins	328000	-	*	2
2,3,7,8-TCDF	23.7	-	F	2.37					
1,2,3,7,8-PeCDF	21.2	-		1.06					
2,3,4,7,8-PeCDF	35.2	-		17.6					
1,2,3,4,7,8-HxCDF	511	-		51.1	Total Tetra-Furans	361	-		16
1,2,3,6,7,8-HxCDF	198	-		19.8	Total Penta-Furans	1140	-		10
2,3,4,6,7,8-HxCDF	438	-		43.8	Total Hexa-Furans	24400	-		9
1,2,3,7,8,9-HxCDF	107	-		10.7	Total Hepta-Furans	123000	-	*	4
1,2,3,4,6,7,8-HpCDF	28400	-		284					
1,2,3,4,7,8,9-HpCDF	1540	-		15.4					
OCDF	88500	-		8.85					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	104	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	98.3	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	116	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	75.1	23.0 - 140	
13C-OCDD	30.1	17.0 - 157	*
13C-2,3,7,8-TCDF	104	24.0 - 169	
13C-1,2,3,7,8-PeCDF	97.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	80.1	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	108	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	106	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	97.0	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	103	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	112	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 138	
13C-OCDF	47.6	17.0 - 157	

* = Dilution

Acquired: 12-SEP-03

F = DB225 Confirmation

Acquired: 16-SEP-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 128 35.0 - 197

Analyst: [Signature]

Date: 9/15/03

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Reviewed by: [Signature]

Date: 9/16/03

EPA Method 1613
PCDD/F



FAL ID: 2217-002-SA
Client ID: B-62-1
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 10.14 g
% Solids: 85.3

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 589

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.600		-					
1,2,3,7,8-PeCDD	12.1	-		12.1					
1,2,3,4,7,8-HxCDD	19.7	-		1.97					
1,2,3,6,7,8-HxCDD	2360	-		236	Total Tetra-Dioxins	630	-		8
1,2,3,7,8,9-HxCDD	711	-		71.1	Total Penta-Dioxins	7620	-		9
1,2,3,4,6,7,8-HpCDD	22900	-		229	Total Hexa-Dioxins	14800	-		6
OCDD	51400	-		5.14	Total Hepta-Dioxins	40900	-		2
2,3,7,8-TCDF	0.696	-		0.0696					
1,2,3,7,8-PeCDF	1.95	-	J	0.0974					
2,3,4,7,8-PeCDF	1.64	-	J	0.819					
1,2,3,4,7,8-HxCDF	22.4	-		2.24					
1,2,3,6,7,8-HxCDF	13.5	-		1.35					
2,3,4,6,7,8-HxCDF	27.8	-		2.78					
1,2,3,7,8,9-HxCDF	6.13	-		0.613	Total Tetra-Furans	35.1	-		11
1,2,3,4,6,7,8-HpCDF	2310	-		23.1	Total Penta-Furans	103	-		9
1,2,3,4,7,8,9-HpCDF	99.1	-		0.991	Total Hexa-Furans	2050	-		8
OCDF	7700	-		0.770	Total Hepta-Furans	9460	-		4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	104	25.0 - 164	
13C-1,2,3,7,8-PeCDD	91.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	101	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	98.1	23.0 - 140	
13C-OCDD	70.1	17.0 - 157	
13C-2,3,7,8-TCDF	99.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	90.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	86.7	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	111	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	108	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	86.5	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	83.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	90.2	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	92.5	26.0 - 138	
13C-OCDF	78.6	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 117 35.0 - 197

Analyst: b
Date: 9/15/03

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Date: 9/16/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2217-003-SA
Client ID: B-63-1
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/033
Amount: 10.00 g
% Solids: 83.9

ICal: PCDDFAL2-9-07-03
GC Column: db5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 231

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	0.488	-	J	0.488					
1,2,3,7,8-PeCDD	8.46	-		8.46					
1,2,3,4,7,8-HxCDD	21.6	-		2.16					
1,2,3,6,7,8-HxCDD	922	-		92.2	Total Tetra-Dioxins	102	-		11
1,2,3,7,8,9-HxCDD	298	-		29.8	Total Penta-Dioxins	1020	-		10
1,2,3,4,6,7,8-HpCDD	8840	-		88.4	Total Hexa-Dioxins	6230	-		6
OCDD	14800	-		1.48	Total Hepta-Dioxins	16100	-		2
2,3,7,8-TCDF	0.369	-	J,*	0.0369					
1,2,3,7,8-PeCDF	0.594	-	J,*	0.0297					
2,3,4,7,8-PeCDF	0.522	-	J,*	0.261					
1,2,3,4,7,8-HxCDF	4.62	-		0.462					
1,2,3,6,7,8-HxCDF	2.89	-		0.289					
2,3,4,6,7,8-HxCDF	7.84	-		0.784					
1,2,3,7,8,9-HxCDF	-	0.887		-	Total Tetra-Furans	16.0	-	*	11
1,2,3,4,6,7,8-HpCDF	608	-		6.08	Total Penta-Furans	32.6	-	*	9
1,2,3,4,7,8,9-HpCDF	21.9	-		0.219	Total Hexa-Furans	541	-		8
OCDF	2520	-		0.252	Total Hepta-Furans	2450	-		4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	104	25.0 - 164	
13C-1,2,3,7,8-PeCDD	81.1	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	104	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	104	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	97.9	23.0 - 140	
13C-OCDD	58.0	17.0 - 157	
13C-2,3,7,8-TCDF	102	24.0 - 169	
13C-1,2,3,7,8-PeCDF	87.7	24.0 - 185	
13C-2,3,4,7,8-PeCDF	83.7	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	109	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	88.6	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	88.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	94.9	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	96.1	26.0 - 138	
13C-OCDF	61.1	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 120 35.0 - 197

* = Dilution

Acquired: 16-SEP-03

Analyst: [Signature]
Date: 9/16/03

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Reviewed by: [Signature]
Date: 9/16/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2217-007-SA
Client ID: B-61-Concrete Upper
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 9.86 g
% Solids: 93.6

ICal: PCDDFAL2-9-07-03
GC Column: db5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 17400

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	103	-		103					
1,2,3,7,8-PeCDD	1290	-		1290					
1,2,3,4,7,8-HxCDD	744	-		74.4					
1,2,3,6,7,8-HxCDD	60300	-		6030	Total Tetra-Dioxins	696	-		16
1,2,3,7,8,9-HxCDD	17100	-		1710	Total Penta-Dioxins	8590	-	M	11
1,2,3,4,6,7,8-HpCDD	576000	-	*	5760	Total Hexa-Dioxins	604000	-	*	7
OCDD	2220000	-	*	222	Total Hepta-Dioxins	2140000	-	*	2
2,3,7,8-TCDF	2030	-	F	203					
1,2,3,7,8-PeCDF	790	-		39.5					
2,3,4,7,8-PeCDF	1750	-		874					
1,2,3,4,7,8-HxCDF	1260	-	*	126					
1,2,3,6,7,8-HxCDF	1560	-	*	156					
2,3,4,6,7,8-HxCDF	3540	-	*	354					
1,2,3,7,8,9-HxCDF	624	-	*	62.4	Total Tetra-Furans	19700	-		17
1,2,3,4,6,7,8-HpCDF	34200	-	*	342	Total Penta-Furans	73400	-	*	13
1,2,3,4,7,8,9-HpCDF	940	-	*	9.40	Total Hexa-Furans	123000	-	*	11
OCDF	27700	-	*	2.77	Total Hepta-Furans	96000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	106	25.0 - 164	
13C-1,2,3,7,8-PeCDD	89.7	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	103	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	104	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	82.1	23.0 - 140	*
13C-OCDD	20.8	17.0 - 157	*
13C-2,3,7,8-TCDF	104	24.0 - 169	
13C-1,2,3,7,8-PeCDF	87.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	83.1	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	136	26.0 - 152	*
13C-1,2,3,6,7,8-HxCDF	148	26.0 - 123	A,M,*
13C-2,3,4,6,7,8-HxCDF	119	29.0 - 147	*
13C-1,2,3,7,8,9-HxCDF	118	28.0 - 136	*
13C-1,2,3,4,6,7,8-HpCDF	127	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	115	26.0 - 138	*
13C-OCDF	80.8	17.0 - 157	*

* = Dilution

Acquired: 12-SEP-03

F = DB225 Confirmation

Acquired: 16-SEP-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 126 35.0 - 197

Analyst: 8

Date: 9/15/03

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Reviewed by: [Signature]

Date: 9/16/03

**EPA Method 1613
PCDD/F**



FAL ID: 2217-008-SA
Client ID: B-61-Concrete Lower
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 9.96 g
% Solids: 91.9

ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03
GC Column: db5
Units: pg/g WHO TEQ: 11800
MS/MSD Batch No.: X0079

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	21.7	-		21.7					
1,2,3,7,8-PeCDD	439	-		439					
1,2,3,4,7,8-HxCDD	344	-		34.4					
1,2,3,6,7,8-HxCDD	44300	-		4430	Total Tetra-Dioxins	177	-		12
1,2,3,7,8,9-HxCDD	10000	-		1000	Total Penta-Dioxins	3810	-		11
1,2,3,4,6,7,8-HpCDD	457000	-	*	4570	Total Hexa-Dioxins	272000	-	*	7
OCDD	3740000	-	*	374	Total Hepta-Dioxins	933000	-	*	2
2,3,7,8-TCDF	755	-	F	75.5					
1,2,3,7,8-PeCDF	348	-		17.4					
2,3,4,7,8-PeCDF	685	-		342					
1,2,3,4,7,8-HxCDF	764	-		76.4					
1,2,3,6,7,8-HxCDF	504	-		50.4					
2,3,4,6,7,8-HxCDF	1610	-		161	Total Tetra-Furans	7490	-		18
1,2,3,7,8,9-HxCDF	368	-		36.8	Total Penta-Furans	18500	-		14
1,2,3,4,6,7,8-HpCDF	20000	-		200	Total Hexa-Furans	44900	-		11
1,2,3,4,7,8,9-HpCDF	1060	-		10.6	Total Hepta-Furans	76300	-	*	3
OCDF	56800	-		5.68					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	117	25.0 - 164	
13C-1,2,3,7,8-PeCDD	93.5	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	118	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	112	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	68.8	23.0 - 140	*
13C-OCDD	13.6	17.0 - 157	A,*
13C-2,3,7,8-TCDF	109	24.0 - 169	
13C-1,2,3,7,8-PeCDF	83.2	24.0 - 185	
13C-2,3,4,7,8-PeCDF	76.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	121	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	137	26.0 - 123	A
13C-2,3,4,6,7,8-HxCDF	111	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	112	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	122	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	128	26.0 - 138	
13C-OCDF	38.3	17.0 - 157	

* = Dilution

Acquired: 12-SEP-03

F = DB225 Confirmation

Acquired: 16-SEP-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 136 35.0 - 197

Analyst: JL
Date: 9/14/03

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Date: 9/16/03

Tetra Tech/MFG, Inc.

**EPA Method 1613
PCDD/F**



FAL ID: 2217-009-SA
Client ID: B-62-Concrete Upper
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 10.01 g
% Solids: 91.8

ICal: PCDDFAL2-9-07-03
GC Column: db5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 112

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.431		-					
1,2,3,7,8-PeCDD	6.54	-		6.54					
1,2,3,4,7,8-HxCDD	9.02	-		0.902					
1,2,3,6,7,8-HxCDD	391	-		39.1	Total Tetra-Dioxins	32.8	-		6
1,2,3,7,8,9-HxCDD	103	-		10.3	Total Penta-Dioxins	921	-		5
1,2,3,4,6,7,8-HpCDD	4150	-		41.5	Total Hexa-Dioxins	2450	-		6
OCDD	18000	-		1.80	Total Hepta-Dioxins	9330	-		2
2,3,7,8-TCDF	2.40	-	F,*	0.240					
1,2,3,7,8-PeCDF	3.10	-	*	0.155					
2,3,4,7,8-PeCDF	3.25	-	*	1.62					
1,2,3,4,7,8-HxCDF	10.0	-		1.00					
1,2,3,6,7,8-HxCDF	12.0	-		1.20					
2,3,4,6,7,8-HxCDF	20.3	-		2.03					
1,2,3,7,8,9-HxCDF	-	2.14		-	Total Tetra-Furans	51.3	-	*	13
1,2,3,4,6,7,8-HpCDF	564	-		5.64	Total Penta-Furans	190	-	*	8
1,2,3,4,7,8,9-HpCDF	20.8	-		0.208	Total Hexa-Furans	712	-		6
OCDF	1560	-		0.156	Total Hepta-Furans	1990	-		4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	113	25.0 - 164	
13C-1,2,3,7,8-PeCDD	90.7	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	113	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	106	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	113	23.0 - 140	
13C-OCDD	71.7	17.0 - 157	
13C-2,3,7,8-TCDF	103	24.0 - 169	*
13C-1,2,3,7,8-PeCDF	90.4	24.0 - 185	*
13C-2,3,4,7,8-PeCDF	83.8	21.0 - 178	*
13C-1,2,3,4,7,8-HxCDF	119	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	118	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	96.5	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	97.8	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	113	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	105	26.0 - 138	
13C-OCDF	82.5	17.0 - 157	

* = Dilution

Acquired: 15-SEP-03

F = DB225 Confirmation

Acquired: 16-SEP-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 135 35.0 - 197

Analyst: [Signature]

Date: 9/16/03

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Reviewed by: [Signature]

Date: 9/16/03

EPA Method 1613
PCDD/F



FAL ID: 2217-010-SA
Client ID: B-62-Concrete Lower
Matrix: Solid
Extraction Batch No.: X0086

Date Extracted: 9/10/03
Date Received: 9/3/03
Amount: 9.98 g
% Solids: 93.8

ICal: PCDDFAL2-9-07-03
GC Column: db5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 13-SEP-03
WHO TEQ: 4940

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.979	-	-					
1,2,3,7,8-PeCDD	72.4	-	-	72.4					
1,2,3,4,7,8-HxCDD	139	-	-	13.9					
1,2,3,6,7,8-HxCDD	21200	-	-	2120	Total Tetra-Dioxins	1510	-	-	9
1,2,3,7,8,9-HxCDD	7470	-	-	747	Total Penta-Dioxins	15200	-	-	10
1,2,3,4,6,7,8-HpCDD	192000	-	*	1920	Total Hexa-Dioxins	141000	-	*	6
OCDD	368000	-	*	36.8	Total Hepta-Dioxins	377000	-	*	2
2,3,7,8-TCDF	1.39	-	F,*	0.139					
1,2,3,7,8-PeCDF	3.42	-	*	0.171					
2,3,4,7,8-PeCDF	2.74	-	*	1.37					
1,2,3,4,7,8-HxCDF	24.1	-	-	2.41					
1,2,3,6,7,8-HxCDF	18.8	-	-	1.88					
2,3,4,6,7,8-HxCDF	34.7	-	-	3.47					
1,2,3,7,8,9-HxCDF	7.68	-	-	0.768	Total Tetra-Furans	49.7	-	*	12
1,2,3,4,6,7,8-HpCDF	1950	-	-	19.5	Total Penta-Furans	119	-	*	9
1,2,3,4,7,8,9-HpCDF	95.0	-	-	0.950	Total Hexa-Furans	1810	-	-	11
OCDF	6130	-	-	0.613	Total Hepta-Furans	7720	-	-	3

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	111	25.0 - 164	
13C-1,2,3,7,8-PeCDD	101	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	107	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	113	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	104	23.0 - 140	*
13C-OCDD	82.3	17.0 - 157	*
13C-2,3,7,8-TCDF	112	24.0 - 169	*
13C-1,2,3,7,8-PeCDF	102	24.0 - 185	*
13C-2,3,4,7,8-PeCDF	94.9	21.0 - 178	*
13C-1,2,3,4,7,8-HxCDF	103	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	106	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	88.8	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	91.8	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	97.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	91.5	26.0 - 138	
13C-OCDF	66.0	17.0 - 157	

* = Dilution

Acquired: 12-SEP-03

F = DB225 Confirmation

Acquired: 16-SEP-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 119 35.0 - 197

Analyst: [Signature]

Date: 9/16/03

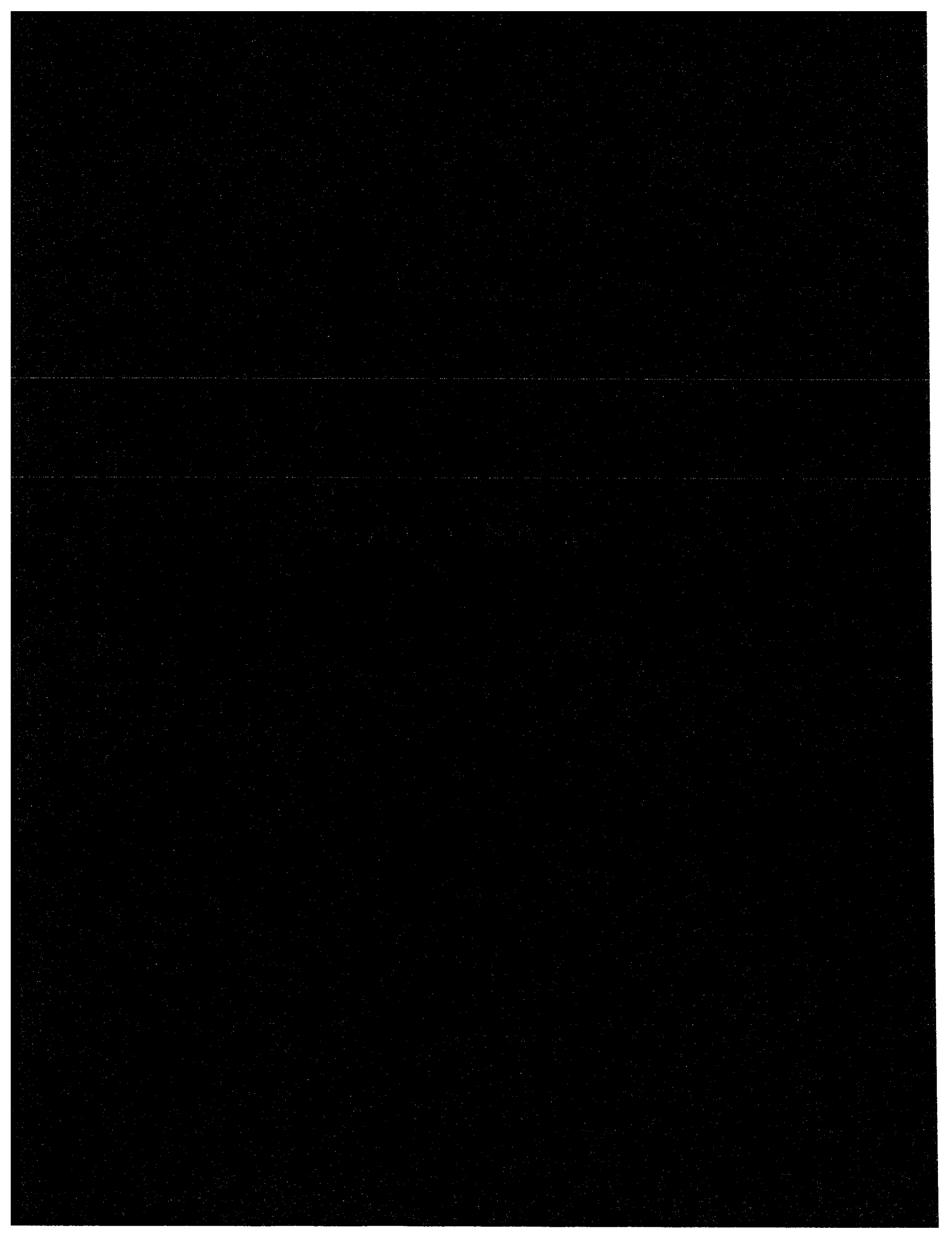
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SEP 18 2003

Tetra Tech/MFG, Inc.

