

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

Geomatrix Consultants



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 J. Seenson

Ross Steenson, C.HG. Senior Hydrogeologist Edward P. Conti, C.E.G., C.HG.

Eduar hut

Principal Geologist

RAS/EPC/abr I:\Doc_Safe\9000s\9329\11-Task\TransmittalLtr.doc

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)

Geomatrix Consultants, Inc. Engineers, Geologists, and Environmental Scientists



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

Prepared by:

Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, California 94612 (510) 663-4100

and

MFG, Inc. 875 Crescent Way Arcata, California 95521 (707 826-8430

December 1, 2003

Project No. 9329.000, Task 11

Geomatrix Consultants



PROFESSIONAL CERTIFICATION

REPORT ON INTERIM REMEDIAL MEASURES: SOURCE AREA REMOVAL Sierra Pacific Industries Arcata Division Sawmill 2593 New Navy Base Road

December 1, 2003 Project No. 9329.000, Task 11

Arcata, California



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.

Edway . Cont

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



TABLE OF CONTENTS

Page

1.0	INTRODUCTION		1
2.0	 BACKGROUND	RY NVESTIGATIONS AND ACTIONS EOLOGY	2 2 3 3
3.0	DISCOVERY OF SEEP NEAR FOR	MER DIP TANK	3
4.0	 FIELD AND LABORATORY MET 4.1 PREPARATORY ACTIVITIES AN 4.2 FIELD SAMPLING 4.3 LABORATORY ANALYSES 4.4 EXCAVATION ACTIVITIES 	HODS d Permits	4 5 6 6
5.0	 SOURCE AREA SAMPLING AND 5.1 STORM WATER AND STORM W 5.2 SAMPLING OF SHALLOW PIT U 5.3 CONCRETE AND UPPER FILL M 5.4 FIRST PHASE OF EXCAVATION 5.5 LOWER FILL MATERIAL SAMP 5.6 DRAINAGE DITCH #2 SAMPLIN 5.7 SOIL BORINGS NEAR MONITO 5.8 SECOND PHASE OF EXCAVATION 5.9 THIRD PHASE OF EXCAVATION 5.10 BACKFILLING AND SITE RESTO 5.11 SUMMARY OF SOURCE AREA D 	GROUND. SITE DESCRIPTION AND HISTORY PREVIOUS ENVIRONMENTAL INVESTIGATIONS AND ACTIONS SITE GEOLOGY AND HYDROGEOLOGY. OVERY OF SEEP NEAR FORMER DIP TANK. AND LABORATORY METHODS. PREPARATORY ACTIVITIES AND PERMITS. FIELD SAMPLING. LABORATORY ANALYSES EXCAVATION ACTIVITIES. CE AREA SAMPLING AND REMOVAL ACTIVITIES. STORM WATER AND STORM WATER SOLIDS SAMPLING SAMPLING OF SHALLOW PIT UNDERNEATH THE SOUTH CATWALK CONCRETE AND UPPER FILL MATERIAL SAMPLING. FIRST PHASE OF EXCAVATION - JUNE AND JULY 2003. LOWER FILL MATERIAL SAMPLING. DRAINAGE DITCH #2 SAMPLING. SOIL BORINGS NEAR MONITORING WELL MW-7. SECOND PHASE OF EXCAVATION – SEPTEMBER 2003. THIRD PHASE OF EXCAVATION – NOVEMBER 2003. BACKFILLING AND SITE RESTORATION. SUMMARY OF SOURCE AREA REMOVAL ACTIVITIES. E MANAGEMENT WASTE PROFILING CHEMICAL ANALYSIS METHODS AND RESULTS. WASTE DISPOSAL. RENCES.	
6.0	WASTE MANAGEMENT 6.1 Waste Profiling Chemical 6.2 Waste Disposal	ANALYSIS METHODS AND RESULTS	17 17 19
7.0	REFERENCES		21



TABLE

 Table 1
 Summary of Chemical Analysis Results for Samples Collected During IRM Activities

FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Plan of Former Green Chain Area with Historical Boring and Well Locations
- Figure 4 Additional IRM Sampling Locations Near the Source Area Excavation
- Figure 5 Former Green Chain Section A-A'
- Figure 6 Final Source Area Excavation Boundary
- Figure 7 Location of Source Area Excavation Samples
- Figure 8 Final Source Area Excavation East and West Wall Profiles
- Figure 9 Final Source Area Excavation North and South Wall Profiles

APPENDIXES

- Appendix A Humboldt County Boring Permit and Boring Logs
- Appendix B California Coastal Commission Emergency Permit
- Appendix C Health and Safety Summary
- Appendix D Laboratory Analytical Reports and Chain-of-Custody Records
 - 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

Appendix E Waste Disposal Documentation



REPORT ON INTERIM REMEDIAL MEASURES: SOURCE AREA REMOVAL

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

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, 55gallon, 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 form 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-footbgs 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 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 ٠ 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 remediationderived 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

	Date	Depth (feet)							Total Dioxins/Furans
Sample ID	Sampled	bgs	Matrix	2,4,6-TCP	2,3,5,6-TCP	2,3,4,6-TCP	2,3,4,5-TCP	РСР	TEQ ¹
	units fo	or soil, sedimer	nt, concrete samples ²	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pg/g
		ur	nits for water samples	(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 BENEAT	TH THE SOU	TH 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-				-	<u>.</u>				
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 SAMPI	ĹE						<u>-</u>	<u>.</u>	
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

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	РСР	Total Dioxins/Furans TEQ ¹
	units f	or soil, sedimer	nt, concrete samples ²	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pg/g
		ur	nits for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(no water samples)
SOIL BORINGS NEAR MONITOR	ING WELL N	IW-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 EXCAVATIO	N <u>WOOD</u> , V	WATER, AND	CONFIRMATION	SOIL SAMP	LES				
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

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



Sierra Pacific Industries Arcata Division Sawmill Arcata, California

Sample ID	Date	Depth (feet)	Matrix	2 4 6-TCP	2356-TCP	2346-TCP	2345-TCP	РСР	Total Dioxins/Furans
Sample ID	unita f	or coil codi	$\frac{1}{1}$	2,4,0-1C1	2,5,5,0-101	2,3,4,0-1 C1	2,5,4,5-1 CI	n Ci	ng/g
	units i	or son, seur	inent, concrete samples	iiig/kg	mg/kg	iiig/kg	iiig/kg	mg/kg	pg/g
			units for water samples	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(no water samples)
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.</p> 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) $\mu g/l = micrograms$ 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 <u>above</u> the surrounding grade.

FIGURES



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



11\03 1124 irm\ fig 02.ai S:\9300\9329\task




31-MAR-2004 08:21 iskolnik s:\9300\9329\task_11\03_1124_irm_fig_04.dgn



31-MAR-2004 08:22 iskolnik s:\9300\9329\task_11\03_1124_irm_fig_05.dgn \\OAKPRNT1\Splash_hold geomtrx.ctb





31-MAR-2004 08:22 iskolnik s:\9300\9329\task_11\03_1124_irm_fig_06.dgn





31-MAR-2004 08:24 iskolnik s:\9300\9329\task_11\03_1124_irm_fig_08.dgn \\OAKPRNT1\Splash_hold geomtrx.ctb



GEOMATRIX



Sierra Pacific Industries Arcata Division Sawmill Arcata, California

Figure

9

APPENDIX A

Humboldt County Boring Permit and Boring Logs

RECEIVED

AUG 2 5 2003

HUMBOLDT COUNTY DIVISION of ENVIRONMENTAL HEALTH - HAZARDO	US MATTER ATCO. DIVISION
WELL and BORING PERMIT APPLICATION	OF ENVIRONMENTAL HEALTH

	Facility ID # 1 NH	U 526	Permit #	27	- <u>I</u>	
Facility Name:	Sierra Pacific Industries, A	cata 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, 6	CA 96049-602	8		AP#:	
RP Name: Sier	ra Pacific Industries				Telephone:	530-378-8000
Address: P.O	. Box 496028 Redding, CA 96	5049-6028				
Consultant: M	IFG, Inc Orrin Plocher				Telephone:	707-826-8430
Address: 875 (Crescent Way Arcata, CA 95	521			Reg.#/Type:	
Driller: NA					Telephone:	
Address:					C-57 Lic #:	
	# On-site				# Off-site	
Wells	Borings 5		Wells		Borings	
Investigation Investigation Suspected Co	Destaction with Cathodia Vadose Well Cathodia Type: Site Assessment Surface Contamination *Specify: Phase: Initial Subsequent Initial Subsequent Initial Chlorinated Ph	Protection Disposal Protecti Disposal Protection Disposal Protection Disposal Protecti	n Closar	Boring To UST To AST re	emporary Well P Diher*	oint
Disposal/Con	tainment for Soil Cuttings: _	Asburv/DOT	- 55 gallon	drums		
Disposal/Con	taiument for Rinsate: Asbu	rv/DOT - 55 g	allon dru	ms	·······	
Disposal/Con	tainment for Development W:	ter: Asbury/	DOT - 55	gallon drun	15	
Permits <u>wi</u>	ll not be processed with	out the follo	wing inf	ormation:		
Scal	ed Construction Detail	Appropr	riste Kees			
Deta	iled Site Plun	Copy of	Workplan	(if not on fi	le al HCDEH)	
Lead	Agency Approval Letter					
	Site Well Requirements:			Olan la	$\gamma - \alpha / - 1$	2
<u> </u>	Legal Right of Entry	rraposed Wo	ork Date:	0/2/10	$5 1/3/\zeta$	2
	Off Site Address/Location					
	Encroachment Permit		•			
• •	LUSSIAL CORP PATTIC					

.

Facility ID # 1NHU 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. <u>I will contact the Humboldt County Hazardous Materials Unit at (707) 445-5215 five</u> (5) working days prior to commencing this work. I will furnish to the County of Humboldt, Division of Environmental Itealth, 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:

1....

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, <u>endorsed to</u> include the Humboldt County Division of Environmental Health as additional named insured.

Hand

Signature of Well Driller - no proxies - original signature only in blue ink

Well identification number and type must be affixed to exterior surface of security structure.

Date

- 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.

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 Unitied Soil Classification System
- NGVD National Geodetic Vertical Datum of 1929
- NAVD North American Vertical Datum of 1988
 - NA Not Analyzed

COLORS

v - very

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

DENSITY / STIFFNESS

Med - Medium V - Verv

GEOTECHNICAL

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

NOTE:

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

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

- SAND GRAIN SIZE
 - VF Very Fine
 - F Fine
 - Med Medium
 - Crs Coarse

GEOLOGICAL CONTACTS

Observed Contact Inferred Contact

MOISTURE CONTENT

Observed top of saturated soil interval

EXPLANATION FOR BORING LOGS

MFG, Inc. consulting scientists and engineers

	MFG, Inc.				LO	g of Boring E	8-61
	Sierra Pacific Industries Arcata Division Sawmill Arcata, California	Drilling Agency Drilling Method Sampler Type Sampling Meth Ground Elevati	ion :	MFG, Stainle Grab S Grab S	Inc. ess Stee Sample, Sample	Logged By el Hand Auger Reviewed , Stainless Steel Drive Sampler or Brass Liners	y : Matt Hillyard By : Christopher Spill, R.G. r and Slide Hammer
Depth in Feet	DESCRIPTION		iuscs	Samples	Recovery (inches)	REMARKS	Date Started: August 28, 2003 Date Finished: August 29, 2003
0 - -	Concrete			1	4	Collected concrete sample B-61-Concrete Upper at 0 to 4 inches bgl.	
1	SAND: dk brn; F to Med sand, few silt, r Concrete GRAVEL WITH SAND: grey; angular to F gravel, some Med to Crs sand, moist SAND: grey; F to Med sand, few angula subangular F gravel - wet	subangular ur to	SP GP SP	2	6	Collected concrete sample B-61-Concrete Lower at 7 to 13 inches bgl. Collected soil sample B-61-1.2' at 13 to 15 inches bgl.	Cement Grout
3	NOTES: 1. Boring augered to a depth of 39 inch	es.		4	6	Collected soil sample B-61-3' at 33 to 39 inches bgl.	
4 –	2. Boring was backfilled with cement gr	out.					

11-20-2003 H:\Projects\030275-SP\\Task 11_IRM\\RMR\WW7 Area Borings\B-61.bor

1. S. S. J.

	consulting scientists and engineers					, •	(Page 1 of 1)
	Sierra Pacific Industries Arcata Division Sawmill Arcata, California	Drilling Agency Drilling Method Sampler Type Sampling Meth	l	: MFG, Inc. : Stainless Stee : Grab Sample, : Grab Sample of		Logged By I Hand Auger Reviewed Stainless Steel Drive Sampler or Brass Liners	: Matt Hillyard By : Christopher Spill, R.G. and Slide Hammer
	MFG Project No. 030275.11	Ground Elevati	on	: Not Su	irveyed		
Depth in Feet	DESCRIPTION		USCS	Samples	Recovery (inches)	REMARKS	Date Started: August 28, 2003 Date Finished: August 29, 200
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, r	noist	SP				
	Concrete			2	6	Collected concrete sample B-62-Concrete Lower at 5 to 11 inches bgl.	
- - 1	GRAVEL WITH SAND: grey; angular to F gravel, some Med to Crs sand, moist	subangular	GP	3	2	Collected soil sample B-62-1' at 11 to 13 inches bgl.	
	SAND: grey; F to Med sand, few angula subangular F gravel - wet	ir to				· · · · · · · · · · · · · · · · · · ·	-Cement Grout
2			SP				
3 1 1 1 1 1 1 1	NOTES: 1. Boring augered to a depth of 39 inch 2. Boring was backfilled with cement gr	es. out.		4	6	Collected soil sample B-62-3' at 33 to 39 inches bgl.	

-

· 1

ì

ļ

	MFG, Inc.		LOG OF BORING B-63 (Page 1 of 1)								
	Sierra Pacific Industries Arcata Division Sawmill Arcata, California MFG Project No. 030275.11	Drilling Agency Drilling Method Sampler Type Sampling Meth Ground Elevati	on :	: Matt Hillyard By : Christopher Spill, R.G. and Slide Hammer							
)epth in Feet	DESCRIPTION		nscs	Samples	Recovery (inches)	REMARKS	Date Started: August 29, 2003 Date Finished: August 29, 2003				
-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, r Concrete	noist	SP	2	6	Collected concrete sample B-63-Concrete Lower at 5 to 11 inches bg!.					
- 1– -	GRAVEL WITH SAND: grey; angular to F gravel, some Med to Crs sand SAND: grey; F to Med sand, few angula	subangular r to	GP	3	2	Collected soil sample B-63-1' at 11 to 13 inches bgl.					
	subangular F gravel, moist	· · ·	SP				-Cement Grout				
-											
3-		e:		4	6	Collected soil sample B-63-3' at 33 to 39 inches bgl.					
-	NOTES: 1. Boring augered to a depth of 39 inch 2. Boring was backfilled with cement gr	es. out.	L	لــــلل							
-											

11-20-2003 H: Projects/030275-SPNTask 11_IRM/IRMRWW7 Area Borings/B-63.bor

APPENDIX B California Coastal Commission Emergency Permit

STATE OF CALIFORNIA THE RESOURCES AGENCY

CALIFORNIA COASTAL COMMISSION

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

(707) 445-7833

www.coastal.ca.gov

EMERGENCY PERMIT

Sierra Pacific Industries - Arcata Division P. O. Box 1189 Arcata, CA 95521

Date 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:

- An emergency exists which requires action more quickly than permitted by the procedures for (a) 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

ł

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

Enclosure: Acceptance Form

2

CALIFORNIA COASTAL COMMISSION

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

CALIFORNIA COASTAL COMMISSION NORTH COAST DISTRICT OFFICE MAILING ADDRESS: 710 E STREET • SUITE 200 EUREKA, CA 95501-1865 VOICE (707) 445-7833 FACSIMILE (707) 445-7877

P. O. BOX 4908 EUREKA, CA 95502-4908



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

Gordie U Amo

Name

2593 New Address

Cicato

9/10/03 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 (1x10-8 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 DataRamTM. 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 ^s)	Air Concentration TEQ mg/m ^s
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/m^s = toxic equivalency Mg/ms - milligrams per cubic meter mg/kg = milligrams per kilogram pg/sample = picograms per sample

TEQ = toxic equivalency

6/28/2003 Sampling During Limited Excavation

		Total Hrs	Minutes			
	Pump 2897–Up Wind					
Start						
Meter		0	377			
End						
Meter						
		K and mm				
Tav	78	298 55	0 998158 298/Tav			
Pav	29 875	758 825	0 998454 Pav/760			
Pstart	29 86					
Pstop	29 89					During App.7. (In 1977) of
	Inm	259 4465948	Lin Wind		TEO po/cubic meter	TEO mo/cubic mater
	Total Liters	97811 36624	Total Liters	97811 37 0 00928 9 48765E-08	9 48765E-05	9.48765E-14

--

		Total Hrs	Minutes					
	Pump 2898-Down Wine	1						
Start Meter End Meter			365					
Tav Pav	78 29 875	298 55 758 825	0 998158 0 998454					
Pstart Pstop	29 86 29 89							Pump 2898-Down Wind
	lpm Total Liters	260 157929 94957 64407	C T	Down Wind Fotal Liters	pg 94957.64	pg/1 8 82 9 28835E-05	TEQ pg/cubic meter 0 092883518	TEQ mg/cubic meter

7/3/2003 70 degrees, 30 inch Hg

Pump 2897Up Wind					Calibratio	n Calibration	ו								
		H2O			Orifice	Orifice	Pa/Pstd	Tstd/Ta	H2O(Pa/Pstd)(Tstd/Ta)	Sgrt K					
M	agnehelic Guage	Manometer	Та	Pa	m	b	Pa/760	298/Ta			Qstd	FLOW (corrected)	m b	Pav	Tav
	70.0	7.4	294.261	1 76	9.9516	4 -0.03087	1.002631579	1.012706063	7.462977428	2.731845	0.277614	8.430656885	32.519	-0.7041	
	60.0	6.6	294.261	1 76	2 9.9516	4 -0.03087	1.002631579	1.012706063	6.650680565	2.578891	0.262244	7.805271598	32.519	-0.7041	
	50.0	5.7	294.261	1 76	9.9516	4 -0.03087	1.002631579	1.012706063	5.736846595	2.395172	0.243783	7.125205536	32.519	-0.7041	
	40.0	4.6	294.261	1 76	9.9516	4 -0.03087	1.002631579	1.012706063	4.670706962	2.161182	0.22027	6.372977573	32.519	-0.7041	
	30.0	3.4	294.261	1 76	9.9516	4 -0.03087	1.002631579	1.012706063	3.401493114	1.844314	0.18843	5.519160476	32.519	-0.7041	

Pump 2898Down Wind			Calibrat	ion Calibratio	n								
	H2O		Orifice	Orifice									
Magnehelic Guage	Manometer	Ta Pa	m	Ь	Pa/760	29 8/Ta			Qstd	FLOW (corrected)	m b	Pav	Tav
70	n 74	204 2611	760 0.051	64 0.0209	7 1.002621670	1 012706062	7 519746080	2 741121	0 070546	\$ 4000EC00E	22.077	0.0704	
70.	0 7.4	254.2011	02 9.901	04 -0.0308	1.002031378	1.012700003	7.313743982	2.741121	0.278340	6.430030865	33.077	-0.8724	
60.	0 6.6	294.2611	62 9.951	64 -0.0308	7 1.002631579	1.012706063	6.721756541	2.592635	0.263625	7.805271598	33.077	-0.8724	
50.	0 5.6	294.2611	62 9.951	64 -0.0308	7 1.002631579	1.012706063	5.726692884	2.393051	0.24357	7.125205536	33.077	-0.8724	
40.	0 4.6	294.2611	62 9.951	64 -0.0308	7 1.002631579	1.012706063	4.691014384	2.165875	0.220742	6.372977573	33.077	-0.8724	
30.	0 3.5	294.2611	62 9.951	64 -0.0308	7 1.002631579	1.012706063	3.503030222	1.871638	0.191175	5.519160476	33.077	-0.8724	





6/28/2003

	Upwind	Station 4				Downwind	Station 2	
Time	Dust mg/m3	wind speed	Temp		Time	Dust mg/m3	wind speed	Temp
0835	0.097		3	78	0832	0.011	0	78
	0.066		0	82		0.078	0	80
	0.057		6	82		0.045	0	80
	0.039		5	78		0.04	6	80
	0.022		4	80		0.035	0	82
	0.035		7	78		0.035	3	84
	0.024		6	80		0.013	3	82
	0.023		5	80		0.025	3	78
	0.005		5	82		0.019	0	87
1338	0		8	75	1332	0.001	4	80
Averages	0.0368	4.	97	79.5	Averages	0.0302	1.9	81.1

9130	3		914	03		915	03						
	DW	Total Hrs	Minutes	DW	Totai Hrs	Minutes	DW	Total Hrs	Minutes				
Stat	0:15		Start	0.35		Start	7:50						
Meter	2030-13	9.5	570 Meter	2020	10.62	637 2 Motor	2050.26	5 11	206.6				
End	7:42	5.5	Fod	2003.04	10.02	End	2030.20	3.11	300.0				
Meter	2039.63		Meter	2050.26		Meter	2055 37						
NO.CO	2005.00		Heter	2000.20		Weter	2000.07						
Tav	71	295	1.010169 Tav	71	295	1.010169 Tav	55	286	1.041958042				
Pav	29.88	758.952	0.998621 Pav	29.94	760.476	1.000626 Pav	30.005	762.127	1.002798684				
Pstart	29.91		Pstart	29.92		Pstart	29.99						
Pstop	29.85		Pstop	29.96		Pstop	30.02						
	lpm	276.3775	lpm	276 6455		lpm	281.1145		Downwind	pg	pg/l	TEQ pg/cubic meter	TEQ mg/cubic meter
	Total Liters	157535.2	Total Lite	ers 176278.5		Total Lite	ers 86189.71		Total Liters	420003.4	768	0.001828557 1.828556731	1.82856E-09
				Non-Lange-Lange-	2.5								······
		Total Hrs	Minutes	n, Cryst Standards and	Total Hrs	Minutes			Minutor		494994	production and the second s	
	uw		initial co	UW	rotarrins	Willia Co	LIW.	10(a) 1115	MINUTES				
Start	9:20		Start	8:40		Start	8:03						
Meter	123.47	10.42	625.2 Meter	133.89	10.58	634.8 Meter	144.47	5.17	310.2				
End	7:45		End	7:15		End	1:09		0.0.2				
Meter	133.89		Meter	144.47		Meter	149.64					•	
Tav	68	293	1.017065 Tav	68	293	1.017065 Tav	55	286	1.041958042				
Pav	29.88	758.952	0.998621 Pav	29.94	760.476	1.000626 Pav	30.005	762.127	1.002798684				
						_							
Pstart	29.91		Pstart	29.92		Pstart	29.99						
Pstop	29.85		Pstop	29.96		Pstop	30.02						
	lom	278 4213	Inm	279 6762		Inm	292.0401		[here a law of			750 / 11	
	Total Liters	174069	Total Lite	270.0702		Total Lite	202.0491 are 87401.62		Upwina Total Litere	136464 J	pg/i	1.0240E.05 0.010240004	TEQ mg/cubic meter
	iola, Elloro		Total Ent	170000.1		i biai cite	sie 01491.02		Total Liters	430404.2	0.44	1.92492-03 0.019249004	Q2288 1 0 0 0 1.9249€-11 0 0 0 0 0
91303		91303		91403		9140)3		91503			91503	
		UW		DW		UW			DW		UW		
64		60		62		5	57		53			59	
71		71		75		7	'3		60			62	
71		71		75		7	'3		53			51	
75		69		75		7	'3		53			53	
84		73		69		6	19		54.75	Temp Ave		60	
69		68		69		6	9					57 Temp Ave	
73		68		73	·	6	99						
73		69		71.14286 1	emp Ave	6	2						
JY 71 Tomp Aug		59	Tomp Ave			68.12	5 Temp Ave						
/ Liemp Ave		07.00000	remp Ave										

DW

9/12/2003 24 degrees C 30.01 inches Hg

UW-3076		H2O			Calibration Orifice	Calibration Orifice									
	Magnehelic Guage	Manometer Ta		Pa	m	ъ	Pa/760	298/Ta	H2O(Pa/Pstd)(Tstd/Ta)	Sqrt K	Qstd	FLOW (corrected)	m I	o Pav	Tav
	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					Calibration	Calibration									
		H2O			Orifice	Orifice									
	Magnehelic Guage	Manometer T	a	Pa	m	b	Pa/760	298/Ta			Qstd	FLOW (corrected)	m b	Pav	Tav
	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	



297

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	15 1 5	0.096	6	68
		0.07	5	68
		0.064	4	69
	1910	0.119	2	59
	Averages	0.08	3.33	67.56

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

9/14/2003

Upwind time Dust mg/m3 wind speed Temp 0855 0.03 57 0 73 69 0 3 0.001 4 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
18 15	0. 1 18	0	69
Averages	0.04	1.33	70.50

9/15/2003

9/15/2003

Up	wind			I	Downwind		
time Du	st mg/m3	wind speed	Temp	time [Dust mg/m3	wind speed	Temp
0803	0.04	4	59	0759	0.042	3	53
	0.03	2	62		0.025	5	60
	0.034	6	51		0.04	4	53
	0.05	6	53		0.05	4	53
	0	6	60		0.035	4	57
1512	0.025	3	69	1507	0.05	0	69
Averages	0.03	4.50	59.00	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 Analytical Laboratories Inc. e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

208 Mason St. Ukiah, California 95482

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,

aren

Karen A. Daly For Sheri L. Speaks Project Manager

RECEIVED

MAY 1 9 2003

Tetra Tech/MFG, Inc.



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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

Client PO/Reference

Order Number A305081

Receipt Date/Time 05/05/2003 15:35

Client Code MFGARC

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
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 per per produced in its entirety.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager

5/14/03

Page 1 of 9

Tetra Tech/MFG, Inc.

MAY 1 9 2003



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

05/14/03 13:37

SPI Arcata Sawmill

Client PO/Reference

030229

CHEMICAL EXAMINATION REPORT

Page 2 of 9

MFG. It	nc - Arcata		
1165 G.	Street, Suite E		Report Date:
Arcata,	CA 95521		Project No:
Attn: Or	rrin Plocher		Project ID:
Order Number	Receipt Date/Time	Client Code	
A305081	05/05/2003 15:35	MFGARC	
	Alpha	Analytical Laborat	ories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
S-Near MW-7 Water (A305081-01	l)		Sample Typ	oe: Water		Sampled: 05/01/03 00	:00	
Chlorinated Phenols by Canadian Pr	ulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	11	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"		"	"	"	8.1 "	1.0	
2,3,4,5-Tetrachlorophenol	11	"		11	"	2.6 "	1.0	
Pentachlorophenol	IT		"	05/11/03	"	28 "	1.0	
Surrogate: Tribromophenol	"	"	"	05/09/03		79.9 %	50-150	
S-Near MW-7 Sediment (A305081	-02)		Sample Ty	pe: Soil		Sampled: 05/01/03 00	:00	
Chlorinated Phenols by Canadian Pr	ulp 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		· 0	"		"	ND "	1.0	
2,3,4,5-Tetrachlorophenol		"	"	11	"	ND "	1.0	
Pentachlorophenol		"	"	11	"	ND "	1.0	
Surrogate: Tribromophenol	11	"	"	"		66.9 %	23-140	
S-Near B-14 Water (A305081-03)			Sample Ty	pe: Water		Sampled: 05/01/03 00	:00	
Chlorinated Phenols by Canadian P	ulp Method							
2,4,6-Trichlorophenol	EnvCan	AE31209	05/08/03	05/09/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"		и	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	**	"	91	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	11	"	"		ND "	1.0	
Pentachlorophenol	п	"	"		"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		71.1 %	50-150	
S-Near B-14 Sediment (A305081-	04)		Sample Ty	pe: Soil		Sampled: 05/01/03 00):00	
Chlorinated Phenols by Canadian P	ulp Method					-		
2.4.6-Trichlorophenol				0.5/00/00	1	NID mallea	10	
2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	EnvCan	AE31210	05/09/03	05/09/03	1	ND mg/kg	1.0	
2,3,5,6-Tetrachlorophenol	EnvCan	AE31210 "	05/09/03	05/09/03	1	ND mg/kg ND "	1.0	
2,3,5,6-Tetrachlorophenol 2,3,4,6-Tetrachlorophenol	EnvCan "	AE31210 "	05/09/03 "	05/09/03 "	1 17 17	ND mg/kg ND " ND "	1.0	

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

aren aly

MAY 1 9 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks Project Manager



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT MFG, Inc - Arcata 1165 G. Street, Suite E Report Date: 05/14/03 13:37 Arcata, CA 95521 Project No: 030229 Attn: Orrin Plocher Project ID: SPI Arcata Sawmill Order Number Receipt Date/Time **Client** Code Client PO/Reference 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 Phenois by Canadian Pulp Method (cont'd) ... Pentachlorophenol EnvCan 05/09/03 ND " 1.0 Surrogate: Tribromophenol " 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 . ND " Pentachlorophenol 1.0 Surrogate: Tribromophenol 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 05/08/03 EnvCan AE31209 05/09/03 ND ug/l 1.0 1 2,3,5,6-Tetrachlorophenol . ND " 1.0 2,3,4,6-Tetrachlorophenol ND " 1.0 " . 2,3,4,5-Tetrachlorophenol .. ND " 1.0 11 Pentachlorophenol ND " 1.0 Surrogate: Tribromophenol 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 1 ... 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 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 report must be reproduced in its entirety. of custody doctimetr. This in

MAY 1 9 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks Project Manager

5/14/03

Page 3 of 9



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		<u>Client Code</u> MFGARC		Client PO/Referen	Client PO/Reference				
	Alpha Analytical Laboratories, Inc.									
	METHOD	BATCH	PREPARED ANALYZED	DILUTION	RESULT	POL	NOTE			
C NI MIN O Codimon	4 (4 20 50 01 00)		Commis Trenes Call		Samelad: 05/01/02 00:00					

S-Near MW-8 Sediment (A305081-08)		Sample Type: Soil			Sampled: 05/01/03 00:00			
Chlorinated Phenols by Canadian P	ulp 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	u	"		"	11	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	**		u	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 P	ulp 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	"	"	"	"	11	ND "	1.0	
2,3,4,6-Tetrachlorophenol	••		**	05/12/03	11	7900 "	1.0	
2,3,4,5-Tetrachlorophenol	11		"	05/11/03	"	110 "	1.0	
Pentachiorophenol	"	"		05/12/03	11	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 F	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	н		"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	**	u	W	05/12/03	"	11 "	1.0	
2,3,4,5-Tetrachlorophenol	11	**	n	"	**	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 I	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	11				"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	H	**		"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	11	**	"	ND "	1.0	

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

MAY 1 9 2003

Tetra Tech/MFG, Inc.