Reviewed by: [Signature]

Date: 9/16/03



2017 20

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46191**

MFG, INC.
 Arcata Office
 875 Crescent Way
 Arcata, CA 95521-6741
 Phone (707) 826-8430 FAX (707) 826-8437

ARCATA RECEIVED
 18 2003

PROJECT NO: **030229.11** PROJECT NAME: **SPI - Arcata** PAGE: **1** OF: **2**

SAMPLE # (Signature): **Orin Plober** PROJECT MANAGER: **Ed Conti** DATE: **8/28/03**

METHOD OF SHIPMENT: **Fed Ex** CARRIER/WAYBILL NO: _____ DESTINATION: **Frontier Analytical Lab**

Field Sample Identification	SAMPLES				ANALYSIS REQUEST				Remarks		
	DATE	TIME	MATRIX*	PRESERVATION	FILTRATION*	VOLUME (ml/oz)	CONTAINERS TYPE*	NO.		CONSTITUENTS/METHOD	HANDLING
B-61-1.2'	8/29		SO	COLD	Y	4oz	G	1	Diexin/From	HOLD	
B-62-1'						4oz	G	1		RUSH	STANDARD
B-63-1'						4oz	G	1			
B-61-3'						5oz	B	1		✓	
B-62-3'								1		✓	
B-63-3'								1		✓	
Temp Blank	8/29		AP			10ml	G	1			
TOTAL NUMBER OF CONTAINERS											

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<i>Orin Plober</i>	Orin Plober	<i>Kathy Zipp</i>	Kathy Zipp
	MFG		Frontier Analytical
			9/3/03 11:00 am
			LABORATORY

*KEY Matrix: AO - aqueous MA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered

DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

2217
20

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46192**

- Avata Office**
15 Crescent Way
Irvine, CA 92614-6741
Phone (707) 826-8430 FAX (707) 826-8437
- CA - Irvine
17770 Carwright Rd.
Irvine, CA 92614
Tel (949) 253-2851
Fax (949) 253-2854
 - CA - San Francisco
180 Howard St., Ste. 200
San Francisco, CA 94105
Tel (415) 495-7110
Fax (415) 495-7107
 - CO - Boulder
4900 Pearl East Cir.
Boulder, CO 80301
Tel (303) 447-8203
Fax (303) 447-1836
 - ID - Osburn
PO Box 30
Walla Walla, WA 99156
Tel (208) 566-8911
Fax (208) 566-7271
 - MT - Missoula
PO Box 7158
Missoula, MT 59807
Tel (406) 728-4600
Fax (406) 728-4698
 - NJ - Edison
1090 King Georges Post Rd.
Edison, NJ 08837
Tel (732) 738-5707
Fax (732) 738-5711
 - OR - Portland
1020 SW Taylor St.
Ste. 530
Portland, OR 97205
Tel (503) 228-8616
Fax (503) 228-8631
 - PA - Pittsburgh
800 Vinal St., Bldg. A
Pittsburgh, PA 15212
Tel (412) 321-2278
Fax (412) 321-2283
 - TX - Austin
4607 Spicewood Springs Rd.
Bldg. A, P.O. Box 790
Austin, TX 78758
Tel (512) 338-1667
Fax (512) 338-1331
 - TX - Houston
12337 Jones Rd.
Ste. 230
Houston, TX 77070
Tel (281) 890-5068
Fax (281) 890-5044
 - TX - Port Lavaca
320 East Main
Port Lavaca, TX 77979
Tel (361) 552-8839
Fax (361) 553-6115
 - TX - Tevarkana
4532 Summerhill Rd.
Tevarkana, TX 75503
Tel (903) 794-0625
Fax (903) 794-0626
 - WA - Seattle
19203 36th Ave. W.
Ste. 100
Lynnwood, WA 98036
Tel (425) 921-4000
Fax (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: SPI-Arcata PAGE: 2 OF: 2
 SAMPLER (Signature): Orri Plocher PROJECT MANAGER: Ed Conti DATE: 8/29/03
 METHOD OF SHIPMENT: Fed Ex CARRIER/WAYBILL NO: _____ DESTINATION: Fro n tier Andly H z l Lab

Field Sample Identification	SAMPLES				ANALYSIS REQUEST				Remarks
	DATE	TIME	Matrix*	Preservation	Containers	Constituents/Method	Handling		
B-61-concrete upper	8/29		ot	COLD	1	1	HOLD	STANDARD	
B-61-concrete lower					1	1	RUSH		
B-62-concrete upper					1	1			
B-62-concrete lower					1	1			
B-63-concrete upper					1	1			
B-63-concrete lower					1	1			

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 SEP 18 2003
 Tetra Tech/MFG, Inc.

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<u>Orri Plocher</u>	<u>Orri Plocher</u>	<u>Kathy Zipp</u>	<u>Kathy Zipp</u>
	<u>MFG</u>		<u>9/3/03 - 11:00</u>
			<u>LABORATORY</u>

*KEY Matrix: AQ - aqueous NA - nontaqueous SD - soil SI - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

Frontier Analytical Laboratory

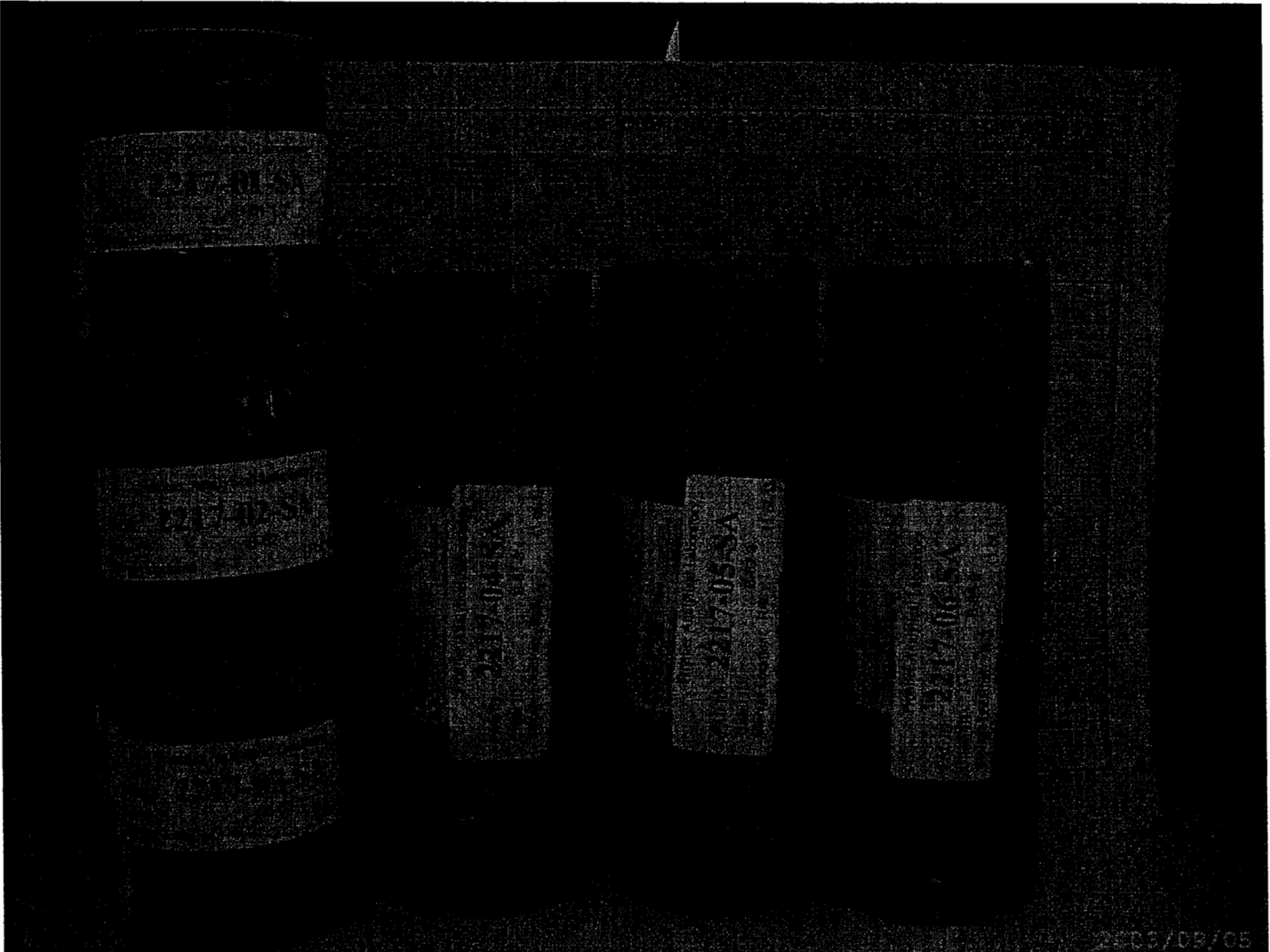
Sample Login Form

FAL Project ID: 2217

Client:	MFG
Client Project ID:	SPI - Arcata
Date Received:	09/03/2003
Time Received:	11:00 am
Received By:	KZ
# of Samples Received:	12
Duplicates:	0
Storage Location:	R2

Method of Delivery:	Fed-Ex
Tracking Number:	7914 8735 5321
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	2
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	08/30/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
Hold samples 4, 5, 6, 11 & 12.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p style="margin: 0;">RECEIVED</p> <p style="margin: 0;">SEP 18 2003</p> </div>

Tetra Tech/MFG, Inc.



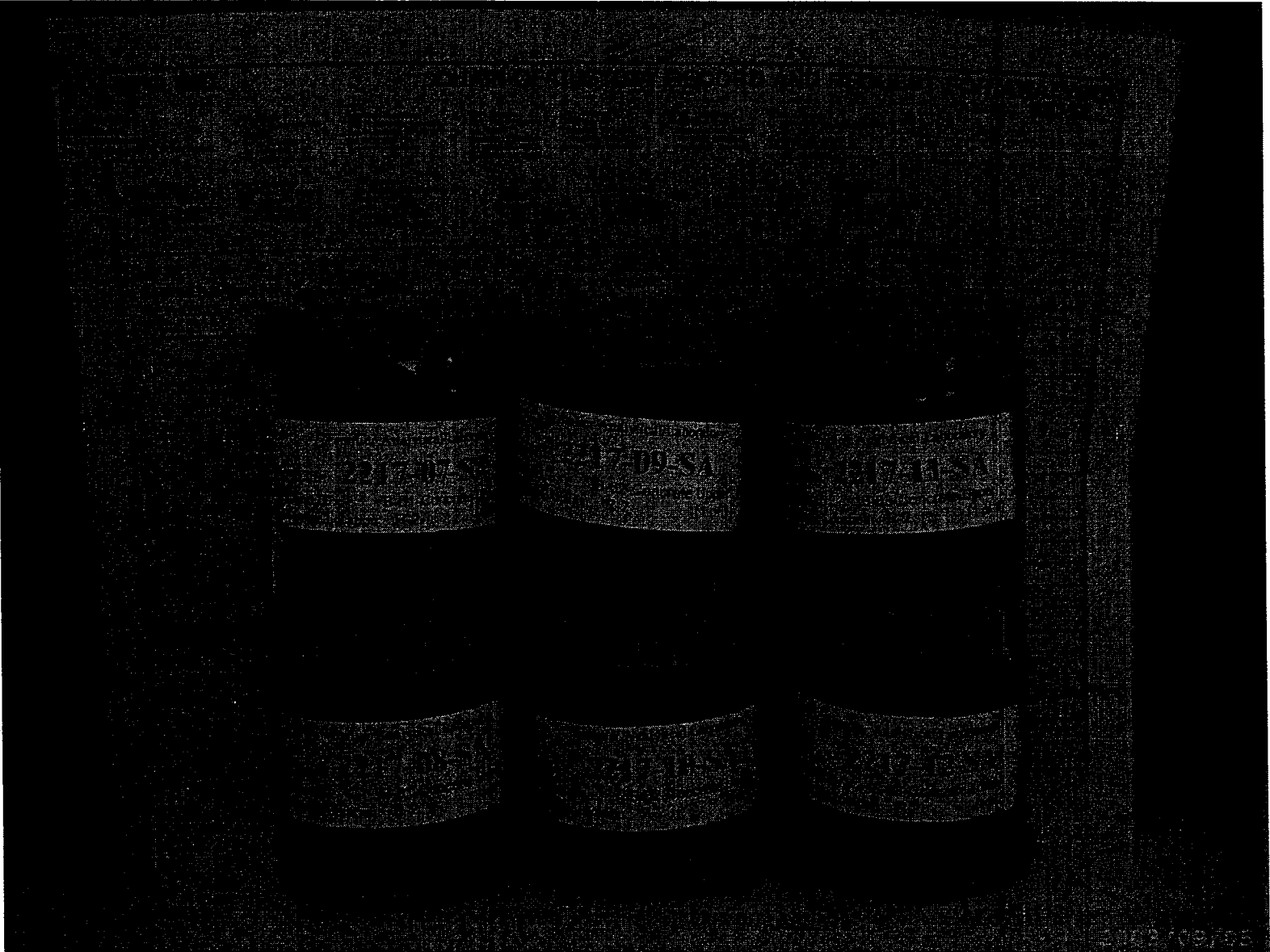
2503/09/05

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D-8 Second Phase of Excavation Samples



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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2ND PHASE EXCAVATION SAMPLES - 9/2003

02 October 2003

MFG, Inc - Arcata

Attn: Ed Conti

875 Crescent Way

Arcata, CA 95521

RE: SPI - Arcata

Work Order: A309412

Enclosed are the results of analyses for samples received by the laboratory on 09/17/03 19:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Sheri L. Speaks
Project Manager

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OCT 06 2003

Tetra Tech/MFG, Inc.



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CHEMICAL EXAMINATION REPORT

Page 1 of 13

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309412	Receipt Date/Time 09/17/2003 19:00	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Pit Water	A309412-01	Water	09/17/03 00:00	09/17/03 19:00
S-1E-2.5'	A309412-02	Soil	09/14/03 00:00	09/17/03 19:00
S-2E-2.5'	A309412-03	Soil	09/14/03 00:00	09/17/03 19:00
S-3S-2.5'	A309412-04	Soil	09/14/03 00:00	09/17/03 19:00
S-4N-2.5'	A309412-05	Soil	09/14/03 11:00	09/17/03 19:00
S-5N-2.5'	A309412-06	Soil	09/15/03 09:15	09/17/03 19:00
S-6N-1.5'	A309412-07	Soil	09/16/03 00:00	09/17/03 19:00
S-7E-3'	A309412-08	Soil	09/16/03 00:00	09/17/03 19:00
S-8W-1.5'	A309412-09	Soil	09/16/03 00:00	09/17/03 19:00
S-9W-2.5'	A309412-10	Soil	09/16/03 00:00	09/17/03 19:00
S-10S-0.5'	A309412-11	Soil	09/16/03 00:00	09/17/03 19:00
S-11S-2.5'	A309412-12	Soil	09/16/03 00:00	09/17/03 19:00
S-12S-2.5'	A309412-13	Soil	09/16/03 00:00	09/17/03 19:00
B-1-South	A309412-14	Soil	09/14/03 09:50	09/17/03 19:00
B-2-East	A309412-15	Soil	09/14/03 00:00	09/17/03 19:00
B-3-East	A309412-16	Soil	09/14/03 00:00	09/17/03 19:00
B-4-West	A309412-17	Soil	09/15/03 00:00	09/17/03 19:00
B-5-West	A309412-18	Soil	09/16/03 00:00	09/17/03 19:00
RR-Ties	A309412-19	Other (W)	09/16/03 00:00	09/17/03 19:00
Temp Blank	A309412-20	Water	09/14/03 00:00	09/17/03 19:00

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Nena M. Burgess For Sheri L. Speaks
Project Manager

10/2/03



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208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 2 of 13

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309412	09/17/2003 19:00	MFGARC	

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Project Manager

10/2/03



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CHEMICAL EXAMINATION REPORT

Page 3 of 13

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Pit Water (A309412-01)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Water		Sampled: 09/17/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AI32518	09/19/03	09/25/03	1	19 ug/l	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	09/23/03	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/25/03	"	18000 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	52 "	1.0
Pentachlorophenol	"	"	"	"	"	35000 "	1.0
Surrogate: Tribromophenol	"	"	"	"	"	162 %	79-119 S-06
S-1E-2.5' (A309412-02)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/14/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	2.1 "	1.0
Surrogate: Tribromophenol	"	"	"	"	"	83.1 %	23-140
S-2E-2.5' (A309412-03)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/14/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	18 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	09/27/03	"	ND "	1.0
Pentachlorophenol	"	"	"	09/30/03	"	32 "	1.0
Surrogate: Tribromophenol	"	"	"	09/27/03	"	99.2 %	23-140
S-3S-2.5' (A309412-04)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/14/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	4.6 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	09/27/03	"	ND "	1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Nena M. Burgess For Sheri L. Speaks
Project Manager

10/2/03



Alpha

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CHEMICAL EXAMINATION REPORT

Page 4 of 13

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309412	Receipt Date/Time 09/17/2003 19:00	Client Code MFGARC	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-3S-2.5' (A309412-04)		Sample Type: Soil			Sampled: 09/14/03 00:00		
Chlorinated Phenols by Canadian Pulp Method (cont'd)							
Pentachlorophenol	EnvCan	"	"	09/30/03	"	33 "	1.0
Surrogate: Tribromophenol	"	"	"	09/27/03		85.5 %	23-140

S-4N-2.5' (A309412-05)		Sample Type: Soil			Sampled: 09/14/03 11:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"		74.2 %	23-140

S-5N-2.5' (A309412-06)		Sample Type: Soil			Sampled: 09/15/03 09:15		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	1.1 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	09/27/03	"	ND "	1.0
Pentachlorophenol	"	"	"	09/30/03	"	3.2 "	1.0
Surrogate: Tribromophenol	"	"	"	09/27/03		51.6 %	23-140

S-6N-1.5' (A309412-07)		Sample Type: Soil			Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33018	09/23/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	560 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	09/29/03	"	1.7 "	1.0
Pentachlorophenol	"	"	"	09/30/03	"	850 "	1.0
Surrogate: Tribromophenol	"	"	"	09/27/03		258 %	23-140 S-04

S-7E-3' (A309412-08)

Sample Type: Soil

Sampled: 09/16/03 00:00

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Nena M. Burgess For Sheri L. Speaks
Project Manager

10/2/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number: A309412
Receipt Date/Time: 09/17/2003 19:00
Client Code: MFGARC
Client PO/Reference:

Alpha Analytical Laboratories, Inc.

Table with columns: METHOD, BATCH, PREPARED, ANALYZED, DILUTION, RESULT, PQL, NOTE. Contains three sections for samples S-7E-3', S-8W-1.5', and S-9W-2.5', each listing chlorinated phenols and their results.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reviewed in its entirety.

OCT 06 2003

Handwritten signature of Nena M. Burgess.

Nena M. Burgess For Sheri L. Speaks
Project Manager 10/2/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 6 of 13

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-10S-0.5' (A309412-11)							
Chlorinated Phenols by Canadian Pulp Method (cont'd)				Sample Type: Soil		Sampled: 09/16/03 00:00	
Pentachlorophenol	EnvCan	"	"	09/30/03	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"	59.7 %	23-140	
S-11S-2.5' (A309412-12)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/16/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AJ30215	09/27/03	09/30/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	3.1 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	9.2 "	1.0
Surrogate: Tribromophenol	"	"	"	"	%	23-140	S-06
S-12S-2.5' (A309412-13)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/16/03 00:00	
2,4,6-Trichlorophenol	EnvCan	AJ30215	09/27/03	09/30/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	4.5 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	7.1 "	1.0
Surrogate: Tribromophenol	"	"	"	"	%	23-140	S-06
B-1-South (A309412-14)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/14/03 09:50	
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"	60.5 %	23-140	
B-2-East (A309412-15)							
Chlorinated Phenols by Canadian Pulp Method				Sample Type: Soil		Sampled: 09/14/03 00:00	

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Ed Conti

Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-2-East (A309412-15)		Sample Type: Soil			Sampled: 09/14/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"		71.0 %	23-140
B-3-East (A309412-16)		Sample Type: Soil			Sampled: 09/14/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
Surrogate: Tribromophenol	"	"	"	"		73.4 %	23-140
B-4-West (A309412-17)		Sample Type: Soil			Sampled: 09/15/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	170 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	09/27/03	"	ND "	1.0
Pentachlorophenol	"	"	"	09/30/03	"	640 "	1.0
Surrogate: Tribromophenol	"	"	"	09/27/03		116 %	23-140
B-5-West (A309412-18)		Sample Type: Soil			Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AJ30215	09/27/03	09/30/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	2.2 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0

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875 Crescent Way
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Project No: 030229.11
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Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-5-West (A309412-18)		Sample Type: Soil			Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian Pulp Method (cont'd)							
Pentachlorophenol	EnvCan	"	"	09/30/03	"	4.9 "	1.0
Surrogate: Tribromophenol	"	"	"	"	"	% 23-140	S-06
RR-Ties (A309412-19)		Sample Type: Other (W)			Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AJ30215	09/27/03	10/01/03	2.5	ND mg/kg	2.5 R-01
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	2.5 R-01
2,3,4,6-Tetrachlorophenol	"	"	"	"	1	170 "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	3.1 "	1.0
Pentachlorophenol	"	"	"	"	"	260 "	1.0
Surrogate: Tribromophenol	"	"	"	"	"	% 23-140	S-06
Temp Blank (A309412-20)		Sample Type: Water			Sampled: 09/14/03 00:00		
Conventional Chemistry Parameters by APHA/EPA Methods							
Temperature	Temperature	AI31802	09/18/03	09/18/03	1	4.8 °C	

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A309412 09/17/2003 19:00 MFGARC

SourceResult
Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AI32518 - Solvent Extraction										
Blank (AI32518-BLK1)				Prepared: 09/19/03 Analyzed: 09/23/03						
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
<i>Surrogate: Tribromophenol</i>	27.8		"	24.9		112	79-119			
LCS (AI32518-BS1)				Prepared: 09/19/03 Analyzed: 09/23/03						
2,4,6-Trichlorophenol	4.30	1.0	ug/l	5.00		86.0	81-120			
2,3,5,6-Tetrachlorophenol	5.01	1.0	"	5.00		100	78-108			
2,3,4,6-Tetrachlorophenol	4.26	1.0	"	5.00		85.2	76-108			
2,3,4,5-Tetrachlorophenol	4.61	1.0	"	5.00		92.2	80-116			
Pentachlorophenol	4.50	1.0	"	5.00		90.0	86-109			
<i>Surrogate: Tribromophenol</i>	26.9		"	24.9		108	79-119			
LCS Dup (AI32518-BSD1)				Prepared: 09/19/03 Analyzed: 09/23/03						
2,4,6-Trichlorophenol	4.32	1.0	ug/l	5.00		86.4	81-120	0.464	20	
2,3,5,6-Tetrachlorophenol	4.86	1.0	"	5.00		97.2	78-108	3.04	20	
2,3,4,6-Tetrachlorophenol	4.35	1.0	"	5.00		87.0	76-108	2.09	20	
2,3,4,5-Tetrachlorophenol	4.43	1.0	"	5.00		88.6	80-116	3.98	20	
Pentachlorophenol	4.38	1.0	"	5.00		87.6	86-109	2.70	20	
<i>Surrogate: Tribromophenol</i>	26.1		"	24.9		105	79-119			

Batch AI33017 - Solvent Extraction

Blank (AI33017-BLK1) Prepared: 09/20/03 Analyzed: 09/27/03
2,4,6-Trichlorophenol ND 1.0 mg/kg

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Report Date: 10/02/03 14:32
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Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AI33017 - Solvent Extraction										
Blank (AI33017-BLK1)				Prepared: 09/20/03 Analyzed: 09/27/03						
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.120		"	0.124		96.8	23-140			
LCS (AI33017-BS1)				Prepared: 09/20/03 Analyzed: 09/27/03						
2,4,6-Trichlorophenol	0.0190	1.0	mg/kg	0.0250		76.0	32-116			
2,3,5,6-Tetrachlorophenol	0.0219	1.0	"	0.0250		87.6	18-80			QM-03
2,3,4,6-Tetrachlorophenol	0.0183	1.0	"	0.0250		73.2	28-89			
2,3,4,5-Tetrachlorophenol	0.0200	1.0	"	0.0250		80.0	54-85			
Pentachlorophenol	0.0184	1.0	"	0.0250		73.6	17-85			
Surrogate: Tribromophenol	0.123		"	0.124		99.2	23-140			
LCS Dup (AI33017-BSD1)				Prepared: 09/20/03 Analyzed: 09/27/03						
2,4,6-Trichlorophenol	0.0178	1.0	mg/kg	0.0250		71.2	32-116	6.52	50	
2,3,5,6-Tetrachlorophenol	0.0211	1.0	"	0.0250		84.4	18-80	3.72	50	QM-03
2,3,4,6-Tetrachlorophenol	0.0181	1.0	"	0.0250		72.4	28-89	1.10	50	
2,3,4,5-Tetrachlorophenol	0.0192	1.0	"	0.0250		76.8	54-85	4.08	50	
Pentachlorophenol	0.0143	1.0	"	0.0250		57.2	17-85	25.1	50	
Surrogate: Tribromophenol	0.114		"	0.124		91.9	23-140			
Batch AI33018 - Solvent Extraction										
Blank (AI33018-BLK1)				Prepared: 09/23/03 Analyzed: 09/27/03						
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							

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CHEMICAL EXAMINATION REPORT

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Project No: 030229.11
Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A309412 09/17/2003 19:00 MFGARC

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AI33018 - Solvent Extraction										
Blank (AI33018-BLK1)				Prepared: 09/23/03 Analyzed: 09/27/03						
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.0850		"	0.124		68.5	23-140			
LCS (AI33018-BS1)				Prepared: 09/23/03 Analyzed: 09/30/03						
2,4,6-Trichlorophenol	0.0126	1.0	mg/kg	0.0250		50.4	32-116			
2,3,5,6-Tetrachlorophenol	0.0135	1.0	"	0.0250		54.0	18-80			
2,3,4,6-Tetrachlorophenol	0.0123	1.0	"	0.0250		49.2	28-89			
2,3,4,5-Tetrachlorophenol	0.0149	1.0	"	0.0250		59.6	54-85			
Pentachlorophenol	0.0119	1.0	"	0.0250		47.6	17-85			
Surrogate: Tribromophenol	0.0770		"	0.124		62.1	23-140			
LCS Dup (AI33018-BSD1)				Prepared: 09/23/03 Analyzed: 09/27/03						
2,4,6-Trichlorophenol	0.0154	1.0	mg/kg	0.0250		61.6	32-116	20.0	50	
2,3,5,6-Tetrachlorophenol	0.0180	1.0	"	0.0250		72.0	18-80	28.6	50	
2,3,4,6-Tetrachlorophenol	0.0164	1.0	"	0.0250		65.6	28-89	28.6	50	
2,3,4,5-Tetrachlorophenol	0.0154	1.0	"	0.0250		61.6	54-85	3.30	50	
Pentachlorophenol	0.0172	1.0	"	0.0250		68.8	17-85	36.4	50	
Surrogate: Tribromophenol	0.0890		"	0.124		71.8	23-140			
Batch AJ30215 - Solvent Extraction										
Blank (AJ30215-BLK1)				Prepared: 09/27/03 Analyzed: 09/30/03						
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							

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Report Date: 10/02/03 14:32
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A309412 Receipt Date/Time 09/17/2003 19:00 Client Code MFGARC Client PO/Reference

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ30215 - Solvent Extraction										
Blank (AJ30215-BLK1)					Prepared: 09/27/03 Analyzed: 09/30/03					
Surrogate: Tribromophenol	0.0910		"	0.124		73.4	23-140			
LCS (AJ30215-BS1)					Prepared: 09/27/03 Analyzed: 09/30/03					
2,4,6-Trichlorophenol	0.0281	1.0	mg/kg	0.0250		112	32-116			
2,3,5,6-Tetrachlorophenol	0.0211	1.0	"	0.0250		84.4	18-80			QL-03
2,3,4,6-Tetrachlorophenol	0.0276	1.0	"	0.0250		110	28-89			QL-03
2,3,4,5-Tetrachlorophenol	0.0187	1.0	"	0.0250		74.8	54-85			
Pentachlorophenol	0.0311	1.0	"	0.0250		124	17-85			QL-03
Surrogate: Tribromophenol	0.104		"	0.124		83.9	23-140			
LCS Dup (AJ30215-BS1)					Prepared: 09/27/03 Analyzed: 09/30/03					
2,4,6-Trichlorophenol	0.0242	1.0	mg/kg	0.0250		96.8	32-116	14.9	50	
2,3,5,6-Tetrachlorophenol	0.0185	1.0	"	0.0250		74.0	18-80	13.1	50	
2,3,4,6-Tetrachlorophenol	0.0201	1.0	"	0.0250		80.4	28-89	31.4	50	
2,3,4,5-Tetrachlorophenol	0.0146	1.0	"	0.0250		58.4	54-85	24.6	50	
Pentachlorophenol	0.0289	1.0	"	0.0250		116	17-85	7.33	50	QL-03
Surrogate: Tribromophenol	0.113		"	0.124		91.1	23-140			

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Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309412	09/17/2003 19:00	MFGARC	

Notes and Definitions

- QL-03 Although the LCS/LCSD recovery for this analyte is outside of in-house developed control limits, it is within the EPA recommended range of 70-130%.
- QM-03 The spike recovery was high for this analyte. The batch was accepted based on a non-detect for the analyte.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- S-04 The surrogate recovery for this sample is outside of established control limits possibly due to a sample matrix effect.
- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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TX - Texarkana
 4532 Summerhill Rd.
 Texarkana, TX 75503
 Ste. 100
 Lynnwood, WA 98036
 Tel (425) 921-4000
 Fax (425) 921-4040

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46184**

PROJECT NO: **030229.11** PROJECT NAME: **SPI - Arcata** PAGE: **2** OF: **4**
 SAMPLER (Signature): *[Signature]* PROJECT MANAGER: **Ed Conti** DATE: **9/17/03**
 METHOD OF SHIPMENT: **Carrier** CARRIER/WAYBILL NO.: _____ DESTINATION: **Alpha Andy Axel**

SAMPLES		ANALYSIS REQUEST													
Field Sample Identification	DATE	TIME	Matrix*	HCl	HNO ₃	H ₂ SO ₄	COLD	FILTRATION*	VOLUME (ml/oz)	CONTAINERS TYPE*	NO.	Constituents/Method	Handling	Remarks	
S-1E-2.5'	9/14/03	Am	SO				X		6"	B	1	PER/PC CANADIAN	STANDARD		
S-2E-2.5'	9/14/03	Am									1			A309412-2	
S-3S-2.5'	9/14/03	Am									1			3	
S-4N-2.5'	9/14/03	1:00 PM									1			-4	
S-5N-2.5'	9/15/03	9:05 AM									1			-5	
S-6N-1.5'	9/16/03	Am									1			-6	
S-7E-3'	9/16/03	Am									1			-7	
											1			-8	
TOTAL NUMBER OF CONTAINERS										7		LABORATORY COMMENTS/CONDITION OF SAMPLES			Cooler Temp: 3.4

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<i>[Signature]</i>	Orrin Roddy	<i>[Signature]</i>	John Taylor
<i>[Signature]</i>	John Taylor	<i>[Signature]</i>	John Taylor
	MFG, Inc		Alpha
	Alpha		Alpha
			RECEIVED

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MFG, INC.

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Fax (949) 253-2954

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Ste. 300W
Boulder, CO 80301
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Fax (208) 556-7271

MT - Missoula
PO Box 7158
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Fax (406) 728-4698

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Fax (412) 321-2283

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Bldg. IV, 4th Floor
Austin, TX 78759
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12337 Jones Rd.
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Houston, TX 77070
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Fax (281) 890-5044

TX - Port Lavaca
320 East Main
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4532 Summerhill Rd.
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Texarkana, TX 75503
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Fax (903) 794-0626

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19203 36th Ave. W.
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Lynnwood, WA 98036
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Fax (425) 921-4040

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46164**

PROJECT NO: **030229.11** PROJECT NAME: **SPI - Arcata** PAGE: **3** OF: **4**
 SAMPLER (Signature): **Ed Con** PROJECT MANAGER: **Ed Con** DATE: **9/17/03**
 METHOD OF SHIPMENT: **Carrier** CARRIER/WAYBILL NO.: _____ DESTINATION: **Alpha Analytical**

SAMPLES				ANALYSIS REQUEST						
Field Sample Identification	DATE	TIME	Matrix*	Preservation		Containers		Handling	Remarks	
				HCl	HNO ₃	H ₂ SO ₄	COLD			VOLUME (ml/oz)
S-6 W - 1.5'	9/16/03	Am 50	SO				X	6" B	STANDARD	A309412-9
S-9 W - 2.5'	9/16/03	Am								10
S-10 S - 0.5'	9/16/03	Pm								11
S-11 S - 2.5'	9/16/03	Pm								12
S-12 S - 2.5'	9/16/03	Pm								13
TOTAL NUMBER OF CONTAINERS				LABORATORY COMMENTS/CONDITION OF SAMPLES				Cooler Temp: 3.4		

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<i>[Signature]</i>	Serrin Pocher	<i>[Signature]</i>	John Taylor
<i>[Signature]</i>	John Taylor	<i>[Signature]</i>	Shari Speck
	Alpha		Alpha
	Alpha		Alpha

*KEY Matrix: AQ - aqueous NA - non-aqueous SO - soil St - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

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Tetra Tech/MFG, Inc.

MFG, INC.

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PROJECT NO: 030229.11 PROJECT NAME: SPI - Arcata PAGE: 4 OF: 4
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Ed Conti DATE: 9/17/03
 METHOD OF SHIPMENT: Carrier CARRIER/WAYBILL NO.: _____ DESTINATION: Alpha Analytical

SAMPLES				ANALYSIS REQUEST					
DATE	TIME	Matrix*	Filtration*	Containers		Handling		Remarks	
				VOLUME (ml/oz)	TYPE	NO.	HOLD		RUSH
		SO	X	6"	B	1			
						1			✓ A309412-14
						1			✓ 15
						1			✓ 16
						1			✓ 17
						1			✓ 18
		OT	X	8oz	G	1			✓ 19
		AY	X	12oz	G	1			✓ 4.8 20
TOTAL NUMBER OF CONTAINERS				LABORATORY COMMENTS/CONDITION OF SAMPLES				Cooler Temp: 3.4	

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<u>[Signature]</u>	<u>Orrin Plow</u>	<u>[Signature]</u>	<u>John Taylor</u>
	<u>Alpha</u>		<u>Alpha</u>
	<u>Alpha</u>		<u>Alpha</u>

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
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CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46183**

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320 East Main
Port Lavaca, TX 77979
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Pittsburgh, PA 15210
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Fax (412) 321-2283

PROJECT NO: 030229.11 PROJECT NAME: SPE - Arcata PAGE: 4 OF: 4
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Ed Conti DATE: 9/17/03
 METHOD OF SHIPMENT: Carrier CARRIER WAYBILL NO.: _____ DESTINATION: Alpha Analytical

SAMPLES		ANALYSIS REQUEST														
Field Sample Identification	DATE	TIME	Matrix	PRESERVATION			CONTAINERS			HANDLING			REMARKS			
				HCl	HNO ₃	H ₂ SO ₄	FILTRATION*	VOLUME (ml/oz)	TYPE	NO.	CONSTITUENTS/METHOD	HOLD		RUSH	STANDARD	
B-1-South	9/14	9:50	SO		X			6"	B	1						A309412-14
B-2-East	9/14	Am								1						15
B-3-East	9/14	Am								1						16
B-4-West	9/15	AM								1						17
B-5-west	9/16	AM								1						18
RR-TICS	9/16	Pm	OT		X			807	G	1						19
Tap Blank	9/16/03	Am	AG		X			127	G	1						20
TOTAL NUMBER OF CONTAINERS													LABORATORY COMMENTS/CONDITION OF SAMPLES			Cooler Temp: 3.4

RELINQUISHED BY: _____ RECEIVED BY: _____

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
[Signature]	Orrin Ploer	MFG, Inc	9/17/03	2:30	[Signature]	John Taylor	Alpha
					[Signature]	Shen Speake	Alpha LABORATORY

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October 2, 2003

FAL Project ID: 2245

2ND PHASE EXCAVATION - 9/2003
S-1 → S-7

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

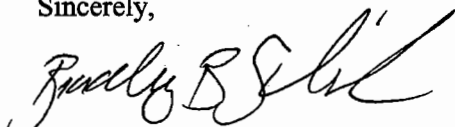
Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2245**. This corresponds to your Project No. 030229.11. Seven soil samples were received on 9/18/03 in good condition. Of the seven soil samples, three were put on hold by MFG, Inc.: 2245-002-SA, 2245-003-SA, and 2245-004-SA. The remaining four soil samples were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Due to high levels of several analytes, two of the samples required dilution and reanalysis. All results taken from the dilution and reanalysis are noted with the "*" qualifier. MFG, Inc. requested a turnaround time of 10 business days for project **2245**. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project **2245**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

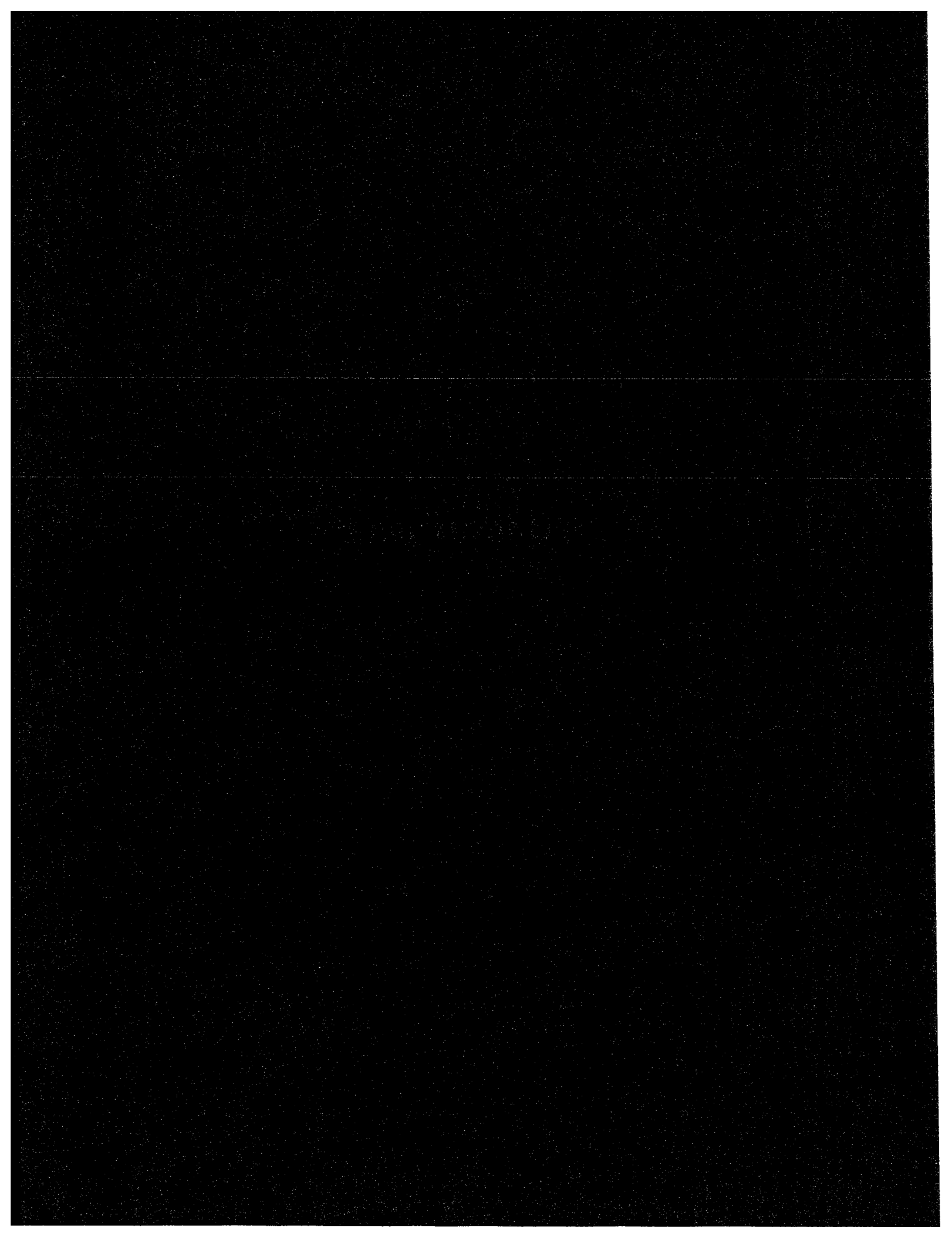
Sincerely,



Bradley B. Silverbush
Director of Operations

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OCT 03 2003



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2245

Received on: 09/18/2003

Project Due: 10/03/2003 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2245-001-SA	0	SPI-Arcata	S-1E-2.5	EPA 1613 D/F	Soil	09/14/2003	NP	09/13/2004
2245-002-SA	0	SPI-Arcata	S-2E-2.5	EPA 1613 D/F	Soil	09/14/2003	NP	09/13/2004
2245-003-SA	0	SPI-Arcata	S-3S-2.5	EPA 1613 D/F	Soil	09/14/2003	NP	09/13/2004
2245-004-SA	0	SPI-Arcata	S-4N-2.5	EPA 1613 D/F	Soil	09/14/2003	11:00 am	09/13/2004
2245-005-SA	0	SPI-Arcata	S-5N-2.5	EPA 1613 D/F	Soil	09/15/2003	09:15 am	09/14/2004
2245-006-SA	0	SPI-Arcata	S-6N-1.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2245-007-SA	0	SPI-Arcata	S-7E-3	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004

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000002 of 000014

Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[†] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[†] "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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Tetra Tech/MFG, Inc.

00003 of 00014

EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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Tetra Tech/MFG, Inc.