Karen A. Daly For Sheri L. Speaks Project Manager

arendly

Page 4 of 9


Receipt Date/Time

05/05/2003 15:35

CHEMICAL EXAMINATION REPORT

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

Order Number

A305081

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

Client PO/Reference

Client Code
MFGARC

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
S-Near B-36 Water (A305081-11)			Sample Ty	pe: Water		Sampled: 05/01/03 00	:00	
Chlorinated Phenols by Canadian Pulp	Method (cont	'd)						
Pentachlorophenol	EnvCan	"	u	05/11/03	"	2.1 "	1.0	
Surrogate: Tribromophenol	"	"	"	11		108 %	50-150	
S-Near B-36 Sediment (A305081-12)			Sample Ty	pe: 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	*	"	"	11	11	ND "	1.0	
2,3,4,5-Tetrachlorophenol		n	"		11	ND "	1.0	
Pentachlorophenol	11	"	"	11	н	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		58.1 %	23-140	

The results in this report apply to the samples analyzed in accordance with the chain of custody doc mean. This may vical report must be reproduced in its entirety.

MAY 1 9 ZUUJ

Tetra Tech/MFG, Inc.

un aly

Karen A. Daly For Sheri L. Speaks Project Manager

Page 5 of 9



Receipt Date/Time

05/05/2003 15:35

208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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

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	**							
Surrogate: Tribromophenol	23.8		"	24.9		95.6	50-150			L
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			
Surrogate: Tribromophenol	26.1		Ħ	24.9		105	50-150			
Matrix Spike (AE31209-MS1)	Sou	rce: A305	159-01	Prepared	: 05/08/03	Analyzed	1: 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
Surrogate: Tribromophenol	24.0		n	24.9		96.4	50-150			
Matrix Spike Dup (AE31209-MSD1)	Sou	irce: A305	159-01	Prepared	: 05/08/03	3 Analyze	d: 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

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.

RECEIVED

MAY 1 9 2003

Tetra Tech/MFG.`Inc.

Karen A. Daly For Sheri L. Speaks Project Manager

arendly

5/14/03

Page 6 of 9

Client Code

Client PO/Reference



CHEMICAL EXAMINATION REPORT

Page 7 of 9

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

<u>0</u> A

Project No:	030229
Project ID:	SPI Arcata Sawmill

Report Date: 05/14/03 13:37

rder Number	Receipt Date/Time	Client Code	Client PO/Reference
305081	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)	Sou	rce: A305 [,]	159-01	Prepared	05/08/03	Analyze	±: 05/11/03			
2,3,4,6-Tetrachlorophenol	1400	1.0	H	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	u	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	\$9						
2,3,4,5-Tetrachlorophenol	ND	1.0							
Pentachlorophenol	ND	1.0							
Surrogate: Tribromophenol	0.0700		n	0.124	56.5	23-140			
LCS (AE31210-BS1)				Prepared & Ar	alyzed: 05/09	/03			
2,4,6-Trichlorophenol	0.0181	1.0	mg/kg	0.0250	72.4	20-99			

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		n	0.124		61.3	23-140	
Matrix Spike (AE31210-MS1)	Sour	ce: A305	156-02	Prepared:	05/09/03	Analyze	d: 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

0.0250

ND

1.0

The results in this report approve the capital dualyzed in accordance with the chain of custody document Tels analytical report must be reproduced in its entirety.

0.0222

ly

14-151

Karen A. Daly For Sheri L. Speaks Project Manager

88.8

5/14/03

MAY 1 9 2003

2,3,4,5-Tetrachlorophenol

Tetra Tech/MFG, Inc.



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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	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 AE31210 - Solvent Extraction										
Matrix Spike (AE31210-MS1)	Sou	rce: A305	156-02	Prepared:	05/09/03	Analyzed	l: 05/14/03			
Pentachlorophenol	1.65	1.0	**	0.0250	1.4	1000	10-168			QM-4X
Surrogate: Tribromophenol	0.0810		n	0.124		65.3	23-140			
Matrix Spike Dup (AE31210-MSD1)	Sou	rce: A305	156-02	Prepared:	05/09/03	Analyzed	1: 05/13/03			
2,4,6-Trichlorophenol	0.0155	1.0	mg/kg	0.0250	ND	62.0	20-99	3.80	50	
2,3,5,6-Tetrachlorophenol	0.0105	1.0	**	0.0250	ND	42.0	23-110	13.3	50	
2,3,4,6-Tetrachlorophenol	0.300	1.0	"	0.0250	ND	320	21-97	12.5	50	QM-4X
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 app vi Gressamples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tetra Tech/MFG, Inc.

arenaly

Karen A. Daly For Sheri L. Speaks Project Manager

Page 8 of 9



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 9 of 9

MFG, Inc - Arc 1165 G. Street, Arcata, CA 955 Attn: Orrin Plo	ata Suite E 21 cher		Report Date: Project No: Project ID:	05/14/03 13:37 030229 SPI Arcata Sawmill	
Order Number A305081	Receipt Date/Time 05/05/2003 15:35	<u>Client Code</u> MFGARC		Client PO/Reference	

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. The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration QM-4X 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 Analyte NOT DETECTED at or above the reporting limit ND NR Not Reported Sample results reported on a dry weight basis drv
- RPD **Relative Percent Difference**
- PQL Practical Quantitation Limit

RECEIVED

MAY 1 9 2003

Tetra Tech/MFG, Inc.

Beulder Office 400 Pearl East Circle Builds OCO 800016118 MFG, INC. COC No. 43296 Beulder Office 400 Pearl East Circle Builds OCO 800016118 Invine Office Invine Office Invine Office Builds OCO 800016118 Invine Office Invine Of	30229 PROJECT NAME: SPJ- Arata PAGE: 1 OF: 2 Ire): Or March PROJECT MANAGER: OCCIS Ploch Date: S-1-03 MENT: CURRIEN CARRIER/MAYBILL NO: DESTINATION: APPlie Analytic 1	TD SAMPLES ANALYSIS REQUEST	Sample Preservation Containers Constituents/Method Handling Remarks	ation BATE DATE Matrix* H2SO4 H2SO4 H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H0LD H2SO4 H2S	40 5-m Be V Remark 1 V A305081-1	eliment 1 br 11 402 q 11 v 20 - 0	water 1254 2 1 V 258 3	Sedment DT 1 vor & 1 v v	sediment OT 10×5111 10×5111 1	3 water Da Da Issuag VV - La	1 water A0 1245 (12 124) (12 1	Sediment 0T 402 911 V -3	7 warr 1 10 10 10 10 10 10 10 10 10 10 10 10 1	7 sediment & 101 11 11 11 11 11 10 1 1	A TOTAL NUMBER OF CONTAINERS /O LABORATORY COMMENTS/CONDITION OF SAMPLES COOLER TEMP:	RELINQUISHED BY:	PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY	Drie Plocher MPG 35 63 1125 October 7 DALY Olehe Labe	7 DALY apple take 5/63 1535 S. Specific S. Specific Alpha Labs	vezv Marrie AO annance MA anaannanie SO eolit SI - chadna P - natrolemin A - alt OT - chter Galastie G - classie G	
Arcata Office 1165 G Street, Suite E Arcata Chilce Arcata Chilce 1165 G Street, Suite E Arcata CA 9521-5817 Suite 2000 Fax: (707) 826-8437 Fax: (707) 826-8437 Fax: (303) 447-1836	PROJECT NO: <u>63022</u> SAMPLER (Signature): <u>0</u> ~ <u>パ</u> METHOD OF SHIPMENT: <u>Currie</u>	DECTIVED		MAY 1.9 2003 Tetra Tech/MFIGN Inc. Sample Identification	S-Near MW-7 Water	S-Near MW-7 Sediment	s- Neor B-14 water	<- Near B-H Sodiment	S - Near B-33 sidiment	5- Near B-3-Water	5- Near MW-B water	5-Near www. 8 sediment	ss-Near B-37 walk	55- Near B-37 Sedimon		RELINQUISHED B	SIGNATURE PRINTED NAMI	Ripper Driv Ploche	1401 12411		ALL MARKY AU-2

, ^

an and a set of an and an and an and an and

Takretta Office 1165 G Street, Suite E Teir: (707) 826-8437 Fax: (707) 826-8437	□ Boulder Office 4900 Pearl East Circle Suites 2000 401-1823 Tel: (2003 447-1826 Tel: 2003 447-1826	CHAIN-(Irvine Office Suite 500 Troine, CA 92 Tex: (949) 22 Fax: (949) 22 Fax: (949) 22	DF-CU right Road 5614-5850 532-2951	STO	POSburr P.O. Bor Wallaco B33873- Fax: (2	0030 0030 0030 0030 0030 0030 0030 003	MFC SORI	AD AD Sar Frame	ID RI BID	EQU 15000 1100-Fa	EST 617 x (415) 4	FO	R AN/ Seattle 19203 Suite 1 Fax: (4,	ALYS Office 36th Aver 36th Aver 25) 921-4	ISS 1040		CO	C No. 43	276
PROJECT NO:_ SAMPLER (Sign METHOD OF SH	030229 ature): Onlow		ROJEC	CAF	ME: PRC	JUEC V	T MA	NAG	ER: C	4		loci	DE	STINA	TION	= = = = = = = = =	PAGE: DATE: A A	2-1-03 5-1-03	
		SAMP	LES								F				ANA	TASIS E	REQUES	L I	
L L L		Sa	mple	┝	Pre	serva	ation	┝	0 	ntaine	S	Sons	tituents/N	lethod	н	ndling		Remark	s
MAY	1.9203				<u> </u>			∗NOI				d m				aa/			
Tetra Tel	EleMFG, Inc. ample tification	DATE	TIME		⁸ ONH	[⊅] OS ₂ H	СОГD	TAATLIT			ON	Crocon			ногр	H≳UЯ 40NAT2			
5-Near 13-36	water	50-1-5		ğ			>		125	1	7	$\overline{\}$				7	A3	05081	= -
S-Neor B-3	ib Sediment	5-1-03		K I			>		4 B	5	-	\mathbf{n}				7			ğ
									_							_			
				-		ļ								$\left - \right $					
				$\left - \right $															
								-+								_			
								+						+					
				+-		-			-										
					۲ ا	ITAL NI	JMBER O	F CONT	AINERS		N	LABOR/	VTORY COM	MENTS/	CONDITIO	ON OF SAMI	PLES	Cooler Ter	:du
and the second states for the second states and the second states and the	RELINQUISHED BY:	an the product of the second second second						┝		Γ					RE	CIEVED	BY:		
SIGNATURE	PRINTED NAME		COMPA	Ν		-	DATE		TIME			SIGN	ATURE		PRI	NTED N/	AME	COM	PANY
P. Plan	OrinPlocher	Z	L L			SNS	202		111	1	Ŕ	N	Z		Ŋ	2422		aleka	Aak
Very	LIMAN	Ø	x a	2	6	S	the.		55	5	\mathcal{A}	N [†]	Part	3	ŝ	SPEA	XS	A C D H	A LADS
•	•KEY Matrix: AQ - aque	ous NA - nonaqueo	us SO-soil SL	- sludge	P - petrole	um A-ai	r OT - other	Conta	ners: P - pl	sstic G - gla	iss T-tel	Ton B - br	iss 0T - other	Filtration	i: F - filterø	U - unlitered			1
			Dis	TRIBUTI	IN SIN	VK: Field C	opy YELL(W: Labora	ary Copy	WHITE: Hetu	m to Ongi	lator							l.

1 10

D-2 Samples from Shallow Pit Beneath the South Catwalk



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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,

and

Karen A. Daly For Sheri L. Speaks Project Manager

RECEIVED

MAY 1 9 2003

Tetra Tech/MFG, Ine,



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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

ANALYTICAL REPORT FOR SAMPLES

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

RECEIVED

MAY 1 9 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.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager

Page 1 of 5

5/15/03



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

		Alpha A	nalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	POL	NOTE
UCW-South-Water (A305159-01)			Sample Ty	be: Water		Sampled: 05/05/03 00:0	0	
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	"	"	"	11	"	ND "	8.5	R-01
2,3,4,6-Tetrachlorophenol		"	"	05/11/03	"	1100 "	1.0	
2,3,4,5-Tetrachlorophenol	11	n	"	05/09/03	"	69 "	1.0	
Pentachlorophenol	*	"	*	"		11000 "	1.0	
Surrogate: Tribromophenol	"	"	"	11		97.2 %	50-150	1918. Bagen internet & av 4 a - 1 -

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

MAY 1 9 2003

Tetra Tech/MFG, Inc.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager



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	Receipt Date/Time	Client Code	Client PO/Reference	
A305159	05/07/2003 16:00	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 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	97							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	u							
Surrogate: Tribromophenol	23.8		n	24.9		95.6	50-150			
LCS (AE31209-BS1)				Prepared:	05/08/03	Analyzed	1: 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	11	5.00		103	85-115			
Pentachlorophenol	5.35	1.0	н	5.00		107	85-115			
Surrogate: Tribromophenol	26.1			24.9	······	105	50-150			
Matrix Spike (AE31209-MS1)	Sou	urce: A305 [°]	159-01	Prepared	: 05/08/03	Analyzed	d: 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
Surrogate: Tribromophenol	24.0		n	24.9		96.4	50-150			
Matrix Spike Dup (AE31209-MSD1)	So	urce: A305	159-01	Prepared	: 05/08/03	Analyze	d: 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

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.

RECEIVED

MAY 1 9 2003

Tetra Tech/MFG Inc

Karen A. Daly For Sheri L. Speaks Project Manager

arendly



The results in this eport apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. MAY 1.92003

Tetra Tech/MFG, Inc.

CHEMICAL EXAMINATION REPORT

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	Receipt Date/Time	Client Code	Client PO/Reference
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)	Sou	rce: A305	159-01	Prepared	: 05/08/03	Analyzed	1: 05/11/03			
2,3,4,6-Tetrachlorophenol	1400	1.0	11	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			

208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Page 4 of 5

aren dly 5/15/03

Karen A. Daly For Sheri L. Speaks Project Manager



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, Ir 1165 G. Arcata, (Attn: Ed	nc - Arcata Street, Suite E CA 95521 I Conti		Report Date: Project No: Project ID:	05/15/03 09:26 030229 SPI Arcata Sawmill	
<u>Order Number</u> 4305159	Receipt Date/Time 05/07/2003 16:00	<u>Client Code</u> MFGARC		Client PO/Reference	

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

RECEIVED

MAY 1 9 ZUUS

Tetra Tech/MFG, Inc.

							E S	ات ع	S Z											
Arcata Office 1165 G Street, Suite E Arcata, CA 95521-5817 Tel: (707) 826-8437 Fax: (707) 826-8437	☐ Boulder Office 4900 Pearl East Circle Suite 300W Boulder, CO 80301-6118 Tel: (303) 447-1823 Fax: (303) 447-1836	□ Irvine Offi 17770 Ca Suite 500 Irvine, CA Tel: (949) Fax: (949)	26 rtwright Roa 92614-5850 253-2951 253-2954	5		Urn Offic Box 30 ace, ID 73-0030 (208) 55 (208) 55	66-6811 66-7271	D AL 3 San 80 How tan Fran thone (4	Franc Franc and Street disco, CA disco, CA	5 Suite 2 94105- 110 - Fe	Hice Hice (415) (4	495-710	A Seat	ALY ite Office 3 36th Av 3 36th Av 3 36th Av 101 (425) 921 (425) 921	SIS enue W. 4000 -4040	L 1025		00C No.	43232	
PROJECT NO:	030229		PROJE	L Z	AME		E	Ŕ	f	5							PAC	Ц Ц Ц	OF:	
SAMPLER (Sign:	ature): and Ma	the state			đ	JOJE	CT M⊿	NAG	Ë	S	S	1+5					DAT	Ъ Ш	15/03	
METHOD OF SH	IIPMENT: Currier			Ö	IIIAA	N H	AYBILI	ÖZ					B	STIN	ATIOI	→ ż	Alpha	Anal	4tral	
		SAM	PLES												AN	ALYS	IS REQU	JEST		
		S	ample		₽	reserv	ation	-	ပိ	ntaine	ers	uo O	stituents/	Method		andlir		Ĩ	emarks	
A F Sa Ident	ield tmple iffication	DATE	TIME	*XintsM		- ⁵ 20 [⊄]	סרם	*NOITAATI	(20/ju) 300000E	AbE _*	.ON	שעמקטיי א			ногр	หราย	GRADNAT S			
HCW-South	-water	5/5/03	F	8	<u> </u>	1			17	5	N	卜	-	+	<u> </u>		Ā	3051	59-1	
				>				-+-												
				+	+	+-			_						_		-			
RECEIV	ÆD																			
MAY 192	003			┼┼	+			$\left \right $				╉╌┨			$\left \right $					Τ
Tetra Tech/MF	G, Inc.							-+-												
												-								Γ
						otal ni	JMBER OF	CONTA	INERS			ABORA	TORY COM	MENTS/C	CONDITION	ON OF	AMPLES	Coole	er Temp:	
	RELINQUISHED BY:														ä	CIEVE	:78 C			Γ
SIGNATURE	PRINTED NAME		COMP	¥N∤			DATE		TIME		-	SIGN	VTURE		PR	NTED	NAME		COMPANY	
gullor-	Orrin Plocher	٤	14-22	1		দ্ব	2/03		400,0	\$		M	Thur	9	4.1	an	Smo			
-m/attlew	J. MAMMUUS	+-				6	763	≚	8		$\dot{\Omega}$	Ŝ	y og	8	S S	8	AK	¥	DHA LABORATORY	
	- KEY Matrix: AQ - aqueo	us NA - nonaqueo	us SO-soil S	- sludge	P - petrole	um A - air Nic clote Co	0T - other	Containe	rs: P - plast	lc G - glas	s T-tell	n B-bra	s OT - other	Filtration:	F:-;filterec	I U - unfill	para			
			5			WY. FIELD CO	bh relean	Laboratory	um Klan	IIE: Hetum	to Origin	tor		` : 						٦



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

208 Mason St. Ukiah, California 95482

24 July 2003

MFG, Inc - Arcata Attn: Ed Conti 875 Crescent Way Arcata, CA 95521 **RE: SPI Arcata Sawmill** Work Order: A305156

SAMPLES FROM SHALOW 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,

aren

Karen A. Daly For Sheri L. Speaks Project Manager

and we apply the second structure of a second structure of the second second second second second second second

RECEIVED JUL 2 8 2003 Tetra Tech/MFG, Inc.

5



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: 07/24/03 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

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.

RECEIVED JUL 2.8 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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



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

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

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
UCW-South Wood (A305156-01)			Sample Ty	pe: Other (W)	Sampled: 05/06/03 00:00		
Chlorinated Phenols by Canadian Pul	p 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	*	"	"	n	25	ND "	· 25	R-01
Pentachlorophenol			"		1	4600 "	1.0	
Surrogate: Tribromophenol	"	"	"	05/09/03		% 23-140		S-06
UCW-South Sand (A305156-02)			Sample Ty	pe: Soil		Sampled: 05/06/03 00:00		
Chlorinated Phenols by Canadian Pu	lp Method			-				
2,4,6-Trichlorophenol	EnvCan	AE31210	05/09/03	05/14/03	1	ND mg/kg	1.0	
2,3,5,6-Tetrachlorophenol	"	11	н	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	11		11		ND "	1.0	
2,3,4,5-Tetrachlorophenol		11		"	"	ND "	1.0	
Pentachlorophenoi	"	11		"		1.4 "	1.0	
Surrogate: Tribromophenol	"	"	"	"		73.4 % 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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	Receipt Date/Time	Client Code	Client PO/Reference
A305156	05/07/2003 16:00	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 AE31210 - Solvent Extraction	·									
Blank (AE31210-BLK1)				Prepared	& Analyze	ed: 05/09/0	03			
2,4,6-Trichlorophenol	ND	1.0	mg/kg	HH						
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	& Analyz	ed: 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	17	0.0250		62.4	14-151			
Pentachlorophenol	0.0135	1.0	11	0.0250		54.0	10-168			
Surrogate: Tribromophenol	0.0760		H	0.124		61.3	23-140			
Matrix Spike (AE31210-MS1)	So	urce: A305	5156-02	Prepared	: 05/09/03	Analyzed	d: 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			
Pentachlorophenol	1.65	1.0		0.0250	1.4	1000	10-168			QM-4X
Surrogate: Tribromophenol	0.0810		"	0.124		65.3	23-140			-
Matrix Spike Dup (AE31210-MSD1)	So	urce: A30	5156-02	Prepared	: 05/09/03	Analyze	d: 05/13/03			
2,4,6-Trichlorophenol	0.0155	1.0	mg/kg	0.0250	ND	62.0	20-99	3.80	50	
2,3,5,6-Tetrachlorophenol	0.0105	1.0	"	0.0250	ND	42.0	23-110	13.3	50	

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

aren aly

JUL 2 8 2003

Karen A. Daly For Sheri L. Speaks Project Manager

7/24/03

Page 3 of 5

Tetra Tech/MFG, Inc.



CHEMICAL EXAMINATION REPORT

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	Receipt Date/Time	Client Code	Client PO/Reference
A305156	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 AE31210 - Solvent Extraction										
Matrix Spike Dup (AE31210-MSD1)	Sour	ce: A305	156-02	Prepared:	05/09/03	Analyzed	1: 05/14/03			
2,3,4,6-Tetrachlorophenol	0.300	1.0	11	0.0250	ND	320	21-97	12.5	50	QM-4X
2,3,4,5-Tetrachlorophenol	0.0224	1.0	"	0.0250	ND	89.6	14-151	0.897	50	
Pentachlorophenol	1.48	1.0	н	0.0250	1.4	320	10-168	10.9	50	QM-4X
Surrogate: Tribromophenol	0.0790			0.124		63.7	23-140			

RECEIVED

JUL 2 8 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.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager

Page 4 of 5



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 - A 875 Crescent Arcata, CA 9 Attn: Ed Con	rcata Way 5521 ti	Re F	eport Date: Project No: Project ID:	07/24/03 13:53 030229 SPI Arcata Sawmill	
Order Number A305156	Receipt Date/Time 05/07/2003 16:00	<u>Client Code</u> MFGARC		Client PO/Reference	

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
- Analyte NOT DETECTED at or above the reporting limit ND
- NR Not Reported

The second second

 \mathcal{D}_{i}

- Sample results reported on a dry weight basis dry
- RPD **Relative Percent Difference**
- POL Practical Quantitation Limit

RECEIVED JUL ^{2, 8} 2003 Tetra Tech/MFG, Inc.

MEG, INC. MEG, INC. Reserve to the server of the server	· · ·	·····						T								T				- 1.1													
MFG, INC. MFG, INC. Reserve to the state of the constrained in the state of t		COC No. 43334	РАДЕ: <u>(</u> OF.) DATE: 5,6%3 Ми Аниу Нис.	REQUEST	Remarks	. (1	A305156-1	ۍ ۱			н					PLES Cooler Temp:	BY:	AME COMPANY	in Small	KS AIDDA LABORATORY													
Reserved Accession (CHAIN-OF-CUSTODY RECORD) MFC, INC. (CHAIN-OF-CUSTODY RECORD) MFC, INC. (CHAIN-OF-CUSTODY RECORD) Reserved Accession (CHAIN-OF-CUSTODY RECORD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTODY RECORD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTODY RECORD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) Accession (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) DUECT NO: CARDICATION (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY RECORD AMLYSIS (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) DUECT NO: CARDICATION (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) DUECT NO: CARDICATION (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) Accession (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTODY (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) Accession (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) Accession (CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) CHAIN-OF-CUSTOD) Accession (CHAIN-OF-CUSTOD) CHAIN-OF-CUST		۲ +5707	N: Alp	NALYSIS R	Handling	HSUR GRAGNATS									-	DITION OF SAME	RECIEVED B	PRINTED NA	Nat	Spea	ittered U - unlittered												
MFG, INC. MFG, INC. Research Description Chain-OF-CUSTODY RECORD AND REQUEST FOR AND RECUEST FOR AND REQUEST FOR AND REQUEST FOR AND RECUEST FOR AND REQUEST FOR AND REQUE		ALYSIS le Office 33th Avenue V 101 425) 921-4000 425) 921-4040	STINATIC	A	Method											MMENTS/CON			2	s v	r Filtration: F -												
MEG MEG MEG MCG Rest State Constructions Constructions Constructions Constructions Rest State State Constructions Constructions		FOR AN Seattless FOR AN Supervision Fight (Fax:	λί DE	PE DE	Gonstituents/	Listo Pura	1 1	11								ABORATORY CO		SIGNATURE	Varilue	speark	n R - hrass OT - othe	10 - Ulass ur umu											
MFG, INC.		EST fice	<u>∨0)</u>		rs r	ON	2 4	2						-+			1	-			ce T-heflo	n to Original											
Reference MFG, INC. Reference CHAIN-OF-CUSTODY RECORD AND RE Registrations (Reserved for the space of the space of t		Suite 20 94105-11 110 - Favri			ntaine	⊥∧ьE∗	5	6												0	ctir G_ols	stic u - y _i a iHITE: Retur											
MFG, Inclusion in the second and t				õ	(zo/ju) ∧OΓ∩WE	402	402								INERS		TIME	2	0:0	ch D	ers: r - p _{ia} ry Capy - M												
ME CHAIN-OF-CUSTODY RECORD Ress States Sta		ANI ANI BO Howa an Franc hone (41	NO:			*NOITAATLIƏ										CONTA			<u> </u>			Contaure V: Laborator											
Field Field Sample Production International Containing CHAIN-OF-CUSTODY REC Ress State Containing Chainen of the Customer of					ion i		5		•							ABER OF		ATE	601	-03	or other	y YELLOV											
File Data No. CHAIN-OF-CUSTODY I Marken Singer Sin					servat	[⊅] OS ₂ H												ũ	517	5		rm A - air K: Field Cop											
Field Field Sample Annu-Dr-CUSTO Dublect Cline Dublect Cline Dublect Cline Dublect Cline Standard Dublect Cline Dublect Cline Dublect Cline Standard Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect Cline Dublect No: DU-Dr <dublect no:<="" td=""> Dublect No: CAH U-Dublect No: DU-Dublect No: Cath Ended HOD OF SHIPMENT: Lutruct CAH Cath HOD OF SHIPMENT: Lutruct CAH Hod Of Cline Date Math Lutruct Science Science Lutruct Science Science Lutruct Sc</dublect>		POsburn P.O. Box Wallace 83873-0 Fak: (20 Fax: (20	ME: PRO IRIEF		Pre	HNO ³										TO	E					P - petroleu DN: PIN											
Field Bounder Office association service states association bace-asto service states association bace-asto service states association bace-asto service states association bace-asto service states association bace-asto service service association bace-asto service service association bace-asto service association bace-asto service association bace-asto service association bace-asto service association bace-asto service association bace-asto service association bace-asto service association bace-asto service astociation bace-asto service association bace-asto service association bace-asto service astociation bace-asto service astociation bace-asto service astociation bace-a		STO	T NAI CAF										CAH				Matrix*	2	s	<u> </u>									λN	EN (L - sludge STRIBUTI
Hise Builder Office CHAIN-OF Miles Anno-OF Anno-OF Miles Anno-OF Anno-O		L Road B51 B54 B54	DJEC	S	e	E E		\vdash	p									COMPA	5			SO - Soli SI											
CHAIN CHAIN Statesting and search of the s		J-OF fifice artwright A 92614 9) 253-26	PRO	MPLE	Samp	Ē				 	4	RE	C	EIX	14	1			WF			s suoente											
Milestrest Boulder Office Strest State 5 State 0 Power State Circle State 0 Power State 0 Power State 0 Print Diverse State 0 Power State 0 Power State 0 Power State 0 Power State 0 Power State 0 Power Stat		HAIN 11rvine O 11rvine O 17770 C 17770 C 17770 C 1701 C 1840 C		SA		DATE	Slu	5860				J	UL	28	ZUUS			-		-		s NA - non											
Hile Boulder Office Street, Suite 4900 Pearl East Circle Street, Suite 200 Ar7-1882 TPLER (Signiature): 24 HOD OF SHIPMENT: 24 HOD OF SHIPMENT: 24 Indentification Identification U. Suulu- Uoo H 24 Manuer 24 Manuer 24		Ö	Z Ł								7	etri	a Te	ch/	NFG,	-tac	D BY:	AME	40	M S		AQ - aqueou											
Iffice Devolder Office Street, Suite E 4900 Fear feat Street, Suite E 4771 Fax: (300) 4471 PLER (Signature): 2 PLER (Signature): 2 PLOD OF SHIPMENT: 2 IPLER (Signature): <th></th> <td>Circle 01-6118 823 836</td> <td>23</td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td>ļ</td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>JISHEI</td> <td>ED N</td> <td>DW</td> <td>Hú.</td> <td></td> <td>Matrix:</td>		Circle 01-6118 823 836	23			,			ļ		2						JISHEI	ED N	DW	Hú.		Matrix:											
Mile Mile Mile Moulder Moore Fired Street, Suite Fired Agood Fired, Suite Fired Street, Suite Moore Street		Office aarl East 00W 33, 447-11 33, 447-11	NAL					-				1	6				TINOL	PRINT	. <	19 67		KEY.											
UECT NO: C Street, Suite Street, Suite C PLER (Signatu HOD OF SHIP Identific Identific Identific		Boulder 4900 Pe Suite 30 Boulder Tel: (300 Fax: (300	re): <u>(</u>			d ple ation	000		A 11 1		ŀ			R			RE BE)C														
DIECT NO DIECT NO DIE			SHIPI	·		Fiel Sam			-	ŀ			\mathbb{C}	ノ						1.6													
		luite E 1-5817 430 437	T NO R (Sig			<u>T</u>		A MA					(L	ッ	「日本		LURE		Actual V													
	< · · ·	Office Street, S CA 9552 77) 826-8	APLE	1			1.4		*									SIGNAT	0	10													
BRA REAL		Arcata Arcata Arcata Arcata Eax: (70	PR(SAN				2		5										0														



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

RECEIVED JUN 1 9 2003 MFG, Inc.

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



Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: <u>1759</u>

	Received on:	05/09/03	Project Due:	<u>05/26/03</u>	Storage:	<u>R-1</u>	
FAL Semaio ID	Client Project ID	Client Somelo ID	Requested	Matrix	Sampling	Sampling	Hold Time
	Project ID	Sample ID	metriou/s	Mauix	Date	11116	
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

RECEIVED JUN 1 9 2003 MFG, Inc.