000004 of 000014

EPA Method 1613
PCDD/F



FAL ID: 2245-001-MB
Client ID: Method Blank
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 26-SEP-03
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.121	-	-					
1,2,3,7,8-PeCDD	-	0.216	-	-					
1,2,3,4,7,8-HxCDD	-	0.282	-	-					
1,2,3,6,7,8-HxCDD	-	0.298	-	-	Total Tetra-Dioxins	-	0.121		0
1,2,3,7,8,9-HxCDD	-	0.253	-	-	Total Penta-Dioxins	-	0.216		0
1,2,3,4,6,7,8-HpCDD	-	0.267	-	-	Total Hexa-Dioxins	-	0.298		0
OCDD	-	1.04	-	-	Total Hepta-Dioxins	-	0.267		0
2,3,7,8-TCDF	-	0.0994	-	-					
1,2,3,7,8-PeCDF	-	0.225	-	-					
2,3,4,7,8-PeCDF	-	0.221	-	-					
1,2,3,4,7,8-HxCDF	-	0.0871	-	-					
1,2,3,6,7,8-HxCDF	-	0.110	-	-					
2,3,4,6,7,8-HxCDF	-	0.116	-	-					
1,2,3,7,8,9-HxCDF	-	0.143	-	-	Total Tetra-Furans	-	0.0994		0
1,2,3,4,6,7,8-HpCDF	-	0.105	-	-	Total Penta-Furans	-	0.225		0
1,2,3,4,7,8,9-HpCDF	-	0.124	-	-	Total Hexa-Furans	-	0.143		0
OCDF	-	0.483	-	-	Total Hepta-Furans	-	0.124		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	100	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	115	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	118	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	98.6	23.0 - 140	
13C-OCDD	81.2	17.0 - 157	
13C-2,3,7,8-TCDF	108	24.0 - 169	
13C-1,2,3,7,8-PeCDF	100	24.0 - 185	
13C-2,3,4,7,8-PeCDF	93.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	123	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	99.6	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	102	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	109	26.0 - 138	
13C-OCDF	79.1	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 101 35.0 - 197

Analyst: J

Date: 9/29/03

Reviewed by: [Signature]

Date: 9/29/03

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Tetra Tech/MFG, Inc.

000005 of 000014

EPA Method 1613
PCDD/F



FAL ID: 2245-001-OPR
Client ID: OPR
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: X0079
Acquired: 26-SEP-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.69	6.70 - 15.8
1,2,3,7,8-PeCDD	49.3	35.0 - 71.0
1,2,3,4,7,8-HxCDD	47.1	35.0 - 82.0
1,2,3,6,7,8-HxCDD	48.0	38.0 - 67.0
1,2,3,7,8,9-HxCDD	43.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50.6	35.0 - 70.0
OCDD	93.8	78.0 - 144
2,3,7,8-TCDF	9.40	7.50 - 15.8
1,2,3,7,8-PeCDF	49.6	40.0 - 67.0
2,3,4,7,8-PeCDF	48.9	34.0 - 80.0
1,2,3,4,7,8-HxCDF	49.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50.6	42.0 - 65.0
2,3,4,6,7,8-HxCDF	49.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	49.2	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50.6	39.0 - 69.0
OCDF	99.2	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	107	20.0 - 175
13C-1,2,3,7,8-PeCDD	91.8	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	113	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	112	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	93.7	26.0 - 166
13C-OCDD	74.8	13.0 - 198
13C-2,3,7,8-TCDF	107	22.0 - 152
13C-1,2,3,7,8-PeCDF	96.3	21.0 - 192
13C-2,3,4,7,8-PeCDF	93.5	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	123	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	118	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	110	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	97.5	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	97.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	104	20.0 - 186
13C-OCDF	74.9	13.0 - 198

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	90.2	31.0 - 191
-------------------	------	------------

Analyst:
Date: 9/29/03

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Reviewed by:
Date: 9/29/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2199-001-MS/MSD
Client ID: C4-SNS03
Matrix: Solid
% Solids: 99.2

Date Extracted: 8/25/03
Date Received: 8/20/03
Sample Amount: 10.07 g
MS Amount: 10.03 g
MSD Amount: 10.11 g

ICal: PCDDFAL1-6-13
Batch No.: X0079
Units: pg/g

MS Acquired: 2-SEP-03
MSD Acquired: 2-SEP-03
GC Column: DB5

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	170	170	0.00	
1,2,3,7,8-PeCDD	1000	-	848	889	4.72	
1,2,3,4,7,8-HxCDD	1000	-	889	903	1.56	
1,2,3,6,7,8-HxCDD	1000	-	866	879	1.49	
1,2,3,7,8,9-HxCDD	1000	-	923	898	6.90	
1,2,3,4,6,7,8-HpCDD	1000	97.8	965	1030	7.22	
OCDD	2000	827	2470	2660	10.9	
2,3,7,8-TCDF	200	-	159	168	5.50	
1,2,3,7,8-PeCDF	1000	-	910	937	2.92	
2,3,4,7,8-PeCDF	1000	-	929	926	0.320	
1,2,3,4,7,8-HxCDF	1000	-	890	914	2.66	
1,2,3,6,7,8-HxCDF	1000	-	932	958	2.75	
2,3,4,6,7,8-HxCDF	1000	-	941	962	2.21	
1,2,3,7,8,9-HxCDF	1000	-	900	953	5.72	
1,2,3,4,6,7,8-HpCDF	1000	38.3	996	1040	4.49	
1,2,3,4,7,8,9-HpCDF	1000	-	959	973	1.45	
OCDF	2000	110	2000	2070	3.64	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	116	112	119	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	121	123	124	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	93.7	90.0	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	104	100	93.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	111	105	96.7	25.0 - 150	
13C-OCDD	4000	97.5	92.8	88.9	25.0 - 150	
13C-2,3,7,8-TCDF	2000	112	122	111	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	116	118	112	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	111	115	113	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	102	97.2	91.9	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	100	99.9	92.8	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	103	97.6	91.4	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	107	110	101	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	103	99.9	92.1	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	133	129	117	25.0 - 150	
13C-OCDF	4000	100	96.0	88.6	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	107	105	105	25.0 - 150	

Analyst: [Signature]
Date: 9/29/03

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Reviewed by: [Signature]
Date: 9/29/03

EPA Method 1613
PCDD/F



FAL ID: 2245-001-SA
Client ID: S-1E-2.5
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 9.92 g
% Solids: 83.2

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 27-SEP-03
WHO TEQ: 284

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.442		-					
1,2,3,7,8-PeCDD	4.80	-		4.80					
1,2,3,4,7,8-HxCDD	17.7	-		1.77					
1,2,3,6,7,8-HxCDD	695	-		69.5	Total Tetra-Dioxins	5.83	-		4
1,2,3,7,8,9-HxCDD	78.2	-		7.82	Total Penta-Dioxins	52.6	-		8
1,2,3,4,6,7,8-HpCDD	13300	-		133	Total Hexa-Dioxins	1970	-		7
OCDD	74600	-		7.46	Total Hepta-Dioxins	20600	-		2
2,3,7,8-TCDF	-	0.352		-					
1,2,3,7,8-PeCDF	2.36	-	J	0.118					
2,3,4,7,8-PeCDF	1.57	-	J	0.787					
1,2,3,4,7,8-HxCDF	39.1	-		3.91					
1,2,3,6,7,8-HxCDF	14.1	-		1.41					
2,3,4,6,7,8-HxCDF	40.5	-		4.05	Total Tetra-Furans	2.96	-		2
1,2,3,7,8,9-HxCDF	13.5	-		1.35	Total Penta-Furans	36.2	-		9
1,2,3,4,6,7,8-HpCDF	4350	-		43.5	Total Hexa-Furans	2600	-		9
1,2,3,4,7,8,9-HpCDF	281	-		2.81	Total Hepta-Furans	17700	-		3
OCDF	19400	-		1.94					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	107	25.0 - 164	
13C-1,2,3,7,8-PeCDD	87.0	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	111	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	113	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	101	23.0 - 140	
13C-OCDD	82.4	17.0 - 157	
13C-2,3,7,8-TCDF	111	24.0 - 169	
13C-1,2,3,7,8-PeCDF	97.9	24.0 - 185	
13C-2,3,4,7,8-PeCDF	91.7	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	125	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	122	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	106	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	98.7	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	102	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	106	26.0 - 138	
13C-OCDF	78.7	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 92.5 35.0 - 197

Analyst: 8
Date: 9/29/03

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Reviewed by: [Signature]
Date: 9/29/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2245-006-SA
Client ID: S-6N-1.5
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 10.10 g
% Solids: 86.1

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 27-SEP-03
WHO TEQ: 11500

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	48.3	-		48.3					
1,2,3,7,8-PeCDD	533	-		533					
1,2,3,4,7,8-HxCDD	1030	-		103					
1,2,3,6,7,8-HxCDD	29500	-		2950	Total Tetra-Dioxins	191	-		16
1,2,3,7,8,9-HxCDD	2520	-		252	Total Penta-Dioxins	1760	-		10
1,2,3,4,6,7,8-HpCDD	444000	-	*	4440	Total Hexa-Dioxins	77100	-		8
OCDD	1500000	-	*	150	Total Hepta-Dioxins	713000	-	*	2
2,3,7,8-TCDF	310	-	F	31.0					
1,2,3,7,8-PeCDF	427	-		21.3					
2,3,4,7,8-PeCDF	639	-		320					
1,2,3,4,7,8-HxCDF	3370	-		337					
1,2,3,6,7,8-HxCDF	1150	-		115					
2,3,4,6,7,8-HxCDF	3390	-		339					
1,2,3,7,8,9-HxCDF	1090	-		109	Total Tetra-Furans	2650	-	D,M	22
1,2,3,4,6,7,8-HpCDF	160000	-	*	1600	Total Penta-Furans	14400	-	D,M	15
1,2,3,4,7,8,9-HpCDF	10900	-		109	Total Hexa-Furans	185000	-	D,M,*	11
OCDF	459000	-	*	45.9	Total Hepta-Furans	726000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	109	25.0 - 164	
13C-1,2,3,7,8-PeCDD	99.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	113	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	104	23.0 - 140	*
13C-OCDD	105	17.0 - 157	*
13C-2,3,7,8-TCDF	108	24.0 - 169	
13C-1,2,3,7,8-PeCDF	102	24.0 - 185	
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	117	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	120	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	107	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	108	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	116	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	119	26.0 - 138	
13C-OCDF	114	17.0 - 157	*

* = Dilution

Acquired: 29-SEP-03

F = DB225 Confirmation

Acquired: 01-OCT-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 89.9 35.0 - 197

Analyst: J
Date: 9/30/03

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Reviewed by: [Signature]
Date: 9/30/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2245-007-SA
Client ID: S-7E-3
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 10.08 g
% Solids: 93.0

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 27-SEP-03
WHO TEQ: 4560

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	22.5	-		22.5					
1,2,3,7,8-PeCDD	373	-		373					
1,2,3,4,7,8-HxCDD	352	-		35.2					
1,2,3,6,7,8-HxCDD	8270	-		827	Total Tetra-Dioxins	66.4	-		8
1,2,3,7,8,9-HxCDD	574	-		57.4	Total Penta-Dioxins	651	-		10
1,2,3,4,6,7,8-HpCDD	202000	-	*	2020	Total Hexa-Dioxins	21200	-		8
OCDD	1070000	-	*	107	Total Hepta-Dioxins	345000	-	*	2
2,3,7,8-TCDF	31.9	-	F	3.19					
1,2,3,7,8-PeCDF	194	-		9.69					
2,3,4,7,8-PeCDF	214	-		107					
1,2,3,4,7,8-HxCDF	1580	-		158					
1,2,3,6,7,8-HxCDF	399	-		39.9					
2,3,4,6,7,8-HxCDF	906	-		90.6					
1,2,3,7,8,9-HxCDF	569	-		56.9	Total Tetra-Furans	192	-		13
1,2,3,4,6,7,8-HpCDF	59600	-	*	596	Total Penta-Furans	2460	-		14
1,2,3,4,7,8,9-HpCDF	3950	-		39.5	Total Hexa-Furans	52300	-	D,M,*	11
OCDF	216000	-	*	21.6	Total Hepta-Furans	285000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	117	25.0 - 164	
13C-1,2,3,7,8-PeCDD	108	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	114	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	92.4	23.0 - 140	*
13C-OCDD	112	17.0 - 157	*
13C-2,3,7,8-TCDF	113	24.0 - 169	
13C-1,2,3,7,8-PeCDF	106	24.0 - 185	
13C-2,3,4,7,8-PeCDF	102	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	123	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	106	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	105	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	99.7	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	118	26.0 - 138	
13C-OCDF	106	17.0 - 157	*

* = Dilution

Acquired: 29-SEP-03

F = DB225 Confirmation

Acquired: 01-OCT-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 104 35.0 - 197

Analyst: [Signature]

Date: 10/03

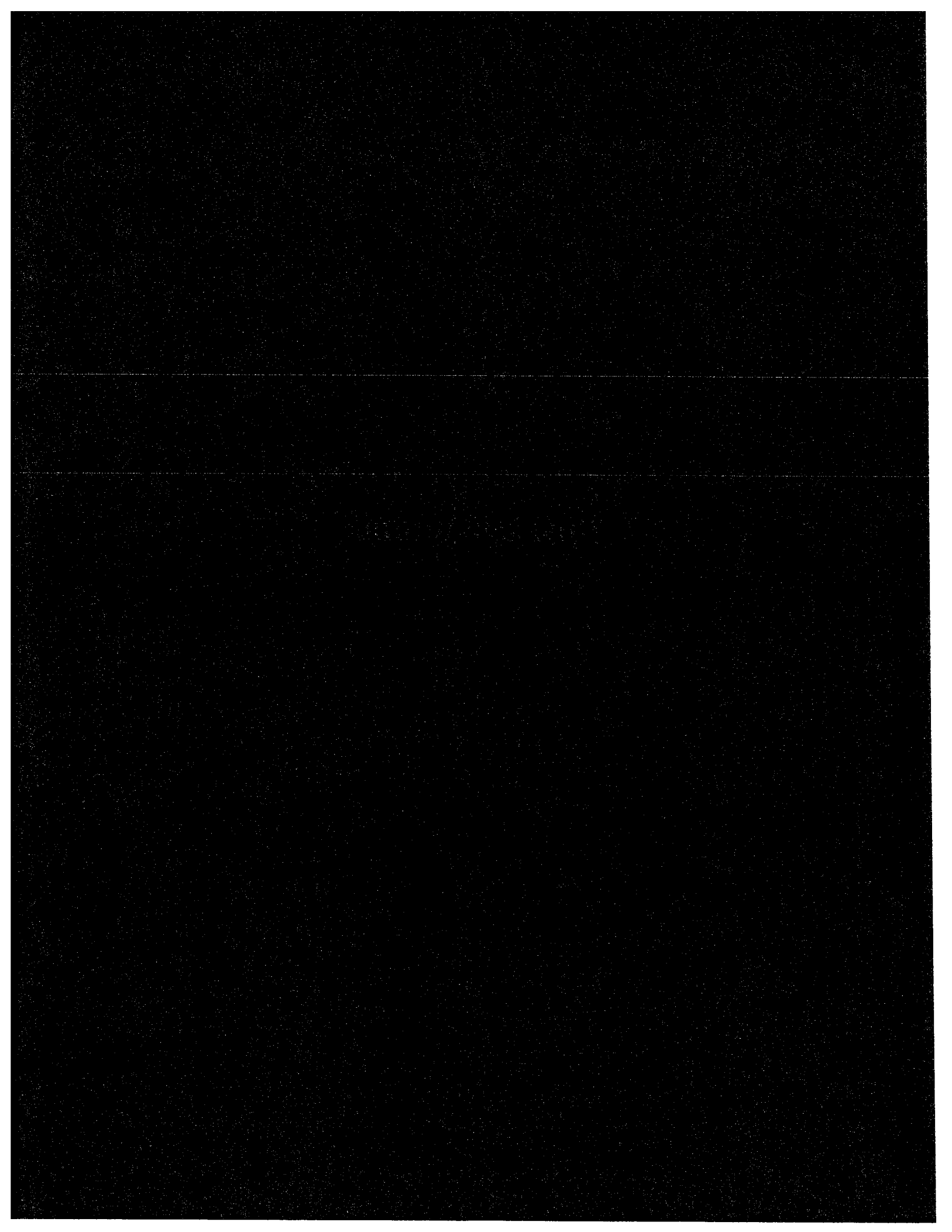
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Tetra Tech/MFG, Inc.

Reviewed by: [Signature]

Date: 10/1/03



MFG, INC.

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Ste. 530
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Fax (903) 794-0626

WA - Seattle
19203 36th Ave. W.
Ste. 100
Lynnwood, WA 98036
Tel (425) 921-4000
Fax (425) 921-4040

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46180**

PROJECT NO: **030229.11** PROJECT NAME: **SPI-Arcata** PAGE: **2** OF: **4**
 SAMPLER (Signature): *DeAnn* PROJECT MANAGER: **Ed Conti** DATE: **9/17/03**
 METHOD OF SHIPMENT: **FedEx** CARRIER/WAYBILL NO.: _____ DESTINATION: **Frontier**

Field Sample Identification	SAMPLES			ANALYSIS REQUEST					Remarks		
	DATE	TIME	Matrix*	Preservation	FILTRATION*	VOLUME (ml/oz)	CONTAINERS	Constituents/Method		Handling	
S-1E-2.5'	9/14	AM 5:0		X COLD		6"	1	Dioxin/Furan EPA 1613	STANDARD		
S-2E-2.5'	9/14	AM					1		RUSH	X	
S-3S-2.5'	9/14	AM					1		HOLD	X	
S-4N-2.5'	9/14	11:00					1			X	
S-5N-2.5'	9/15	9:15					1			X	
S-6N-1.5'	9/16	AM					1			X	
S-7E-3'	9/16	AM					1			X	
TOTAL NUMBER OF CONTAINERS				7				LABORATORY COMMENTS/CONDITION OF SAMPLES			Cooler Temp:

RELINQUISHED BY:		RECEIVED BY:	
SIGNATURE	PRINTED NAME	SIGNATURE	PRINTED NAME
<i>DeAnn</i>	Oris Plode	<i>Kathy Zipp</i>	Zipp
RECEIVED	MFG, Inc	9-18-03	11:30
OCT 03 2003		FRONTIER LABORATORY	

*EX Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

Tetra Tech/MFG, Inc.

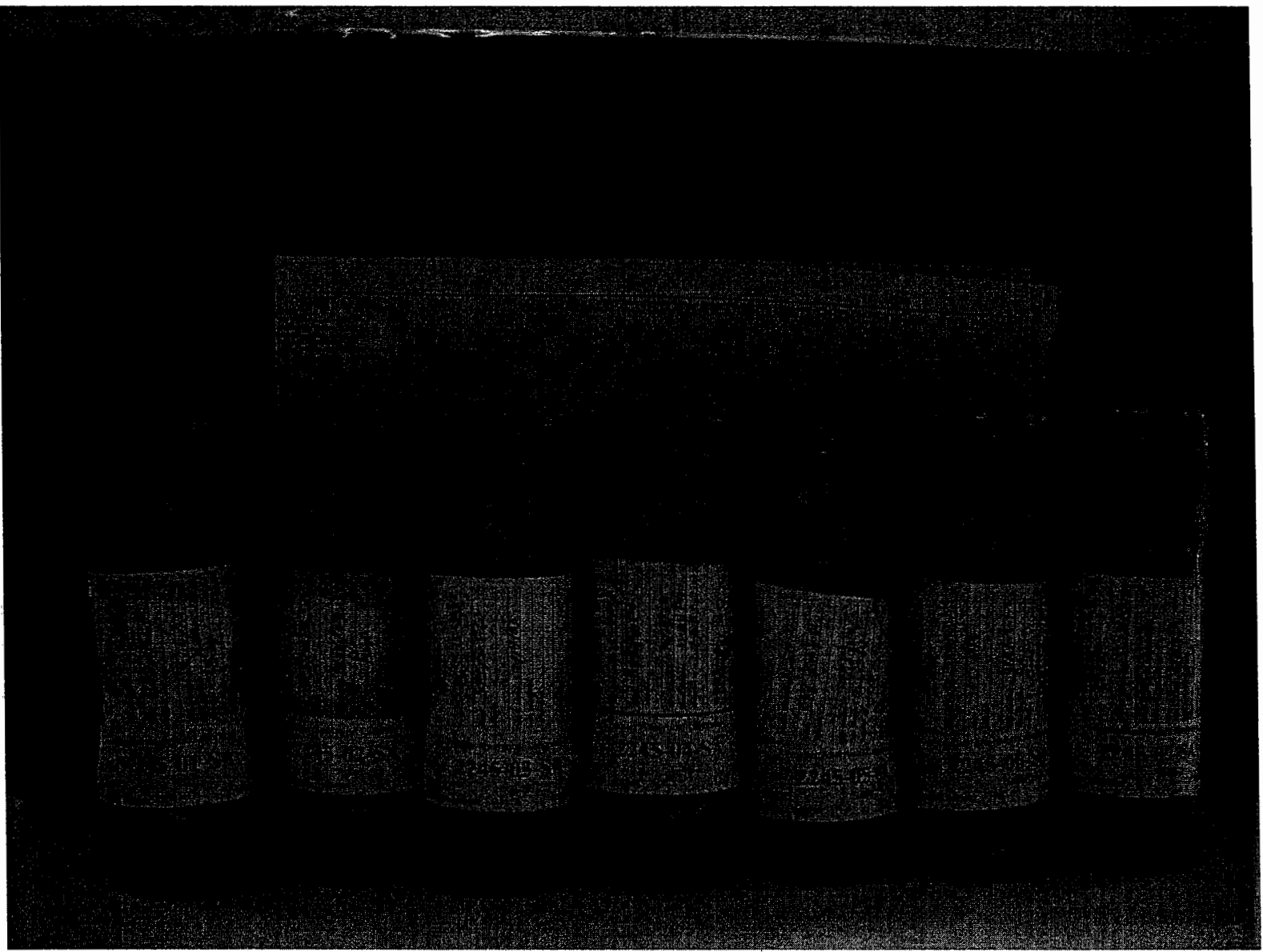
Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 2245

Client:	MFG
Client Project ID:	SPI-Arcata
Date Received:	09/18/2003
Time Received:	11:30 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	7
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Fed-Ex
Tracking Number:	792971593373
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	1
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	09/13/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
<p>hOLD SAMPLES 2,3 & 4.</p> <p style="text-align: right;">RECEIVED OCT 03 2003</p>	



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OCT 03 2003

Tetra Tech/MFG, Inc.

October 2, 2003

FAL Project ID: 2246

*2ND PHASE EXCAVATION - 9/2003
S-8 → S-12*

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

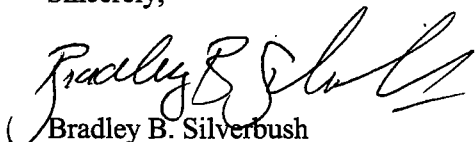
Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2246**. This corresponds to your Project No. 030229.11. Five soil samples were received on 9/18/03 in good condition. Of the five soil samples, two were put on hold by MFG, Inc.: 2246-001-SA and 2246-003-SA. The remaining three soil samples were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Due to high levels of OCDD and HpCDF, two of the samples required dilution and reanalysis. All results taken from the dilution and reanalysis are noted with the "*" qualifier. MFG, Inc. requested a turnaround time of 10 business days for project **2246**. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project **2246**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

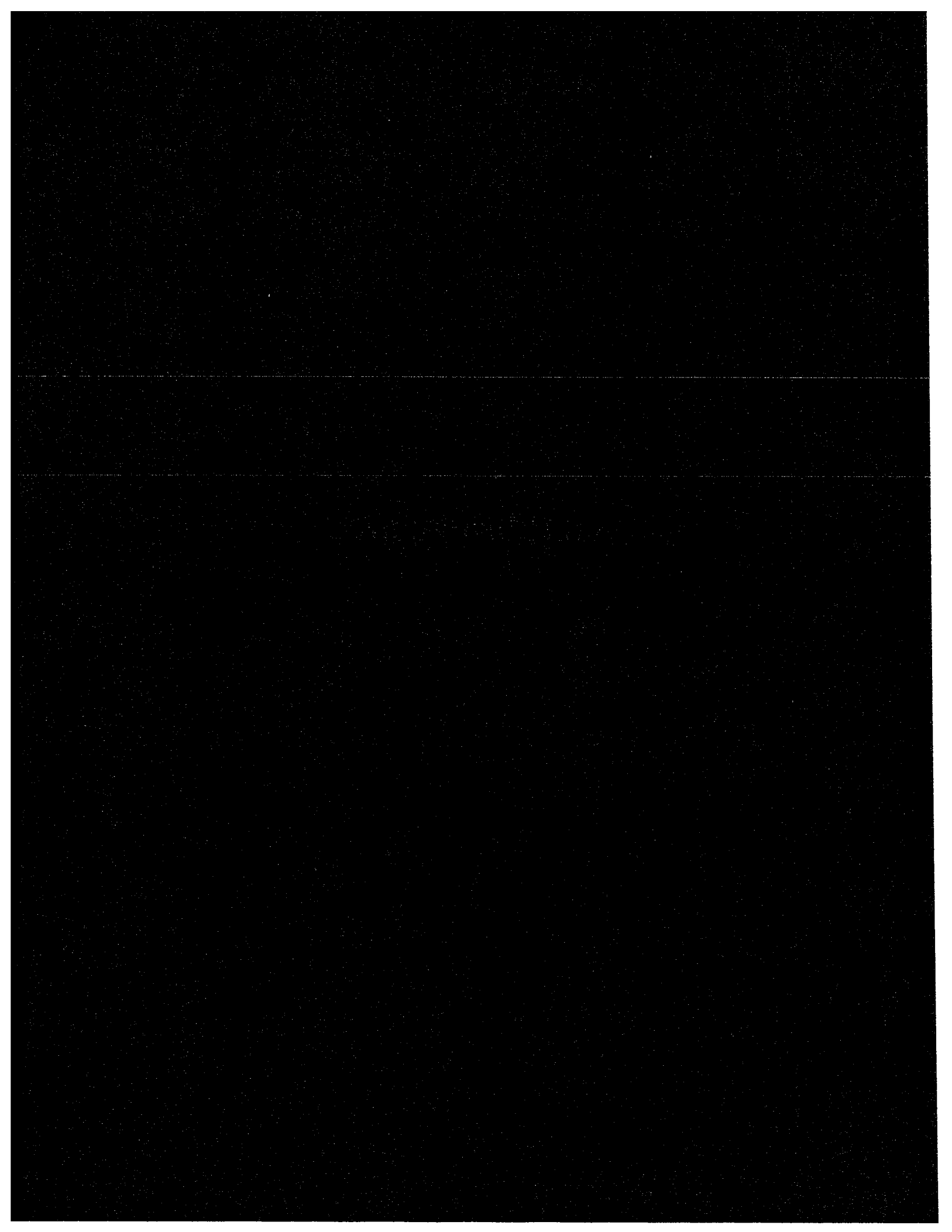


Bradley B. Silverbush
Director of Operations

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OCT 03 2003

Tetra Tech/MFG, Inc.



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2246

Received on: 09/18/2003

Project Due: 10/03/2003 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2246-001-SA	0	SPI-Arcata	S-8W-1.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2246-002-SA	0	SPI-Arcata	S-9W-2.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2246-003-SA	0	SPI-Arcata	S-10S-0.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2246-004-SA	0	SPI-Arcata	S-11S-2.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2246-005-SA	0	SPI-Arcata	S-12S-2.5	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[†] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

[†] "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2246-002-MB
Client ID: Method Blank
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 26-SEP-03
WHO TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	0.121	-	-					
1,2,3,7,8-PeCDD	-	0.216	-	-					
1,2,3,4,7,8-HxCDD	-	0.282	-	-					
1,2,3,6,7,8-HxCDD	-	0.298	-	-	Total Tetra-Dioxins	-	0.121		0
1,2,3,7,8,9-HxCDD	-	0.253	-	-	Total Penta-Dioxins	-	0.216		0
1,2,3,4,6,7,8-HpCDD	-	0.267	-	-	Total Hexa-Dioxins	-	0.298		0
OCDD	-	1.04	-	-	Total Hepta-Dioxins	-	0.267		0
2,3,7,8-TCDF	-	0.0994	-	-					
1,2,3,7,8-PeCDF	-	0.225	-	-					
2,3,4,7,8-PeCDF	-	0.221	-	-					
1,2,3,4,7,8-HxCDF	-	0.0871	-	-					
1,2,3,6,7,8-HxCDF	-	0.110	-	-					
2,3,4,6,7,8-HxCDF	-	0.116	-	-					
1,2,3,7,8,9-HxCDF	-	0.143	-	-	Total Tetra-Furans	-	0.0994		0
1,2,3,4,6,7,8-HpCDF	-	0.105	-	-	Total Penta-Furans	-	0.225		0
1,2,3,4,7,8,9-HpCDF	-	0.124	-	-	Total Hexa-Furans	-	0.143		0
OCDF	-	0.483	-	-	Total Hepta-Furans	-	0.124		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	100	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	115	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	118	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	98.6	23.0 - 140	
13C-OCDD	81.2	17.0 - 157	
13C-2,3,7,8-TCDF	108	24.0 - 169	
13C-1,2,3,7,8-PeCDF	100	24.0 - 185	
13C-2,3,4,7,8-PeCDF	93.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	123	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	99.6	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	102	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	109	26.0 - 138	
13C-OCDF	79.1	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 101 35.0 - 197

Analyst: k
Date: 9/29/03

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Reviewed by: [Signature]
Date: 9/30/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2246-002-OPR
Client ID: OPR
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: X0079
Acquired: 26-SEP-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.69	6.70 - 15.8
1,2,3,7,8-PeCDD	49.3	35.0 - 71.0
1,2,3,4,7,8-HxCDD	47.1	35.0 - 82.0
1,2,3,6,7,8-HxCDD	48.0	38.0 - 67.0
1,2,3,7,8,9-HxCDD	43.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50.6	35.0 - 70.0
OCDD	93.8	78.0 - 144
2,3,7,8-TCDF	9.40	7.50 - 15.8
1,2,3,7,8-PeCDF	49.6	40.0 - 67.0
2,3,4,7,8-PeCDF	48.9	34.0 - 80.0
1,2,3,4,7,8-HxCDF	49.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50.6	42.0 - 65.0
2,3,4,6,7,8-HxCDF	49.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	49.2	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50.6	39.0 - 69.0
OCDF	99.2	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	107	20.0 - 175
13C-1,2,3,7,8-PeCDD	91.8	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	113	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	112	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	93.7	26.0 - 166
13C-OCDD	74.8	13.0 - 198
13C-2,3,7,8-TCDF	107	22.0 - 152
13C-1,2,3,7,8-PeCDF	96.3	21.0 - 192
13C-2,3,4,7,8-PeCDF	93.5	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	123	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	118	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	110	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	97.5	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	97.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	104	20.0 - 186
13C-OCDF	74.9	13.0 - 198

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	90.2	31.0 - 191

Analyst: 8
Date: 9/29/03

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Date: 9/30/03

EPA Method 1613
PCDD/F



FAL ID: 2199-001-MS/MSD
Client ID: C4-SNS03
Matrix: Solid
% Solids: 99.2

Date Extracted: 8/25/03
Date Received: 8/20/03
Sample Amount: 10.07 g
MS Amount: 10.03 g
MSD Amount: 10.11 g

ICal: PCDDFAL1-6-13
Batch No.: X0079
Units: pg/g

MS Acquired: 2-SEP-03
MSD Acquired: 2-SEP-03
GC Column: DB5

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	170	170	0.00	
1,2,3,7,8-PeCDD	1000	-	848	889	4.72	
1,2,3,4,7,8-HxCDD	1000	-	889	903	1.56	
1,2,3,6,7,8-HxCDD	1000	-	866	879	1.49	
1,2,3,7,8,9-HxCDD	1000	-	923	898	6.90	
1,2,3,4,6,7,8-HpCDD	1000	97.8	965	1030	7.22	
OCDD	2000	827	2470	2660	10.9	
2,3,7,8-TCDF	200	-	159	168	5.50	
1,2,3,7,8-PeCDF	1000	-	910	937	2.92	
2,3,4,7,8-PeCDF	1000	-	929	926	0.320	
1,2,3,4,7,8-HxCDF	1000	-	890	914	2.66	
1,2,3,6,7,8-HxCDF	1000	-	932	958	2.75	
2,3,4,6,7,8-HxCDF	1000	-	941	962	2.21	
1,2,3,7,8,9-HxCDF	1000	-	900	953	5.72	
1,2,3,4,6,7,8-HpCDF	1000	38.3	996	1040	4.49	
1,2,3,4,7,8,9-HpCDF	1000	-	959	973	1.45	
OCDF	2000	110	2000	2070	3.64	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	116	112	119	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	121	123	124	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	93.7	90.0	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	104	100	93.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	111	105	96.7	25.0 - 150	
13C-OCDD	4000	97.5	92.8	88.9	25.0 - 150	
13C-2,3,7,8-TCDF	2000	112	122	111	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	116	118	112	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	111	115	113	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	102	97.2	91.9	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	100	99.9	92.8	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	103	97.6	91.4	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	107	110	101	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	103	99.9	92.1	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	133	129	117	25.0 - 150	
13C-OCDF	4000	100	96.0	88.6	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	107	105	105	25.0 - 150	

Analyst:
Date: 9/30/03

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Reviewed by:
Date: 9/30/03

EPA Method 1613
PCDD/F



FAL ID: 2246-002-SA
Client ID: S-9W-2.5
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 9.95 g
% Solids: 84.5

Ical: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 29-SEP-03
WHO TEQ: 238

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	2.76	-		2.76					
1,2,3,7,8-PeCDD	22.3	-		22.3					
1,2,3,4,7,8-HxCDD	35.0	-		3.50					
1,2,3,6,7,8-HxCDD	546	-		54.6	Total Tetra-Dioxins	6.33	-		4
1,2,3,7,8,9-HxCDD	42.5	-		4.25	Total Penta-Dioxins	45.7	-		6
1,2,3,4,6,7,8-HpCDD	10100	-		101	Total Hexa-Dioxins	1490	-		7
OCDD	46800	-		4.68	Total Hepta-Dioxins	16700	-		2
2,3,7,8-TCDF	-	0.480		-					
1,2,3,7,8-PeCDF	3.03	-		0.152					
2,3,4,7,8-PeCDF	3.20	-		1.60					
1,2,3,4,7,8-HxCDF	53.4	-		5.34					
1,2,3,6,7,8-HxCDF	13.7	-		1.37					
2,3,4,6,7,8-HxCDF	37.8	-		3.78	Total Tetra-Furans	5.92	-		3
1,2,3,7,8,9-HxCDF	19.2	-		1.92	Total Penta-Furans	66.1	-		10
1,2,3,4,6,7,8-HpCDF	2720	-		27.2	Total Hexa-Furans	2510	-	D,M	9
1,2,3,4,7,8,9-HpCDF	284	-		2.84	Total Hepta-Furans	13700	-		4
OCDF	9530	-		0.953					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	110	25.0 - 164	
13C-1,2,3,7,8-PeCDD	90.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	110	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	109	23.0 - 140	
13C-OCDD	109	17.0 - 157	
13C-2,3,7,8-TCDF	105	24.0 - 169	
13C-1,2,3,7,8-PeCDF	83.6	24.0 - 185	
13C-2,3,4,7,8-PeCDF	86.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	126	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	103	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	115	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	114	26.0 - 138	
13C-OCDF	107	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 102 35.0 - 197

Analyst: 8
Date: 9/29/03

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Date: 9/30/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2246-004-SA
Client ID: S-11S-2.5
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 9.97 g
% Solids: 84.5

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 29-SEP-03
WHO TEQ: 650

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	18.3	-		18.3					
1,2,3,7,8-PeCDD	66.3	-		66.3					
1,2,3,4,7,8-HxCDD	64.6	-		6.46					
1,2,3,6,7,8-HxCDD	1280	-		128	Total Tetra-Dioxins	25.0	-		5
1,2,3,7,8,9-HxCDD	97.1	-		9.71	Total Penta-Dioxins	116	-		8
1,2,3,4,6,7,8-HpCDD	27400	-		274	Total Hexa-Dioxins	3390	-		7
OCDD	144000	-	*	14.4	Total Hepta-Dioxins	44800	-		2
2,3,7,8-TCDF	2.94	-	F	0.294					
1,2,3,7,8-PeCDF	14.5	-		0.726					
2,3,4,7,8-PeCDF	16.1	-		8.04					
1,2,3,4,7,8-HxCDF	146	-		14.6					
1,2,3,6,7,8-HxCDF	46.6	-		4.66					
2,3,4,6,7,8-HxCDF	117	-		11.7					
1,2,3,7,8,9-HxCDF	55.0	-		5.50	Total Tetra-Furans	46.3	-		12
1,2,3,4,6,7,8-HpCDF	7750	-		77.5	Total Penta-Furans	252	-		9
1,2,3,4,7,8,9-HpCDF	653	-		6.53	Total Hexa-Furans	7580	-		9
OCDF	32900	-		3.29	Total Hepta-Furans	41400	-		4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	105	25.0 - 164	
13C-1,2,3,7,8-PeCDD	88.7	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	112	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	110	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	123	23.0 - 140	
13C-OCDD	75.8	17.0 - 157	*
13C-2,3,7,8-TCDF	103	24.0 - 169	
13C-1,2,3,7,8-PeCDF	91.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	86.0	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	132	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	113	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	99.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	121	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	116	26.0 - 138	
13C-OCDF	125	17.0 - 157	

* = Dilution

Acquired: 26-SEP-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 93.7 35.0 - 197

Acquired: 01-OCT-03

Analyst: 6
Date: 9/30/03

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Reviewed by: [Signature]

Date: 9/30/03

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Tetra Tech/MFG, Inc.

000009 of 000013

EPA Method 1613
PCDD/F



FAL ID: 2246-005-SA
Client ID: S-12S-2.5
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 9.94 g
% Solids: 93.5

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 27-SEP-03
WHO TEQ: 1150

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	15.8	-		15.8					
1,2,3,7,8-PeCDD	128	-		128					
1,2,3,4,7,8-HxCDD	124	-		12.4					
1,2,3,6,7,8-HxCDD	2400	-		240	Total Tetra-Dioxins	78.5	-		7
1,2,3,7,8,9-HxCDD	199	-		19.9	Total Penta-Dioxins	554	-		7
1,2,3,4,6,7,8-HpCDD	43800	-		438	Total Hexa-Dioxins	7100	-		8
OCDD	286000	-	*	28.6	Total Hepta-Dioxins	76000	-		2
2,3,7,8-TCDF	10.0	-	F	1.00					
1,2,3,7,8-PeCDF	38.8	-		1.94					
2,3,4,7,8-PeCDF	49.6	-		24.8					
1,2,3,4,7,8-HxCDF	309	-		30.9					
1,2,3,6,7,8-HxCDF	88.6	-		8.86					
2,3,4,6,7,8-HxCDF	234	-		23.4					
1,2,3,7,8,9-HxCDF	156	-		15.6	Total Tetra-Furans	117	-		12
1,2,3,4,6,7,8-HpCDF	13900	-		139	Total Penta-Furans	788	-		12
1,2,3,4,7,8,9-HpCDF	1100	-		11.0	Total Hexa-Furans	15900	-		11
OCDF	59400	-		5.94	Total Hepta-Furans	71000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	104	25.0 - 164	
13C-1,2,3,7,8-PeCDD	93.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	109	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	102	23.0 - 140	
13C-OCDD	91.4	17.0 - 157	*
13C-2,3,7,8-TCDF	108	24.0 - 169	
13C-1,2,3,7,8-PeCDF	104	24.0 - 185	
13C-2,3,4,7,8-PeCDF	102	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	116	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	115	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	102	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	102	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	102	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 138	
13C-OCDF	80.9	17.0 - 157	

* = Dilution

Acquired: 26-SEP-03

Cleanup Surrogate

F = DB225 Confirmation

37Cl-2,3,7,8-TCDD 87.5 35.0 - 197

Acquired: 01-OCT-03

Analyst: [Signature]
Date: 9/30/03

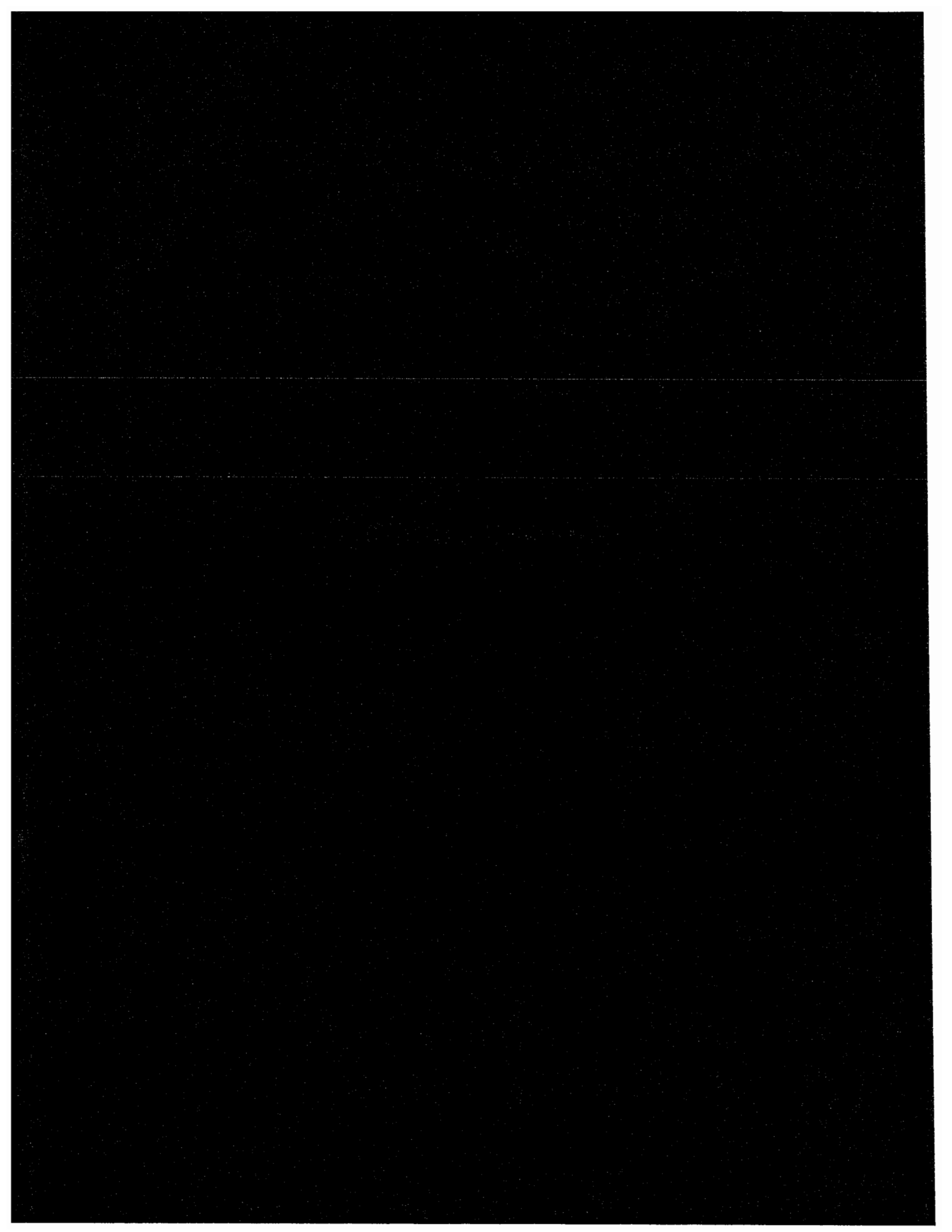
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Reviewed by: [Signature]
Date: 9/30/03

OCT 03 2003

Tetra Tech/MFG, Inc.