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

RECEIVED

JUN 1 9 2003

JUN 1 9 2003

MFG, Inc.

ľ.

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 JUN 1 9 2003 MFG, Inc.

000004A of 000014A



FAL ID: 1759-01-MB Client ID: Method Blank	Dat Dat	e Extracted: ! Received: N	5/19/03 A	ICal: pcddfal1-3 GC Column: db5	-8 Acquired: 2	20-MAY-03
Matrix: Solid	Amo	ount:1.00 ģ		Units: pg/g	WHO TEQ: O	.00
Extraction Batch No.: 1759	% \$	Solids: NA		MS/MSD Batch No.	: 1769	
Compound	Conc	DL Qu	al WHO Tox	Compound	Conc DL	Qual #Hom
2 3 7 8-100	-	1 63	· _			
1 2 3 7 8-PerDD	-	4 26	_			
1.2 3 4 7 8-HxCDD		5 96	_			
	-	6 87	_	Total Tetra-Dioving	- 1.63	0
	-	4 53	-	Total Penta-Dioving	- 4.26	0
		7 77	_	Total Heva-Dioving	- 6.87	0
		11 0	<u> </u>	Total Henta-Dioxing	- 7.77	0
SCDD .		11.7		Totat nepta-Dioxins	- /.//	U
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	-	155	· _	,	•	
1.2.3.6.7.8-HxCDF	_	1.82	-			
2.3.4.6.7.8-HxCDF	-	2.36	-			
1.2.3.7.8.9-HxCDF	-	2.78	-	Total Tetra-Furans	- 2.14	0
1 2 3 4 6 7 8-HpCDF	-	2.23	-	Total Penta-Furans	- 3.58	ů
1 2 3 4 7 8 9-HpCDF	-	2.53	-	Total Hexa-Furans	- 2.78	ů Ú
	-	7 97	-	Total Henta-Furans	- 2.53	n
			·		2.55	0
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			· · · ·	
130-1.2.3.4.6.7.8-HpCDF	79_6	28.0 - 143			BECEIVE	
130-1 2 3 4 7 8 0-HnCDF	80 0	26 0 - 138				- L
130 1,2,3,4,1,0,7 hpor	68 5	17.0 - 157			11 N 1 0 2000	n
	00.5	11.0 - 137			JON T & 7003	5
					MEG Inc.	
Cleanup Surrogate					ин О , шС.	

37Cl-2,3,7,8-TCDD

85.9 35.0 - 197

Analyst 6 (18/03 Date:

000005A of 000014A

DA

6/18/2003

Reviewed by:_

Date:

ICal: pcddfal1-3-8

MS/MSD Batch No.: 1769

GC Column: db5

Units: ng/mL



Acquired: 20-MAY-03

WHO TEQ: NA

FAL 1D: 1759-01-OPR	Date	Extracted: 5/19/03
Client ID: OPR	Date	Received: NA
Matrix: Solid	Amou	nt: 1.00 g
Extraction Batch No.: 17	59 % Sc	lids: NA
Compound	Conc	QC Limits
2 3 7.8-TCDD	10,1	6.70 - 15.8
1.2.3.7.8-PeCDD	48.1	35.0 - 71.0
1.2.3.4.7.8-HxCDD	46.6	35.0 - 82.0
1.2.3.6.7.8-HxCDD	50.9	38.0 - 67.0
1.2.3.7.8.9-HxCDD	43.1	32.0 - 81.0
1.2.3.4.6.7.8-HpCDD	51.4	35.0 - 70.0
OCDD	98.6	78.0 - 144
2,3,7,8-TCDF	10.4	7.50 - 15.8
1,2,3,7,8-PeCDF	48.4	40.0 - 67.0
2,3,4,7,8-PeCDF	49.7	34.0 - 80.0
1,2,3,4,7,8-HxCDF	48.9	36.0 - 67.0
1,2,3,6,7,8-HxCDF	48.9	42.0 - 65.0
2,3,4,6,7,8-HxCDF	49.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	51.1	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.5	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	49.0	39.0 - 69.0
OCD F	98.6	63.0 - 170
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	94.9	20.0 - 175
13C-1,2,3,7,8-PeCDD	82.4	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	124	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	76.0	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	80.9	26.0 - 166
13C-OCDD	73.3	13.0 - 198
130-2 7 7 8-TODE	06 7	22.0 - 152
13C-1 2 3 7 R-D-CDE	90.7	22.0 - 102
13C-2 3 / 7 8-DeCDE	93.5 01.8	17 0 - 728
130-1 2 3 4 7 8-400F	102	10 0 - 202
13C-1 2 3 6 7 8-HVCDE	102	21 0 - 150
13C-2 3 4 6 7 8-HUCDE	02 2	17 0 - 205
130-1 2 3 7 8 9-HVODE	84 0	22 0 - 176
130-1 2 3 4 4 7 R-Monte	80 R	21 0 - 158
130-1 2 3 4 7 8 9-HoCDE	105	20.0 - 186
130 1,2,3,4,7,0,7 hpor 130-0005	83.2	13 0 - 102
150 0001	00.2	1310 170

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

31.0 - 191

100

Analyst: Date:

RECEIVED JUN 1 9 2003

Reviewed by: DN 6/18/2003 Date:____

MFG, Inc.



IXW-SOUTH WOOD

FAL ID: 1759-01-SA	Da	te Extracte	d: 5/19	/03	ICal: PCDDFAL1-3	-8 Ac	quired:	21-MAY	-03
Matrix: Solid	Δ	ount: 1 00	. <i>), /,</i> 0	5	linite na/a		-0 750-	1040000	
Extraction Batch No.: 17	59 % 9	Solids: 29.	9 9		MS/MSD Batch No.:	: 1769		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					
1,2,3,6,7,8-HxCDD	5180000	-	*	518000	Total Tetra-Dioxins	6380	-		16
1,2,3,7,8,9-HxCDD	162000	-	*	16200	Total Penta-Dioxins	177000	-	M	12
1.2.3.4.6.7.8-HpCDD	43400000	-	*	434000	Total Hexa-Dioxins	10900000	· _	*	7
OCDD	109000,000	-	*	10900	Total Hepta-Dioxins	62500000	-	*	2
2,3,7,8-TCDF	323000	-	F	32300					
1,2,3,7,8-PeCDF	295000		*	14800					
2,3,4,7,8-PeCDF	835000	_ ·	*,м,х	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-Eurans	1090000	-	* M X	12
1.2.3.4.7.8.9-HpCDF	522000	-	*	5220	Total Hexa-Furans	45200000	-	*	.0
OCD F	15300000	-	*	1530	Total Henta-Furans	55400000	-	*	3
				1550		55700,000			5
Internal Standards	% Rec	QC Limits	Qu	al					
13C-2,3,7,8-TCDD	96.0	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	82.8	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	136	32.0 - 14	1	*	•				
13C-1,2,3,6,7,8-HxCDD	111	28.0 - 13	0	*					
13C-1,2,3,4,6,7,8-HpCDD	107	23.0 - 14	0	*					
13C-OCDD	116	17.0 - 15	7	*					
13C-2.3.7.8-TCDF	86.5	24.0 - 16	9			• .			
13C-1.2.3.7.8-PeCDF	107	24.0 - 18	5	*					
13C-2.3.4.7.8-PeCDF	113	21.0 - 17	8	*					
13C-1.2.3.4.7.8-HxCDF	131	26.0 - 15	2	*					
13C-1.2.3.6.7.8-HxCDF	104	26.0 - 12	3	*					
13C-2.3 4 6 7 8-HxCDF	87-4	29.0 - 14	7	*					
13C-1-2-3-7-8-9-HxCDF	78.6	28.0 - 13	6	*		*			
13C-1.2.3.4.6.7 8-HpCDF	97_0	28.0 - 14	3	*		*	= Diluti	ion	
13C-1 2 3 4 7 8 9-HnCDF	108	26.0 - 13	8	*		•			
13c 1,2,3,4,7,0,5 lipcol	100	17 0 - 15	7	*			Acquire	d. 21-M	AV-07
		17.0 15	,				Acquire	ed: 21-M	AY-03
Cleanup Surrogate						· F	= DB225	Confirm	ation
37cl-2,3,7,8-TCDD	110	35.0 - 19	7				Acquire	ed: 23-M	AY-03
Analyst:	•			RE		Reviewed	by:	DN	
. <u>1.</u>					JEIVED			, , , ,	
Date: 6/18/03	·			JUN	1 9 2003	Date:		*/18/Z	<u>00</u> >
				R A					
				IVI	rG, Inc.				

000007A of 000014A



FAL ID: 1759-02-MB Client ID: Method Blank	Dat	e Extracted: e Received:	5/12/03 NA	ICal: PCDDFAL1-3-8 GC Column: db5	Acquired:	13-MAY-03
Matrix: Solid	Amo	unt: 10.00	a	Units: pa/a	WHO TEQ: 0	0.00
Extraction Batch No.: 1745	% \$	Solids: NA		MS/MSD Batch No.:	1769	
Compound	Conc	DL Q	ual 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-Hoch		0.150	-	Total Penta-Europe	- 0.32/	0
		0.176		Total Heva-Eurans	- 0.170	0
	-	0.545		Total Henta-Funans	- 0.176	0
OCDP	_	0.545		Totat hepta-rurans	- 0.178	U .
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-HoCDE	87 8	28.0 - 143				
13C-1.2.3.4.7 8 9-Hoch	95 9	26.0 - 139				
13c-000F	70 7	17.0 - 157				
150-000F	17.1	17.0 - 137				
		1				
Cleanup Surrogate						

37Cl-2,3,7,8-TCDD

97.0 35.0 - 197

Analyst 0 Date:

JUN 1 9 2003

Reviewed by: DR 6/18/2003 Date:

MFG, Inc.



FAL ID: 1759-02-0PR	Date Extracted: 5/12/03		ICal: PCDDFAL1-3-8	Acquired: 13-MAY-03
Client ID: OPR	Date	e Received: NA	GC Column: db5	
Matrix: Solid	Amou	unt: 10.00 g	Units: ng/mL	WHO TEQ: NA
Extraction Batch No.: 174	5 % St	olids: NA	MS/MSD Batch No.: 1769	
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-HYCDE	50.8	39.0 - 65.0		
1 2 3 7 8 O-NyCDE	52 /	35.0 - 79.0		
1,2,3,7,0,7 - HALDF	50 5	(1 0 41 0		
	50.5	41.0 - 61.0		
1,2,3,4,7,8,9-HPCUF	51.0	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 - 143		
130-1 2 3 4 6 7 8-HpcDD	79.6	26.0 - 166		
130-000	66.0	13 0 - 108		
136-0600		13.0 - 198		
130-2 3 7 8-TOPE	90.0	22.0 - 152		
130 1 2 7 7 8 0-005	90.0	22.0 - 132		
130-1,2,3,7,0-PEUP	97.0	21.0 - 192		
130-2,3,4,7,8-Pecor	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: Date:

JUN 1 9 2002

Reviewed by: DPN Date: 6/18/2003



UCW-SOUTH SAND

FAL ID: 1759-02-SA Client ID: A305156-02	Dat Dat	e Extracted	d: 5/12	2/03	ICal: PCDDFAL1-3-8	B Acq	uired: 13-MAY	-03
Matrix: Solid	Amo	ount: 10.26	a		Units: pg/g	WHO	TEQ- 4910	
Extraction Batch No.: 1745	% S	Solids: 81.3	5		MS/MSD Batch No.:	1769	12 4. 4770	
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-Eurans	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	Qu	ual				
13C-2,3,7,8-TCDD	88.4	25.0 - 164				-		
13C-1,2,3,7,8-PeCDD	112	25.0 - 18	1					
13C-1,2,3,4,7,8-HxCDD	91.9	32.0 - 14	1					
13C-1,2,3,6,7,8-HxCDD	95.2	28.0 - 130	כ					
13C-1,2,3,4,6,7,8-HpCDD	98.3	23.0 - 140)	*				
13C-OCDD	92.6	17.0 - 157	7	*				
13C-2,3,7,8-TCDF	96.2	24.0 - 169	2				۰.	
13C-1,2,3,7,8-PeCDF	113	24.0 - 18	5					
13C-2,3,4,7,8-PeCDF	96.4	21.0 - 178	в					
13C-1,2,3,4,7,8-HxCDF	89.7	26.0 - 152	2					
13C-1,2,3,6,7,8-HxCDF	89.3	26.0 - 12	3				•	
13C-2,3,4,6,7,8-HxCDF	81.2	29.0 - 14	7					
13C-1,2,3,7,8,9-HxCDF	77.9	28.0 - 130	5					
13C-1,2,3,4,6,7,8-HpCDF	99.4	28.0 - 143	3	*		* =	Dilution	
13C-1,2,3,4,7,8,9-HpCDF	81.5	26.0 - 13	8					
13C-OCDF	109	17.0 - 15	7	*		A	cquired: 21-M	AY-03
Cleanup Surrogate				- ,		F =	DB225 Confirm	ation
37CL-2,3,7,8-TCDD	94.3	35.0 - 19	7	*		P	cquired: 23-M	IAY-03
λ				BEC			0.01	

Analyst Date: 6/18/03

RECEIVED JUN 1 9 2003

MFG, Inc.

Reviewed by: 000 6/18/2003 Date:



FAL ID: 1769-01-MS/MSD Client ID: KOX0305122401A MS/MSD Matrix: Solid Extraction Batch No.: 1759		e Extracted: 5/19 e Received: 5/13/ ple Amount: 9.82 Amount: 9.28 g Amount: 9.57 g	/03 03 9	ICal: pcddfal1-3-8 GC Column: db5 Units: pg MS/MSD Batch No.:	MS Acquired: 2 MSD Acquired: WHO TEQ: NA 1769 % Solids: 77.2	1-MAY-03 21-MAY-03
•	Amount	Sample	MS	MSÐ		
Compound	Spiked	Amount	Amount	Amount	. % RSD Qua	ıL
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	
OCD F	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-0CDD	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:			RE	CEIVED	Reviewed by:	I
Date: 6 18/03			ILIN	1 9 2003	Date: 6/18/20	<i>ю</i> З

MFG, Inc.

JUN 1 9 2003

SUBCONTRACT ORDER



•		Α	305156	•	14		
SENDING LABORATO	DRY:		RECEIVING LABOR	RATORY:			
Alpha Analytical Labo P.O. Box 1508 (208 M Ukiah, CA 95482 Phone: (707)468-0401 Fax: (707)468-5267 Project Manager: She	ratories, Inc. Iason St.) ri L. Speaks		Frontier Analytical L 5172 Hillsdale Circle El Dorado, CA 9576 Phone :916-934-090 Fax: 916-934-0999 Terms: Net 30	ical Laboratory Circle 95762 1-0900 1999			
Analysis	Due	Expires		Comments		· .	
A305156-01 UCW-S	outh Wood [Other (V	W)] Sampled 05/06	/03 00:00 Pacific	· .			
Dioxins Full List Containers Supplied:	05/21/03 12:00	05/05/04 00:00	······································		· · · · · · · · · · · · · · · · · · ·		
A305156-02 UCW-S	outh Sand [Soil] San	upled 05/06/03 00:0	0 Pacific			•	
Dioxins Full List Containers Supplied:	05/21/03 12:00	05/05/04 00:00	· · ·	· · · · · · · · · · · · · · · · · · ·			
Report to State		-\					
User ID:	· · · · ·	Employed by:			•		
System Number:							
Bill	to Se	erra P	acific				
IIIIT		ofer					
· ·			N.	R	ECEIVED		
					JUN 1 9 2003	1	
			· · ·		MFG, Inc.		
Aer.	Spac	Kn 5-3					
Released By	Dat		Received By	mmle	0 5/9/03@0	5730	
	Da	• .			12.00		
Released By	Dat	e	Received By		Date		

000Pagent 000013 000012A of 000014A


Frontier Analytical Laboratory

Sample Login Form

Project ID:

<u>1759</u>

Client:	Alpha Analytic	al - 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:	Х			Fed-Ex/UPS/Courier/Other
Shipping container received intact?	Х			
Custody seals(s) present and intact?			X	
Method of cooling:	Х	1		Ice/Blue ice/Dry ice/Other
Sample arrival temperature (C):	Х			0 degrees C
Sample containers intact?	X			
Chain of Custody present and complete?	X			
Return shipping container to client?	Х			
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:				

RECEIVED

JUN 1 9 2003





RECEIVED

JUN 1 9 2003

MFG, Inc.

D-3 Concrete and Upper Fill Material Samples



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,

aren

Karen A. Daly For Sheri L. Speaks Project Manager

RECEIVED AUG 0 1 2003 Tetra Tech/MFG, Inc.



Receipt Date/Time

06/20/2003 15:55

208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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

Client Code MFGARC

Client PO/Reference

Page 1 of 5

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

RECEIVED

AUG 0 1 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.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager

7/30/03



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

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

		Alpha A	nalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-1-1' (A306459-01)			Sample Typ	pe: Soil		Sampled: 06/19/03 00:00		
Chlorinated Phenols by Canadian P	ulp 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	
Surrogate: Tribromophenol	"	"	"	"		85.5 % 2.	3-140	
S-2-1' (A306459-02)			Sample Ty	pe: Soil		Sampled: 06/19/03 00:00)	
Chlorinated Phenols by Canadian H	ulp Method							
2,4,6-Trichlorophenol	EnvCan	AF33012	06/25/03	06/26/03	1	ND mg/kg	1.0	
2,3,5,6-Tetrachlorophenol	**		"	11	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol			"	u	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	**		11	"	ND "	1.0	
Pentachlorophenol	"		"	06/27/03		ND "	1.0	
Surrogate: Tribromophenol	"	'n	"	06/26/03		80.6 % 2	3-140	

RECEIVED

AUG 0 1 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.

arenally

Karen A. Daly For Sheri L. Speaks Project Manager



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	Receipt Date/Time	Client Code	Client PO/Reference
A306459	06/20/2003 15:55	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 AF33012 - Solvent Extraction										
Blank (AF33012-BLK1)				Prepared:	06/25/03	Analyzed	: 06/26/03			
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	"						~	පු
Surrogate: Tribromophenol	0.0900		ť	0.124		72.6	23-140		Ш	ິ <u></u>
LCS (AF33012-BS1)				Prepared:	06/25/03	Analyzed	: 06/26/03		≥ ,	VEC 7
2,4,6-Trichlorophenol	0.0189	1.0	mg/kg	0.0250		75.6	32-116		Ш	
2,3,5,6-Tetrachlorophenol	0.0151	1.0	4	0.0250		60.4	18-80		\overline{O}	
2,3,4,6-Tetrachlorophenol	0.0171	1.0	"	0.0250		68.4	28-89		Ш	D F
2,3,4,5-Tetrachlorophenol	0.0182	1.0	"	0.0250		72.8	54-85		3	tra
Pentachlorophenol	0.0145	1.0	u	0.0250		58.0	17-85		January 1997	Te
Surrogate: Tribromophenol	0.0970		n	0.124		78.2	23-140			· · · · · · · · · · · · · · · · · · ·
Matrix Spike (AF33012-MS1)	S	ource: A306	459-02	Prepared: 06/25/03 Analyzed: 06/26/03						
2,4,6-Trichlorophenol	0.0212	1.0	mg/kg	0.0250	ND	84.8	37-105			
2,3,5,6-Tetrachlorophenol	0.0187	1.0		0.0250	ND	74.8	22-155			
2,3,4,6-Tetrachlorophenol	0.170	1.0	"	0.0250	ND	416	35-111			QM-4X
2,3,4,5-Tetrachlorophenol	0.0471	1.0	"	0.0250	ND	60.4	40-95			
Pentachlorophenol	1.60	1.0	"	0.0250	ND	NR	40-104			QM-4X
Surrogate: Tribromophenol	0.110		<i>a</i>	0.124	, ,,	88.7	23-140			
Matrix Spike Dup (AF33012-MSD1)	S	ource: A306	6459-02	Prepared	: 06/25/03	Analyze	d: 06/26/03			
2,4,6-Trichlorophenol	0.0217	1.0	mg/kg	0.0250	ND	86.8	37-105	2.33	50	
2,3,5,6-Tetrachlorophenol	0.0182	1.0	"	0.0250	ND	72.8	22-155	2.71	50	

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.

arendly

Karen A. Daly For Sheri L. Speaks Project Manager



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	Receipt Date/Time	Client Code
A306459	06/20/2003 15:55	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 AF33012 - Solvent Extraction										
Matrix Spike Dup (AF33012-MSD1)	Sou	rce: A3064	159-02	Prepared:	06/25/03	Analyzed	i: 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	11	0.0250	ND	NR	40-104	114	50	QM-04
Surrogate: Tribromonhenol	0.112	· · · · ·	"	0.124		90.3	23-140			

RECEIVED AUG 0 1 2003 Tetra Tech/N/FG, 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.

ren aly

Karen A. Daly For Sheri L. Speaks Project Manager

Page 4 of 5



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

Page 5 of 5

CHEMICAL EXAMINATION REPORT

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

Notes and Definitions

- **OM-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
- Sample results reported on a dry weight basis dry
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

RECEIVED AUG 0 1 2003 Tetra TechMFG, Inc.

Tetra Tech/MFG, Inc.	JUL 0 7 2003 KEY Martic AO aqueous IA	RECEIVED	Thurse your Bluce Gave	Valler 1 Orris Hahr	SIGNATURE PRINTED NAME	RELINQUISHED BY:					5 - 2 - 1' $6h$	5-1-1'	Field Sample Identification			PROJECT NO: 0302 29. 11 SAMPLER (Signature): Onlan METHOD OF SHIPMENT: Currier	Arcata Office 1165 G Street, Suite E Arcata, CA 95257-5817 Tel: (707) 826-8430 Fax: (707) 826-8437 Fax: (707) 826-8437 Fax: (303) 447-1836 Fax: (304) 447-1847 Fax: (304) 447-1847 Fax: (304) 447-1847 Fax: (304)
	- nonaqueous SO - soli SL - siudge P - f DISTRIBUTION:	-	Acate LADI	on PG-	COMPANY						 103 Dm 20	400 Pr So	ATE TIME Matrix* HCI	Sample	SAMPLES	PROJECT NAM	AIN-OF-CUSTOD 10 Cartwright Road 10 Cartwrig
	oetroleum A - air OT - other Conta PINK: Field Copy YELLOW: Labora		6/2403 1	6/20/03	DATE	<u> </u>	IOTAL NUMBER OF CON				 k	7	HNO ₃ H ₂ SO ₄ COLD	Preservation		E: <u>Sterra</u> PROJECT MANAG	MFG, I NA RECORD AN Shurn Office D Sar Slace 10 180 How slace 10 San France 1873-0030 San Fran 1873-0030 San France (4 14: (208) 556-7271 Phone (4
	ainers: P - plastic G - glass atory Copy WHITE: Return to	 	355 3	11:30	TIME	T	LAINERS				 402 6 1	402 6-1	VOLUME (ml/oz) TYPE*	Containers		ER: EL C	NC- ND REQUES n Francisco Offic vard Street, suite 200 noisco, CA 94105-1617 415) 495-7110 - Fax (41
	T - teflon B - brass OT - other Filtratio Originator		an Stocker	Dunie from	SIGNATURE		Custory Ser						Canaden Pul Poptop	Constituents/Method		ut - Cycath.Sec unt: DESTINA	ST FOR ANALYS e Seattle Office 15) 495-7107 Tel: (425) 921-4 Fax: (425) 921-4
	n: F-fillered U-unfillered		Sheri Specko	ARUCE Gove	PRINTED NAME	RECIEVED BY:	L'Intert as					V A3	HOLD RUSH STANDARD	Handling	ANALYSIS REQUE	ATION: Alphua	NIS CO
			Alphan LAbs	Acata Lass	COMPANY		Cooler lemp: C.O				à	1-154-00	-sh 3-5 messtay	Remarks	ST	<u> </u>	C No. 43303



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,

The last

Bradley B. Silverbush Director of Operations RECEIVED

JUN 3 0 2003

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



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 2102

	Received on:	<u>06/24/2003</u>	·	Project Due:	<u>07/09/2003</u>	Storage:	<u>R1</u>	
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	, O	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

1

RECEIVED JUN 3 0 2003 Tetra Tech/MFG, Inc.



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

RECEIVED JUN ³ N 2003 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 FelVED RECENTED JUN 3 0 2003 JUN 3 0 2003 Tetra Tech/NIFG, Inc.



FAL ID: 2102-001-MB		Date Extract	ted: 6/	/24/03	ICal: pcddfal1-3	5-8 A	cquired:	25-JUN	-03
Motnive Solid		Amount: 10 (20: NA		GC COLUMN: DBS		NO TEO. (00076	,
Extraction Patch No - 0035		V Solida: NU	n g		NS/MSD Batab Na	. 1740		.00030	+
Extraction Batch No.: 0055		% SUCTUS: NA	٦		Maymay Balch No.	.: 1/09			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	ÐL	Qual	#Hom
2,3,7,8-TCDD	-	0.100		· _					
1,2,3,7,8-PeCDD	-	0.207		-			n		
1,2,3,4,7,8-HxCDD	-	0.525		-					
1,2,3,6,7,8-HxCDD	-	0.966		-	Total Tetra-Dioxins		0.100		0
1,2,3,7,8,9-HxCDD	-	0.413		-	Total Penta-Dioxins		0.207		0
1,2,3,4,6,7,8-HpCDD	-	0.969		-	Total Hexa-Dioxins	2.85	-		1
OCDD	3.64	-	J	0.000364	Total Hepta-Dioxing	s -	0.969		0
2,3,7,8-TCDF	-	0.106		· -					
1,2,3,7,8-PeCDF		0.221		-					
2,3,4,7,8-PeCDF	-	0.243		-					
1,2,3,4,7,8-HxCDF	-	0.114		-					
1,2,3,6,7,8-HxCDF	-	0.143		-					
2,3,4,6,7,8-HxCDF	-	0.162		-					
1,2,3,7,8,9-HxCDF	-	0.210		-	Total Tetra-Furans	s -	0.106		0
1,2,3,4,6,7,8-HpCDF	-	0.197		-	Total Penta-Furan	s -	0.243		0
1,2,3,4,7,8,9-HpCDF	-	0.214		-	Total Hexa-Furans	s	0.210		0
OCDF	-	0.563		-	Total Hepta-Furan	· ·	0.214		0
Internal Standards	% Rec	QC Limits	Qı	ual					
13c-2 3 7 8-TCDD	86 7	25 0 - 16							
13C-1 2 3 7 8-DeCDD	84 0	25.0 - 18							
13C-1 2 3 4 7 8-HxCDD	106	32 0 - 14	1						
	88 0	28 0 - 13	n						. •
13C-1 2 3 4 6 7 8-HpcDD	88.2	23 0 - 14	0 0						
13c 1,2,3,4,0,7,0 112-000	67 7	17 0 - 15	7						
	0111	11.0 13	•						
13C-2.3.7.8-TCDF	86.5	24.0 - 16	9						
13C-1.2.3.7.8-PeCDF	90.3	24.0 - 18	5						
13C-2.3.4.7.8-PeCDF	88.7	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	119	26.0 - 15	2						
13C-1.2.3.6.7.8-HxCDF	112	26.0 - 12	3					65	
13C-2.3.4.6.7.8-HxCDF	103	29 0 - 14	7				~	24	
13C-1.2.3.7.8 9-HxCDF	97.4	28.0 - 13	, 6			6	6K		
13C-1.2.3.4.6 7 8-HbCDF	99.2	28.0 - 14	3			BE	P.	3002	
13C-1-2-3-4-7 8-9-HoCDF	118	26.0 - 13	8			ALL N			1001
13C-OCDF	85-8	17.0 - 15	7				NHH -		1116
	0,0		•				J	ANEC	•
							tra tect	¥	
Cleanup Surrogate						Ŧ	tra .		
7701 0 7 7 0 7000	05.0	75 0 10	-						
5/01-2,5,7,8-10DD	92.8		1						

Reviewed by:_____ Date:_____

Analyst: 6/26/03 Date:



FAL ID: 2102-001-OPR		Date Extracted: 6/24/03
Client ID: OPR		Date Received: NA
Matrix: Solid		Amount: 10.00 g
Extraction Batch No.: 0035		% Solids: 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

31.0 - 191

99.6

Analyst: 103 Date:

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

Acquired: 25-JUN-03

WHO TEQ: NA

RECEIVED

JUN 3 0 2003

Tetra Tech/MFG, Inc.