000010 of 000013



224/10

MFG, INC. CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46181**

CA - Irvine 17770 Carwright Rd. Irvine, CA 92614 Tel: (949) 253-2951 Fax: (949) 253-2954
 CA - San Francisco 180 Howard St. Ste. 200 San Francisco, CA 94105 Tel: (415) 495-7110 Fax: (415) 495-7107
 CO - Boulder 4900 Pearl East Cir. Ste. 300W Boulder, CO 80301 Tel: (303) 447-1823 Fax: (303) 447-1836
 ID - Oshurn PO Box 30 Wallace, ID 83873 Tel: (208) 556-6811 Fax: (208) 556-7271
 MT - Missoula PO Box 7158 Missoula, MT 59807 Tel: (406) 728-4600 Fax: (406) 728-4698
 NJ - Edison 1090 King Georges Post Rd. Edison, NJ 08837 Tel: (732) 738-5707 Fax: (732) 738-5711
 OR - Portland 020 SW Taylor St. Ste. 530 Portland, OR 97205 Tel: (503) 228-8616 Fax: (503) 228-8631
 PA - Pittsburgh 800 Vinal St. Bldg. A Pittsburgh, PA 15212 Tel: (412) 321-2278 Fax: (412) 321-2283
 TX - Austin 4807 Spicewood Springs Rd. Bldg. IV 4th Floor Austin, TX 78759 Tel: (512) 338-1667 Fax: (512) 338-1331
 TX - Houston 12337 Jones Rd. Ste. 230 Houston, TX 77070 Tel: (281) 890-5068 Fax: (281) 890-5044
 TX - Port Lavaca 320 East Main Port Lavaca, TX 77979 Tel: (361) 552-8839 Fax: (361) 553-6115
 TX - Texarkana 4532 Summerhill Rd. Texarkana, TX 75503 Tel: (903) 794-0625 Fax: (903) 794-0626
 WA - Seattle 19203 36th Ave. W. Ste. 100 Lynnwood, WA 98036 Tel: (425) 921-4000 Fax: (425) 921-4040

PROJECT NO: **030229.11** PROJECT NAME: **SPI-Arcator** PAGE: **3** OF: **4**
 SAMPLER (Signature): *Orin Pecher* PROJECT MANAGER: **Ed Cont.** DATE: **9/17/03**
 METHOD OF SHIPMENT: **Fed Ex** CARRIER/WAYBILL NO: _____ DESTINATION: **Frontier**

SAMPLES				ANALYSIS REQUEST							
Field Sample Identification	DATE	TIME	Matrix*	Preservation			Containers		Constituents/Method	Handling	Remarks
				HCl	HNO ₃	H ₂ SO ₄	VOLUME (m/oz)	TYPE*			
S-8W-1.5'	9/16	AM	So			X	6" B	1		HOLD	STANDARD
S-9W-2.5'		AM								X	
S-10S-0.5'		PM								X	
S-11S-2.5'		PM								X	
S-12S-2.5'		PM								X	
RECEIVED											
LABORATORY COMMENTS/CONDITION OF SAMPLES: ACT 082003											
TOTAL NUMBER OF CONTAINERS: 5											

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	DATE	TIME
<i>Orin Pecher</i>	Orin Pecher	9-18-03	11:30
COMPANY		SIGNATURE	
MFG, INC.		<i>K. Zipp</i>	
PRINTED NAME		COMPANY	
K. Zipp		Frontier LABORATORY	

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass DT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **2246**

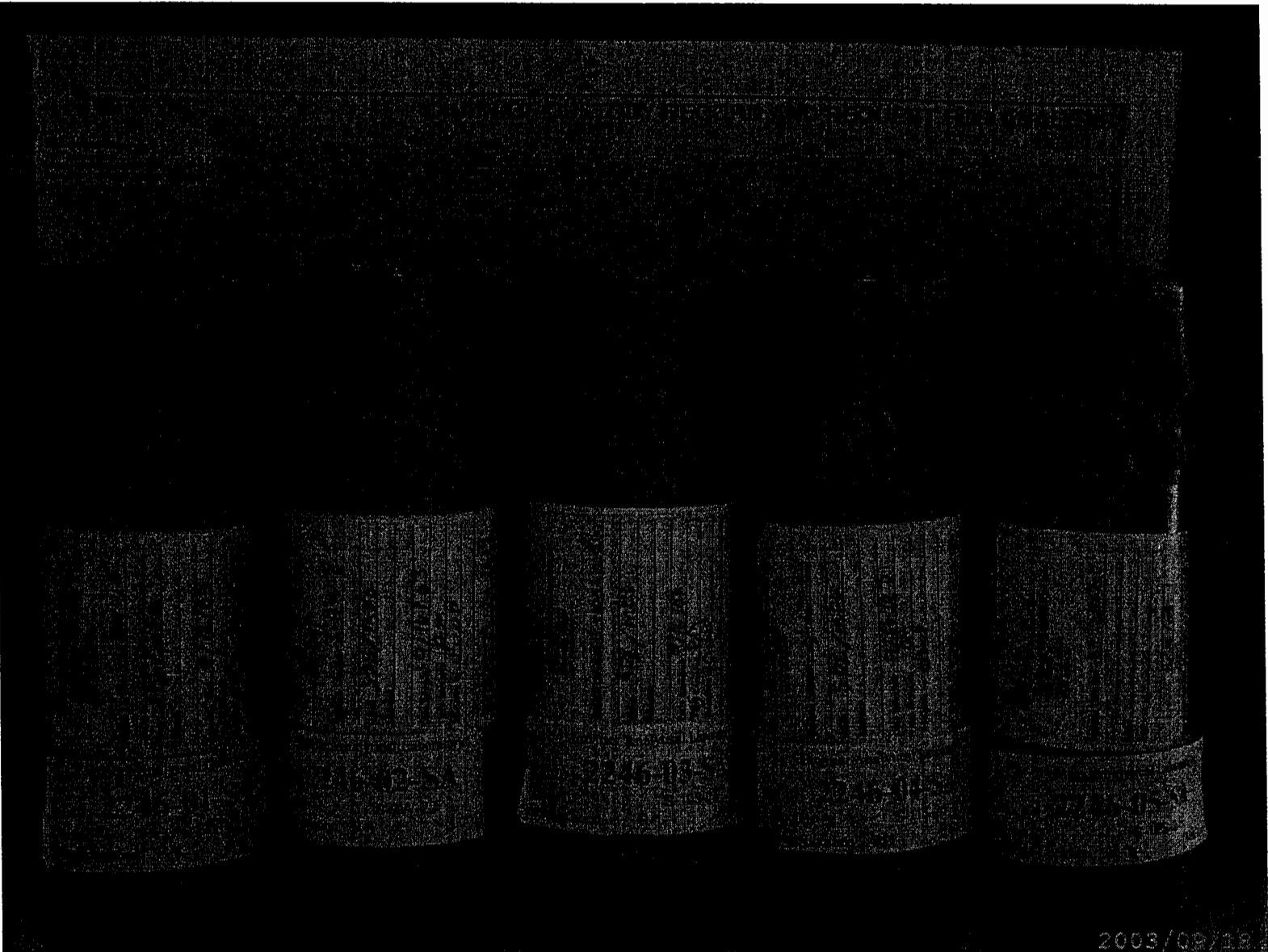
Client:	MFG
Client Project ID:	SPI-Arcata
Date Received:	09/18/2003
Time Received:	11:30 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	5
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Fed-Ex
Tracking Number:	792971593373
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	1
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	09/15/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
Hold samples 1 & 3.	

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2003/09/19

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Tetra Tech/MFG, Inc.



October 2, 2003

FAL Project ID: 2247

2ND PHASE EXCAVATION - 9/2003
B-1 → B-5, RR TIES

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project 2247. This corresponds to your Project No. 030229.11. Five soil samples and one solid sample were received on 9/18/03 in good condition. Of the five soil samples, three were put on hold by MFG, Inc.: 2247-002-SA, 2247-003-SA, and 2247-005-SA. The remaining two soil samples and one solid sample were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Due to high levels of several analytes, one of the soil samples and the solid sample required dilution and reanalysis. All results taken from the dilution and reanalysis are noted with the "*" qualifier. MFG, Inc. requested a turnaround time of 10 business days for project 2247. Frontier Analytical Laboratory successfully fulfilled this request.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains the chain of custody, sample login form and sample photo.

If you have any questions regarding project 2247, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush
Director of Operations

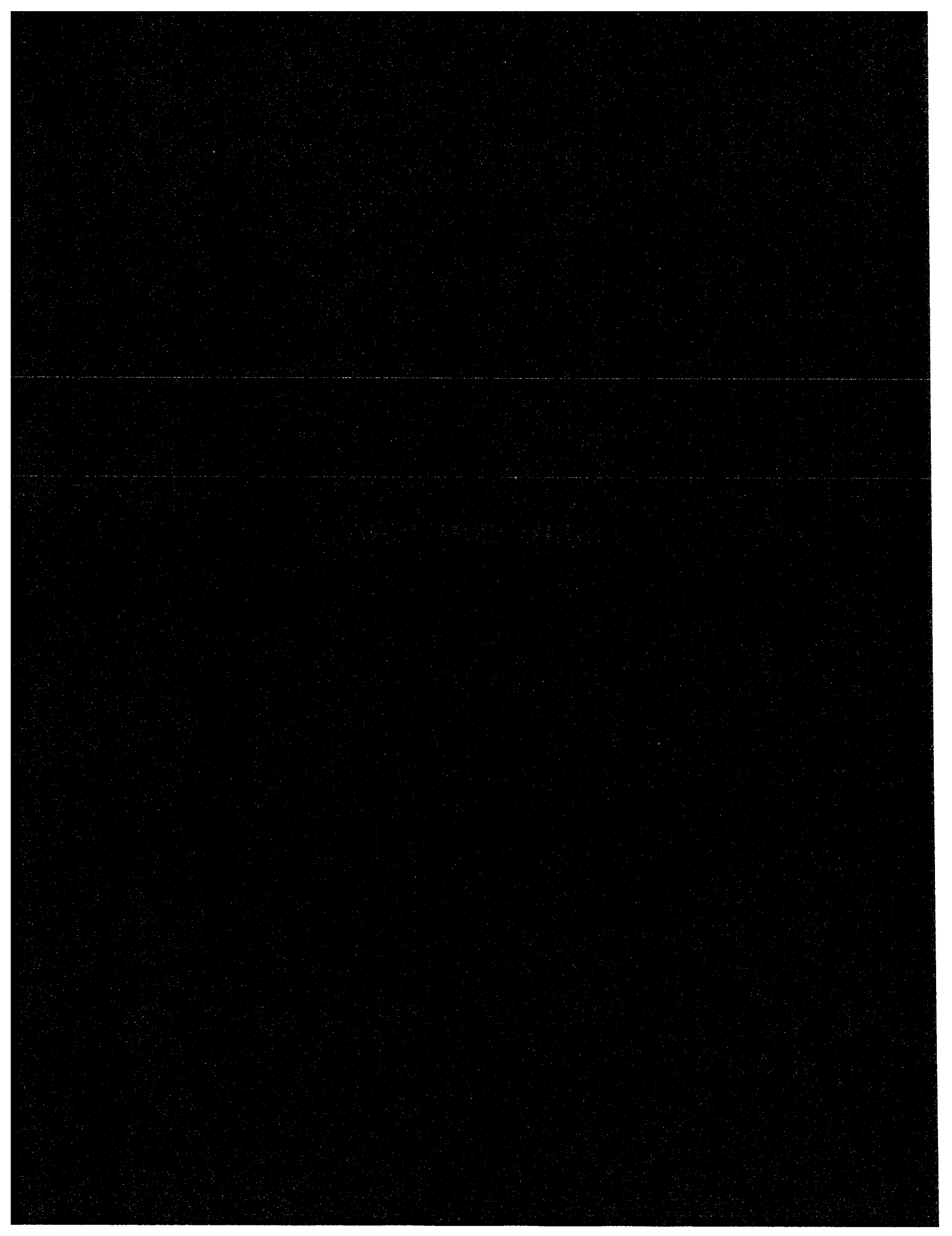
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Tetra Tech/MFG, Inc.

FRONTIER ANALYTICAL LABORATORY
5172 Hillsdale Circle • El Dorado Hills, CA 95762
Tel (916) 934-0900 • Fax (916) 934-0999
dioxin@frontieranalytical.com

000001 of 000013



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2247

Received on: 09/18/2003

Project Due: 10/03/2003 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2247-001-SA	0	SPI-Arcata	B-1-SOUTH	EPA 1613 D/F	Soil	09/14/2003	09:50 am	09/13/2004
2247-002-SA	0	SPI-Arcata	B-2-EAST	EPA 1613 D/F	Soil	09/14/2003	NP	09/13/2004
2247-003-SA	0	SPI-Arcata	B-3-EAST	EPA 1613 D/F	Soil	09/14/2003	NP	09/13/2004
2247-004-SA	0	SPI-Arcata	B-4-WEST	EPA 1613 D/F	Soil	09/15/2003	NP	09/14/2004
2247-005-SA	0	SPI-Arcata	B-5-WEST	EPA 1613 D/F	Soil	09/16/2003	NP	09/15/2004
2247-006-SA	0	SPI-Arcata	RR-TIES	EPA 1613 D/F	Solid	09/16/2003	NP	09/15/2004

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Qualifier Reference Guide

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J[†] Analyte concentration is below calibration range
- M Maximum possible concentration
- NP Not Provided
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection
- Analyte Not Detected

† "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

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Tetra Tech/MFG, Inc.

000003 of 000013

EPA Method 1613/8290 Solid MDL
(Sox/SDS Extraction)



Analyte	ML	MDL
2,3,7,8-TCDD	0.500	0.132
1,2,3,7,8-PeCDD	2.50	0.223
1,2,3,4,7,8-HxCDD	2.50	0.346
1,2,3,6,7,8-HxCDD	2.50	0.381
1,2,3,7,8,9-HxCDD	2.50	0.343
1,2,3,4,6,7,8-HpCDD	2.50	0.318
OCDD	5.00	1.20
2,3,7,8-TCDF	0.500	0.100
1,2,3,7,8-PeCDF	2.50	0.232
2,3,4,7,8-PeCDF	2.50	0.217
1,2,3,4,7,8-HxCDF	2.50	0.114
1,2,3,6,7,8-HxCDF	2.50	0.106
1,2,3,7,8,9-HxCDF	2.50	0.117
2,3,4,6,7,8-HxCDF	2.50	0.147
1,2,3,4,6,7,8-HpCDF	2.50	0.140
1,2,3,4,7,8,9-HpCDF	2.50	0.155
OCDF	5.00	0.498

Project 1370, Extracted 11/04/02; analyzed 11/08/02. Based on 10g sample, pg/g.

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Tetra Tech/MFG, Inc.

000004 of 000013

EPA Method 1613
PCDD/F



FAL ID: 2247-001-OPR
Client ID: OPR
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: NA
Amount: 10.00 g
% Solids: NA

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: ng/mL
MS/MSD Batch No.: X0079
Acquired: 26-SEP-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.69	6.70 - 15.8
1,2,3,7,8-PeCDD	49.3	35.0 - 71.0
1,2,3,4,7,8-HxCDD	47.1	35.0 - 82.0
1,2,3,6,7,8-HxCDD	48.0	38.0 - 67.0
1,2,3,7,8,9-HxCDD	43.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50.6	35.0 - 70.0
OCDD	93.8	78.0 - 144
2,3,7,8-TCDF	9.40	7.50 - 15.8
1,2,3,7,8-PeCDF	49.6	40.0 - 67.0
2,3,4,7,8-PeCDF	48.9	34.0 - 80.0
1,2,3,4,7,8-HxCDF	49.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50.6	42.0 - 65.0
2,3,4,6,7,8-HxCDF	49.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	49.2	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50.6	39.0 - 69.0
OCDF	99.2	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	107	20.0 - 175
13C-1,2,3,7,8-PeCDD	91.8	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	113	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	112	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	93.7	26.0 - 166
13C-OCDD	74.8	13.0 - 198
13C-2,3,7,8-TCDF	107	22.0 - 152
13C-1,2,3,7,8-PeCDF	96.3	21.0 - 192
13C-2,3,4,7,8-PeCDF	93.5	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	123	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	118	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	110	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	97.5	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	97.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	104	20.0 - 186
13C-OCDF	74.9	13.0 - 198

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	90.2	31.0 - 191
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Analyst: ls
Date: 9/29/03

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Reviewed by: [Signature]
Date: 9/30/03

Tetra Tech/MFG, Inc.

**EPA Method 1613
PCDD/F**



FAL ID: 2199-001-MS/MSD
Client ID: C4-SNS03
Matrix: Solid
% Solids: 99.2

Date Extracted: 8/25/03
Date Received: 8/20/03
Sample Amount: 10.07 g
MS Amount: 10.03 g
MSD Amount: 10.11 g

ICat: PCDDFAL1-6-13
Batch No.: X0079
Units: pg/g

MS Acquired: 2-SEP-03
MSD Acquired: 2-SEP-03
GC Column: DB5

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	170	170	0.00	
1,2,3,7,8-PeCDD	1000	-	848	889	4.72	
1,2,3,4,7,8-HxCDD	1000	-	889	903	1.56	
1,2,3,6,7,8-HxCDD	1000	-	866	879	1.49	
1,2,3,7,8,9-HxCDD	1000	-	923	898	6.90	
1,2,3,4,6,7,8-HpCDD	1000	97.8	965	1030	7.22	
OCDD	2000	827	2470	2660	10.9	
2,3,7,8-TCDF	200	-	159	168	5.50	
1,2,3,7,8-PeCDF	1000	-	910	937	2.92	
2,3,4,7,8-PeCDF	1000	-	929	926	0.320	
1,2,3,4,7,8-HxCDF	1000	-	890	914	2.66	
1,2,3,6,7,8-HxCDF	1000	-	932	958	2.75	
2,3,4,6,7,8-HxCDF	1000	-	941	962	2.21	
1,2,3,7,8,9-HxCDF	1000	-	900	953	5.72	
1,2,3,4,6,7,8-HpCDF	1000	38.3	996	1040	4.49	
1,2,3,4,7,8,9-HpCDF	1000	-	959	973	1.45	
OCDF	2000	110	2000	2070	3.64	
Internal Standards						
		% Rec	% Rec	% Rec	QC Limits	
13C-2,3,7,8-TCDD	2000	116	112	119	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	121	123	124	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	101	93.7	90.0	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	104	100	93.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	111	105	96.7	25.0 - 150	
13C-OCDD	4000	97.5	92.8	88.9	25.0 - 150	
13C-2,3,7,8-TCDF	2000	112	122	111	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	116	118	112	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	111	115	113	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	102	97.2	91.9	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	100	99.9	92.8	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	103	97.6	91.4	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	107	110	101	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	103	99.9	92.1	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	133	129	117	25.0 - 150	
13C-OCDF	4000	100	96.0	88.6	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	107	105	105	25.0 - 150	

Analyst: [Signature]
Date: 9/29/03

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OCT 03 2003

Reviewed by: [Signature]
Date: 9/29/03

**EPA Method 1613
PCDD/F**



FAL ID: 2247-001-SA
Client ID: B-1-SOUTH
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 10.02 g
% Solids: 82.9

ICal: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 29-SEP-03
WHO TEQ: 173

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	6.10	-		6.10					
1,2,3,7,8-PeCDD	27.3	-		27.3					
1,2,3,4,7,8-HxCDD	19.6	-		1.96					
1,2,3,6,7,8-HxCDD	318	-		31.8	Total Tetra-Dioxins	28.2	-		6
1,2,3,7,8,9-HxCDD	24.6	-		2.46	Total Penta-Dioxins	225	-		7
1,2,3,4,6,7,8-HpCDD	7320	-		73.2	Total Hexa-Dioxins	1270	-		6
OCDD	43900	-		4.39	Total Hepta-Dioxins	12700	-		2
2,3,7,8-TCDF	0.379	-	J	0.0379					
1,2,3,7,8-PeCDF	2.25	-	J	0.112					
2,3,4,7,8-PeCDF	2.63	-		1.32					
1,2,3,4,7,8-HxCDF	29.5	-		2.95					
1,2,3,6,7,8-HxCDF	8.79	-		0.879					
2,3,4,6,7,8-HxCDF	24.5	-		2.45					
1,2,3,7,8,9-HxCDF	12.2	-		1.22	Total Tetra-Furans	9.71	-		8
1,2,3,4,6,7,8-HpCDF	1430	-		14.3	Total Penta-Furans	58.7	-		11
1,2,3,4,7,8,9-HpCDF	165	-		1.65	Total Hexa-Furans	1760	-		8
OCDF	6880	-		0.688	Total Hepta-Furans	7850	-		4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	107	25.0 - 164	
13C-1,2,3,7,8-PeCDD	95.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	111	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	106	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	107	23.0 - 140	
13C-OCDD	117	17.0 - 157	
13C-2,3,7,8-TCDF	103	24.0 - 169	
13C-1,2,3,7,8-PeCDF	94.4	24.0 - 185	
13C-2,3,4,7,8-PeCDF	89.9	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	129	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	125	26.0 - 123	A
13C-2,3,4,6,7,8-HxCDF	112	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	104	28.0 - 136	
13C-1,2,3,4,6,7,8,9-HpCDF	110	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	117	26.0 - 138	
13C-OCDF	100	17.0 - 157	
Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	101	35.0 - 197	

Analyst: JP
Date: 9/30/03

RECEIVED
OCT 03 2003

Reviewed by: [Signature]
Date: 9/30/03

Tetra Tech/MFG, Inc.

EPA Method 1613
PCDD/F



FAL ID: 2247-004-SA
Client ID: B-4-WEST
Matrix: Soil
Extraction Batch No.: X0096

Date Extracted: 9/25/03
Date Received: 9/18/03
Amount: 9.96 g
% Solids: 78.6

Ical: PCDDFAL2-9-07-03
GC Column: DB5
Units: pg/g
MS/MSD Batch No.: X0079
Acquired: 27-SEP-03
WHO TEQ: 17600

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	55.1	-		55.1					
1,2,3,7,8-PeCDD	996	-		996					
1,2,3,4,7,8-HxCDD	1090	-		109					
1,2,3,6,7,8-HxCDD	55500	-	*	5550	Total Tetra-Dioxins	402	-		16
1,2,3,7,8,9-HxCDD	2440	-		244	Total Penta-Dioxins	3450	-		10
1,2,3,4,6,7,8-HpCDD	575000	-	*	5750	Total Hexa-Dioxins	119000	-	*	8
OCDD	2280000	-	*	228	Total Hepta-Dioxins	891000	-	*	2
2,3,7,8-TCDF	1500	-	F	150					
1,2,3,7,8-PeCDF	1260	-		63.1					
2,3,4,7,8-PeCDF	2030	-		1020					
1,2,3,4,7,8-HxCDF	4320	-		432					
1,2,3,6,7,8-HxCDF	1760	-		176					
2,3,4,6,7,8-HxCDF	6190	-		619					
1,2,3,7,8,9-HxCDF	2210	-		221	Total Tetra-Furans	12100	-		18
1,2,3,4,6,7,8-HpCDF	179000	-	*	1790	Total Penta-Furans	46700	-	*	15
1,2,3,4,7,8,9-HpCDF	10800	-		108	Total Hexa-Furans	291000	-	D,M,*	12
OCDF	429000	-	*	42.9	Total Hepta-Furans	751000	-	*	4

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	125	25.0 - 164	
13C-1,2,3,7,8-PeCDD	117	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	126	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	93.6	23.0 - 140	*
13C-OCDD	36.2	17.0 - 157	*
13C-2,3,7,8-TCDF	116	24.0 - 169	
13C-1,2,3,7,8-PeCDF	109	24.0 - 185	
13C-2,3,4,7,8-PeCDF	108	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	119	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	106	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	109	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	106	28.0 - 143	*
13C-1,2,3,4,7,8,9-HpCDF	99.7	26.0 - 138	
13C-OCDF	70.2	17.0 - 157	*

* = Dilution

Acquired: 26-SEP-03

F = DB225 Confirmation

Acquired: 01-OCT-03

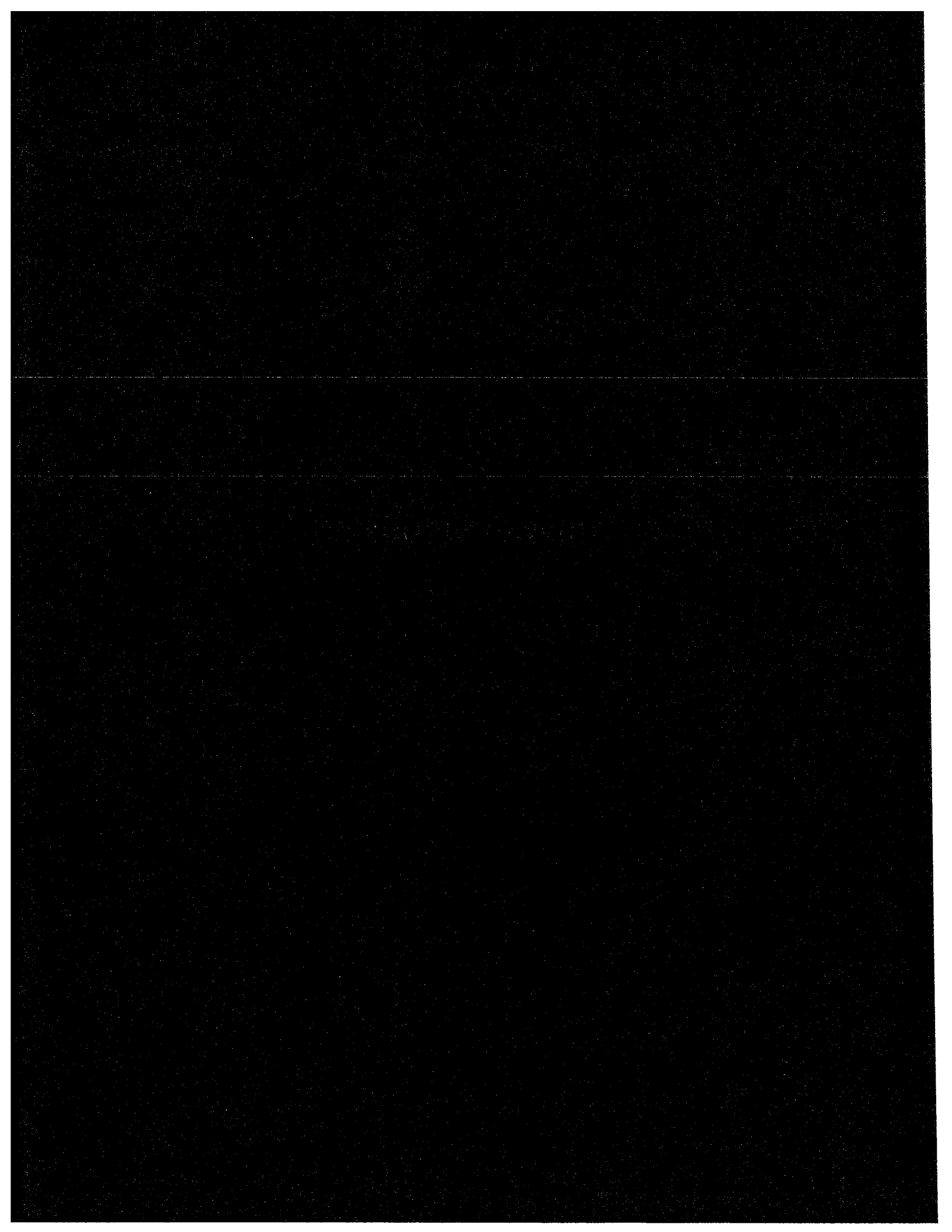
Cleanup Surrogate
37Cl-2,3,7,8-TCDD 113 35.0 - 197

Analyst:
Date: 9/30/03

RECEIVED
OCT 03 2003

Reviewed by:
Date: 9/30/03

Tetra Tech/MFG, Inc.



MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46182**

Arcata Office
875 Crescent Way
Arcata, CA 95521-6741
Phone (707) 826-8430 - FAX (707) 826-8437

CA - Irvine
17770 Cartwright Rd.
Irvine, CA 92614
Tel (949) 253-2951
Fax (949) 253-2954

CA - San Francisco
180 Howard St., Ste. 200
San Francisco, CA 94105
Tel (415) 495-7110
Fax (415) 495-7107

CO - Boulder
4900 Pearl East Cir.
Boulder, CO 80301
Tel (303) 447-1823
Fax (303) 447-1836

ID - Osburn
PO Box 30
Wallace, ID 83873
Tel (208) 556-6811
Fax (208) 556-7271

MT - Missoula
PO Box 7158
Missoula, MT 59807
Tel (406) 728-4600
Fax (406) 728-4698

NJ - Edison
1090 King Georges Post Rd.
Edison, NJ 08837
Tel (732) 738-5707
Fax (732) 738-5711

OR - Portland
1020 SW Taylor St.
Ste. 530
Portland, OR 97205
Tel (503) 228-8616
Fax (503) 228-8631

PA - Pittsburgh
800 Vinal St., Bldg. A
Pittsburgh, PA 15212
Tel (412) 321-2278
Fax (412) 321-2283

TX - Austin
4807 Spicewood Springs Rd.
Blgd. IV, 1st Floor
Austin, TX 78759
Tel (512) 338-1667
Fax (512) 338-1331

TX - Houston
12337 Jones Rd.
Ste. 230
Houston, TX 77070
Tel (281) 890-5068
Fax (281) 890-5044

TX - Port Lavaca
320 East Main
Port Lavaca, TX 77979
Tel (361) 552-8839
Fax (361) 553-6115

TX - Texarkana
4532 Summerhill Rd.
Texarkana, TX 75503
Tel (903) 794-0625
Fax (903) 794-0626

WA - Seattle
19203 36th Ave. W.
Ste. 100
Lynnwood, WA 98036
Tel (425) 921-4000
Fax (425) 921-4040

PROJECT NO: 030229.11 PROJECT NAME: SPI-Arcata PAGE: 4 OF: 4
 SAMPLER (Signature): Dufflon PROJECT MANAGER: Ed Conti DATE: 9/17/03
 METHOD OF SHIPMENT: FedEx CARRIER/WAYBILL NO.: _____ DESTINATION: Frontier Analytical

SAMPLES				ANALYSIS REQUEST															
Field Sample Identification	DATE	TIME	Matrix*	PRESERVATION		CONTAINERS		CONSTITUENTS/METHOD	HANDLING			REMARKS							
				HCl	HNO ₃	H ₂ SO ₄	COLD		FILTRATION*	VOLUME (ml/oz)	TYPE*		NO.	HOLD	RUSH	STANDARD			
B-1-South	9/14	9:30 AM	So			X													
B-2-East	9/14	AM																	
B-3-East	9/14	AM																	
B-4-West	9/15	AM																	
B-5-West	9/16	AM																	
RR-Ties	9/16	PM	OT																
Temp Blank	9/14	AM	Ag																
				TOTAL NUMBER OF CONTAINERS				LABORATORY COMMENTS/CONDITION OF SAMPLES				RECEIVED							

RELINQUISHED BY: _____ RECEIVED BY: UC103ZU03

SIGNATURE: Dufflon PRINTED NAME: Orin Poble COMPANY: MFG, Inc.

SIGNATURE: K. Zipp PRINTED NAME: Tetra Tech/MEG, Inc. COMPANY: LABORATORY

DATE: 9/17/03 TIME: 3:30

DATE: 9-18-03 TIME: 11:30

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered
 DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 2247

Client:	MFG
Client Project ID:	SPI-Arcata
Date Received:	09/18/2003
Time Received:	11:30 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	6
Duplicates:	0
Storage Location:	R1

Method of Delivery:	Fed-Ex
Tracking Number:	792971593373
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	1
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	09/13/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	
Hold samples 2,3 & 5.	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="margin: 0;">RECEIVED</p> <p style="margin: 0;">OCT 03 2003</p> </div>



RECEIVED

OCT 03 2003

Tetra Tech/MFG, Inc.

D-9 Third Phase of Excavation Samples



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

3RD PHASE EXCAVATION

10 November 2003

Geomatrix Consultants

Attn: Geomatrix Consultants

2101 Webster Street, 12th Floor

Oakland, CA 94612

RE: SPI - (GeoMatrix)

Work Order: A311137

Enclosed are the results of analyses for samples received by the laboratory on 11/06/03 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece For Sheri L. Speaks
Project Manager



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 1 of 4

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 13:53
Project No: 9329.000/ 11
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311137	11/06/2003 15:55	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-30-1.5	A311137-01	Soil	11/06/03 10:10	11/06/03 15:55
S-31-5.5	A311137-02	Soil	11/06/03 10:45	11/06/03 15:55

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/10/2003



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 2 of 4

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 13:53
Project No: 9329.000/ 11
Project ID: SPI - (GeoMatrix)

Order Number A311137	Receipt Date/Time 11/06/2003 15:55	Client Code GEOMAT	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-30-1.5 (A311137-01)		Sample Type: Soil			Sampled: 11/06/03 10:10		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AK31007	11/07/03	11/07/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		95.2 %	23-140
S-31-5.5 (A311137-02)		Sample Type: Soil			Sampled: 11/06/03 10:45		
Chlorinated Phenols by Canadian Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AK31007	11/07/03	11/07/03	1	ND mg/kg	1.0
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0
Pentachlorophenol	"	"	"	"	"	ND "	1.0
<i>Surrogate: Tribromophenol</i>	"	"	"	"		71.8 %	23-140

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/10/2003



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CHEMICAL EXAMINATION REPORT

Page 3 of 4

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 13:53
Project No: 9329.000/ 11
Project ID: SPI - (GeoMatrix)

Order Number A311137	Receipt Date/Time 11/06/2003 15:55	Client Code GEOMAT	Client PO/Reference
-------------------------	---------------------------------------	-----------------------	---------------------

SourceResult

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK31007 - Solvent Extraction										
Blank (AK31007-BLK1)										
Prepared & Analyzed: 11/07/03										
2,4,6-Trichlorophenol	ND	1.0	mg/kg							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.109		"	0.124		87.9	23-140			
LCS (AK31007-BS1)										
Prepared & Analyzed: 11/07/03										
2,4,6-Trichlorophenol	0.0192	1.0	mg/kg	0.0250		76.8	32-116			
2,3,5,6-Tetrachlorophenol	0.0133	1.0	"	0.0250		53.2	18-80			
2,3,4,6-Tetrachlorophenol	0.0166	1.0	"	0.0250		66.4	28-89			
2,3,4,5-Tetrachlorophenol	0.0160	1.0	"	0.0250		64.0	54-85			
Pentachlorophenol	0.0127	1.0	"	0.0250		50.8	17-85			
Surrogate: Tribromophenol	0.0790		"	0.124		63.7	23-140			
LCS Dup (AK31007-BSD1)										
Prepared & Analyzed: 11/07/03										
2,4,6-Trichlorophenol	0.0173	1.0	mg/kg	0.0250		69.2	32-116	10.4	50	
2,3,5,6-Tetrachlorophenol	0.0155	1.0	"	0.0250		62.0	18-80	15.3	50	
2,3,4,6-Tetrachlorophenol	0.0197	1.0	"	0.0250		78.8	28-89	17.1	50	
2,3,4,5-Tetrachlorophenol	0.0193	1.0	"	0.0250		77.2	54-85	18.7	50	
Pentachlorophenol	0.0140	1.0	"	0.0250		56.0	17-85	9.74	50	
Surrogate: Tribromophenol	0.0970		"	0.124		78.2	23-140			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/10/2003



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 4 of 4

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 13:53
Project No: 9329.000/ 11
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311137	11/06/2003 15:55	GEOMAT	

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
PQL Practical Quantitation Limit

1-8

Chain-of Custody Record

014537

Date: 11/6/03 Page 1 of 1

Project No.: 9329.000/11

Samplers (Signature):

Ross Steenson

ANALYSES

- EPA Method 8021 (Full Scan)
- EPA Method 8021 (HAL, VOCs only)
- EPA Method 8021 (BETX only)
- EPA Method 8260
- EPA Method 8270 (Full Scan)
- EPA Method 8270 (SIM (PAHS only))
- Method 8015m (Gasoline)
- Method 8015m (Diesel)
- Method 8015m (Motor Oil)
- Silica Gel Cleanup
- CHLOROPHENOLS CAN. PULP METHOD

Date	Time	Sample Number
11/6/03	1010	S-30-1.5
11/6/03	1045	S-31-5.5

Additional Comments
Bill to Sierra Pacific Industries. Arcata Sawmill site

Rec'd - 2 soil tubes/1/1/1

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
S			X	1
S			X	1

REMARKS

Laboratory: ALPHA ANALYTICAL

Turnaround Time: 48 hours

Results to: ROSS STEENSON

Total No. of Containers: 2

Relinquished by (Signature): *Ross Steenson*
 Date: 11/6/03
 Printed Name: ROSS STEENSON
 Time: 1555
 Company: GEOMATRIX

Received by:
 Date:
 Printed Name:
 Company:

Relinquished by (Signature): *Leslie Chuan*
 Date: 11/6/03
 Printed Name: LESLIE CHUAN
 Time: 1555
 Company: Alpha Labs

Received by:
 Date:
 Printed Name:
 Company:

Relinquished by (Signature):
 Date:
 Printed Name:
 Company:
 Received by:
 Date:
 Printed Name:
 Company:

Method of Shipment: Drop-off
 Laboratory Comments and Log No.: A311137

Geomatrix Consultants
 2101 Webster Street, 12th Floor • Oakland, CA 94612
 Phone: 510-663-4100 Fax: 510-663-4141

APPENDIX E

Waste Disposal Documentation



alpha

Alpha Analytical Laboratories Inc

208 Mason St. Ukiah, California 95482

e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

23 July 2003

MFG, Inc - Arcata
Attn: Orrin Plocher
875 Crescent Way
Arcata, CA 95521
RE: SPI - Arcata
Work Order: A307300

Enclosed are the results of analyses for samples received by the laboratory on 07/10/03 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Karen A. Daly
Project Manager

RECEIVED
JUL 28 2003
Tetra Tech/MFG, Inc.



Alpha

Alpha Analytical Laboratories Inc

208 Mason St. Ukiah, California 95482

e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 1 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/23/03 12:06
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A307300	07/10/2003 17:45	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Wood Composite	A307300-01	Other (W)	07/09/03 17:20	07/10/03 17:45

RECEIVED
JUL 28 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Nena M. Burgess For Karen A. Daly
Project Manager

7/23/03



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 2 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/23/03 12:06
Project No: 030229.11
Project ID: SPI - Arcata

Order Number Receipt Date/Time Client Code Client PO/Reference
A307300 07/10/2003 17:45 MFGARC

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Wood Composite (A307300-01)		Sample Type: Other (W)			Sampled: 07/09/03 17:20		
TCLP Chlorinated Phenols by Canadian Pulp Method							
Pentachlorophenol	EnvCan	AG32118	07/15/03	07/19/03	1	7700 ug/l	1.0
<i>Surrogate Tribromophenol</i>	"	"	"	"		82.7 %	79-119

RECEIVED
JUL 28 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Nena M. Burgess For Karen A. Daly
Project Manager

7/23/03



Alpha Analytical Laboratories Inc

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 3 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/23/03 12:06
Project No: 030229.11
Project ID: SPI - Arcata

Order Number A307300 Receipt Date/Time 07/10/2003 17:45 Client Code MFGARC Client PO/Reference

TCLP Chlorinated Phenols by Canadian Pulp Method - Quality Control

Table with columns: Analyte(s), Result, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Flag. Includes sections for Blank (AG32118-BLK1), LCS (AG32118-BS1), and LCS Dup (AG32118-BSD1).