Reviewed by Date:



FAL ID: 1769-01-MS/MSD Client ID: KOX0305122401A Matrix: Solid Extraction Batch No.: 003	D MS/MSD S 5 N N	Pate Extracted: 5/19/03 Pate Received: 5/13/03 Cample Amount: 9.82 g IS Amount: 9.28 g ISD Amount: 9.57 g		ICal: pcddfal1-3-8 GC Column: db5 Units: pg MS/MSD Batch No.: 1769	MS Acquire MSD Acquir WHO TEQ: N % Solids:	d: 21-MAY-03 ed: 21-MAY-03 A 77.2
Compound	Amount Spiked	Sample Amount	MS Amount	MSD	% 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	05.2	86.0	00.0	25 0 - 150	
13C-1 2 3 7 8-DoCDD	2000	93.2	91 0	70.0 02.2	25.0 - 150	
13c-1 2 3 4 7 8-Hycob	2000	107	0/ 8	72.2	25.0 - 150	
13c-1 2 3 6 7 8-Hycon	2000	80.2	74.0	80.8	25.0 - 150	
	2000	86.2	74.0	80.0	25.0 - 150	
	4000	74.0	74.1	71 /	25.0 - 150	
	4000	10.7	70.0	/1.4	23.0 - 150	
13C-2 3 7 8-TCDF	2000	92 /	06 /	101	25 0 - 150	
130-1 2 3 7 8-DeCDE	2000	80.8	87 0	97 3	25.0 - 150	
13C-2 3 / 7 8-DeCDE	2000	00.2	01 7	103	25.0 - 150	
13C-1 2 3 4 7 8-HyCDE	2000	101	01 7	105	25.0 - 150	
13C-1 2 3 6 7 8-HyCDE	2000	0/ 3	21-7 80 0	01 1	25.0 - 150	
13C-2 3 4 6 7 8-HyCDE	2000	80.0	70 /	85 7	25.0 - 150	- ED
13C-1 2 3 7 8 0-HyCDE	2000	85.0	7/ 1	92.4	25.0 - 150	RECEIVED
13C-1 2 3 4 6 7 8-4000	2000	80.2	70.7	80.8	25.0 - 150	HEUE
13C-1 2 3 / 7 8 0-4-00F	2000	10/	00 7	101	25.0 - 150	2 0 2003
130-1,6,3,4,7,0,9-npbur 130-0005	2000	104 77 E	70./ 70 1	101	27.0 - 120	JUNDO
130-0007	4000	//.5	/0.1		25.0 - 150	Toch/MFG, Inc.
Cleanup Surrogate					-	Tetra leona
37cl-2,3,7,8-TCDD	800	106	93.6	95.0	25.0 - 150	

Analyst わろ Date:

Reviewed by:

Date:



FAL ID: 2102-001-SA Client ID: S-1-1 Matrix: Solid Extraction Batch No.: 0035		Date Extracto Date Received Amount: 10.13 % Solids: 81	ed: 6/ d: 6/2 8 g .0	24/03 4/03	ICal: pcddfal1-3-8 GC Column: DB5 Units: pg/g MS/MSD Batch No.: 1	Acqu WHO 1769	ired: TEQ: 1	25-JUN 1410	-03
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	-	в,*	7
OCDD	387000	-	в,*	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					
1,2,3,7,8,9-HxCDF	261	-		26.1	Total Tetra-Furans	2280	-	D,M	22
1,2,3,4,6,7,8-HpCDF	4780	-		47.8	Total Penta-Furans	7460	-	-	14
1,2,3,4,7,8,9-HpCDF	169	-		1.69	Total Hexa-Furans	18000	-		11
OCDF	5960	- `	*	0.596	Total Hepta-Furans	17600	-		3
Internal Standards	% Rec	QC Limits	Qu	al					
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	5						
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	5						
13C-1,2,3,4,6.7.8-HpCDF	118	28.0 - 143	5			* = [Diluti	on	
13C-1,2,3,4,7.8.9-HpCDF	113	26.0 - 138	3						
13C-0CDF	99.7	17.0 - 157	,	*		A	cauire	d: 26-J	UN-03
Cleanup Surrogate						F = 1	DB225	Confirm	ation
37cl-2,3,7,8-TCDD	101	35.0 - 197	7			A	cquire	d: 26-J	UN-03

Analyst: 1/03 Date

RECEIVED JUN ³ 0 2003 Tetra Tech/MFG, Inc. Reviewed by:<u></u> Date:<u>40103</u>

000008 of 000014



FAL ID: 2102-002-SA		Date Extract	ed: 6/	24/03	ICal: pcddfal1-3-8	Acqu	uired:	25 - JUN	-03
Client ID: S-2-1		Date Receive	d: 6/2	4/03	GC Column: DB5				
Matrix: Solid		Amount: 10.1	4 g		Units: pg/g	WHO	TEQ: 7	20	
Extraction Batch No.: 0035		% Solids: 82	.0		MS/MSD Batch No.: 1	1769			
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	-	в,*	8
OCDD	130000	-	В,*	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
OCD F	11600	-	*	1.16	Total Hepta-Furans	19700	-	*	4
			• ,						
Internal Standards	% Rec	QC Limits	Qu	al					
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	3						
13C-1,2,3,4,7,8-HxCDF	126	26.0 - 152	2			••			
13C-1,2,3,6,7,8-HxCDF	121	26.0 - 123	5						
13C-2,3,4,6,7,8-HxCDF	110	29.0 - 147	,						
13C-1,2,3,7,8,9-HxCDF	102	28.0 - 136	5						
13C-1,2,3,4,6.7,8-HpCDF	122	28.0 - 143	5	*		* =	Diluti	on	
13C-1,2,3,4,7,8,9-HpCDF	113	26.0 - 138	3	*					
13C-OCDF	102	17.0 - 157	7	*		A	cquire	d: 26-J	UN-03
Cleanup Surrogate						• F =	DB225 (Confirm	ation

37Cl-2,3,7,8-TCDD

102 35.0 - 197

Analyst: 6/27/03 Date:

RECEIVED JUN ³ n 2003 Tetra Tech/MiFG, Inc.

Reviewed by: Date:

Acquired: 26-JUN-03



Client Dp C-1 Dete Received: 6/24/03 Amount: 10: C-1 Compound Conc DL Qual Wh0 Tox Compound Conc DL Qual #Hem 2,35,7,8-ToD 24.9 1,2,35,47,76-RobD 22 - 222 1,2,35,47,76-RobD 22 - 222 1,2,35,47,76-RobD 22 - 222 1,2,35,47,78-RobD 4700 - 4740 Total Tetra-Dioxins 2590 - 10 1,2,3,4,6,7,7-RobD 4700 - 6470 - 4747 Total Penta-Dioxins 2590 - 10 1,2,3,4,6,7,7-RobD 4700 - 6470 - 24.8 2,3,7,8-ToD 38.5 - F 3.85 2,3,4,7,8-RobD 4700 - 24.9 1,2,3,7,8-RobD 4700 - 24.9 2,3,7,8-RobD 4700 - 24.9 2,3,7,8-RobD 45.9 1,2,3,7,8-RobD 45.9	FAL ID: 2102-003-SA	i	Date Extract	ed: 6/	24/03	ICal: pcddfal1-3-	B Acqu	uired:	25-JUN	-03
Natrix: Solid Amount: 10.16 g Unit:: p3/g Unit:: p3/g Unit:: p3/g Extraction Batch No.: 0055 X Solids: 89.3 X Solids: 89.3 MS/MSB Batch No.: 1769 Compound Compound Conc DL Qual Unit:: p3/g Unit:: p3/g 1,2,3,7,8-recod 24.9 - 24.9 - 28.9 1,2,3,7,8-recod 220 - 28.2 - 28.2 1,2,3,7,8-recod 220 - 8.7 17.2 - 18 1,2,3,7,8-recod 230 - 8.7 10 1.2,3,7,8-recod 4.70 - 6.77 1,2,3,7,8-recod 49.5 - 7 3.85 - 7 3.85 1,2,3,7,8-recod 49.5 - 2.467 Total Merta-Dioxins 7.000 - 2.17 1,2,3,4,7,8-recod 49.5 - 2.467 Total Merta-Dioxins 1300 - 17 1,2,3,4,7,8-recod 49.5 - 2.467 - 2.467 -	Client ID: C-1	1	Date Receive	ed: 6/2	4/03	GC Column: DB5				
Extraction Batch No.: 0035 X Solids: 89.3 MS/MSD Batch No.: 1769 Compound Conc DL Qual WHO Tox 2,3,7,8-ToD 24.9 - 24.9 1,2,3,7,8-PecoD 282 - 282 1,2,3,7,8-PecoD 280 - 23.0 1,2,3,7,8-PecoD 282 - 282 1,2,3,7,8-PecoD 280 - 474 Total Tetra-Dioxina 259 - 18 1,2,3,7,8-PecoD 4740 - * 474 Total Tetra-Dioxina 2590 - * 2 2,3,7,8-ToDr 38.5 - f 3.85 - f 3.85 1,2,3,7,8-PecoDr 51.3 - 25.7 - 8.92 - 6.02 1,2,3,7,8-PecoDr 54.2 24.2 - 24.2 - 14.1 - 1350 - 17 1,2,3,7,8-PecoDr 98.6 - 0.966 Total Petra-Furans 5800 - 14 1,2,3,7,8-PecoDr 98.6 - 0.962 Total Petra-Furans 5200 - 11 <td>Matrix: Solid</td> <td></td> <td>Amount: 10.1</td> <td>14 g</td> <td></td> <td>Units: pg/g</td> <td>WHO</td> <td>TEQ: 3</td> <td>050</td> <td></td>	Matrix: Solid		Amount: 10.1	14 g		Units: pg/g	WHO	TEQ: 3	050	
Compound Conc DL Qual WHO Tox Compound Conc DL Qual #Hom 2,3,7,8-T0D 24,9 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 282 - 10 1,2,3,6,7,8+R0D 280 - 180 - 11 12,3,6,7,8+R0D 280 - 839 - 18 11 12,3,6,7,8+R0D 4570 - 647 Total Tetra-Dioxina 75000 - 8,* 7 1,2,3,7,8+R0D 38,5 - F 3.85 - 5.7 7 7,2,3,6,7,8+R0D 12,2,5,6,7,8+R0D 12,2,5,6,7,8+R0D 12,2,5,6,7,8+R0D 12,2,5,6,7,8+R0D 12,2,5,6,7,8+R0D 12,2,5,6,7,8-R0D 12,2,5,6,7,8-R0D 12,2,5,6,7,8-R0D 12,2,5,7,8,7,8-R0D 12,2,5,7,8,7,8-R0D 12,2,5,7,8,7,8-R0D 12,2,5,7,8,7,8-R0D 12,2,5,7,8,7,8-R0D	Extraction Batch No.: 0035	1	% Solids: 89	9.3		MS/MSD Batch No.:	1769			
2,3,7,8-r000 24.9 - 24.9 1,2,3,7,8-r000 282 - 282 1,2,3,5,7,8-r000 230 - 231 1,2,3,6,6,7,8-r000 4740 - 4740 - 1014 Tetra-Dioxina 439 - 18 1,2,3,7,8-r000 4740 - 4740 - 4740 - 4740 Total Tetra-Dioxina 2580 - 10 1,2,3,6,6,7,8-r000 4740 - 4740 - 4740 Total Hepta-Dioxina 75000 - 8,* 7 0.000 137000 - 8,* 13.7 Total Hepta-Dioxina 75000 - 8,* 7 1,2,3,7,8-r00F 38.5 - F 3.85 1,2,3,7,8-r00F 51.3 - 25.7 1,2,3,4,7,8-r00F 51.3 - 25.7 1,2,3,4,7,8-r00F 51.5 - 15.6 2,3,4,6,7,8-r00F 242 - 24.2 1,2,3,4,7,8-r00F 98.6 - 0.986 Total Tetra-Furana 2520 - 14 1,2,3,4,6,7,8-r00F 98.6 - 0.986 Total Hepta-Furana 2520 - 14 1,2,3,4,6,7,8-r00F 98.6 - 0.986 Total Hepta-Furana 2520 - 14 1,2,3,4,7,8-r00F 12 25.0 - 164 13C-1,2,3,7,8-r00D 95.4 25.0 - 164 13C-1,2,3,7,8-r00F 95.4 25.0 - 164 13C-1,2,3,7,8-r00F 95.4 25.0 - 164 13C-1,2,3,7,8-r00F 112 25.0 - 164 13C-1,2,3,7,8-r00F 95.4 25.0 - 164 13C-1,2,3,7,8-r00F 85.9 24.0 - 169 13C-1,2,3,7,8-r00F 95.4 25.0 - 164 13C-1,2,3,7,8-r00F 85.9 24.0 - 169 13C-1,2,3,7,8-r00F 85.9 24.0 - 155 13C-2,3,7,8-r00F 85.9 24.0 - 155 13C-2,3,7,8-r00F 85.9 24.0 - 155 13C-2,3,7,8-r00F 95.5 28.0 - 133 13C-1,2,3,7,8-r00F 95.5 28.0 - 133 13C-1,2,3,7,8-r00F 95.5 28.0 - 133 13C-1,2,3,7,8-r00F 95.5 28.0 - 135 13C-2,3,7,8-r00F 102 25.0 - 157 Acquired: 26-JUH-03 F = D8255 Confirmation Acquired: 26-JUH-03 F = D8255 Confirmation F = D8255 Confirmation F = D8255 Confirmation F = D8255 Confirmation F = D8255 Co	Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
1.2.5.7, 6 = Peccon 1.2.5.4.7, 8 = Hacon 1.2.5.4.7, 8 = Hacon 1	2.3.7.8-TCDD	24.9	-		24.9					
1,2,3,4,7,8+NCD0 230 - * 230 1,2,3,6,7,8+NCD0 14800 - * 1480 Total Fara-Dioxins 439 - 18 1,2,3,6,5,7,8+NCD0 64700 - * 647 Total Max-Dioxins 73000 - 8,* 7 0CD0 137000 - 8,* 13.7 Total Max-Dioxins 73000 - 8,* 7 0CD 137000 - 8,* 13.7 Total Max-Dioxins 99400 - * 2 2,3,7,8+NCDF 38.5 - F 3.85 1,2,3,7,8+NCDF 38.5 - F 3.85 1,2,3,7,8+NCDF 51.3 - 25.7 1,2,3,4,7,8+NCDF 156 - 15.6 2,3,4,6,7,8+NCDF 156 - 15.6 2,3,4,6,7,8+NCDF 222 - 24.2 1,2,3,7,8+NCDF 98.6 - 0.986 Total Tatra-Furans 1380 - 17 1,2,3,4,7,8+NCDF 98.6 - 0.986 Total Tatra-Furans 2220 - 14 1,2,3,4,7,8+NCDF 98.6 - 0.986 Total Hepta-Furans 6620 - 3 Internal Standards X Rec 00 Limits Qual 130-2,3,7,8+NCDF 92.4 25.0 - 181 130-1,2,3,7,8+NCDF 102 28.0 - 130 * 130-1,2,3,7,8+NCDF 102 28.0 - 144 130-2,3,7,8+NCDF 102 28.0 - 130 * 130-1,2,3,7,8+NCDF 102 28.0 - 135 * Cleanup Surrogate F = DB225 Confirmation 3701-2,3,7,8+NCDF 100 28.0 130 + 130-1,2,3,7,8+NCDF 100 28.0 130 + 130-1,2,3,7,8+NCDF 100 28.0 130 + 130-1,2,3,7,8+NCDF 100 28.0 136 + 130-1,2,3,7,8+NCDF 100 28.0 133 + 130-1,2,3,7,8+NCDF 100 28.0 133 + 130-1,2,3,7,8+NCDF 100 28.0 136 + 130-1,2,3,7,8+NCDF 100 28.0 138 + 130-1,2,3,7,8+NCDF 100 28.0 1	1 2 3 7 8-PeCDD	282	· -		282					
1,2,3,4,7,8+nccoor 14000 - * 1400 Total Tetra-Diarins 439 - 18 1,2,3,4,7,8+nccoor 64700 - * 474 Total Tetra-Diarins 2390 - 18 1,2,3,4,7,8+nccoor 64700 - * 647 Total Mexa-Diarins 2390 - 8,* 7 2,3,7,8+nccor 93.5 - F 3.85 - 2.43 - 2.43 - 2.43 - 2.43 - 2.43 - 2.43 - 2.42 - 2.42 - 2.42 - 2.42 - 2.42 - 2.42 - 2.42 - 2.42 - 1.400 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - 1.100 - <td>1 2 3 4 7 8-HxCDD</td> <td>230</td> <td>· _</td> <td>*</td> <td>23.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>	1 2 3 4 7 8-HxCDD	230	· _	*	23.0					
1,2,3,7,8,7,8+1000 64700 - * 647 1,2,3,7,8+100 64700 - 8,* 13.7 Total Mext=Diating 250 - 8,* 7 1,2,3,7,8+100F 38.5 - F 3.85 1,2,3,7,8+100F 39.2 - 8,8 2,3,4,7,8+100F 99.2 - 8,2 1,2,3,7,8+100F 156 - 15.6 2,3,4,6,7,8+100F 156 - 15.6 2,3,4,6,7,8+100F 98.6 - 24.8 1,2,3,4,7,8+100F 98.6 - 0.986 Total Tetra-Furans 1380 - 17 1,2,3,4,7,8+100F 98.6 - 0.986 Total Tetra-Furans 5640 - 11 0CDF 3100 - * 0.310 Total Mepta-Furans 6200 - 3 Internal Standards X Rec 0C Limits Qual 130-1,2,3,7,8+100F 99.2 - 144 130-1,2,3,7,8+100F 99.4 - 0.310 Total Mepta-Furans 6200 - 3 Internal Standards X Rec 0C Limits Qual 130-2,3,7,8+100F 99.4 - 0.102 25.0 - 184 130-1,2,3,4,7,8+100F 102 26.0 - 130 * 130-1,2,3,4,7,8+100F 102 26.0 - 133 * 130-1,2,3,4,7,8+100F 102 26.0 - 133 * 130-1,2,3,4,7,8+100F 100 26.0 - 138 * 130-1,2,3,4,7,8+100F * 0000 * 0000 * 0000 * 0000 *	1 2 3 6 7 8-HYCDD	14800	-	*	1480	Total Tetra-Dioxins	439	-		18
1,2,3,4,6,7,8+H0DD 6470 * 6477 Total Hext=Diaxins 75000 - 8,* 7 1,2,3,4,6,7,8+H0DD 38.5 - F 3.85 - 2.4 7 Total Hext=Diaxins 95600 - * 2 1,2,3,4,7,8+H0DF 38.5 - F 3.85 - 2.48 - - 1.2 - 1.2 - 1.2 - 1.2 - - - - - 2.4.3 - 1.2 - 2.4.3 - 1.2 - 2.4.2 - 2.4.2 - 2.4.2 - 2.4.6 - 1.2 - - 1.2	1 2 3 7 8 9-HyCDD	4740	-	*	474	Total Penta-Dioxins	2580	-		10
CCDD 137000 - B,* 13.7 Total Nept-Dioxins 96400 - * 2 2,3,7,8-PCDF 38.5 - F 3.85 - 2.48 2.3,7,8-PCDF 49.6 - 2.48 2,3,7,8-PCDF 51.3 - 2.5,7 1.2,3,4,7,8-PCDF 56.5 - 1.5,6 2,3,4,6,7,8-PCDF 26.2 - 24.2 - 24.2 - 1.2,3,4,7,8-PCDF 2200 - 22,9 Total Perta-Furans 1380 - 17 1,2,3,4,7,8-PCDF 98.6 - 0.986 Total Perta-Furans 2920 - 14 1,2,3,4,7,8-PCDF 98.6 - 0.986 Total Perta-Furans 5640 - 11 13C-2,3,7,8-TODD 92.4 25.0 161 13 - 13 - 13 13C-1,2,3,7,8-TODD 92.4 25.0 161 13 - - - - 13 - 13 - - - - - - - - - - - -	1 2 3 4 6 7 8-HDCDD	64700	-	*	647	· Total Hexa-Dioxins	75000	-	B.*	7
$\begin{array}{c} 2,3,7,8-\text{TCD} & 38.5 & \cdot & \text{F} & 3.85 \\ 1,2,3,7,8-\text{TCD} & 49.6 & \cdot & 2.48 \\ 2,3,4,7,8-\text{PCD} & 51.3 & \cdot & 25.7 \\ 1,2,3,4,7,8-\text{PCD} & 59.2 & \cdot & 8.92 \\ 1,2,3,4,7,8-\text{PCD} & 222 & \cdot & 24.2 \\ 1,2,3,7,8,9-\text{RCD} & 46.9 & \cdot & 4.69 \\ 1,2,3,4,7,8,9-\text{RCD} & 46.9 & \cdot & 22.9 \\ 1,2,3,4,7,8,9-\text{RCD} & 98.6 & \cdot & 0.986 \\ 12,2,3,4,7,8,9-\text{RCD} & 98.6 & \cdot & 0.986 \\ 136-1,2,3,7,8-\text{RCD} & 95.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.4 & 25.0 & - 164 \\ 136-1,2,3,7,8-\text{RCD} & 92.1 & 32.0 & - 143 \\ 136-1,2,3,4,7,8-\text{RCD} & 102 & 28.0 & - 130 \\ 116-1,2,3,4,7,8-\text{RCD} & 90.1 & 22.0 & - 141 \\ 136-2,3,7,8-\text{RCD} & 90.0 & 24.0 & - 169 \\ 136-1,2,3,4,7,8-\text{RCD} & 90.0 & 24.0 & - 169 \\ 136-1,2,3,4,7,8-\text{RCD} & 90.0 & 24.0 & - 185 \\ 136-2,3,7,8-\text{RCD} & 90.0 & 24.0 & - 185 \\ 136-2,3,7,8-\text{RCD} & 90.0 & 24.0 & - 185 \\ 136-2,3,7,8-\text{RCD} & 90.0 & 24.0 & - 185 \\ 136-2,3,7,8-\text{RCD} & 90.0 & 24.0 & - 185 \\ 136-1,2,3,4,7,8+\text{RCD} & 102 & 26.0 & - 123 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 143 \\ 136-1,2,3,4,7,8+\text{RCD} & 102 & 26.0 & - 123 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 143 \\ 136-1,2,3,4,7,8+\text{RCD} & 82.8 & 28.0 & - 136 \\ 136-1,2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 135 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 145 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 145 \\ 136-2,3,7,8-\text{RCD} & 90.5 & 28.0 & - 145 \\ 13$	0000	137000	-	8.*	13.7	Total Hepta-Dioxins	96400	-	-, *	2
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.000	101 000		-,	1211					-
1,2,3,7,8-PecDF 49.6 - 2.48 2,3,4,7,8-PecDF 51.3 - 25.7 1,2,3,6,7,8-HKCDF 89.2 - 8.92 1,2,3,6,7,8-HKCDF 242 - 24.2 1,2,3,7,8,9-HKCDF 46.9 - 4.69 Total Tetra-Furans 1380 - 17 1,2,3,4,7,8,9-HKCDF 46.9 - 4.69 Total Penta-Furans 2920 - 14 1,2,3,4,7,8,9-HKCDF 98.6 - 0.986 Total Hexa-Furans 5640 - 11 0CDF 3100 - * 0.310 Total Hepta-Furans 6200 - 3 Internal Standards X Rec 0C Limits 0ual 13C-1,2,3,7,8-PECD 93.4 25.0 - 164 13C-1,2,3,7,8-PECD 92.4 25.0 - 164 13C-1,2,3,7,8-PECD 92.4 25.0 - 164 13C-1,2,3,7,8-PECD 112 23.0 - 141 * 13C-1,2,3,4,7,8-HKCDF 112 23.0 - 141 * 13C-1,2,3,4,7,8-HKCDF 112 23.0 - 140 13C-1,2,3,4,7,8-HKCDF 112 23.0 - 140 13C-1,2,3,4,7,8-HKCDF 112 25.0 - 169 13C-1,2,3,4,7,8-HKCDF 113 26.0 - 123 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 132 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 132 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 132 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 133 13C-2,3,7,8,9-HKCDF 82.B 28.0 - 144 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 132 13C-1,2,3,4,6,7,8-HKCDF 100 26.0 - 133 13C-2,3,7,8,9-HKCDF 82.B 28.0 - 144 13C-1,2,3,4,7,8-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 26.0 - 135 13C-2,3,7,8,7-HKCDF 100 26.0 - 135 13C-2,3,7,8,7-HKCDF 100 26.0 - 135 13C-2,3,7,8,7-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 26.0 - 135 13C-2,3,7,8,7-HKCDF 100 26.0 - 135 13C-2,3,7,8,9-HKCDF 100 27.0 - 197 Araelystic Date: Dete: Dete: Dete: Dete: Dete: Dete: Dete: Dete: Dete: De	2,3,7,8-TCDF	38.5	· -	F	3.85					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,7,8-PeCDF	49.6	-		2.48					
1,2,3,4,7,8+NCDF 99.2 - 8.92 1,2,3,6,7,8+NCDF 156 - 15.6 2,3,4,6,7,8+NCDF 242 - 24.2 1,2,3,7,8,9+NCDF 46.9 - 4,69 Total Tetra-Furans 1380 - 17 1,2,3,4,6,7,8+NCDF 2290 - 22.9 Total Penta-Furans 2920 - 14 1,2,3,4,7,8,7,8+NCDF 98.6 - 0.986 Total Hexa-Furans 5640 - 11 0 CDF 3100 - * 0.310 Total Hepta-Furans 6200 - 3 Internal Standards X Rec QC Limits Qual 13C-2,3,7,8-TCDD 93.4 25.0 - 164 13C-1,2,3,4,7,8+NCDF 102 28.0 - 130 * 13C-1,2,3,4,7,8+NCDF 102 28.0 - 130 * 13C-1,2,3,4,7,8+NCDF 101 22 3.0 - 140 * 13C-1,2,3,4,7,8+NCDF 102 28.0 - 130 * 13C-1,2,3,4,7,8+NCDF 101 22 3.0 - 140 * 13C-1,2,3,4,7,8+NCDF 101 22 3.0 - 147 13C-1,2,3,4,7,8+NCDF 101 22 3.0 - 147 13C-1,2,3,4,7,8+NCDF 101 22 5.0 - 147 13C-1,2,3,4,7,8+NCDF 100 26.0 - 132 13C-2,3,4,6,7,8+NCDF 101 22 5.0 - 147 13C-1,2,3,7,8,7+NCDF 82.8 28.0 - 136 13C-1,2,3,4,7,8+NCDF 101 22 5.0 - 147 13C-1,2,3,4,7,8+NCDF 101 26.0 - 132 13C-2,3,4,6,7,8+NCDF 101 26.0 - 138 13C-0,2,3,7,8-NCDF 102 35.0 - 197 Analyst: Date: UPDIO Date: UPDIO	2,3,4,7,8-PeCDF	51.3	-		25.7					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,4,7,8-HxCDF	89.2	-		8.92					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,6,7,8-HxCDF	156	-		15.6					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2,3,4,6,7,8-HxCDF	242	-		24.2					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,7,8,9-HxCDF	46.9	-		4.69	Total Tetra-Furans	1380	-		17
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,4,6,7,8-HpCDF	2290	-		22.9	Total Penta-Furans	2920	-		14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2,3,4,7,8,9-HpCDF	98.6	-		0.986	Total Hexa-Furans	5640	-		11
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 $25, 0 - 181$ $13C-1, 2, 3, 4, 7, 8-PeCDD$ 92.4 $25, 0 - 181$ $13C-1, 2, 3, 4, 7, 8-PeCDD$ 92.1 $32, 0 - 141$ $13C-1, 2, 3, 4, 7, 8-PeCDD$ 112 $23, 0 - 140$ $13C-1, 2, 3, 7, 8-PeCDF$ 85.9 $24.0 - 169$ $13C-1, 2, 3, 7, 8-PeCDF$ 90.1 $21.0 - 178$ $13C-2, 3, 4, 7, 8-PeCDF$ 90.1 $21.0 - 178$ $13C-2, 3, 4, 6, 7, 8-HxCDF$ 86.6 $29.0 - 147$ $13C-1, 2, 3, 7, 8-PeCDF$ 90.1 $26.0 - 152$ $13C-1, 2, 3, 7, 8-PeCDF$ 80.6 $28.0 - 136$ $13C-1, 2, 3, 7, 8-PeCDF$ 80.6 $29.0 - 147$ $13C-1, 2, 3, 7, 8-PHXCDF$ 82.8 $28.0 - 136$ $13C-1, 2, 3, 4, 6, 7, 8+HXCDF$ 82.8 $28.0 - 136$ $13C-1, 2, 3, 4, 6, 7, 8+HXCDF$ 82.8 $28.0 - 136$ $13C-1, 2, 3, 7, 8-PECDF$ 90.6 $17.0 - 157$ $13C-1, 2, 3, 7, 8-PECDF$ 90.6 $17.0 - 157$ <td< td=""><td>OCD F</td><td>3100</td><td>-</td><td>*</td><td>0.310</td><td>Total Hepta-Furans</td><td>6200</td><td>-</td><td></td><td>3</td></td<>	OCD F	3100	-	*	0.310	Total Hepta-Furans	6200	-		3
Internal Standards % Rec 0 C Limits Qual $13C-2,3,7,8-TCDD$ 92.4 25.0 - 164 $13C-1,2,3,4,7,8-TCDD$ 92.4 25.0 - 181 $13C-1,2,3,4,7,8-TCDD$ 92.1 32.0 - 141 $13C-1,2,3,4,7,8-TCDD$ 92.1 32.0 - 141 $13C-1,2,3,4,7,8-TCDD$ 102 28.0 - 130 $13C-1,2,3,4,7,8-TCDF$ 85.9 24.0 - 169 $13C-1,2,3,7,8-TCDF$ 85.9 24.0 - 169 $13C-1,2,3,4,7,8-TCDF$ 90.1 21.0 - 178 $13C-2,3,4,7,8-TROF$ 90.1 26.0 - 152 $13C-1,2,3,4,7,8-TROF$ 86.6 29.0 - 147 $13C-1,2,3,4,7,8-TROF$ 86.6 29.0 - 143 $13C-1,2,3,4,6,7,8-TROF$ 86.6 29.0 - 143 $13C-1,2,3,4,6,7,8-TROF$ 86.6 29.0 - 143 $13C-1,2,3,4,6,7,8-TROF$ 86.6 29.0 - 138 $13C-1,2,3,4,6,7,8-TROF$ 80.6 17.0 - 157 $13C-1,2,3,4,6,7,8-TROF$ 102 35.0 - 197 Analyst: Inc. Inc. Inc. $13C-1,2,3,7,8-TCDD$ 102 35.0 - 197 Inc. Analyst: <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
$\frac{13C-2,3,7,8-TCDD}{13C-1,2,3,4,7,8-FECDD} \begin{array}{c} 93.4 \\ 25.0 \\ -181 \\ 13C-1,2,3,4,7,8-FECDD \\ 92.4 \\ 25.0 \\ -181 \\ 13C-1,2,3,4,7,8-FECDD \\ 110 \\ 17.0 \\ -157 \\ + \\ 13C-2,3,7,8-FECDF \\ 13C-2,3,7,8-FECDF \\ 111 \\ 17.0 \\ -157 \\ + \\ 13C-2,3,4,7,8-FECDF \\ 112 \\ 25.0 \\ -100 \\ + \\ 13C-1,2,3,4,7,8-FECDF \\ 112 \\ 26.0 \\ -178 \\ 13C-2,3,4,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -188 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -188 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -178 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 113 \\ 26.0 \\ -188 \\ 13C-1,2,3,4,6,7,8-FECDF \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -138 \\ 100 \\ 26.0 \\ -100 \\ 26.0 \\ -100 \\ 26$	Internal Standards	% Rec	QC Limits	Qı	ual					
$13C-1, 2, 3, 7, 8 + PECDD 92.4 25.0 - 181 13C-1, 2, 3, 4, 7, 8 + PECDD 92.1 32.0 - 141 * 13C-1, 2, 3, 4, 6, 7, 8 + PECDD 102 28.0 - 130 * 13C-1, 2, 3, 4, 6, 7, 8 + PECDD 112 23.0 - 140 * 13C-1, 2, 3, 7, 8 - PECDF 96.0 24.0 - 169 13C-1, 2, 3, 7, 8 - PECDF 96.0 24.0 - 167 13C-1, 2, 3, 4, 7, 8 + RECF 102 26.0 - 152 13C-2, 3, 4, 7, 8 - RECF 90.1 22 13C-1, 2, 3, 4, 6, 7, 8 - HECF 113 26.0 - 123 13C-2, 3, 4, 6, 7, 8 - HECF 113 26.0 - 123 13C-2, 3, 4, 6, 7, 8 - HECF 113 26.0 - 123 13C-1, 2, 3, 4, 6, 7, 8 - HECF 99.5 28.0 - 143 13C-1, 2, 3, 4, 6, 7, 8 - HECF 99.5 28.0 - 143 13C-1, 2, 3, 4, 6, 7, 8 - HECF 99.5 28.0 - 143 13C-1, 2, 3, 4, 6, 7, 8 - HECF 99.5 28.0 - 143 13C-1, 2, 3, 4, 6, 7, 8 - HECF 99.5 28.0 - 138 13C-0CF 94.6 17.0 - 157 * Cleanup Surrogate F F = DB225 Confirmation 37Cl-2, 3, 7, 8 - TCDD 102 35.0 - 197 Analyst: Date: \frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{0}\frac{1}{3}Date: \frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{0}\frac{1}{3}Date: \frac{1}{2}\frac{1}{2}\frac{1}{0}\frac{1}{3}\frac{1}{2}\frac$	13C-2.3.7.8-TCDD	93.4	25.0 - 16	4						
$\frac{13C-1, 2, 3, 4, 7, 8-HXCDD}{13C-1, 2, 3, 4, 7, 8-HXCDD} = \frac{92.1}{32.0} - \frac{14.1}{15.0} + \frac{1}{15.0} + \frac{1}{15.0} + \frac{1}{23.0} - \frac{14.1}{15.0} + \frac{1}{15.0} + \frac{1}{23.0} - \frac{14.1}{15.0} + \frac{1}{15.0} + \frac{1}{15.0} + \frac{1}{15.0} - \frac{1}{12} + \frac{1}{23.0} - \frac{14.1}{15.0} + \frac{1}{15.0} + \frac{1}{15.$	13C-1.2.3.7.8-PeCDD	92.4	25.0 - 18	1						
$\frac{13C-1,2,3,6,7,8-HKCDD}{13C-1,2,3,4,6,7,8-HKCDD} 102 28.0 - 130 * \\ \frac{13C-1}{12,3,4,6,7,8-HKCDD} 112 23.0 - 140 * \\ \frac{13C-1}{12,2,3,4,7,8-HKCDF} 112 23.0 - 140 * \\ \frac{13C-2,3,7,8-FKCDF}{13C-1,2,3,7,8-FKCDF} 96.0 24.0 - 185 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,4,7,8-HKCDF} 102 26.0 - 152 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,4,7,8-HKCDF} 82.8 28.0 - 136 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,4,7,8-HKCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,4,7,8-HKCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,4,7,8-HKCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,7,8-HKCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,7,8-HKCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8-HKCDF}{13C-1,2,3,7,8-HCDF} 100 25.0 - 197 \\ Cleanup Surrogate F F = DB225 Confirmation Acquired: 26-JUN-03 \\ Cleanup Surrogate F F = DB225 Confirmation Acquired: 26-JUN-03 \\ HEFCEFIVIEW Date: UHAD J 102 35.0 - 197 \\ Analyst: F Gamma 20,2003 \\ JUN 3,0,2003 \\ JUN 3,0,200 \\ JUN 3,0,200 \\ JUN 3,0,200 \\ JUN 3,0,200 \\ $	13C-1.2.3.4.7.8-HxCDD	92.1	32.0 - 14	1	*					
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	13C-1.2.3.6.7.8-HxCDD	102	28.0 - 13	0	*					
$\frac{13C-0CDD}{110} 17.0 - 157 * \\ \frac{13C-0CD}{13C-1,2,3,7,8-TCDF} \frac{85.9}{96.0} \frac{24.0 - 169}{24.0 - 185} \\ \frac{13C-1,2,3,4,7,8-PECDF}{13C-2,3,4,7,8-PECDF} 90.1 21.0 - 178 \\ \frac{13C-2,3,4,6,7,8-PECDF}{13C-2,3,4,6,7,8-PECDF} 102 26.0 - 152 \\ \frac{13C-1,2,3,4,7,8,9-HCDF}{13C-2,3,4,6,7,8-PECDF} 102 26.0 - 123 \\ \frac{13C-1,2,3,4,6,7,8-PECDF}{13C-2,3,4,7,8,9-PECDF} 102 28.0 - 136 \\ \frac{13C-1,2,3,4,7,8,9-HCDF}{13C-0CDF} 94.6 17.0 - 157 * \\ Cleanup Surrogate \\ 37Cl-2,3,7,8-TCDD 102 35.0 - 197 \\ Analyst: The second seco$	13C-1.2.3.4.6.7.8-HpCDD	112	23.0 - 14	0	*					
$\frac{13C-2,3,7,8-TCDF}{13C-1,2,3,4,7,8-PCDF} = \frac{85.9}{96.0} = \frac{24.0 - 169}{24.0 - 185}$ $\frac{13C-1,2,3,4,7,8-PCDF}{13C-1,2,3,4,7,8-PCDF} = \frac{90.1}{121.0 - 178}$ $\frac{13C-1,2,3,4,6,7,8-HXCDF}{13C-1,2,3,7,8,9-HXCDF} = \frac{86.6}{29.0 - 147}$ $\frac{13C-1,2,3,7,8,9-HXCDF}{13C-1,2,3,7,8,9-HXCDF} = \frac{82.8}{28.0 - 136}$ $\frac{13C-1,2,3,4,6,7,8-HYCDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{13C-1,2,3,4,7,8,9-HYCDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{13C-0CDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{13C-0CDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{13C-0CDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{11C-1,2,3,4,7,8,9-HYCDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{11C-1,2,3,4,7,8,9-HYCDF}{13C-1,2,3,4,7,8,9-HYCDF} = \frac{100}{26.0 - 138}$ $\frac{11C-1,2,3,4,7,8,9-HYCDF}{10C} = \frac{100}{26.0 - 138}$ $\frac{11C-1,2,3,7,8-TCDD}{102} = \frac{102}{35.0 - 197}$ $\frac{11C-1,2,3,4,3,7,8-TCDD}{102} = \frac{102}{35.0 - 197}$ $\frac{11C-1,2,3,4,3,7,8-TCDD}{102} = \frac{102}{35.0 - 197}$ $\frac{11C-1,2,3,7,8-TCDD}{102} = \frac{100}{35.0 - 197}$ $11C-1,2,3$	13C-OCDD	110	17.0 - 15	7.	*					
$\frac{13C-2,3,7,8-TCDF}{13C-1,2,3,7,8-PECDF} = \frac{85.9}{24.0} = \frac{169}{13C-1,2,3,7,8-PECDF} = \frac{96.0}{24.0} = \frac{185}{13C-1,2,3,7,8-PECDF} = \frac{90.1}{21.0} = \frac{2160}{178} = \frac{13C-1,2,3,4,7,8-PECDF}{13C-1,2,3,4,6,7,8-HECDF} = \frac{102}{26.0} = \frac{123}{13C-1,2,3,4,6,7,8-HECDF} = \frac{28.2}{28.0} = \frac{136}{13C-1,2,3,4,6,7,8-HECDF} = \frac{28.0}{100} = \frac{136}{26.0} = \frac{138}{13C-1,2,3,4,6,7,8-HECDF} = \frac{100}{26.0} = \frac{26.0}{138} = \frac{136}{13C-1,2,3,4,6,7,8-HECDF} = \frac{100}{26.0} = \frac{26.0}{138} = \frac{136}{13C-1,2,3,4,7,8,9-HECDF} = \frac{100}{26.0} = \frac{26.0}{138} = \frac{136}{13C-1,2,3,4,7,8,9-HECDF} = \frac{100}{26.0} = \frac{26.0}{138} = \frac{136}{13C-1,2,3,4,7,8,9-HECDF} = \frac{100}{26.0} = \frac{26.0}{138} = \frac{136}{13C-1,2,3,7,8-TCD} = \frac{102}{35.0} = \frac{197}{35.0} = \frac{102}{35.0} = \frac{197}{35.0} = \frac{102}{35.0} = \frac{197}{35.0} = \frac{102}{35.0} = \frac{197}{35.0} = \frac{100}{35.0} = \frac{100}$										
$\frac{13C-1,2,3,7,8-PECDF}{13C-2,3,4,7,8-PECDF} 90.1 21.0 - 185$ $\frac{13C-2,3,4,7,8-PECDF}{13C-1,2,3,4,7,8-PECDF} 90.1 21.0 - 178$ $\frac{13C-1,2,3,4,7,8-PECDF}{13C-1,2,3,7,8,9-RECDF} 102 26.0 - 123$ $\frac{13C-1,2,3,7,8,9-RECDF}{13C-1,2,3,4,7,8,9-RECDF} 99.5 28.0 - 143$ $\frac{13C-1,2,3,4,7,8,9-RECDF}{10C} 100 26.0 - 138$ $\frac{13C-0CDF}{13C-0CDF} 94.6 17.0 - 157 * Acquired: 26-JUN-03$ $\frac{Cleanup Surrogate}{13C-2,3,7,8-TCDD} 102 35.0 - 197 Acquired: 26-JUN-03$ $\frac{F = DB225 Confirmation}{Acquired: 26-JUN-03}$ $\frac{F = DB225 Confirmation}{Acqu$	13C-2,3,7,8-TCDF	85.9	24.0 - 16	9		•				
$13C-2,3,4,7,8-PECDF 90.1 21.0 - 178 \\ 13C-1,2,3,4,7,8+RCDF 102 26.0 - 152 \\ 13C-1,2,3,4,6,7,8+RCDF 113 26.0 - 123 \\ 13C-2,3,4,6,7,8+RCDF 86.6 29.0 - 147 \\ 13C-1,2,3,7,8,9+RCDF 82.8 28.0 - 136 \\ 13C-1,2,3,7,8,9+RCDF 99.5 28.0 - 143 \\ 13C-0CDF 94.6 17.0 - 157 * Acquired: 26-JUN-03 \\ 13C-0CDF 94.6 17.0 - 157 * Acquired: 26-JUN-03 \\ Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 Analyst: The second second$	13C-1,2,3,7,8-PeCDF	96.0	24.0 - 18	5						
$\frac{13C-1,2,3,4,7,8-HxCDF}{13C-1,2,3,4,6,7,8-HxCDF} 102 26.0 - 152 \\ \frac{13C-1,2,3,4,6,7,8-HxCDF}{13C-2,3,4,6,7,8-HxCDF} 86.6 29.0 - 147 \\ \frac{13C-1,2,3,4,6,7,8-HxCDF}{13C-1,2,3,4,6,7,8-HxCDF} 82.8 28.0 - 136 \\ \frac{13C-1,2,3,4,6,7,8-HxCDF}{13C-1,2,3,4,7,8,9-HpCDF} 100 26.0 - 138 \\ \frac{13C-1,2,3,4,7,8,9-HpCDF}{13C-0CDF} 100 26.0 - 138 \\ \frac{13C-0CDF}{13C-0CDF} 94.6 17.0 - 157 * Acquired: 26-JUN-03 \\ \hline Cleanup Surrogate F = DB225 Confirmation \\ 37Cl-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 \\ \hline Analyst: The second second$	13C-2,3,4,7,8-PeCDF	90.1	21.0 - 17	8						
$13C-1,2,3,6,7,8-HxCDF 113 26.0 - 123 \\ 13C-2,3,4,6,7,8-HxCDF 86.6 29.0 - 147 \\ 13C-1,2,3,7,8,9-HxCDF 82.8 28.0 - 136 \\ 13C-1,2,3,4,7,8,9-HxCDF 99.5 28.0 - 143 \\ 13C-1,2,3,4,7,8,9-HxCDF 100 26.0 - 138 \\ 13C-0CDF 94.6 17.0 - 157 * Acquired: 26-JUN-03 \\ Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 Analyst: The pate: Confirmation Analyst: The pate: Confirmation Date: Confirmation Cleanup Surrogate F = DB225 Confirmation Cleanup Surrogate F = DB225 Confirmation Acquired: 26-JUN-03 (00001-$	13C-1,2,3,4,7,8-HxCDF	102	26.0 - 15	2						
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 $28.0 - 143$ $13C-1,2,3,4,6,7,8-HpCDF$ 100 $26.0 - 138$ $13C-1,2,3,4,7,8,9-HpCDF$ 100 $26.0 - 138$ $13C-0CDF$ 94.6 $17.0 - 157$ $Cleanup$ Surrogate $F = DB225$ Confirmation $37Cl-2,3,7,8-TCDD$ 102 $35.0 - 197$ Analyst: $Acquired: 26-JUN-03$ Date: $U/27/0.3$ Reviewed by: $Acquired: 26-JUN-03$ $UN 3$ 0.2003 00001 00001	13C-1,2,3,6,7,8-HxCDF	113	26.0 - 12	3						
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 $26.0 - 138$ $13c-1, 2, 3, 4, 7, 8, 9 + HpCDF$ 100 $26.0 - 138$ $13c-1, 2, 3, 4, 7, 8, 9 + HpCDF$ 100 $26.0 - 138$ $13c-1, 2, 3, 4, 7, 8, 9 + HpCDF$ 100 $26.0 - 138$ $13c-0CDF$ 94.6 $17.0 - 157$ * Cleanup Surrogate $F = DB225$ Confirmation $37cl-2, 3, 7, 8 - TCDD$ 102 $35.0 - 197$ Analyst: $Analyst:$ $Analyst:$ $Date:$ $0/27/0.3$ 02003 $Date:$ $0/27/0.3$ $Date:$ $6/27/0.3$ 00001 00001 00001	13C-2,3,4,6,7,8-HxCDF	86.6	29.0 - 14	7			•			
13C-1,2,3,4,6,7,8-HpCDF 99.5 $28.0 - 143$ * = Dilution $13C-1,2,3,4,7,8,9-HpCDF$ 100 $26.0 - 138$ * = Dilution $13C-0CDF$ 94.6 $17.0 - 157$ * Acquired: $26-JUN-03$ Cleanup Surrogate F = DB225 Confirmation $37Cl-2,3,7,8-TCDD$ 102 $35.0 - 197$ Acquired: $26-JUN-03$ Analyst: Image: Confirmation Acquired: $26-JUN-03$ Date: Cleanup Surrogate Image: Confirmation $Date:$ Confirmation Acquired: $26-JUN-03$ Date: Confirmation Acquired: $26-JUN-03$ Image: Confirmation Image: Confirmation Image: Confirmation Imalyst: Image: Confirmation	13C-1,2,3,7,8,9-HxCDF	82.8	28.0 - 13	6						
13c-1,2,3,4,7,8,9-HpCDF 100 $26.0 - 138$ $13c-0CDF$ 94.6 $17.0 - 157$ * Cleanup Surrogate F = DB225 Confirmation $37cl-2,3,7,8-TCDD$ 102 $35.0 - 197$ Analyst: Acquired: $26-JUN-03$ Date: $6/27/03$ Reviewed by: $6/27/03$ 00001	13C-1,2,3,4,6,7,8-HpCDF	99.5	28.0 - 14	3			* =	Diluti	on	
13C-OCDF 94.6 17.0 - 157 * Acquired: 26-JUN-03 Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 Analyst: Image: Color of the second seco	13C-1,2,3,4,7,8,9-HpCDF	100	26.0 - 13	8						
Cleanup SurrogateF = DB225 Confirmation $37Cl-2,3,7,8-TCDD$ 102 $35.0 - 197$ Acquired: $26 - JUN - 03$ Analyst: $F = DB225 ConfirmationAcquired: 26 - JUN - 03Analyst:F = DB225 ConfirmationAcquired: 26 - JUN - 03Date:Date:Date:Date:Date:Date:Date:Cl27/03Date:Date:Cl27/03Date:Date:Date:Cl27/03Date:Date:Cl27/03Date:Cl27/03Date:Date:Date:Cl27/03Date:Date:Cl27/03Date:Date:Cl27/$	13C-OCDF	94.6	17.0 - 15	7	*		A	cquire	d: 26	JUN-03
37Cl-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 Acquired: 26-JU	Cleanup Surrogate						F =	DB225	Confir	nation
37C1-2,3,7,8-TCDD 102 35.0 - 197 Acquired: 26-JUN-03 Acquired: 26-JU						•	-			
Analyst: TECEIVER Analyst: Ana	37cl-2,3,7,8-TCDD	102	35.0 - 19	97			ρ	Acquire	d: 26-,	JUN-03
Tetra 13-	Analyst: Date: <u>6/27/03</u>				R	ECENTED JUN 3 0 2003 JUN 3 COMMEG, Inc.	Reviewed k ≵ Date:	^{by:} 6[:	27/03	2
					•	Tetra Tou				000010