RECEIVED
JUL 28 2003
Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Signature of Nena M. Burgess For Karen A. Daly
Project Manager
7/23/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 4 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 07/23/03 12:06
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A307300	07/10/2003 17:45	MFGARC	

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
PQL Practical Quantitation Limit

RECEIVED
JUL 28 2003
Tetra Tech/MFG, Inc.

3.9

875 Crescent Way

Arcata Office
4900 Pearl East Circle
Arcata, CA 95521-5817
Tel (707) 826-8430
Fax (707) 826-8437

Irvine Office
17770 Carwright Road
Suite 500
Irvine, CA 92614-5850
Tel (949) 253-2951
Fax (949) 253-2954

Osburn Office
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Waukegan, IL 60087
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Fax (815) 566-7271

San Francisco Office
180 Howard Street, Suite 200
San Francisco, CA 94105-1617
Phone (415) 495-7110 - Fax (415) 495-7107

Seattle Office
19203 36th Avenue W
Suite 101
Lynnwood, WA 98036-5707
Tel (425) 921-4000
Fax (425) 921-4040

COC No. 43302

MFG, INC.
CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

PROJECT NO: 030229.11

PROJECT NAME: SPI - Arcata Green Chain

PAGE: 1 OF 1

SAMPLER (Signature): *Matt Hillgard*

PROJECT MANAGER: Orrin Plocher

DATE: 7/10/03

METHOD OF SHIPMENT: Courier

CARRIER/WAYBILL NO: _____

DESTINATION: Alpha

SAMPLES

ANALYSIS REQUEST

Field Sample Identification	Sample		Preservation			Containers		Constituents/Method			Handling		Remarks		
	DATE	TIME	HCl	HNO ₃	H ₂ SO ₄	COLD	FILTRATION*	VOLUME (ml/oz)	TYPE*	NO	PCP/TCP	Dioxin/Furan		RUSH	HOLD
* Pit Under 2nd Slab	7/9	1705 50		X		X		4oz	G	1	X	X	X		Unlabeled Seal intact
* Pit Under 2nd Slab	7/9	1704 50		X		X		4oz	G	1	X	X	X		PCP/TCP by oxidation
Pit Bottom	7/9	1700 50		X		X		4oz	G	1	X	X	X		Pulp Method
Pit Bottom	7/9	1700 50		X		X		4oz	G	1	X	X	X		
Wood Composite	7/9	1720 0T		X		X		4oz	G	1	X	X	X		Dioxin/Furan by Method 1613
															email to.
															orrim.plocher@mfginc.com
TOTAL NUMBER OF CONTAINERS											5		LABORATORY COMMENTS/CONDITION OF SAMPLES		Cooler Temp

RECEIVED
JUL 28 2003
Tetra Tech, Inc.

RECEIVED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<i>Matt Hillgard</i>	Matt Hillgard	MFG	7/10/03	1:25	<i>J. Matthews</i>	J. Matthews	ALPHA
<i>J. Matthews</i>	J. Matthews	Alpha	7/10/03	15:45	<i>K. Daly</i>	K. Daly	ALPHA
				17:45			LABORATORY

*KEY Matrix A0 - aqueous MA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers P - plastic G - glass T - teflon B - brass OT - other Filtration F - filtered U - unfiltered
DISTRIBUTION PINK Field Copy YELLOW Laboratory Copy WHITE Return to Originator

*See COC A 307295



Alpha

Alpha Analytical Laboratories Inc

208 Mason St. Ukiah, California 95482

e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

03 October 2003

MFG, Inc - Arcata

Attn: Orrin Plocher

875 Crescent Way

Arcata, CA 95521

RE: SPI - Arcata

Work Order: A309545

Enclosed are the results of analyses for samples received by the laboratory on 09/23/03 16:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Sheri L. Speaks
Project Manager

RECEIVED

OCT 08 2003

Tetra Tech/MFG, Inc.



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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CHEMICAL EXAMINATION REPORT

Page 1 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 10/03/03 13:59
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309545	09/23/2003 16:55	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
"Composite A"	A309545-01	Soil	09/22/03 16:27	09/23/03 16:55
"Composite B"	A309545-02	Soil	09/22/03 16:24	09/23/03 16:55

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Tetra Tech/MFG, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Nena M. Burgess For Sheri L. Speaks
Project Manager

10/3/03



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CHEMICAL EXAMINATION REPORT

Page 2 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 10/03/03 13:59
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309545	09/23/2003 16 55	MFGARC	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
"Composite A" (A309545-01)		Sample Type: Soil			Sampled: 09/22/03 16:27		
Phenols by EPA Method 8041							
Pentachlorophenol	8041	A132602	09/25/03	10/01/03	50	95 mg/kg	10
Surrogate Tribromophenol	"	"	"	10/02/03		116 %	36-122
"Composite B" (A309545-02)		Sample Type: Soil			Sampled: 09/22/03 16:24		
Phenols by EPA Method 8041							
Pentachlorophenol	8041	A132602	09/25/03	10/01/03	100	120 mg/kg	20
Surrogate Tribromophenol	"	"	"	10/02/03		147 %	36-122 S-04

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Nena M. Burgess For Sheri L. Speaks
Project Manager

10/3/03



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CHEMICAL EXAMINATION REPORT

Page 3 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 10/03/03 13:59

Project No: 030229.11

Project ID: SPI - Arcata

Order Number
A309545

Receipt Date/Time
09/23/2003 16:55

Client Code
MFGARC

Client PO/Reference

SourceResult

Phenols by EPA Method 8041 - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AI32602 - EPA 3540C Soxhlet										
Blank (AI32602-BLK1)				Prepared 09/25/03 Analyzed: 09/30/03						
Pentachlorophenol	ND	2.0	mg/kg							
Surrogate Tribromophenol	2.88		"	2.49		116	36-122			
LCS (AI32602-BS1)				Prepared 09/25/03 Analyzed 10/02/03						
Pentachlorophenol	2.12	2.0	mg/kg	4.00		53.0	50-150			
Surrogate Tribromophenol	2.16		"	2.49		86.7	36-122			
Matrix Spike (AI32602-MS1)				Source: A309545-01 Prepared 09/25/03 Analyzed 10/01/03						
Pentachlorophenol	98.0	80	mg/kg	4.00	95	75.0	50-150			
Surrogate Tribromophenol	5.68		"	2.49		228	36-122			S-06
Matrix Spike Dup (AI32602-MSD1)				Source: A309545-01 Prepared 09/25/03 Analyzed 10/01/03						
Pentachlorophenol	235	200	mg/kg	4.00	ND	NR	50-150		200	QM-01
Surrogate Tribromophenol	8.44		"	2.49		339	36-122			S-06

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Tetra Tech/MFG, Inc.

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Nena M. Burgess For Sheri L. Speaks
Project Manager

10/3/03



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CHEMICAL EXAMINATION REPORT

Page 4 of 4

MFG, Inc - Arcata
875 Crescent Way
Arcata, CA 95521
Attn: Orrin Plocher

Report Date: 10/03/03 13:59
Project No: 030229.11
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309545	09/23/2003 16:55	MFGARC	

Notes and Definitions

- QM-01 The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix interference.
- S-04 The surrogate recovery for this sample is outside of established control limits possibly due to a sample matrix effect
- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

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OCT 08 2003

Tetra Tech/MFG, Inc.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. **46157**

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Tetra Tech/MFG, Inc.

PROJECT NO: 030229.11 PROJECT NAME: SPI-Arcata PAGE: 1 OF: 2
 SAMPLER (Signature): [Signature] PROJECT MANAGER: Orrin Plocher DATE: 9/22/03
 METHOD OF SHIPMENT: Carrier CARRIERWAYBILL NO: _____ DESTINATION: Alpha Analytical

SAMPLES				ANALYSIS REQUEST						
Field Sample Identification	DATE	TIME	Matrix*	Preservation			Containers	Handling	Remarks	
				HCl	HNO ₃	H ₂ SO ₄				FILTRATION*
597	9/22	16:20	SO			X		HOLD	Lab Composite	
574	↓	1627	↓			↓	NO	RUSH	597, 574, 581 and 601 into one	
581	↓	1610	↓			↓	NO	HOLD	Sample and report as 'Composite A'	
601	↓	1612	↓			↓	NO	HOLD	A309545-1	
TOTAL NUMBER OF CONTAINERS				4				LABORATORY COMMENTS/CONDITION OF SAMPLES		Cooler Temp <u>2.4</u>

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	SIGNATURE	PRINTED NAME	COMPANY
<u>[Signature]</u>	<u>Matt Hillyard</u>	<u>MFG</u>	<u>9/23/03</u>	<u>13:30</u>	<u>[Signature]</u>	<u>J. Matthews</u>	<u>Alpha</u>
<u>[Signature]</u>	<u>J. Matthews</u>	<u>Alpha</u>	<u>9/23/03</u>	<u>16:55</u>	<u>[Signature]</u>	<u>S. Speer</u>	<u>Alpha</u>

10/1/03 - 10:40 - Arcata Carrier - Do SFTC Extractions on samples 1472 and mail water

*KEY Matrix AO - aqueous HA - nonaqueous SO soil SL - sludge P - petroleum A - air OT - other
 CONTAINERS P - plastic G - glass T - teflon B - brass OT - other
 DISTRIBUTION PINK Field Copy YELLOW Laboratory Copy WHITE Return to Originator
 Filtration F - filtered U - unfiltered

MFG, INC.

Arcata Office
 15 Crescent Way
 Arcata, CA 95521-6741
 Phone (707) 826-8430 - FAX (707) 826-8437

CA - Irvine
 17770 Carrwright Rd
 Irvine, CA 92614
 Tel (949) 253-2951
 Fax (949) 253-2954

CA - San Francisco
 160 Howard St, Ste. 200
 San Francisco, CA 94105
 Tel (415) 495-7110
 Fax (415) 495-7107

CO - Boulder
 4900 Pearl East Cir
 Boulder, CO 80301
 Tel (303) 447-1823
 Fax (303) 447-1836

ID - Osburn
 PO Box 30
 Wallace, ID 83873
 Tel (208) 556-6811
 Fax (208) 556-7271

MT - Missoula
 PO Box 7158
 Missoula, MT 59807
 Tel (406) 728-4600
 Fax (406) 728-4698

NJ - Edison
 1090 King Georges Post Rd
 Ste 703
 Edison, NJ 08837
 Tel (732) 738-5707
 Fax (732) 738-5711

WA - Seattle
 19203 36th Ave W
 Ste 100
 Lynnwood, WA 98036
 Tel (425) 921-4000
 Fax (425) 921-4040

OR - Portland
 1020 SW Taylor St
 Ste 530
 Portland, OR 97205
 Tel (503) 228-8616
 Fax (503) 228-8631

PA - Pittsburgh
 800 Vinal St, Bldg. A
 Pittsburgh, PA 15212
 Tel (412) 321-2278
 Fax (412) 321-2263

TX - Austin
 4807 Spicewood Springs Rd
 Bldg. IV, TX 78759
 Austin, TX 78759
 Tel (281) 890-5068
 Fax (281) 890-5044

TX - Houston
 12387 Jones Rd
 Ste 230
 Houston, TX 77070
 Tel (281) 890-5068
 Fax (281) 890-5044

TX - Port Lavaca
 320 East Main
 Port Lavaca, TX 77979
 Tel (361) 552-8839
 Fax (361) 553-6115

TX - Texarkana
 4532 Summerhill Rd
 Texarkana, TX 75503
 Tel (903) 794-0625
 Fax (903) 794-0626

WA - Seattle
 19203 36th Ave W
 Ste 100
 Lynnwood, WA 98036
 Tel (425) 921-4000
 Fax (425) 921-4040

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 46168

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OCT 08 2003

Tetra Tech/MFG, Inc.

PROJECT NO 030229.11 PROJECT NAME: SPI - Arcata PAGE: 2 OF: 2

SAMPLER (Signature): Matt Hillard PROJECT MANAGER: Orvin Plocher DATE: 9/22/03

METHOD OF SHIPMENT: Carrier CARRIERWAYBILL NO: _____ DESTINATION: Alpha Analytical

SAMPLES				ANALYSIS REQUEST			
Field Sample Identification	DATE	TIME	Matrix*	Preservation			Remarks
				HCl	HNO ₃	H ₂ SO ₄	
Sample	DATE	TIME	Filtration*	Containers		Constituents/Method	Handling
				VOLUME (m/oz)	TYPE		
596	9/22	1600	SO				Lab Composite
602	1624			402 G	G		596, 602, 572, 575, and 571 into one
572	1607						sample and report as "Composite B"
575	1617						
571	1605						A309545.2
				TOTAL NUMBER OF CONTAINERS		LABORATORY COMMENTS/CONDITION OF SAMPLES	
				5		Cooler Temp 2.4	

RELINQUISHED BY:			RECEIVED BY:		
SIGNATURE	PRINTED NAME	COMPANY	SIGNATURE	PRINTED NAME	COMPANY
<i>Matt Hillard</i>	Matt Hillard	MFG	<i>J. Matthews</i>	J. Matthews	Alpha
<i>J. Matthews</i>	J. Matthews	Alpha	<i>S. Speaks</i>	S. Speaks	Alpha

*SEZ Matrix AD - aqueous HA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers P - plastic G - glass T - teflon B - brass OT - other Filtration F - filtered U - unfiltered
 DISTRIBUTION PINK Field Copy YELLOW Laboratory Copy WHITE Return to Originator

22011104
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1 Generator's US EPA ID No CA 047403696177		Manifest Document No 04		2 Page 1 of 1		Information in the shaded areas is not required by Federal law					
3 Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA CA 95518 4. Generator's Phone 707 443-3111						A State Manifest Document Number 22817704							
5 Transporter 1 Company Name ASBURY ENVIRONMENTAL SERVICES						6 US EPA ID Number CA 028277036							
7 Transporter 2 Company Name						8 US EPA ID Number							
9 Designated Facility Name and Site Address US ECOLOGY HWY. 95. 12 MILES SO OF BEATTY BEATTY NV 89003						10 US EPA ID Number NV 03000000							
11 US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a. NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE PENTACHLOROPHENOL) b. c. d.						12 Containers No. Type		13 Total Quantity		14 Unit Wt/Vol		15 Waste Number	
						014 DM		07000 P				State 352 EPA/Other NONE	
												State EPA/Other	
												State EPA/Other	
												State EPA/Other	
J. Additional Descriptions for Materials Listed Above 11A) 07-013-0419, 14x55g						K Handling Codes for Wastes Listed Above a. 03 b. c. d.							
15 Special Handling Instructions and Additional Information USE PPE NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 EMERGENCY CONTACT CHEMTREC 1-800-424-9300 Permit # 31215115 PO# 1070022358													
16 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford													
Printed/Typed Name Gordy Amos			Signature Gordy Amos			Month 09		Day 22		Year 03			
17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name GABRIEL ARANDA			Signature Gabriel Aranda			Month 09		Day 22		Year 03			
18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature			Month		Day		Year			
19 Discrepancy Indication Space													
20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name Tom Dymond													
Signature Tom Dymond			Month 10		Day 09		Year 03						

DO NOT WRITE BELOW THIS LINE.

Yellow TSDf SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS
 (Generators who submit hazardous waste for transport out-of state, produce completed copy of this copy and send to DTSC within 30 days)

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA, CALL 1-800-852-7550
 67010630
 GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST		1 Generator's US EPA ID No CA D 0 4 7 4 0 3 6 9 6 1 8 2 9 8		Manifest Document No 2 Page 1 of 1		Information in the shaded areas is not required by Federal law	
3 Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA CA 95518 Generator's Phone (707) 443-3111				A State Manifest Document Number 22818298			
5 Transporter 1 Company Name ASBURY ENVIRONMENTAL SERVICES				6 US EPA ID Number CA D 0 2 8 2 7 7 0 3 6		B State Generator's ID	
7 Transporter 2 Company Name				8 US EPA ID Number		C State Transporter's ID [Reserved]	
9 Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT (KETTLEMAN FACILITY) 35251 OLD SKYLINE ROAD KETTLEMAN CITY CA 93239				10 US EPA ID Number CA T P P P 6 4 6 1 1 7		D Transporter's Phone (800)974-4495	
11 US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a NON RCRA HAZARDOUS WASTE SOLID (SOIL WITH TRACE PENTACHLOROPHENOL)				12 Containers No Type		13 Total Quantity	
				14 Unit Wt/Vol P		15 Waste Number State 611 EPA/Other NONE	
J Additional Descriptions for Materials Listed Above 11A) EC-2228, BIN # 501				K Handling Codes for Wastes Listed Above a 03		b	
15 Special Handling Instructions and Additional Information USE PPE NAERG #: 11A. 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 EMERGENCY CONTACT: CHEMTREC 1-800-424-9300 Proj # 32263126 P01A090024/330							
16 GENERATOR'S CERTIFICATION I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name JAI Hancey		Signature <i>JAI Hancey</i>		Month Day Year 10 27 03			
17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Glen Williams		Signature <i>Glen Williams</i>		Month Day Year 10 27 03			
18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year			
19 Discrepancy Indication Space							
20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name Vicki Schwandt		Signature <i>Vicki Schwandt</i>		Month Day Year 10 31 03			

DO NOT WRITE BELOW THIS LINE.

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 (Generators who submit hazardous waste for transport out of state, produce completed copy of this copy and send to DTSC within 30 days)

22818299
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802 WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No CA 104740369618299		Manifest Document No off		2. Page 1		Information in the shaded areas is not required by Federal law					
3. Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA CA 95518 4. Generator's Phone (707) 443-3111						A. State Manifest Document Number 22818299							
5. Transporter 1 Company Name ASBURY ENVIRONMENTAL SERVICES						6. US EPA ID Number CA 10128277036							
7. Transporter 2 Company Name						8. US EPA ID Number							
9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT (KETTLEMAN FACILITY) 35251 OLD SKYLINE ROAD KETTLEMAN CITY CA 93239						10. US EPA ID Number CA 1000616117							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a. NON RCRA HAZARDOUS WASTE SOLID (SOIL WITH TRACE PENTACHLOROPHENOL) b. c. d.						12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste Number	
						061 CM		26061		P		State 611	
												EPA/Other NONE	
												State	
												EPA/Other	
J. Additional Descriptions for Materials Listed Above 11A) EC-2228, BIN #						K. Handling Codes for Wastes Listed Above: a. 03 b. c. d.							
15. Special Handling Instructions and Additional Information USE PPE NAERG #: 11A. 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 - Proj# 32203226 Pot# 1080024330 EMERGENCY CONTACT: CHEMTREC 1-800-424-9300													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford													
Printed/Typed Name Jay Conway		Signature <i>Jay Conway</i>		Month 10		Day 29		Year 93					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Glen Williams		Signature <i>Glen Williams</i>		Month 10		Day 29		Year 93					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name <i>Jay Conway</i>		Signature <i>Jay Conway</i>		Month		Day		Year					
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name Barbo		Signature <i>Barbo</i>		Month 10		Day 31		Year 93					

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 (Generators who submit hazardous waste for transport out of state, produce completed copy of this copy and send to DTSC within 30 days)

22818296
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1 Generator's US EPA ID No CA 04740369618296		Manifest Document No 01		2 Page 1 of 1		Information in the shaded areas is not required by Federal law					
3 Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA CA 95518 4 Generator's Phone (707) 443-3111						A State Manifest Document Number 22818296							
5 Transporter 1 Company Name ASBURY ENVIRONMENTAL SERVICES						6 US EPA ID Number CA 02082771036							
7 Transporter 2 Company Name						8 US EPA ID Number							
9 Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT (KETTLEMAN FACILITY) 35251 OLD SKYLINE ROAD KETTLEMAN CITY CA 93239						10 US EPA ID Number CA 000646117							
11 US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) a NON RCRA HAZARDOUS WASTE SOLID (SOIL WITH TRACE PENTACHLOROPHENOL) b c d						12 Containers No Type		13 Total Quantity		14 Unit Wt/Vol		15 Waste Number	
						01		249.00		P 800		State 611 EPA/Other NONE	
												State	
												EPA/Other	
												State	
J Additional Descriptions for Materials Listed Above 11A) EC-2228, BIN #						K Handling Codes for Wastes Listed Above a 03 b. c. d.							
15. Special Handling Instructions and Additional Information USE PPE NAERG #: 11A. 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 EMERGENCY CONTACT: CHEMTREC 1-800-424-9300 PROJ # 32213N24 PO# 19080224330													
16 GENERATOR'S CERTIFICATION. I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford													
Printed/Typed Name Jay L. Hancey				Signature <i>Jay L. Hancey</i>				Month Day Year 11/03/03					
17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Cliff Williams				Signature <i>Cliff Williams</i>				Month Day Year 11/10/03					
18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature				Month Day Year					
19 Discrepancy Indication Space													
20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name Vicki Schwandt													
Signature <i>Vicki Schwandt</i>				Month Day Year 11/10/03									

DO NOT WRITE BELOW THIS LINE.