Analyst: Date: 6/27/03

000010 of 000014



FAL ID: 2102-004-SA Client ID: C-2 Matrix: Solid		Date Extract Date Receive Amount: 9.98	:ed: 6/ ed: 6/2 3 g	24/03 4/03	ICal: pcddfal1-3-8 GC Column: DB5 Units: pg/g	8 Acq WHO	uired: TEQ: 5	25 - JUN 2900	03
Extraction Batch No.: 003	5	% Solids: 95	5.2		MS/MSD Batch No.:	1769			
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	-	В,*	7
OCDD	10500000	-	в,*	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	Qu	Jal					
170 0 7 7 0 TOPP	100	25 0 44	,						
13C-2,3,7,8-TCDD	102	25.0 - 16	4.						
13C-1,2,3,7,8-PeCDD	98.2	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	126	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	127	28.0 - 13	0	*					
13C-1,2,3,4,6,7,8-HpCDD	70.9	23.0 - 14	0	*	•				
13C-OCDD	6.70	17.0 - 15	7 /	*					
13C-2 3 7 8-TCDE	00 5	24 0 - 16	0						
13c-1 2 3 7 8-DecDE	107	24.0 - 18	5						
13c-2 7 4 7 9-DecDE	107	24.0 - 10	ر ۵		· .				
	100	21.0 - 17	0 ว						
130-1,2,3,4,7,8-HXCDF	149	26.0 - 15	2						
13C-1,2,3,6,7,8-HXCDF	116	26.0 - 12	5						
13C-2,3,4,6,7,8-HxCDF	126	29.0 - 14	(
13C-1,2,3,7,8,9-HxCDF	135	28.0 - 13	6						
13c-1,2,3,4,6,7,8-HpCDF	104	28.0 - 14	3	*		* =	Diluti	on	
13C-1,2,3,4,7,8,9-HpCDF	138	26.0 - 13	8	*					
13C-0CDF	48.6	17.0 - 15	7	*			Acquire	d: 26-J	UN-03
					•				
Cleanup Surrogate						F =	DB225	Confirm	ation
37cl-2,3,7,8-TCDD	113	35.0 - 19	7		.60		Acquire	d: 26-J	UN-03
					ENER				
				-6	CF. and				
				RE	2005	Development		A	
Analyst:				•	11N 3 - Inc.	Reviewed	by:	A	.
1/20/00					JUIN NFG,		-		
Date: 0/0/05					- ch/N"	Date:	<u> </u>	27/03	
•					ra les				
				T	Sr				

S.

	ANALTOIO COC No. 41379	ffice the the second se	Sound PAGE: 1 OF:	DATE: 6/19103	ANALYSIS REQUEST	sthod Handling Remarks	E Lab to gri vol	H B B F Prior to an etysis.	V Par Dan Vickers	V Rush Detr to lee	V provided here	V Turzour		· ·			ENTS/CONDITION OF SAMPLES COOLOR TEMP.	RECIEVED BY:	PRINTED NAME COMPANY	KATAY ZIPD Fronties Analyta	-	LABOHATOHY	other Filtration: F - fitered U - unfiltered
		Ana Office Seattle O th Tustin Avenue 19203 36 01 suite 101 Ana, CA 92705-3731 Lymmwoor 14) 973-3097 Tei: (425 14) 973-3097 Fax: (425	End: Arcata :	1 Conti		uiners Constituents/Me	-0.10-3(NO.	211	C V	L 1 C	2						5	SIGNATURE	Kaller 240	6 1050 B	6/24/03	c G - glass T - teflon B - brass OT - (TE: Return to Originator
	AND AN Inc.	Santa A 640 Noi 5ufte 10 Sufte 10 10 10 10 10 10 10 10 10 10 10 10 10 1	auti	AGER: E		Conta	IE	ARTIR (so\im) AULOV AULOV	1 40× () tor	402 1	1 roh					CONTAINERS		TIME	(',ZUPM			Containers: P - plastl aboratory Copy WHI
- 101 C	MFG	an Francisco Office Cervenson Sineet (115) 495-7107 M: (415) 495-7107 M: (415) 495-7107	Siena t	OJECT MAN R/WAYBILL		eservation		COΓD H ⁵ 2O [⊄]	2	~	V	λ							DATE	6/23/03			n A - air OT - other Field Copy YELLOW: L
		Office □St x 30 a, ID 0030 003056-6811 Te 003 556-7271 Fa	JECT NAME:	CARRIE		Pr		ниО ³ Изtrix Изtrix	8	05	, ot	ot					μ 		MPANY				SL - sludge P - petroleun DISTRIBUTION: PINK:
		Iffice Osbum 158 P.O. Bo NT Wallace 17 Wallace 18 23873-(228-4600 Tal: (20) 728-4600 Fax: (21)	PRO		SAMPLES	Sample		DATE	6/19 Pm	1/a Pr	6/19 Rm	6/10 Pm			-			i ber an de forder de la compañsion de la c	8	MPC		•	ionequeous SQ - soil S
	CHAIN-O	E Boulder Office Missoula C Ber 2400 Pearl East Circle Missoula D Sat7 Suite 300W Farl East Circle Missoula. N Boulder, CO 80301-6118 59807-718, 7 Tel: (303) 447-1836 Fax: (406) Fax: (303) 447-1836 Fax: (406)	NO: 030229.11	(Signature): Challen				Field Sample Identification	1-1-5	5-2-1	1-1	2-2				5	S.		RE PRINTED NAME	Olrin Plo dren			-KEY Matrix: AQ - aqueous NA - r
)	Arcata Office Arcata, C Street, Sul Arcata, CA 95521- Arcata, CA 95521- Tai: (707) 826-845 Fax: (707) 826-845	PROJECT	SAMPLER										Ś	Ś	`ر ``	\$ }	ж.	SIGNA	2.11			

000012 of 000014



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:	кz
# of Samples Received:	4
Duplicates:	0
Storage Location:	R1

7908 1857 2585 Yes No No 2 Ice Yes
Yes No No 2 Ice Yes
No No 2 Ice Yes
No 2 Ice Yes
2 Ice Yes
lce Yes
Yes
Yes
No
No
06/18/2004
Yes
CECEINE, n2003 C.M.

(etto









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,

mommen

Nial Maloney Director of Technical Services Frontier Analytical Laboratory

			2.4	SIGI							-	-	-			PROJ SAMP METH	Arcata Offic 1165 G Str Arcata, CA Tel: (707) t Fax: (707) s		
ĥ				VATURE					6.2	C	5-2-	5-1-1	Field Sampl Identifica			ECT NO:	ae bat, Suite E 4900 Pe 95521-5817 Suite 30 226-8430 Boulder, 326-8437 Fak: (30		
Y Matrix: AQ - aqueou			Drin Place	PRINTED NA	RELINQUISHED						-		tion			30229.	Office ☐ Mis arl East Circle P.O OW 80301-6118 Mis 01 447-1823 Tel: 3) 447-1838 Fab	CHAIN	
s NA - nonaqueous SO -			m MF	ME) BY:		 		640	6//4	64 a	5/14	DATE -	San	SAMPL		soula Office D. b. Box 7158 P. soula, MT 88 1: (406) 728-4600 Te 1: (406) 728-4698 Fa	-OF-CUS	
soil SL - sludge P - petrol DISTRIBUTION: PIN			Ġ	COMPANY					Um OT	F OT	P	8	Matrix*	nple	.ES	ROJECT NAMI	Sburn Office O. Box 30 allace, ID all73-0025 4873-0025 4873-0025 4873-002 4873-002 4873-002 4873-002 4873-002 4873-002 4874-002 4	STODY R	· ••
eum A-air OT-other IK: Field Copy YELLOW: L			6/22/03	DATE		TOTAL NUMBER OF O	 		¢,	~	~	5	HNO ₃ H ₂ SO ₄ COLD	Preservation	<u>+</u>	E: Siera t Roject Man IER/WAYBILL	USan Francisco Office 2.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		いこい
Containers: P - plastic (aboratory Copy WHITE: I	· ·-		(: Jum	TIME	*	CONTAINERS			403 6	402 6		402 6	FILTRATION* VOLUME (ml/oz) TYPE*	Contain		AGER: EL	Santa Ana 640 North Suite 101 Suite 101 Tel: (714) Fax: (714)		
i - glass T - teflon B - bra letum to Originator	20/46/03	3010	Kalle 2	SIGNATU		LABORATOR			5	2	- C	- <	NO. Pistij Furen	ers Constitue		ad: Arca 57 2585	Office [] Tustin Avenue [] yr3-3090 [] 973-3097 []	QUEST	
ss OT - other Filtratio		NT F	bo Kat	Ë PF	R	COMMENTS/CONDIT							HOLD	nts/Method H	AN	DESTINATION	Seattle Office 9203 36th Avenue Suite 101 Suite 104, WA 98036-57 Vintwood, WA 98036-57 el: (425) 921-4000 ea: (425) 921-4040	OR AN/	
n; F - filtered U - unfiltere			thy Ziph	RINTED NAME	ECIEVED BY:	TON OF SAMPLES			V C	<	< R.	<u>v</u>	RUSH STANDARD	landling	ALYSIS REQU	PAG DATE			
α.	LABOHAIC	I ABODATO	Fintier	COMPA		Cooler Temp			, 405 NI	ovided by	n Deta to	DAVicke	in to an ely	Remarks	EST	E: 1 OF: = 6/1910 = 6/1910		OC No. 43	
			Amal 1- tu	Y							ř	19	1512.			+w-		õ	

:



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:	ĸz
# 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	lce
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:	<u>06/24/2003</u>		Project Due:	07/09/2003	Storage:	<u>R1</u>		
			•				· · · ·		
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	

varus va			Cille Orris Plo das	SIGNATURE PRINTED NAME	RELINQUISHED BY:						1-2	(1)	5-2-1	S-1-1,	Field Sample Identification			PROJECT NO: 030229.11 SAMPLER (Signature): 0/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	Arcata Office Boulder Office Missoula Offi 1165 G Street, Suite E 4900 Pearl East Circle P.O. Box 71 Arcata, C-As5C21-5817 Suite 300W Missoula, M1 Arcata, C-As5C21-5817 Boulder, CO 80301-6118 59807-7158 Fax: (707) 826-8437 Tel: (303) 447-1823 Tel: (406) 72 Fax: (707) 826-8437 Fax: (303) 447-1836 Fax: (406) 72	CHAIN-OF
naqueous SO - soil SL - siudge P - p DISTRIBUTION:			MPO	COMPANY							JA Dm ot	1/4 Jan OT	02 -4 n/	1/11 Pm 50	DATE TIME Matrix* HCI	Sample	SAMPLES	PROJECT NAN	Ce □Osbum Office B □O. Box 30 Wellce, ID 83872-0030 8-4600 Tel: (208) 555-6811 8-4698 Fax: (208) 556-7271	-CUSTODY
erroleum 'A - air OI - ourer Co PINK: Field Copy YELLOW: Labor			60/23/03	DATE		TUTAL NUMBER OF CON				•	1	7	4	2	HNO ₃ H ₂ SO ₄ COLD	Preservation		ME: <u>Sterra Pac</u> PROJECT MANAG RIER/WAYBILL NO	San Francisco Office Findervigison Super Santaria, 1997 Santaria, 1997 Tel: (415) 495-7110 Fax: (415) 495-7107	
atory Copy WHITE: Return to Orig	antioner D- stratin G- close T-		(30pm	TIME S		IAINERS 4					402616	402 6 1 6	402 6- 1 L	402 C 1 2	VOLUME (ml/oz) TYPE* NO. Diant Forger	Containers 0		ER: Fd Conti 1: 7408-18 57 2	Santa Ana Office 640 North Tustin Avenu Suite 100 Tab: (714) 973-3097 Fax: (714) 973-3097	
inator	after R - bress OT - other Filt			IGNATURE											- 16 (3'	Constituents/Method		SBS DESTINATI	□ Seattle Office 19203 86th Avenue Suite 101 1731 Lynnwood, WA 98036 19, 1425) 92140400 Fax: (425) 9214040	ST FOR AN
	ration: F - filtered U - unfiltered			PRINTED NAME	RECIEVED BY:						V JUN	V DIAL	V Ruzz	V Par I	HOLD RUSH STANDARD	Handling	INALYSIS REQUES)] PAGE: DATE: ON: Fastre	5-5707	
	LABOHATOHT	1 1000		COMPANY		Cooler Temp:	Deeles Temps				e 30th 1	ided by	Data the	an Vickers	to an angles	Remarks		1 OF: 1 6/14103 - Arekyha'/		No. 41379

у.			Dulla	SIGNATURE					C-2	6-1	5-2-	5-1-1	Fielc Samp Identifica			PROJECT NO: SAMPLER (Signatur METHOD OF SHIPA	Arcata Office Boulder 1165 G Street, Suite E 4900 Pr Arcata, CA 95521-5817 Suite 30 Tel: (707) 826-8430 Boulder Fax: (707) 826-8437 Fax: (30	
CEY Matrix: AQ - aqueous NA - /	<. {		Orrin Plo duen	PRINTED NAME	RELINQUISHED BY:		-				·/ '		die ation	~		30229.11 19:02/1/4- MENT: Fed Et	r Office □ Missoula O earl East Circle P.O. Box 7 00W Missoula, M 1, CO 80301-6118 59807-715 1, CO 80301-6118 59807-715 1, CO 80301-6118 59807-715 303 447-1835 Tel: (406) 03) 447-1835 Fax: (406)	CHAIN-O
nonaqueous SO-soil SL-sludg			IMPO-	COMPAN			-		6/10 Pm of	6/19 8-0	1/a P- 5	5/14 Pm 3	DATE TIME	Sample	SAMPLES	PROJECT	Image Cosburn Office 158 P.O. Box 30 AT Wallace, ID 28 83873-0030 28 Fax: (208) 556- 728-4698 Fax: (208) 556-	F-CUSTOD
P - petroleum A - air OT - other			6/23/03	VY DATE		TOTAL NUMBER O				7	, , ,	5	HCI HNO ₃ H ₂ SO ₄ COLD	Preservation		- NAME: Stevra PROJECT MA CARRIER/WAYBILI	San Francisco Office San Francisco Office San Francisco June San Francisco San Fran Francisco San Francisco San Francisco San Fran Fra	
Containers: P - plastic G - g			(',30pm S	TIME					4026	402 1	402 6	Hox C	FILTRATION* VOLUME (mi/oz) TYPE*	Container		NAGER: Fd G	Santa Ana Off 640 North Tus Suite 101 Santa Ana, C/ Santa Ana, C/ Tel: (714) 977 Fax: (714) 977	
plass T-teflon B-brass OT-	60403	A SOJA (E	alle Tho	SIGNATURE		LABORATORY COMM			7	- 2	7	7	NO. Diven JFure 16 3	S Constituents/Me		d: Arcata -	tine Seattle O tin Avenue 19203 36 Suite 101 Suite 101 Suite 101 Lynnwood Lynnwood Tel: (425 S-3097 Fax: (425	UESI FOR
other Filtration: F - fittered			Kathy Z	PRINTED N.	RECIEVED	HENTS/CONDITION OF SAM			 K	<	<	<	HOLD RUSH STANDARD	sthod Handling	ANALYSIS I	TINATION: Fr	ffice th Avenue 1, WA 98036-5707 1) 921-4000 2) 921-4040	ANALT SI
U - unfiltered			in think	AME CON	BY:	PLES Cooler Te			NOS AND	provided	Rush Data	Per Dan Vie	Lab to gri Convicte si Prior to an	Remar	REQUEST	PAGE: 1 (DATE: <u>6/191</u> atref Arek		
	Operion	DBATOBY	Anal	MPANY		emp:				and and	to be-	ters	amples	rks		0F: 1 103		379

D-4 First Phase of Excavation Samples



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,

aundy

Karen A. Daly Project Manager



RECEIVED

AUG 0 1 2003 Tetra Tech/MFG, Inc.



CHEMICAL EXAMINATION REPORT

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 A307295

Receipt Date/Time 07/10/2003 17:45

Client Code MFGARC

Client PO/Reference

Page 1 of 4

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 0 1 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.

aren aly



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

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

		Alpha A	nalytical	l Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Pit Under 2nd Slab (A307295-01)			Sample Ty	pe: Soil		Sampled: 07/09/03 17:0	5	
Chlorinated Phenols by Canadian Pulp	p 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	н		"	"	11	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	u .	"	ND "	1.0	
Pentachlorophenol	"		"	"	"	2.3 "	1.0	
Surrogate: Tribromophenol	"	"	"	"		90.3 %	23-140	
Pit Bottom (A307295-02)			Sample Ty	pe: Soil		Sampled: 07/09/03 17:0	0	
Chlorinated Phenols by Canadian Pul	p 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		"		11	"	1.7 "	1.0	
Pentachlorophenol	"	"		**	"	380 "	1.0	
Surrogate: Tribromophenol	"	"	"	"		53.2%	23-140	

· · · · · · · ·

RECEIVED

AUG 01 ZUUS 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.

aren dly

Karen A. Daly Project Manager


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

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
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	n	0.0250		68.8	17-85			
Surrogate: Tribromophenol	0.111		"	0.124		89.5	23-140			a yo a ay yo bo y - /
LCS Dup (AG31514-BSD1)				Prepared	: 07/11/03	Analyzed	ł: 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	н	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 provided to the same set of the same

aren aly

Karen A. Daly Project Manager

Tetra Tech/MFG, Inc.

AUR A 1 2003

7/30/03



MFG. Inc - Arcata

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

875 Crescent	Way	Repor	ort Date: 07/30/03 09:26
Arcata, CA 95	5521	Proj	ject No: 030229.11
Attn: Orrin Pl	ocher	Proj	oject ID: SPI - Arcata
Order Number	Receipt Date/Time	<u>Client Code</u>	Client PO/Reference
A307295	07/10/2003 17:45	MFGARC	

Notes and Definitions

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

RECEIVED

AUR O I ZUUS

\$75 Croccont w	C ام			STC		Ŭ Ĥ	MF NF NF	D, A	ZC.	EQL	ES.	L FC	B AN	ALYS	SIS		-		o. 4 33	02
Arceate Office Arceate Office Arceate, CA 95521-5817 Tel: (707) 826-8437 Fax: (707) 826-8437	Boulder Office 1900 4900 Peant East Circle 2000 Suife 300W 801 Boulder, CO 80301-6118 118 Tel: (303) 447-1823 747-1826 Fax: (303) 447-1836 747-1836	lirvine Office 17770 Cartw Suite 500 Irvine, CA 92 Tat: (949) 25 Fax: (949) 25	right Road 1614-5850 13-2951 13-2954	_	POSPut Waller Fax: (5)	0410 0410 0410 0410 0410 0410 0410 0410	5-7271 B	3 San 80 How tan Fran thone (4	Franci rid Street Haco, CA 15) 485-7	Suite 20 Suite 20 94105-1 10 - Fæ	Mice 0 617 1 (415) 4	107-7107	C) Seat 19200 Suite Tex: Fax:	le Office 3 36th Aw 101 wood, WA wood, WA (425) 921- (425) 921-	enue W. 98036-5 4000 -4040	L 1078				
PROJECT NO: 02	11 2229.11	Ten P	ROJEC	L N	Щ. В Ш		F N FO	NAG	Ž	70	Ž	ple	en (che	ha			PA DA	и Ш Ш	1 OF	- 20
METHOD OF SHIP	MENT: Courier			CAL	I HIE	N N N	AYBIL	L NO						STIN	ATIO	۲ خ	4 P	4.9		
		SAMP	LES												AN	ALYSI	IS REQ	UEST		
		Sai	mple		Ъ.	eserv	ation		ŏ	ontain	ers	S	stituents/	Method	<u>т</u>	andlin	6		Remarks	
Fiel	d B				10'	⁺os	סרם	*NOITART		kbE∗	.c	024/8:	9127 9:		OLD	77,81 HSN		tari M	rout	Such
Pat 112/20 7	ation	DATE	TIME 1705		IH	^z H	x co		2 V 2		N	w x	0 X X	12		×	d s	CP/T	ry 92	cautalism
P:+11 . der 2	2 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	7/9	70.4	1-			×	<u> </u>	40	<u>ن</u>			X				X	onb	Met	pay
Pit Betten		6/1	22	0	 		×		402	9	· ·	X	A30	129	ダン	Y	_			
Pit Batton		7/9	100	0			X		yoz	<u>ى</u>	-	- `	x	-			X			
Wared Compo	Site 1	7/9	1720 (F			x		lfe 2	9			X					inti'	NHR NHR	74
													_	-+		1	+	1 ta	ethod	1613
RF Te																	8	mad	ŝ	
	-			+					_	_		-				1	50	rin_p	loched	al menery
2 4				+	+	<u> </u>	<u> </u>		-											COM
					Ĕ	DTAL N	UMBER	PF CON	AINERS		10	LABOR	ATORY CO	MMENTS	CONDIT	ION OF	SAMPLES	ŏ	ooler Tem	ä
interactive in cased On the Constant	RELINQUISHED BY:	ala da se da se da da						┝							æ	ECIEV	ED BY:			
SIGNATURE	PRINTED NAME		COMP/	λ			DATE	_	TIMIT		-	SIGN	ATURE		μ μ	INTEC	NAME	-	COMP	ANY
Matt Holland	Matt Hallyand	11/1	95			7	0/0	M	1	5		W	Et Mill	-	-	F	thew	2	H NO	44
- mathin	1. Mathins	¥	1pha			2	0/03	$\frac{1}{2}$		Mo	\mathbb{X}		BLE		Ý	à	trd	<u>× </u>	1LF/h	
	·KEY Mairix: AO - aqueous	NA - nonaqueou	s SO·soff SL	- studge	P - petrole	um A-a	ir OT-othe	Conta	Iners: .P - pl	Istic G - g	ass T-h	for B-D	ass 01 - othe	Filtratio	n: F - litter	ad U-unfi	tterød			
			5	TRIBUT	NO NO	VK: Field C	opy YELL	JW: Labora	ory Copy	WHITE: Herr	um là ung	nalor								



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

RECEIVED

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

JUL 2 9 2003

Tetra Tech/MFE, 9902.12



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	Hoid 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

RECEIVED

JUL 2 9 2003



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

RECEIVED

JUL 2 9 2003

Tetra Techi/MFG99hc.

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.

RECEIVED

JUL 2 9 2003 Tetra TechyMFG,9862.

. . ..



FAL ID: 2133-001-MB Client ID: Method Blank Matrix: Soil Extraction Batch No.: 0056	D D A %	ate Extracte ate Received mount: 10.00 Solids: NA	edi: 7/ d: NA 0 g	22/03	ICal: PCDDFAL1-6-1 GC Column: DB5 Units: pg/g MS/MSD Batch No.:	3 Aci WH	quired: O TEQ: O	24-JUL-	-03 2
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	WANG of ADDIA	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	Q	ual					
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	5						
13C-2,3,4,7,8-PeCDF	81.9	21.0 - 178	3						
13C-1,2,3,4,7,8-HxCDF	91.7	26.0 - 152	2						
13C-1,2,3,6,7,8-HxCDF	80.3	26.0 - 123	5						
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	6						
13C-1,2,3,4,6,7,8-HpCDF	95.8	28.0 - 143	5						
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 138	3						
13C-00DF	107	17.0 - 157	,						
Cleanup Surrogate									
37Cl-2,3,7,8-TCDD	78.7	35.0 - 197	•						

Analyst:_ Date: 7/25/03



JUL 2 9 2003



FAL ID: 2133-001-MB Client ID: Method Blank	C	ate Extra ate Recei	cted: 7/ ved: NA	/22/03	ICal: PCDDFAL1-6-1 GC Column: DB5	13 Acc	uired:	24-JUL	- 03
Matrix: Soil	A	mount: 10	.00 g		Units: pg/g	WHO	TEQ: 0	.00034	2
EXTRACTION BATCH NO.: UUDO	7	Solids:	NA		MS/MSD Batch No.:	0038			
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	1000 A 1000-12	• 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 Limit	s Q	ual					
13C-2,3,7,8-TCDD	84.7	25.0 - 1	64						
13C-1,2,3,7,8-PeCDD	81.0	25.0 - 1	81						
13C-1,2,3,4,7,8-HxCDD	92.2	32.0 - 1	41						
13C-1,2,3,6,7,8-HxCDD	86.4	28.0 - 1	30						
13C-1,2,3,4,6,7,8-HpCDD	99.2	23.0 - 1	40						
13C-OCDD	109	17.0 - 1	57						
13C-2.3.7.8-TCDF	90.0	24.0 - 1	69						
13C-1,2,3,7.8-PeCDF	83.6	24.0 - 1	85						
13C-2,3,4,7,8-PeCDF	81.9	21.0 - 1	78						
13C-1,2,3,4,7,8-HxCDF	91.7	26.0 - 1	52						
13C-1,2,3,6,7,8-HxCDF	80.3	26.0 - 1	23						
13C-2,3,4,6,7,8-HxCDF	83.5	29.0 - 1	47						
13C-1,2,3,7,8,9-HxCDF	84.9	28.0 - 1	36						
13C-1,2,3,4,6,7,8-HpCDF	95.8	28.0 - 1	43						
13C-1,2,3,4,7,8,9-HpCDF	110	26.0 - 1	38						
13C-OCDF	107	17.0 - 1	57						
Cleanup Surrogate									
37Cl-2,3,7,8-TCDD	78.7	35.0 - 1	97						
								1	
Analyst: 💦						Reviewed H	N: /		_

Analyst:______ Date:___7/25/03 Reviewed by: Date: =(2005ECEIVED JUL 2 9 2003

Tetra Tech/MFG;01962



PIT UNDER ZND SLAB

FAL ID: 2133-001-SA Client ID: A307302-01	D	ate Extract	ed: 7/	/22/03	ICal: PCDDFAL1-6- GC Column: db5	13 Acq	uired:	24-JUL	·03
Matrix: Soil	· A	mount: 10.1	0 g	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Units: pg/g	WHO	TEQ: 2	570	
Extraction Batch No.: 0056	2	6 Solids: 77	.0		MS/MSD Batch No.:	0038			
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	-	в,*	128	Total Hepta-Dioxins	249000		*	2
2 7 7 0 700	0.045			0.0045					
2,3,7,8-TCDF	0.915	-		0.0915					
1,2,3,7,8-PecDF	5.42	-		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	% Per	OC Limite	0	ual					
internat standards	70 Rec								
13C-2,3,7,8-TCDD	101	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	99.9	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	102	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	116	28.0 - 13	D						
13C-1,2,3,4,6,7,8-HpCDD	85.9	23.0 - 14	0	*					
13c-ocdd	41.8	17.0 - 15	7	*					
130-2 3 7 8-TONE	08 1	26 0 - 16	•						
13C-1 2 3 7 8-Doch	07 0	24.0 - 18	5						
13C-2 3 / 7 8-PecDF	02.2	24.0 - 10	2 2						
130-2,3,4,7,0-PecDr	72.2	21.0 - 17	0 2						
$130^{-1}, 2, 3, 4, 7, 0^{-1}$		26.0 - 15	2						
$130^{-1}, 2, 3, 0, 7, 0^{-1}, 00^{-1}$	90.9	20.0 - 12	3 7						
130-2,3,4,0,7,8-HXUDF	91.0	29.0 - 14	(,			•			
		28.0 - 13	D .	*		· • -			
13C-1,2,3,4,6,7,8-HPCDF	97.0	28.0 - 14	5	*	/	* =	DILUTIO	on	
13C-1,2,3,4,7,8,9-HPCDF	96.3	26.0 - 13	8 ~	*					
13C-0CDF	86.3	17.0 - 15	7	*		4	(cqu1 red	1: 24-J	UL-03
Cleanup Surrogate						F =	DR225 (Confirm	ation
						•	00220		
37cl-2,3,7,8-TCDD	100	35.0 - 19	7			1	(cquired	d: 24-J	UL-03
1									
Analyst:						Reviewed b	y:	OPN	
Data: 7/25/17				REU		Date:	7/28	200	ł
		-				Date			

JUL 2 9 2003



PIT BOTTOM

•

	00110								
FAL ID: 2133-002-SA	0	ate Extrac	ted: //	22/03	ICal: PCDDFAL1-6-	13 Acqu	ured:	24-JUL-	03
Client ID: ASU/SU2-U2	L	ate Receiv	ea: //i	15705		1.00	750. 4		
Matrix: Soll	F o	mount: 10.				WHU	IEW: I	0700	
Extraction Batch No.: 0056	7	Solids: /	7.9		MS/MSD Batch No.:	0038			
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	44 9000 °'	-	*	4490	Total Hexa-Dioxins	62600	-		7
OCDD	2070000	-	в,*	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 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD	% Rec 110 104 112 128	QC Limits 25.0 - 16 25.0 - 18 32.0 - 14 28.0 - 13	4 11 11 0	ual					
13C-1,2,3,4,6,7,8-HpCDD	86.2	23.0 - 14	0	*					
13C-OCDD	38.7	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	104	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	100	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	106	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	96.7	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	101	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	93.2	28.0 - 14	3	*		* =	Diluti	on	
13C-1.2.3.4.7.8.9-HpCDF	81.8	26.0 - 13	8	*					
13C-OCDF	58.4	17.0 - 15	7	*		A	cquire	d: 24-J	UL-03
Cleanup Surrogate						F =	DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	112	35.0 - 19	7			A	cquire	d: 25-J	UL-03
Analyst:				REC	EIVED	Reviewed b	y:_ 0 9		
Date: 7/25-103				JUL	z 9 2003	Date:	7/28	12002	

Date: 7/28/2003

JUL 2 9 2003



PIT BOTTOM

•

	00110								
FAL ID: 2133-002-SA	0	ate Extrac	ted: //	22/03	ICal: PCDDFAL1-6-	13 Acqu	ured:	24-JUL-	03
Client ID: ASU/SU2-U2	L	ate Receiv	ea: //i	15705		1.00			
Matrix: Soll	F	mount: 10.				WHU	IEW: I	0700	
Extraction Batch No.: 0056	7	Solids: /	7.9		MS/MSD Batch No.:	0038			
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	44 9000 °'	-	*	4490	Total Hexa-Dioxins	62600	-		7
OCDD	2070000	-	в,*	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 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD	% Rec 110 104 112 128	QC Limits 25.0 - 16 25.0 - 18 32.0 - 14 28.0 - 13	4 11 11 0	ual					
13C-1,2,3,4,6,7,8-HpCDD	86.2	23.0 - 14	0	*					
13C-OCDD	38.7	17.0 - 15	7	*					
13C-2,3,7,8-TCDF	104	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	100	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	97.5	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	106	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	96.7	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	101	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	93.2	28.0 - 14	3	*		* =	Diluti	on	
13C-1.2.3.4.7.8.9-HpCDF	81.8	26.0 - 13	8	*					
13C-OCDF	58.4	17.0 - 15	7	*		A	cquire	d: 24-J	UL-03
Cleanup Surrogate						F =	DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	112	35.0 - 19	7			A	cquire	d: 25-J	UL-03
Analyst:				REC	EIVED	Reviewed b	y:_ 0 9		
Date: 7/25-103				JUL	z 9 2003	Date:	7/28	12002	

Date: 7/28/2003

JUL 2 9 2003



FAL ID: 2095-008-MS/MSD Client ID: WRD2-IS-009 MS/ Matrix: Soil Extraction Batch No.: 0038	Date MSD Date Sampl 3 MS An MSD A	Extracted: 6/30, Received: 6/23/0 e Amount: 10.03 mount: 10.05 g Mount: 10.06 g	/03)3 9	ICal: PCDDFAL2-6-5 GC Column: db5 Units: pg	MS Acquir MSD Acqui WHO TEQ: % Solids:	ed: 2-JUL-03 red: 2-JUL-03 NA 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 or antia	18.1	836	866	3.60	1
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-2,3,7,8-1CDD	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	
						N

Analyst: Date: 7/25/03

÷...

JUL 2 9 2003

RECEIVED

Tetra Tech/MFG, Inc.

Reviewed by:___

Date:____

7/28/03

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

• · ·		Alpha Analytica A3	al Laboratories, Inc. 07302	2133/2	
SENDING LABOR	ATORY:	·····	RECEIVING LABORAT	ORY:	·
Alpha Analytical L P.O. Box 1508 (20) Ukiah, CA 95482 Phone: (707)468-04 Fax: (707)468-526 Project Manager:	aboratories, Inc. 8 Mason St.) 401 7 Karen A. Daly		Frontier Analytical Labo 5172 Hillsdale Circle El Dorado, CA 95762 Phone :916-934-0900 Fax: 916-934-0999 Terms: Net 30	pratory	
	· ·				. <u> </u>
Analysis	Due undered rations	Expires		Comments	
Dioxins Full List - Containers Supplied 4 oz. jar (A) A307302-02 Pit E Dioxins Full List - Containers Supplied 4 oz. jar (A) Report to State System Name: User ID: System Number:	16[3 07/25/03 12:00] d: Bottom [Soil] Sampled 07 16[3 07/25/03 12:00] d:	07/08/04 17:05 /09/03 17:00 Pacifi 07/08/04 17:00 Employed by: Sampler:	с 		
Y	1FG, I	NC	TRQ	JECI RE JUI Tetra Te	CEIVED 2 9 2003 ech/MFG, Inc.
Released By	Oly 7 Date	14/83	Received By (p ? 1510 Date	3 9:05

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	lce
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:	· · · ·
	RECEIVED
	JUL 2 9 2003





JUL 2 9 2003 Tetra Tech/MFG, Inc. D-5 Lower Fill Material Samples



4

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,

Jelanie S. Treece

Melanie B. Neece For Sheri L. Speaks Project Manager

and the provident of the

RECEIVED JUL 2.5 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

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

Page 1 of 4

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: 2,5 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 S. Trecce

Melanie B. Neece For Sheri L. Speaks Project Manager



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 17:02Project No:030229.11Project ID:SPI - Arcata

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

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL N	NOTE
4" Under 2nd Slab (A307456-01)			Sample Ty	pe: Soil	Sa	mpled: 07/17/03 16:0)0	
Chlorinated Phenols by Canadian Pu	ulp Method							
2,4,6-Trichlorophenol	EnvCan	AG32121	07/18/03	07/19/03	1	ND mg/kg	1.0	
2,3,5,6-Tetrachlorophenol	"	"	n	17	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	u	n	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol			Ħ	"	"	ND "	1.0	
Pentachlorophenol	"	•	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		85.5 %	23-140	

RECEIVED JUL ^{2,5} 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.

Malanie S. There

Melanie B. Neece For Sheri L. Speaks Project Manager



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

The results in this report apply to the samples of custody document. This analytical report mu	nnalyzed in apcodance with the chain ist be remoduced in its entirety.
	Technik
	Tetra

 \mathcal{M}

	CHEM	ICAL E	XAMII	NATION	REPOI	RT				Page 3 of 4
MFG, Inc - Ar 1165 G. Street Arcata, CA 95 Attn: Orrin Plo	cata , Suite E 521 ocher		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 MFG2	Code ARC			Client PO	O/Referer	ice	
	Chlorinated Phenol	s by Can	adian	Pulp Met	<u>Sou</u> hod - Q	rceResult uality C	ontrol			
Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG32121 - Solvent E	xtraction								•	
Blank (AG32121-BLK1)				Prepared:	07/18/03	Analyzed	i: 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	н							
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	1: 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-BSD1)				Prepared	: 07/18/03	Analyzed	d: 07/21/03	3		
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	n	0.0250		42.8	17-85	3.81	50	
Surrogate: Tribromophenol	0.0870		"	0.124		70.2	23-140			
		ED								

208 Mason St. Ukiah, California 95482

Melanie B. Neece For Sheri L. Speaks Project Manager



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	Receipt Date/Time	Client Code	Client PO/Reference
A307456	07/18/2003 13:30	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



2 75 Crescent Marcata Office Marcata Office 1485 C Broot Pather Arcata, CA 95521-5817 Tel: (707) 826-8437 Fax: (707) 826-8437	□ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	CHAIN- Divine Offic Urvine Offic Suite 500 Irvine, CA Tel: (949) Fax: (949)	- OF-C I ^m right Road 253-2954 253-2954			A RI burn Off Box 30 73-003 (208) ((208) (PO DO A.	ND R ND R Franc and Street disco, CA disco, CA disco, CA	EQU Suite 20 94105- 110 - Fa	0000000000000000000000000000000000000	T FC	R AN/ 19203 Suite 1 Lynnw Fax: (4 Fax: (4	ALY Office 36th AV 101 255 921 255 921	enue W 498036 -4040	2013		coc	No. 43274	
PROJECT NO: <u>C</u> SAMPLER (Signal METHOD OF SHII) 30229.11 ure): 100 10 724	- Joseph -	PROJEC		AME PI NRRI		SPT ECT M/ VAYBIL		H CCO	521	51	<i>р</i> (een leche DE		ATIO	N N	¥	PAGE: _ DATE: _ Flphn	1 OF: 1 7/17/0	M
		SAM	PLES												Ā	ALY	SIS R	REQUEST		
		S.	ample			resel	rvation		ŏ	ntaine	ers	Con	stituents/N	lethoo	-	Hand	ling		Remarks	
Fi. Sar Identif	eld nple ication	DATE	TIME	*xintsM	HCI	^{205°н} 80NH				LABE*	.ON	Diorin/ Huran	101/171		НОГР	TAN HSON	QAAQNATS			
240 51a	9	7/17	1530	5	\square		×		, r	6	-	×			×			Droxs	u/Fumi b	Z
41' under 2n	d Slab	=	1600	Se			X		40.7	0	-		×			×		6P4	1613	
4" under 2	not sice b	=	1600	5e			×		40-	5	1	X					×			
12" uncher	Zud Slab	=	1750	۶۵			X		404	0	1		×		×			RCP/	TCP by	
12" under	2nd slak	-	1730	2°		┝╌┤	×		402	૭	-	አ			×	~		Carre	chian pulper	+40
														+	+					
	RECEIVED				+	+		+								_		ene:	results to	
-	111 9 5 2003				+	╉			-	<u> </u>						+			m fog env. co	¥
	 																			
Tel .	a TachiMico, Inc.					TOTAL	NUMBER	F CON	IAINERS	b		LABOR	ATORY COM	MENTS	COND	NOIL	F SAMP	PLES (Cooler Temp:	
	RELINQUISHED BY:		a da ang ang ang ang ang ang ang ang ang an			-										ECIE	VED B	3Y:		
SIGNATURE	PRINTED NAME		COMF	ANY		-	DATE		TIME			SIGN	ATURE		₽.	RINT	ED NA	ME	COMPANY	
Wat Riland	Mat+ H. 117an	1	MP			1	7/16/0	8	9:4	0		m'_{l}	utter		-0	N K/ 7	Vhu	2	Alpha	
Matture	2). MAThews		JE	Å	Æ	2	18/0-	~	J.	P	\$ \$()	N	Pech	9	Ś	N	2 A k	2 T	HIPHA ADDATION	
0 /	-		-			4	118/03		m	ő		-				·				
	•KEY Matrix: AQ - aqueo	ous NA - nonaque	los - OS suo	SL - slud	e P-pel	roleum Å PINK: Fie	- air OT - othe td Copy YELL	Cont W: Labor	ainers: P - pla Itory Copy V	stic G - gi VHITE: Retu	lass T-1 um to Orig	eflon B - b inator	ass 0T-other	Filtrati	on: F-fil	ered U	unfiltered		indus.	



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,

h/ Bradley B. Silverbush

Director of Operations

RECEIVED

AUG 0 6 2003 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



Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: 2147

Received on:

<u>07/22/03</u>

Project D

Project Due: 08/06/03

<u>R-1</u>

Storage:

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

RECEIVED AUG 0 6 2003 Tetra Tech/MFG, Jnc.



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

RECEIVED

AUG 0 6 2003

Tetra Tech/MFG, Inc.

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.

RECEIVED

AUG 0 6 2003

Tetra Tech/MFG, Inc.

000004 of 000012



FAL ID: 2147-002-MB		Date Extracted: 7/28/03		ICal: PCDDFAL1-6-13		Acquired: 29-JUL-03			
Matrix Solid		Amount. 10			Unite: pg/g	u	HO TEO. (0.00	
Extraction Batch No • 0060		% Solide: N	Δ		MS/MSD Batch No ·	0038			
Extraction Batch No.: 0000		/ JULIUS. N	~		Hornov Datch No	0000			
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		-					
1.2.3.7.8.9-HxCDF	-	0.163		-	Total Tetra-Furans	-	0.106		0
1.2.3.4.6.7.8-HpCDF	-	0.119		-	Total Penta-Furans	-	0.169		0
1.2.3.4.7.8.9-HpCDF	-	0.116		-	Total Hexa-Furans	-	0.163		0
OCDF	-	0.298		-	Total Hepta-Furans	· -	0.119		0
Internal Standards	% Rec	QC Limits	։ Qu	al					
13C-2,3,7,8-TCDD	98.8	25.0 - 16	54						
13C-1,2,3,7,8-PeCDD	103	25.0 - 18	31						
13C-1,2,3,4,7,8-HxCDD	88.7	32.0 - 14	41						
13C-1,2,3,6,7,8-HxCDD	87.3	28.0 - 13	30						
13C-1,2,3,4,6,7,8-HpCDD	94.4	23.0 - 14	40	:					
13C-OCDD	93.4	17.0 - 15	57						
13C-2.3.7.8-TCDF	99.3	24.0 - 16	59						
13C-1.2.3.7.8-PeCDF	99.8	24.0 - 18	85						
13C-2,3,4,7,8-PeCDF	97.4	21.0 - 17	78			,			

13C-1,2,3,4,7,8-HxCDF 94.2 26.0 - 152 26.0 - 123 13C-1,2,3,6,7,8-HxCDF 89.2 29.0 - 147 13C-2,3,4,6,7,8-HxCDF 88.0 13C-1,2,3,7,8,9-HxCDF 97.6 28.0 - 136 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 81.6 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

35.0 - 197

100

Analyst Date: 7/30/03

RECEIVED

AUG 0 6 2003

ØN Reviewed by:____ 8/5/2003 Date:_



FAL ID: 2147-002-OPR Client ID: OPR Matrix: Solid Extraction Batch No.: 006	60	Date Extracted: 7/28/03 Date Received: NA Amount: 10.00 g % Solids: 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-0CDF	78.1	13.0 - 198

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

Acquired: 29-JUL-03

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

31.0 - 191

82.1

Analyst כואסאר Date:

RECEIVED

AUG 0 6 2003

Reviewed by: 0/03 Date:



FAL ID: 2095-008-MS/MSD Client ID: WRD2-IS-009 Matrix: Solid Extraction Batch No.: 0060	MS/MSD Date Extracted: 6/30/03 S-009 Date Received: 6/23/03 Sample Amount: 10.03 g No.: 0060 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: 7/20/07 Date:



Reviewed by Date:



4" UNDER 2ND SLAB

FAL ID: 2147-002-SA Client ID: A307469-02		Date Extracted: 7/28/03 Date Received: 7/22/03		ICal: PCDDFAL1-6-13 Acquired: 30-JU GC Column: db5		30-JUL	-03		
Matrix: Solid Extraction Batch No.: 0060		Amount: 10. % Solids: 8	03 g 6.2		Units: pg/g MS/MSD_Batch_No	WH0 0038	TEQ: 3	020	
			0.2		NOT BUCCH NO.	0050			
Compound	Conc	ÐL	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	; QL	Jal					
13C-2 3 7 8-TCDD	101	25 0 - 14							
13c-1 2 3 7 8-Perth	100	25.0 - 18	294 21						
13C-1 2 3 4 7 8-HyCDD	84 0	32 0 - 14	1						
13C-1 2 3 6 7 8-HxCDD	97 5	28 0 - 13	יי גח					-	
13C-1 2 3 4 6 7 8-HpCDD	80.6	23.0 - 14	.0	*					
13c-000	41 7	17 0 - 15	7	*	•				
	41.7	17.0 - 72							
13C-2,3,7,8-TCDF	102	24.0 - 16	59						
13C-1,2,3,7,8-PeCDF	102	24.0 - 18	35						
13C-2,3,4,7,8-PeCDF	101	21.0 - 17	78						
13C-1,2,3,4,7,8-HxCDF	83.6	26.0 - 15	52				-		
13C-1,2,3,6,7,8-HxCDF	89.1	26.0 - 12	23						
13C-2,3,4,6,7,8-HxCDF	83.6	29.0 - 14	7	•					
13C-1,2,3,7,8,9-HxCDF	94.8	28.0 - 13	56						
13C-1,2,3,4,6,7,8-HpCDF	91.1	28.0 - 14	43			* =	Dilutio	on	
13C-1,2,3,4,7,8,9-HpCDF	100	26.0 - 13	38						
13C-0CDF	48.8	17.0 - 15	57	*		A	cquire	d: 31-J	UL-03
Cleanup Surrogate						F =	DB225	Confirm	nation
37cl-2,3,7,8-TCDD	100	35.0 - 19	9 7 .			Ą	cquire	d: 30-J	UL-03
					,				

Analyst: Date: 8/4/03

AUG 0 6 2003 Tetra Tech/MFG, Inc.

RECEIVED

Reviewed by Date:

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 [5	Soil] Sampled 07/1	7/03 15:30 Pacific	HOLD SAMI	PLE
Dioxin 8290 Low	08/01/03 12:00	08/16/03 15:30	<u> </u>	······································
Containers Supplied:				
<u>4 oz. jar (A)</u>			· · · · · · · · · · · · · · · · · · ·	
A307469-02 4" Under 2n	nd Slab [Soil] Sam	pled 07/17/03 16:00 P:	eific	
Dioxin 8290 Low	08/01/03 12:00	08/16/03 16:00	• • • • • • • • • • • • • • • • • • • •	
Containers Supplied:				
4 oz. jar (A)				
A307469-03 12" Under 2	2nd Slab [Soil] Sai	npled 07/17/03 17:30 l	Pacific HOLD SAM	PLE
Dioxin 8290 Low	08/01/03 12:00	08/16/03 17:30		
Containers Supplied:	,			
4 oz. jar (A)		,,,,		
Report to State		\mathbf{x}		
System Name:		Employed by		
User ID:		Sampler:		
System Number:		-		4
•				
MEQ. TO	Arcat	a -		
				,
Bill +	RESUlts	Direct to	5 Sierra Pact	
				RECEIVED
f				AUG 0 6 2003
				Tetra Tech/MFG, Inc.
O : O			001	7 7
ner s	peaks	7-21-03	Amaric	7/22/03 07:15
Released By	Date	R	eceived	Date
Released By	Date	R	eceived By	Date
JUL-22-03 TUE 11:21 AM ALPHA ANALYTICAL LABORAT FAX NO. 11312,

<u>.</u> •

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A307469

SENDING LABORATORY			RECEIVING LABORAT	ORY:	
Alpha Analytical Laborator	ries, Inc.		Frontier Analytical Labo	oratory	
P.O. Box 1508 (208 Masor	st.)		5172 Hillsdale Circle	•	
Ukiah, CA 95482	-		El Dorado, CA 95762		
Phone: (707)468-0401			Phone :916-934-0900		
Pax: (707)468-5267			Fax: 916-934-0999		
Project Manager: Karen A	. Daly	<u>.</u>	Terms: Net 30		
			•	· · ·	
Analysis	Due	Expires		Comments	
A307469-01 2nd Slab [S	oil] Sampled 07/17	/03 15:30 Pacific		HOI.D 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 2r	ud Slab [Soil] Sam	pled 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 2	and Slab [Soil] Sau	mpled 07/17/03 17	:30 Pacific	HOLD SAMPLE	
Dial Distance It has					
Dioxins Full List 1613	08/01/03 12:00	07/16/04 17:30			
Containers Supplied:					
$4 \text{ oz. } [\text{ar}(\Lambda)]$					
Report to State		\mathbf{X}			
System Name:		Employed by:			
User ID:		Sampler:	<u></u>		
System Number:					
			· · · ·	\frown	
· · · · · · · · · · · · · · · · · · ·		•	mes	L. HOLE	and the second sec
· KAIIC	P O	$\bigwedge $	1	1 Liche	~ 1
1 CVD	c c c				
			. ,		
·	•		:		· ·
					RECEIVED
	×.				
-					AUG 062003
QL · C	\ ·				Tetra Tech/MFG, Inc.
MOVI .	Dente	7-22-1)~~		
Released By	Dato		Received By	Date	
	1				
Released By	Date		Received By	Date	000010 of 00001

P. 01



Frontier Analytical Laboratory

Sample Login Form

Project ID: <u>2147</u>

#

Client:	MFG		
Client Project ID:	A307469		
Date Received:	07/22/03	TAT: 14	
Time Received:	7:15 AM		1
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?	Х			
Custody seals(s) present and intact?			X	
Method of cooling:	Х			Ice/Blue ice/Dry ice/Other
Sample arrival temperature (C):	Х			21 degrees celsius
Sample containers intact?	Х			
Chain of Custody present and complete?	Х			
Return shipping container to client?	Х			
Test for residual chlorine?		X		Thiosulfate added? NO
Earliest sample hold time expiration:	Х	. •		Date: 7/16/04
Adequate Sample Volume?	Х			
Anomalies or additional comments:				

RECEIVED

AUG 0 6 2003





Ŋ

RECEIVED

AUG 0 6 2003 Tetra Tech/MFG, Inc.

000012 of 000012

D-6 Drainage Ditch #2 Sample



0308059

35934

ELAP No. 1247-Expires July 2004

Order No.:

PO No.:

Invoice No.:

August 15, 2003

å

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

Attn: Gordie Amos

RE: Log Sprinkle Ditch

SAMPLE IDENTIFICATION

Fraction	Client Sample Description	ND = Not Detected at the Reporting Limit
01A	Log Sprinkle Ditch	Limit = Reporting Limit
01B	Log Sprinkle Ditch	
01D	Log Sprinkle Ditch	All solid results are expressed on a wet- weight basis unless otherwise noted
02A	#2 7	height busis unless other whoe noted.
02B	#2 (DRAINAGE DITCH #2 SAMPLES	
02D	#2)	

REPORT CERTIFIED BY Laboratory Supervisor(s) Jesse G. Chaney, Jr. QA Unit Laboratory Director С

North Coast Laboratories, Ltd.

CLIENT:Sierra Pacific IndustriesProject:Log Sprinkle DitchLab 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 Spinkle 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.

1

Date: 15-Aug-03 WorkOrder: 0308059			Aľ	NALY	TICAL R	EPORT
Client Sample ID: Log Sprinkle Ditch Lab ID: 0308059-01A		Rece	eived: 8/4/03		Collected: 8/4/	03 10:50
Test Name: Penta- and Tetrachloroph	enol	Refer	ence: Canad	ian Pulp F	Report	
Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Tetrachlorophenol	ND	1.0	ua/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		Rec	eived: 8/4/03		Collected: 8/4/	/03 10:50
Lab ID: 0308059-01B						
Test Name: Hexane Extractable Mater	ial	Refer	ence: EPA 1	664		
<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	DF	Extracted	<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	1	Rec	eived: 8/4/03		Collected: 8/4	/03 10:50
Test Name: TPH as Diesel		Refer	ence: EPA 3	510/GCF	ID(LUFT)/EPA 80	1
Parameter	Result	<u>Limit</u>	<u>Units</u>	DF	Extracted	Analyzed
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		Rec	eived: 8/4/03	•	Collected: 8/4	/03 11:10
Lab ID: 0308059-02A						
Test Name: Penta- and Tetrachlorop	henol	Refei	rence: Canad	dian Pulp	Report	
<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	Extracted	<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

.

. . .

Page 1 of 2

Date: WorkOrder:	15-Aug-03 0308059			Al	NALY	TICAL R	EPORT
Client Sample	e ID: #2		Reco	eived: 8/4/03		Collected: 8/4/	/03 11:10
Lab ID: 0308	8059-02B						
Test Name:	Hexane Extractable Material		Refer	ence: EPA 1	664		
Parameter		<u>Result</u>	<u>Limit</u>	<u>Units</u>	DF	Extracted	Analyzed
Grease and O	il (TPH fraction)	ND	5.0	mg/L	1.0	8/4/03	8/6/03
Client Sampl	e ID: #2		Rec	eived: 8/4/03		Collected: 8/4/	/03 11:10
Lab ID: 0308	8059-02D						
Test Name:	TPH as Diesel		Refer	ence: EPA 3	510/GCFI	D(LUFT)/EPA 80	1
<u>Parameter</u>		<u>Result</u>	<u>Limit</u>	<u>Units</u>	DF	Extracted	Analyzed
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: 1	5-Aug-03	
CLIENT:	Sierra Pacific Industries							QC SUN	AMAR	Y REPO	DRT
Work Urder: Project:	U308039 Log Sprinkle Ditch									Method]	3lank
Sample ID: MBLK	Batch ID: R24105	Test Code:	1664SGW	Units: mg/L		Analysis	s Date: 8/6/0		Prep U	ate: 8/4/03	
Client ID:		Run ID:	WC_030804F			SeqNo:	35764	6			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Grease and Oil (TPI-	H fraction) 1.800	5.0									-
Sample ID: MB-961	7 Batch ID: 9617	Test Code:	PCPTW	Units: µg/L		Analysis	5 Date: 8/13/	03 2:30:10 PM	Prep D	ate: 8/11/03	
Client ID:		Run ID:	ORGC4_0308	312C		SeqNo:	35987	3			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol Pentachlorophenol		1.0									
Dibromophenol	5.09	0.10	5.00	0	102%	70	119	0			
Sample ID: MB-959	1 Batch ID: 9591	Test Code:	TPHDIW	Units: µg/L		Analysis	: Date: 8/6/0	3 5:56:33 PM	Prep Da	ate: 8/6/03	
Client ID:		Run ID:	ORGC5_0308	106A		SeqNo:	35816	6			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Vat	%RPD	RPDLimit	Qual
TPHC Diesel N-Tricosane	ND 52.2	50 0.10	50.0	0	104%	28	107	0			
				·							
Qualifiers:	Not Detected at the Reporting Limi		S - Spi	ke Recovery outside	e accepted reco	overy limits	B.	Analyte detected in	the associate	ed Method Bla	¥
	1 - Analyte detected below quantitation li	mits	R - RP	D outside accepted	recovery limit	10					

.

•

North Coast	Labora	tories, Ltd.								Date: 15	-Aug-03	
CLIENT:	Sierra Pa	cific Industries							QC SU	MMAR	Y REPC	RT
Project:	Log Spri	nkle Ditch							I	aboratory	Control S	pike
Samule ID: LCS		Batch ID: R24105	Test Code:	1664SGW	Units: mg/L		Analysis	: Date: 8/6/0	5	Prep Da	te: 8/4/03	
Client ID:			Run ID:	WC_030804F			SeqNo:	3576	20			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Grease and Oil (TPI	H fraction)	17.90	5.0	20.0	1.80	80.5%	99	114	0			
Sample ID: LCSD		Batch ID: R24105	Test Code:	1664SGW	Units: mg/L		Analysis	: Date: 8/6/0	3	Prep Da	te: 8/4/03	
Client ID:			Run ID:	WC_030804F			SeqNo:	3576	51			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Grease and Oil (TPF	H fraction)	16.50	5.0	20.0	1.80	73.5%	66	114	17.9	8.14%	24	
Sample ID: LCS-96	17	Batch ID: 9617	Test Code:	PCPTW	Units: µg/L		Analysis	Date: 8/13/	03 2:52:05 PM	Prep Da	te: 8/11/03	
Client ID:			Run ID:	ORGC4_0306	312C		SeqNo:	35987	13			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol	21 1000	4.669	1.0	5.00	0	93.4%	78	111	0			
Pentachlorophenol		1.442	0.30	1.50	0	96.1%	85	132	0			
Dibromophenol		5.05	0.10	5.00	0	101%	70	119	0			
Sample ID: LCSD-9	617	Batch ID: 9617	Test Code:	PCPTW	Units: µg/L		Analysis	: Date: 8/13/	03 3:14:05 PM	Prep Da	te: 8/11/03	
Client ID:			Run ID:	ORGC4_0308	312C		SeqNo:	35987	4			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachlorophenol		4.499	1.0	5.00	0	90.0%	78	111	4.67	3.70%	15	
Pentachloronhenol		1.441	0.30	1.50	0	96.0%	85	132	1.44	0.0808%	15	
Dibromophenol		5.05	0.10	5.00	0	101%	20	119	5.05	0.00382%	15	
Qualifiers:	ND - Not De	tected at the Reporting Limit		dS - Spi	ike Recovery outside	e accepted reco	overy limits	B	- Analyte detected	in the associate	d Method Blar	k l
	J - Analyte d	letected below quantitation lim	its	R - RF	D outside accepted	recovery limit	s					

Date: 15-Aug-03

5

CLJENT: Work Order: Project:	Sierra Pacific Industries 0308059 Log Sprinkle Ditch							QC SU L	MMAR	Y REPC	DRT pike
Sample ID: LCS-95 Client ID:	91 Batch ID: 9591	Test Code: Run ID:	TPHDIW ORGC5_0308	Units: µg/L 06A		Analysis SeqNo:	Date: 8/6/0 35816	3 3:32:56 PM 35	Prep Da	ate: 8/6/03	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel N-Tricosane	515.8 62.2	50 0.10	500 50.0	00	103% 124%	58 80 78 80	120 107	00			s
Sample ID: LCSD-9 Client ID:	1591 Batch ID: 9591	Test Code: Run ID:	TPHDIW ORGC5_0308	Units: µg/L 06A		Analysis SeqNo:	Date: 8/6/0 35816	3 4:01:26 PM i6	Prep D	ite: 8/6/03	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel N-Tricosane	525.8 60.3	50 0.10	500	00	105% 121%	80 28	120 107	516 62.2	1.91% 3.20%	ដ ក	S

. .

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

Qualifiers:

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

. . . P. / of

D-7 Soil Borings Near Monitoring Well MW-7

.

.



3

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

208 Mason St. Ukiah, California 95482

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

المراجع المراجع

.

RECEIVED

SEP 2 4 2003



Receipt Date/Time

09/02/2003 13:30

208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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

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

RECEIVED

SEP 2 4 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

9/17/03

Page 1 of 6



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	

		Alpha A	nalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-61-1.2' (A309048-01)			Sample Typ	e: Soil		Sampled: 08/29/03 00:00	-	
Chlorinated Phenols by Canadian I	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	"	"	"	11	**	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	*	"	"	ND "	1.0	
Pentachlorophenol	"	"		"	"	2.5 "	1.0	
Surrogate: Tribromophenol	"	"	17	"		82.3 % 2.	3-140	
B-62-1' (A309048-02)			Sample Ty	pe: Soil		Sampled: 08/29/03 00:00	1	
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	**		11	"	**	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"		"	"	"	ND "	1.0	
Pentachlorophenol		"	"			ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		89.5 % 2	3-140	
B-63-1' (A309048-03)			Sample Ty	pe: 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	"	"	11	"	"	ND "	1.0)
Pentachlorophenol	. "		"	"	"	ND "	1.0)
Surrogate: Tribromophenol	"	"	"	"		91.1 % 2	23-140	
B-61-3' (A309048-04)			Sample Ty	pe: Soil		Sampled: 08/29/03 00:0	0	
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.	D

The results in this report apply to the partition of custody document. This analytical porthus be reproduced in its entirety.

SEP 2 4 2003

K	223-
4	

Nena M. Burgess For Karen A. Daly Project Manager

9/17/03

Page 2 of 6



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

	CH	IEMICA	L EXAN	IINATIO	N REPORT				Page 3 of 6
MFG, Inc - Ar	cata								
875 Crescent	Way				Report Date:	09/17/03 16	:03		
Arcata, CA 95	521				Project No:	030229.11			
Attn: Ed Cont	i				Project ID:	SPI - Arcata	1		
Order Number	Receint Date/Time		Clie	ent Code		Client PC	Reference		
A309048	09/02/2003 13:30		M	FGARC					
		Alpha A	nalytical	Laborato	ries, Inc.				·····
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
B-61-3' (A309048-04)			Sample Typ	pe: Soil	Sam	pled: 08/29/03 0	0:00		
Chlorinated Phenols by Canadia	an Pulp Method (cont'd)								
Pentachlorophenol	EnvCan	"	11	09/12/03		ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		73.8 %	23-140		
B-62-3' (A309048-05)			Sample Tv	pe: Soil	Sam	pled: 08/29/03 0	0:00		
Chlorinated Phenols by Canadia	an 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		"	*1	"		ND "		1.0	
2,3,4,6-Tetrachlorophenol	0		11	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol		"	"	"		ND "		1.0	
Pentachlorophenol		"	"	"	u	21 "		1.0	
Surrogate: Tribromophenol	"	н	"	"		108 %	23-140		
B-63-3' (A309048-06)			Sample Ty	pe: Soil	Sam	pled: 08/29/03 (00:00		
Chlorinated Phenols by Canadi	an Pulp Method			-		-			
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg	5	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	. *	"	"	"	ч.	17 "		1.0	
Surrogate: Tribromophenol	"	"	"	"		96.8 %	23-140		
Temp Blank (A309048-07)			Sample Ty	pe: Water	San	npled: 08/29/03	00:00		
Conventional Chemistry Paran	neters by APHA/EPA M	ethods							
Temperature	Temperature	AI30409	09/03/03	09/03/03	1	4.0 °C			
B-61-Concrete Upper (A3090	48-08)		Sample Ty	pe: Other (V) San	npled: 08/29/03	00:00		
Chlorinated Phenols by Canad	ian Pulp Method		4 0			-			
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/k	g	1.0	
2,3,5,6-Tetrachlorophenol		**				ND "	-	1.0	
2,3,4,6-Tetrachlorophenol	"	"	11	"	*	12 "		1.0	
2,3,4,5-Tetrachlorophenol	"					ND "		1.0	

The results in this report apply to the stand of custody document. This analytical report must be reproduced in its entirety. SEP 2 4 2003

Tetra Tech/MFG, Inc.

Nena M. Burgess For Karen A. Daly Project Manager

9/17/03



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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					
				· <u> </u>			

		Alpha A	Analytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
B-61-Concrete Upper (A309048-08)			Sample Ty	pe: Other (W)	Sampled: 08/29/03 00	:00		
Chlorinated Phenols by Canadian Pulp	p Method (cont'	d)				-			
Pentachlorophenol	EnvCan	"	"	09/12/03		15 "		1.0	
Surrogate: Tribromophenol	"	"	"	"		121 %	23-140		
B-61-Concrete Lower (A309048-09))		Sample Ty	pe: Other (W)	Sampled: 08/29/03 00	:00		
Chlorinated Phenols by Canadian Pul	p Method								
2,4,6-Trichlorophenol	EnvCan	AI31110	09/10/03	09/12/03	1	ND mg/kg		1.0	
2,3,5,6-Tetrachlorophenol	"	n	"	••	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"		••	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"				ND "		1.0	
Pentachlorophenol	"	"	"	"	"	1.2 "		1.0	
Surrogate: Tribromophenol	"	"	"	"		1.70 %	23-140		S-04
B-62-Concrete Upper (A309048-10)			Sample Ty	pe: Other (W	D	Sampled: 08/29/03 00	:00		
Chlorinated Phenols by Canadian Pul	p 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	
Surrogate: Tribromophenol	"	"	"	"		2.00 %	23-140		S-04
B-62-Concrete Lower (A309048-11)		Sample Ty	pe: Other (V	N)	Sampled: 08/29/03 00):00		
Chlorinated Phenols by Canadian Pul	p 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	"			н		ND "		1.0	
Pentachlorophenol	"		"			ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		2.97 %	23-140		S-04

The results in this report apply to the sample analyzed is of orden 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

Page 4 of 6

Tetra Tech/MFG, Inc.

SEP 2 4 2003



CHEMICAL EXAMINATION REPORT

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	

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	47							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	*							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	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	н	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			
Surrogate: Tribromophenol	0.0801		a	0.124		64.6	23-140			
LCS Dup (AI31110-BSD1)				Prepared	: 09/10/03	Analyzed	1: 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	
Surrogate: Tribromophenol	0.141		#	0.124		114	23-140			

The results in this report apply to the sample Funtyed Tac Vance Dith the chain of custody document. This analytical report must be reproduced in its entirety.

SEP 2 4 2003

Nena M. Burgess For Karen A. Daly Project Manager

9/17/03

Page 5 of 6



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 6 of 6

]	MFG, Inc - Arcata			
:	875 Crescent Way	Report Date:	09/17/03 16:03	
	Arcata, CA 95521	Project No:	030229.11	
	Attn: Ed Conti	Project ID:	SPI - Arcata	
Order Number A309048	Receipt Date/Time 09/02/2003 13:30	Client Code MFGARC	Client PO/Reference	

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

RECEIVED

SEP 2 4 2003 Tetra Tech/MFG, Inc.



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception	
			Default Report (not modified)	
A309048-08	EnvCan PCP/TCP		Other (W) batched as Soil	
A309048-09	EnvCan PCP/TCP	Tribromophenol	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	

RECEIVED

Page 1 of 1

SEP 2 4 2003

-	MFG, INC.			GH	Ż	Ь	-CUS	TOD	Y RI	١ <u></u>	DRD /	AND	REC	UES	ST FO	DE ANALY	SIS
Vircata 75 Crescen reata, CA 5 hone (707)	1 Office tr Way 95521-6741 826-8430- FAX (707) 826-8437	CA - Irvine 17770 Cartwright Rd. 17770 Cartwright Rd. 18: 500 Tel (949) 253-2954 Fax (949) 253-2954	CA - San Francisco 180 Howard St., Ste. 200 San Francisco, CA 94100 Tel (415) 495-7110 Fax (415) 495-7107		 Boulder Boulder Boulder, EO 300W 3033 447 (303) 447 (303) 447 	r ast Cir. 80301 7-1823 7-1836	☐ ID - Os PO Boy Wallace Tel (206 Fax (20	burn (30 3, ID 83873 3) 556-6811 8) 556-7271 8) 556-7271	H PO Tael Bar Bar	- Missou Box 715 Soula, M soula, M (406) 72 (406) 72	la 8 1 59807 8-4600 28-4698	INJ - Edison 1090 King G Ste. 703 Edison, NJ 0 Tel (732) 736 Fax (732) 738	eorges Post 8837 -5707 8-5711	E 22	5		
		D PA - Pittsburgh E 200 Vinial St., Bldg. A 200 Vinial St., Bldg. A 2015 Pittsburgh, PA 15212 Tel (412) 321-2278 Tel (412) 321-2283 Fax (412) 321-2283	☐ TX - Austin 4807 Spicewood Spring Bidg. 1N, ¹⁴ Floor Austin, TX 78759 Austin, TX 78759 Tel (512) 338-1657 Fax (512) 338-1331	js Rd.	TX - F 12337 Ste. 2 Ste. 2 Tel (20 Fax (2	Houston 7 Jones F 30 100, TX 7 100, TX 7 100, TX 7 100, 100-5 281) 890-5 281) 890-5	ld. 7070 5044] TX - Port L 320 East M Port Lavacs Tel (361) 55 Fax (361) 5	avaca ain 1, TX 77979 12-8839 53-6115		TX - Texarkana 4532 Summerh 18xarkana, TX 1903) 794-01 Fax (903) 794-0 Fax (903) 794-0	iil Rd. 75503 625 0626	⊐WA - Sea 19203 36 Ste. 100 Lynnwood Tel (425) Fax (425)	ttle th Ave. W. 1, WA 98036 921-4000 921-4040			
	PROJECT NO:	11.1022020	PR	OJEC	T NAN	Ц Ш	-ILL	Arca	49						PAGE		
	SAMPLER (Sign	ature): O. M.	PLM		ة 2	PRO.		ANAGE	Щ Ш	4 C	onti				DATE	8/29/03	_
												NESI			pha	Hraly to Ca	
			SAMPL	ES									A	NALYSI	s reque	ST	
			Sam	ple		Pres	ervation		Conta	liners	Constit	uents/Met	poq	Handling		Remarks	
	S E	Field ample tification	DATE T	ž, interna Z		⁸ ON+	SOFD J ⁵ SO⁴	*NOITAATII=	(zo/jɯ) (Dr∩WE		ASTIDS			HSUR			
	B-61-1.	2,	6z/8	1	0	1	> >		402 (Ĺ L				Z	309048-1	Τ
	B-62-1								4		>					~ 2	
	B-63-1) 1	-	7					~ ~	
	B-61-3'								6"m		7		_			7	
	3-62-3						-		-	~	7					5-	
	3-63-3		⇒	-	->		->		<u>د</u>	-	7	_				9-	
10.4 M	Tene Bla	N. (4.0°C)	0/29	₫.	Å	TOTA		OF CONTAIN	IZSAL 6	-		RY COMME	VTS/COND	TION OF S	AMPLES		-
		RELINQUISHED	BY:	- T-				╞		\vdash				RECEIVE	D BY:	X dia lanco) 9
	SIGNATURE	PRINTED NA	ME	COMPA	ž	Τ	DATE		TIME	Ц	SIGNATI	Ser la	-	RINTED	NAME	COMPANY	
	Buller	1 Oriz Plou	the m	5			112/03	9	45	\mathcal{Y}	March	2 AND	\sum	- nu	TAVIDO	PIPHO 1	
	COMMUNITY OF	A Lohu T	IM SIDA	4d	<i>a</i>		130	<u>5</u> 23	2	Р	V Ld	lly	×	THA A	5	ALPHA	
\supset	D) ./						-)		5	`			_	RECEIVI	ф.
		•KEY Matrix: AG	0 - aqueous NA - nonaqueous	SO - soit SL - DIS	railadge P-	petroleum : PINK: F	A - air OT - oth ield Copy YEL	er Containers LOW: Laboratory (: P - plastic 6 Copy WHITE:	i - glass T Return to O	- tellon B - brass riginator	0T - other F	tration: F - fil	ered U - unfilte	red	SEP 2 4 20	33
															μ	stra Tech/MFG	, Inc.

2

	MFG, INC.			CHA	Ž	ļĢ	ပု	US I	ĮĮ	Σ	Ш	<u></u>	RD AN	0	Ш Ш	١ <u>ت</u>	ST	G S		VAL 461	YSI 93	S
Arcata, C	4 at Office cent Wey 07) 826-8430- FAX (707) 826-8437 07) 826-8430- FAX (707) 826-8437	CA - Invine 17770 Cartwright Rd. 1 Ste. 500 attwright Rd. 1 Ste. 500 attwright Rd. 1 Ste. 500 attwright Rd. 1 Invine, CA 92614 T Tei (949) 253-2954 F Fax (949) 253-2954	A - San Francisco 80 Howard St., Ste., an Francisco, CA 94 ei (415) 495-7110 ax (415) 495-7107	200 105 105 105 105 105 105 105 100	- Bould 00 Pearl 0. 300W ulder, C((303) 4 (303) 4	er East Cir 2 80301 17-1823 47-1836		D - Osbur O Box 30 Vallace, If Vallace, If el (208) 5 ax (208)	n 9 83873 56-6811 556-7271		MT - Mi PO Box Missouk Tel (406 Fax (40	ssoula 7158 a, MT 5) 728-4 6) 728-4	DNJ - F 1090 3807 Ste. 7 500 Ediso 1698 Tal (7 Fax (7	Edison King Geo 03 n, NJ 088 32) 738-5 732) 738-1	rges Pos 37 707 5711	.Bd.						
	□ OR - Portland 1020 SW Taylor St. Sile. 530 Portland, OR 97205 Tel (503) 228-8631 Fax (503) 228-8631	□PA - Pittsburgh 800 Vinial St., Bidg. A Pittsburgh, PA 15212 Tel (412) 321-2278 Fax (412) 321-2283	TX - Austin 4807 Spicewood Sp 4807 11, 1 ⁴¹ Floor Austin, TX 18759 Austin, TX 18759 Tel (512) 338-1687 Fax (512) 338-1331	rings Rd.	TTX Ste. Ste. Fax Fax	Housto 37 Joneto 230 281) 89 (281) 89	n s Rd. 77070 0-5068 90-5044		X - Port 20 East I ort Lavao ei (361) t ax (361)	avaca Main 23, TX 77 553-6115	979	0 453 Tex Fax Fax	- Texarkana - Summerhill Rd. 2 Summerhill Rd. 2 Summer, TX 75503 (903) 794-0626 (903) 794-0626		NA - Sea 19203 36 3te. 100 5te. 100 5te. 100 6il (425) -ax (425)	ttle th Ave. 1 1, WA 91 921-400 921-400	W. 8036 10					
	PROJECT NO: SAMPLER (Sig METHOD OF S	030229.11 nature): Orn-PC	المعالم أول	ROJEC	T NA CAF	ME: PR(RIEI	STEC			- Hi		3	1+1	DESTI	NATIC	N.	Alp		NOI	0F: 29/0	Nm	
			SAMI	SEL											A	NAL	/SIS F	EQUES	μ			
			ÿ	ample	┝	P _r	serva	tion		ပိ —	ntaine	ers	Amstituent	s/Meth	рс	Hanc	lling		Re	marks		
	<u>e</u>	Field Sample Intification	DATE	TIME	Matrix*	^E ONH	[⊅] OS ^z H	согр	*NOITAATION*		⊥∧ьE∗	.ON	20100000000000000000000000000000000000				GRAGNATS					
	B-61-Conch	ote upper	<u> 8/2</u> 0		5			>		462	৬	7	7								3	
	B-61-CONC	rele lower			-			_		4	_	_						_			1	
	B-62-conc	rete upper			_	_				_	_		7								93	
	B-62- CON	rete lower										_	5 5									
	B-63- CD R-63- CDA	ncrete upper								>	<u> -</u>	-5	17		$+ \overline{-}$	\mathbb{H}						
						Ţ	DTAL NU	MBER O	F CONTJ	VINERS				COMMEN	rs/con		OF SAM	LES	Coole	er Temp	19.6	Ĵ
		RELINQUISHED	BY:			22.00		1								RECE	IVED	ž				
	SIGNATURE	PRINTED NA	ME	COMP	NY			DATE		TIME		$\left \right $	SIGNATURI	$\prod_{i=1}^{n}$		ININ'	ED N/	ME		COMPA	۲×	
	Carllord,	1) Onis Plac	he v	M P(L		16	203		24.		$\overline{\Lambda}$	MARA	ġ,	\square	18	2	فالالا			7 4 4 4	
	Kathin bayle	TOHN TR	Mac (indife	Ø		6	210	<u>×</u>	33	\searrow	\mathbb{Z}	A A	Jul 1			DAL	- 	ц Т	ABORATC ABORATC		
\sim	0, /	KEV Matrix A	0 - aqueous MA - nonaque	ous SO-soit SI	- siudge	P - petrole	um A-ai	0T - other	Contai	ters: P - pla	stic G-g	lass T-L	ellon B - brass OT - c	other Fill	ration: F -	filtered U	- unfiltered		SEP	242	603	
				Ĩ	STRIBUT	ON: PI	VK: Field C	by YELLG	W: Laborato	ry Copy	VHITE: Retu	um to Orig	inator					Ten	ਬ ਦਿ	HVIVIE	G, ID	٦.,

3

. n



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,

Bradley B. Silverbush Director of Operations

RECEIVED SEP 1 8 2003 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



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

RECEIVED SEP 1 8 2003 Tetra Tech/MFG, Inc.



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

RECEIVED SEP 1 8 2003 Tetra TechIMFG, 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.

RECEIVED SEP 1.8 2003 Tetra TechNIFG, Inc.



FAL ID: 2217-001-MB Client ID: Method Blank	D	ate Extra ate Recei	cted: 9/ ved: NA	10/03	ICal: PCDDFAL2-9-07 GC Column: DB5	'-03 Ac	quired:	12-SEP	•03
Matrix: Solid	A	mount: 10	.00 g		Units: pg/L	WHO	D TEQ: 0	.00	
Extraction Batch No.: X0086	2	6 Solids:	NA		MS/MSD Batch No.: >	0079			
Compound	Conc	ÐL	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		-					
1,2,3,7,8,9-HxCDF	-	0.195		-	Total Tetra-Furans	-	0.0888		0
1,2,3,4,6,7,8-HpCDF		0.114		-	Total Penta-Furans	-	0.285		0
1,2,3,4,7,8,9-HpCDF	·_	0.131		-	Total Hexa-Furans	-	0.201		0
OCDF	-	0.539		-	Total Hepta-Furans	-	0.131		0

% Rec	QC Limits	Qual
95.6	25.0 - 164	
90.8	25.0 - 181	
93.2	32.0 - 141	
91.7	28.0 - 130	
78.6	23.0 - 140	
65.7	17.0 - 157	
98.8	24.0 - 169	
88.9	24.0 - 185	
86.2	21.0 - 178	
84.0	26.0 - 152	
81.0	26.0 - 123	
72.0	29.0 - 147	
74.9	28.0 - 136	
76.4	28.0 - 143	
81.3	26.0 - 138	
59.5	17.0 - 157	
	<pre>% Rec 95.6 90.8 93.2 91.7 78.6 65.7 98.8 88.9 86.2 84.0 81.0 72.0 74.9 76.4 81.3 59.5</pre>	<pre>% Rec QC Limits 95.6 25.0 - 164 90.8 25.0 - 181 93.2 32.0 - 141 91.7 28.0 - 130 78.6 23.0 - 140 65.7 17.0 - 157 98.8 24.0 - 169 88.9 24.0 - 169 88.9 24.0 - 185 86.2 21.0 - 178 84.0 26.0 - 152 81.0 26.0 - 123 72.0 29.0 - 147 74.9 28.0 - 136 76.4 28.0 - 143 81.3 26.0 - 138 59.5 17.0 - 157</pre>

Cleanup Surrogate

37cl-2,3,7,8-TCDD

101 35.0 - 197

Analyst Date:

RECEIVED SEP 1 8 2003 Tetra Tech/MFG, Inc.

Reviewed by: <u>2</u> Date: <u>9/15/03</u> Date:

000005 of 000019



Acquired: 12-SEP-03

WHO TEQ: NA

FAL ID: 2217-001-0PR		Date Extracted: 9/10/03	ICal: PCDDFAL2-9-07-03
Client ID: OPR		Date Received: NA	GC Column: DB5
Matrix: Solid		Amount: 10.00 g	Units: ng/mL
Extraction Batch No.: XOO	86	% Solids: NA	MS/MSD Batch No.: X0079
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	OC limits	
	N NCC		
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	
		22.0.455	
13C-2,3,7,8-1CDF	96.8	22.0 - 152	
130-1,2,3,7,8-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	
15C-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-0CDF	65.7	13.0 - 198	
Cloopup Supports			
creanup surrogate			

37Cl-2,3,7,8-TCDD

106 31.0 - 191

Analyst 9/1T Date:

RECEIVED SEP 1 8 2003 Tetra Tech/MFG, Inc.

Reviewed by: 91% Date:_



FAL ID: 2199-001-MS/MSD Client ID: C4-SNS03 Matrix: Solid Extraction Batch No.: X00	Date Date Samp 79 MS A MSD	e Extracted: 8/25 e Received: 8/20/ ble Amount: 10.07 Amount: 10.03 g Amount: 10.11 g	7/03 /03 / g	ICal: PCDDFAL1-6-13 GC Column: DB5 Units: pg/g MS/MSD Batch No.: X0079	MS Acquir MSD Acqui WHO TEQ: % Solids:	ed: 2-SEP-03 red: 2-SEP-03 NA 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: Date:

RECEIVED

SEP 1 8 2003



FAL ID: 2217-001-SA Client ID: B-61-1.2 Matrix: Solid		Date Extracte Date Received Amount: 9.99	ed: 9/′ d: 9/3, g	10/03 /03	ICal: PCDDFAL2-9-0 GC Column: db5 Units: pg/g	07-03 Acqu WHO	uired: TEQ: 3	13-SEP-	-03	
Extraction Batch No.: X008	6	% Solids: 91	.7		MS/MSD Batch No.:	X0079				
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						
1,2,3,6,7,8-HxCDF	198	· -		19.8						
2,3,4,6,7,8-HxCDF	438			43.8						
1,2,3,7,8,9-HxCDF	107	-		10.7	Total Tetra-Furans	361	-		16	
1,2,3,4,6,7,8-HpCDF	28400	-		284	Total Penta-Furans	1140	. -		10	
1,2,3,4,7,8,9-HpCDF	1540	-		15.4	Total Hexa-Furans	24400	-		9	
OCDF	88500	-		8.85	Total Hepta-Furans	123000	-	*	4	
Internal Standards	% Rec	QC Limits	Qu	al						
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	1							
13C-1,2,3,7,8-PeCDF	97.6	24.0 - 185								
13C-2,3,4,7,8-PeCDF	80.1	21.0 - 178	1				~			
13C-1,2,3,4,7,8-HxCDF	108	26.0 - 152	2							
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	5							
13C-1,2,3,4,6,7,8-HpCDF	112	28.0 - 143	5			* =	Diluti	on		
13C-1,2,3,4,7.8,9-HpCDF	110	26.0 - 138	3							
13C-OCDF	47.6	17.0 - 157	,				cquire	d: 12-s	EP-03	
-						_				
Cleanup Surrogate						F =	08225	Confirm	nation	
37Cl-2,3,7,8-TCDD	128	35.0 - 197	7			1	(cquire	d: 16-9	SEP-03	

Reviewed by: ______ Date: ______9/16/03

Date: 9/11/03

Analyst:

RECEIVED

SEP 1 8 2003



FAL ID: 2217-002-SA Client ID: B-62-1 Matrix: Solid Extraction Batch No.: X0086		Date Extrac Date Receiv Amount: 10. % Solids: 8	ted: 9/ ed: 9/3 14 g 5.3	10/03 /03	ICal: PCDDFAL2-9-0 GC Column: DB5 Units: pg/g MS/MSD Batch No.:	17-03 Acq WHO X0079	uired: TEQ: 5	13-SEP 89	-03
	_								
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	Qu	al					
13C-2,3,7,8-TCDD	104	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	91.9	25.0 - 18	1						
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	101	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	98.1	23.0 - 14	0						
13C-OCDD	70.1	17.0 - 15	7						
13C-2,3,7,8-TCDF	99.5	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	90.0	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	86.7	21.0 - 17	'8						
13C-1,2,3,4,7,8-HxCDF	111	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	108	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	86.5	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	83.9	28.0 - 13	6						
13C-1,2,3,4,6.7.8-HpCDF	90.2	28.0 - 14	3						
13C-1,2,3,4,7,8,9-HpCDF	92.5	26.0 - 13	8		1				
13C-OCDF	78.6	17.0 - 15	57						

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

117 35.0 - 197

Analyst: G Date:

RECEIVED

SEP 1 8 2003

Reviewed by Date:



FAL ID: 2217-003-SA		Date Extrac	ted: 9/	10/03	ICal: PCDDFAL2-9-0	7-03 Acq	uired: 13	3-SEP	·03
Client ID: B-63-1		Date Receiv	ed: 9/3	/033	GC Column: db5				
Matrix: Solid		Amount: 10.	00 g		Units: pg/g	WHO	TEQ: 23	1	
Extraction Batch No.: X0086		% Solids: 8	3.9		MS/MSD Batch No.:)	x0079		-	
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	<u>+</u>		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	QL	ial .	· ·				
13C-2,3,7,8-TCDD	104	25.0 - 16	4						
13C-1,2,3,7,8-PeCDD	81.1	25.0 - 18	1		2				
13C-1,2,3,4,7,8-HxCDD	. 104	32.0 - 14	1						
13C-1,2,3,6,7,8-HxCDD	104	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	97.9	23.0 - 14	0						
13C-OCDD	58.0	17.0 - 15	7						
13C-2,3,7,8-TCDF	102	24.0 - 16	9						
13C-1,2,3,7,8-PeCDF	87.7	24.0 - 18	15						
13C-2,3,4,7,8-PeCDF	83.7	21.0 - 17	'8						
13C-1,2,3,4,7,8-HxCDF	109	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	109	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	88.6	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	88.0	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	94.9	28.0 - 14	3						
13C-1,2,3,4,7,8,9-HpCDF	96.1	26.0 - 13	8						
13C-OCDF	61.1	17.0 - 15	7						
Cleanup Surrogate						* =	Dilution	I	
37Cl-2,3,7,8-TCDD	120	35.0 - 19	97			P	cquired:	16-s	EP-03
1							\sim	/	-

Analyst: Date:

RECEIVED

SEP 1 8 2003

Reviewed by: 9/16/03 Date:_



FAL ID: 2217-007-SA Client ID: B-61-Concrete I	Иррег	Date Extracte Date Received	ed: 9/1(d: 9/3/(0/03 03	ICal: PCDDFAL2-9- GC Column: db5	07-03 Acq	uired:	13-SEP	-03
Matrix: Solid	0/	Amount: 9.86	9		Units: pg/g	WHO	TEQ: 1	7400	
Extraction Batch No.: XUU	86	% Solids: 93.	.6		MS/MSD Batch No.:	X0079			
Compound	Conc	DL G	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	-	М	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	Qua	L.					
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							
13С-1.2.3.4.6.7.8-НоСОО	82.1	23.0 - 140		*					
13C-OCDD	20.8	17.0 - 157	· .	*					
2									
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	Α,Μ,	*				· .	
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		*		* =	Diluti	on	
13C-1,2,3,4,7,8,9-HpCDF	115	26.0 - 138		*					
13C-OCDF	80.8	17.0 - 157		*		А	cauire	d: 12-s	EP-03
Cleanup Surrogate						F =	DB225	Confirm	nation
37Cl-2,3,7,8-TCDD	126	35.0 - 197				A	cquire	d: 16-s	SEP-03

RECEIVED

SEP 1 8 2003

Analyst

Date

Tetra Tech/MFG, Inc.

Reviewed by:

Date:



FAL ID: 2217-008-SA Client ID: B-61-Concrete Lower Matrix: Solid		Date Extracted: 9/10/03 Date Received: 9/3/03 Amount: 9.96 g			ICal: PCDDFAL2-9-07-03 Acquired: 13-SEP-03 GC Column: db5 Units: pg/g WH0 TEQ: 11800					
Extraction Batch No.: X0086		% Solids: 91.9			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	۵					-
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						
1,2,3,7,8,9-HxCDF	368	-		36.8	Total Tetra-Furans	7490	-		18	
1,2,3,4,6,7,8-HpCDF	20000	-		200	Total Penta-Furans	18500	-		14	
1,2,3,4,7,8,9-HpCDF	1060	-		10.6	Total Hexa-Furans	44900	-		11	
OCDF	56800	-		5.68	Total Hepta-Furans	76300	-	· *	3	
Internal Standards	% Rec	QC Limits	Qu	al						
13C-2,3,7,8-TCDD	117	25.0 - 16	4							
13C-1,2,3,7,8-PeCDD	93.5	25.0 - 18	1							
13C-1,2,3,4,7,8-HxCDD	118	32.0 - 14	1							
13C-1,2,3,6,7,8-HxCDD	112	28.0 - 13	0							
13C-1,2,3,4,6,7,8-HpCDD	68.8	23.0 - 14	0	*						
13C-OCDD	13.6	17.0 - 15	7 A	,*						
13C-2,3,7,8-TCDF	109	24.0 - 16	9							
13C-1,2,3,7,8-PeCDF	83.2	24.0 - 18	5							
13C-2,3,4,7,8-PeCDF	76.6	21.0 - 17	8							
13C-1,2,3,4,7,8-HxCDF	121	26.0 - 15	2							
13C-1,2,3,6,7,8-HxCDF	137	26.0 - 12	3	A						
13C-2,3,4,6,7,8-HxCDF	111	29.0 - 14	7							
13C-1,2,3,7,8,9-HxCDF	112	28.0 - 13	6							
13C-1,2,3,4,6,7,8-HpCDF	122	28.0 - 14	3			* =	Dilutio	n		
13C-1,2,3,4,7,8,9-HpCDF	128	26.0 - 13	8							
13C-OCDF	38.3	17.0 - 15	7			A	Acquired	i: 12-s	EP-03	
Cleanup Surrogate						F =	DB225 C	onfirm	nation	
37Cl-2,3,7,8-TCDD	136	35.0 - 19	7			. 4	Acquired	l: 16-s	EP-03	

Analyst: Date: 9/14/03

RECEIVED

SEP 1 8 2003


FAL ID: 2217-009-SA Client ID: B-62-Concrete U	pper	Date Extract Date Receive	ed: 9/	10/03 5/03	ICal: PCDDFAL2-9-0 GC Column: db5)7-03 Acqi	uired:	13-SEP	·03
Matrix: Solid		Amount: 10.0)1 g		Units: pg/g	WHO	TEQ: 1	12	
Extraction Batch No.: X008	6	% Solids: 91	.8		MS/MSD Batch No.:	X0079			
					••••				
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	QL	al					
13C-2,3,7,8-TCDD	113	25.0 - 164	ł						
13C-1,2,3,7,8-PeCDD	90.7	25.0 - 181	1						
13C-1,2,3,4,7,8-HxCDD	113	32.0 - 141	1						
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	7						
				_					
13C-2,3,7,8-TCDF	103	24.0 - 169	2	*					
13C-1,2,3,7,8-PeCDF	90.4	24.0 - 18	2	*					
13C-2,3,4,7,8-PeCDF	83.8	21.0 - 178	3	*					
13C-1,2,3,4,7,8-HxCDF	119	26.0 - 152	2						
13C-1,2,3,6,7,8-HxCDF	118	26.0 - 123	3						
13C-2,3,4,6,7,8-HxCDF	96.5	29.0 - 147	7						
13C-1,2,3,7,8,9-HxCDF	97.8	28.0 - 130	5						
13C-1,2,3,4,6,7,8-HpCDF	113	28.0 - 143	3			* =	Dilutio	n	
13C-1,2,3,4,7,8,9-HpCDF	105	26.0 - 138	В						
13C-0CDF	82.5	17.0 - 15	7			A	cquirea	d: 15-s	EP-03
•		-							
Cleanup Surrogate						F =	DB225 (Confirm	ation
37Cl-2,3,7,8-TCDD	135	35.0 - 19	7			A	cquire	d: 16-s	EP-03

Analyst:______ Date:______(14/D)

RECEIVED

SEP 1 8 2003



FAL ID: 2217-010-SA Client ID: B-62-Concrete L Matrix: Solid	ower	Date Extract Date Receive Amount: 9.98	ed: 9/ d: 9/3, g	10/03 /03	ICal: PCDDFAL2-9 GC Column: db5 Units: pg/g	-07-03 Acq WHO	uired: TEQ: 4	13-SEP 940	- 03
Extraction Batch No.: A000	.0	% 30(1us. 7)			MS/MSU Batch NO.				
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	Qu	al					
170 2 7 7 8 7000		25 0 4//	-						
	111	25.0 - 164	•						
	101	25.0 - 181			•				
13C-1,2,3,4,7,8-HXCDD	107	52.0 - 141							
130-1,2,3,6,7,8-HXUDU	115	28.0 - 130)	.					
13C-1,2,3,4,6,7,8-HPCDD	104	23.0 - 140	-	*					
130-0000	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	5	*					
13C-2.3.4.7.8-PeCDF	94.9	21.0 - 178	3	*					
13C-1.2.3.4.7.8-HxCDF	103	26.0 - 152	2						
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	7						
13C-1.2.3.7.8.9-HxCDF	91.8	28.0 - 13/	5						
13c-1.2.3.4.6.7.8-BnCDF	97.3	28.0 - 147	s .			* =	Dilutio	'n	
13C-1.2.3.4.7 8 9-HochF	91 5	26.0 - 13	3			_	Priorit		
13C-OCDF	66.0	17.0 - 15	7			ļ	cquire	d: 12-s	EP-03
Cleanup Surrogate						F =	DB225 (Confirm	ation

37C1-2,3,7,8-TCDD

16/133

Analyst

Date

119 35.0 - 197

RECEIVED

SEP 1 8 2003

Tetra Tech/MFG, Inc.

Reviewed by: 9/16/03 Date:

Acquired: 16-SEP-03

	MFG, INC.			CH	N.	ļĢ	-çu		DVF	SEC.	ORD	AND	RE	QUE	ST FC	DR ANALYSI	
	1 Arysta Office 175 Execut Way resta, CA 95521-674 thone (707) 826-8430. FAX (707) 826-8437	CA - Irvine 1777/0 Cartwright Hd. 1 Ste. 500 Ste. 500 1049) 253-2954 Fax (949) 253-2954	A - San Francisco 80 Howard St. 286. 2 an Francisco, CA 94: el (415) 495-7110 ax (415) 495-7107	0.50 0.4 weiter	O - Bould 300 Pearl le. 300W pulder, C(11 (303) 44 tx (303) 4	er East Cir.) 80301 17-1823 47-1836	DID-C POB Walla Tel (2 Fax (2	sburn ox 30 ce, ID 8387 08) 556-68 08) 556-72	5113 113	MT - Miss PO Box 7 Missoula, Tel (406) 7 Fax (406)	oula 158 MT 59807 728-4600 728-4698	□ NJ - Edis 1090 Kin Ste. 703 Edison, N Tel (732) Fax (732)	on g Georges ¹ LJ 08837 738-5707 738-5711	^o ost Rd. □			······································
PROJECT NAME: 577 - Arcarta PAGE: OF: PROJECT NAME: 577 - Arcarta DATE: 940: Reputero: Orac: 920: 071: Reputero: Cantername Date: 0.012: Reputero: Date: Date: 0.012: Reputero: Date: Date: 0.012: Reputero: Date: Date: Date: Date: Date:	□OR - Portland □F 1020 SW Taylor St. 0 Ste. 530 0 97205 F Portland, OR 97205 1 Fax (503) 228-8631	A - Pittsburgh 00 Vinial St., Bidg. A Vittsburgh, PA 15212 ei (412) 321-2283 ax (412) 321-2283	TX - Austin 4807 Spicewood Spi Bldg. IV, ¹⁴ Floor Budg. IV, ¹⁴ Floor Austin, 77 78759 Tel (512) 338-1667 Fax (512) 338-1331	ings Rd.	123 123 Ste. Fax	Houston 37 Jones 230 ston, TX 281) 890 (281) 890	Rd. 77070 5068	☐ TX - Pc 320 Ea Port La Tel (36 Fax (36	rt Lavaca st Main vaca, TX 77 1) 552-8839 1) 553-6115	626	☐ TX - Texark 4532 Sumr Texarkana, Tel (903) 7 Fax (903) 7	ana lerhill Rd. TX 75503 14-0625 94-0626	□ WA - 5 19203 Ste. 11 Lynnw Tei (4) Fax (4	Seattle 36th Ave. W. 00, WA 980 921-4000 25) 921-4000 25) 921-4040	9	·	
Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction<	PROJECT NO: C)30229.11 Wre): Onn ()	erelyes	ROJEC	T NA	ME: PRO	S PT JECT I	AANA(SER:	LL U	Cent				PAG	E: 0: 2 E: 6/28103	
Reservetion AMAYSIS REQUEST 8 AMAYSIS REQUEST 8 AMAYSIS REQUEST 8 AMAYSIS REQUEST 9 Amaysis Recursts 10 Amaysis Recursts		PMENI: Fed E	X		CA.	μ μ	(/ VVAY E								ethor.	on whether is	
Constituent	8 2 ////F		SAMF	LES										ANALYS	IS REQU	JEST	
Field Sample Date Time Cample Date Time Contribution Contribution Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample Cample	(EI 2003 G, I		Sa	mple		Pre	servatio		ပိ	ntainer	s Cor	stituents/	Aethod	Handli	و و	Remarks	
P-6/-1.2' B/24 S0 V Yes L Ö-62-1' Ó-62-1' Yos L Vos L Ö-62-1' Ó-62-1' Yos L Vos L Ö-62-1' Ó-62-1' Yos L Vos L Ö-62-1' Ó-62-1' Yos Yos L Yos Ö-62-1' Ö-62-1' Yos Yos Yos Yos Ö-62-3' Ö-10 Yos Yos Yos Yos Ö-62-3' Ö Vos Yos Yos Yos Ö-62-3' Ö Vos Yos Yos Yos Ö-62-3' Ö Vos Yos Yos Yos Ö-10 Ö Yos Yos Yos Yos Ö Ö	D Identi	eld mple fication	DATE	TIME	Matrix*	[©] ONH	COFD H ⁵ SO⁵		(m)(02) AOLUME FILI RAI ION*	TYPE*		Tenpretur		нсли ногр	GRAGNATS		
D-62-1' 1/22 6 1/1 3-63-1' 1/43 6 1/1 3-63-1' 1/43 6 1/1 1-61-3' 1/43 6 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-61-3' 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 1-1 1/1 1/1 1/1 </td <td>B-61-1.2'</td> <td></td> <td>B/29</td> <td></td> <td>Ś</td> <td></td> <td>د </td> <td>Ţ</td> <td>403</td> <td>5</td> <td>></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td>	B-61-1.2'		B/29		Ś		د 	Ţ	403	5	>		_				
3-63-1' 1 <t< td=""><td>B-62-1'</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>405</td><td>হ</td><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	B-62-1'								405	হ	7						
B-61-31 B-62-32 B-62-37 B-62-37 B-62-37 B-62-37 Conc Flance B-63-37 Conc Flance B-64 B-63-37 B-64 Conc Flance B-64 B-63-37 B-64 Concertance B-64 B-64 B-64	3-63-1'					-			46:	3	7						
B-62-3' B-62-3' D-62-3' D-0 D-62-4' D-0 D-62-6' D-0 D-62-6' <td>B-61-31</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td>12</td> <td>ß</td> <td>7,</td> <td>·</td> <td></td> <td>></td> <td></td> <td></td> <td></td>	B-61-31							_	12	ß	7,	·		>			
B-63-3 Construction Construction Construction Construction Construction Tota 710 L Plant Inter 1 Inter 1 Inter 1 Inter 1 Tota 710 L Plant Inter 1 Inter 1 Inter 1 Inter 1 SIGNATURE PRINTED NAME COMPANY Date TIME SIGNATURE PRINTED NAME Cooler Temp: Received bit Inter 7 Inter 7 Inter 7 Inter 7 Inter 7 Inter 7 SIGNATURE PRINTED NAME COMPANY Date TIME SIGNATURE PRINTED NAME Cooler Temp: Inter 7 Plant Inter 7 Inter 7 Inter 7 Inter 7 Inter 7 Inter 7 Inter 7 Plant Inter 7 Plant Plant Plant Cooler Temp: Inter 7 Plant Plant Inter 7 Plant Plant Plant Inter 7 Plant Plant Plant Plant Plant Plant Inter 70-000 Plant Plant Plant Plant Plant Plant Inter 70-000 Plant Plant Plant Plant Plant Plant	8-62-3'				-			\downarrow	+	+	7	_		7,			- <u>-</u>
ALEXANCE DOTAL NUMBER OF CONTAINERS LABORATORY COMMENTSCONDITION OF SAMPLES Cooler Temp: RELINOUISHED BY: RELINOUISHED BY: RECEIVED BY: RECEIVED BY: SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY ALEXAND ORAL PL/O3 11/2/03 11/2/03 11/2/03 11/2/03 ALEXAND ALEXAND ORAL ALEXAND PL/O3 11/3/03 11/3/03 11/3/03 ALEXAND ALEXAND ORAL ALEXAND PL/O3 10.00 Manuellee	B-63-3"		7		38		→)			4	7	5	_	>			
RELINOUISHED BY: RECEIVED BY: RELINOUISHED NAME COMPANY SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY MEL ONU MEL <td>I crob h laws</td> <td></td> <td>10/01</td> <td></td> <td></td> <td>10</td> <td>TAL NUMB</td> <td>I OF CO</td> <td>ITAINERS</td> <td>5</td> <td>LABOI</td> <td>ATORY CON</td> <td>MENTS/CO</td> <td>ONDITION OF</td> <td>SAMPLES</td> <td>Cooler Temp:</td> <td></td>	I crob h laws		10/01			10	TAL NUMB	I OF CO	ITAINERS	5	LABOI	ATORY CON	MENTS/CO	ONDITION OF	SAMPLES	Cooler Temp:	
SIGNATURE PRINTED NAME COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY SIGNATURE PRINTED NAME COMPANY MFL 912/03 9145 Methods Printed Name COMPANY Mathod Orris Mol-Ler MFL 912/03 9145 Methods Printed Name COMPANY Mathod Orris Mol-Ler 912/03 9145 913/03 11.00 Methods Mathod Name Sold SL-studge P-patrionen S. Sold SL-studge P-patrionen A-air OT-other Contractore R-table D-unitiend Laboration		RELINQUISHED	BY:	1910-1019-1019-1019-10-10-10-10-10-10-10-10-10-10-10-10-10-		244		F		╞╴				RECEIV	ED BY:		·
Or Mar Orrig Moner MFL 9/2/03 9:45 Wethy 21 pp Fronther malutre 9/3/03/1:00 mm LABORATORY Malutre 10 0 10 10 10 10 10 10 10 10 10 10 10 10	SIGNATURE	PRINTED NA	ME	COMF	ANY		DAT	ш	TIME		SIGI	IATURE		PRINTE	D NAME	COMPANY	
12 LaBORATORY 0 .KEY Matrix: A0-aqueous Matrix: A0-aqueous S0-soll SL-studge P-petroletum A-air 07-other Containers: P-plastic G-glass T-tellon B-brass 0T-other Filtration: F-filtered U-unfiltered	Oc free	oni Plon	ک لا	1FL			914	2	9:45		At l	at .	XG	13/03	21,pp	Frantieran	the
KEY Matrix: A0-aqueous MA-nonaqueous S0-soil SL-studge P-petroletum A-air 07-other Containers: P-plastic G-glass T-tellon B-brass 0T-other Filitation: F-filtered U-unfiltered)15 (•			LABORATORY	
	of OC	• <u>KEY</u> Matrix: Al) - aqueous NA - nonaqueo	us SO-soil	SL - sludge	P - petroleui DN: PINK	т A-air OT- `Field Copy	other Col YFLLOW: Labo	ttainers: P - pli ratory Copy - M	stic G - glas: VHITE: Return	s T - tellon B - to Originator	itass OT - other	Filtration.	F - filtered U - u	filtered		

OR ANALYSIS			ы: <u>2</u> ог: <u>2</u> Е: <u>8/29/03</u> Мунунги	JEST	Remarks								Cooler Temp:		COMPANY	Fronthol Analy-		והטואחטפאט	
EQUEST F	Jes Post Rd.	A - Seattle 2203 36th Ave. W. 2203 36th Ave. W. 2200, WA 98036 71: W00 1425) 921-4040 ax (425) 921-4040	PAC DAT IATION: Fro A	ANALYSIS REQU	d Handling	djoh Hruf Gradnatr					7,	×	S/CONDITION OF SAMPLES	RECEIVED BY:	PRINTED NAME	Karth, Zigo	9/3/03 - 11:00		tion: F - fittered U - unfittered
ORD AND R	ula DNJ - Edison 68 1090 King Georg 11 59807 Sia 703 84.600 Edison, NJ 0883 28-4608 Tal (732) 738-57 28-4688 Fax (732) 738-57	TX - Texarkana 4532 Summerhill Rd. 15 Texarkana, TX 5503 55 16(303) 794-0625 b Fax (903) 794-0626 Fe Fax (903) 794-0626 Fe	Co ~+ 1 DESTIN		Constituents/Metho	1974-401 2191 CON	7	>		> 2	2	>	LABORATORY COMMENTS		SIGNATURE	Hr Zop			T - tetton B - brass 0T - other Filtra
ODY REC	CMT - Misso PO Box 71 Missolua, Missolua, A 5-6811 Tel (406) 7 6-7271 Fax (406) 7	- Port Lavaca East Main D East Main D Eavaca, 17 7979 (361) 552-8539 (361) 553-6115	Arcata IAGER: Ed NO:		Containers	FILTRATION* VOLUME TYPE*	402 G					>	CONTAINERS		TIME	9:45 N	-		Containers: P - plastic G - glass
OF-CUST	er Cir. DID - Osburn East Cir. PO Box 30 Wallsce, ID - 2 80301 Tel (2208) 55 47-1823 Fax (208) 55	Houston TX 37 Jones Fid. 322 201 200 Fio. 700 201 390-5068 Fab (281) 890-5044 Fab	ME: SPT- PROJECT MAN RRIER/WAYBILL		Preservation	COΓD H ⁵ SO [⊄] HNO ³	7					>	TOTAL NUMBER OF		DATE	9/2/03			P - petroleum A - air OT - other
CHAIN	co CC - Bould Sia. 200 4900 Pearl A 94105 Sia. 200 10 Tel (303) 44 10 Tel (303) 44 10 Tel (303) 44	od Springs Rd. 1233 200 1233 200 1233 200 1233 200 1201 1331 Fax	PROJECT NA	MPLES	Sample	m HG Matrix*	ot					>			COMPANY	Pr PG	•		naqueous SO - soil SL - sludge
	Rd. CA - San Francis Rd. 180 Howard St., San Francisco, C 1 Fax (415) 495-71 1 Fax (415) 495-71	L A 1807 Spicewoo 12 809 N/ 14 Flo 12 809 N/ 14 Flo Austin, 7787 16 (512) 338- 5ax (512) 338-	11 Win Pledman Zed Ex	7S		DAT	er 81;	er f	Peer	ower	pper			UISHED BY:	TED NAME	Plochu,			Matrix: AO - aqueous NA - no
IJ	CA - Irvine 17770 Cartwright Ste. 500 Ste. 500 Fax (949) 253-285 Fax (949) 253-285	□ PA - Pritsburgh 800 Vinial SI, Blog Pritsburgh, PA 152 Tel (412) 321-2278 Fax (412) 321-2278	IO: <u>030 2.29</u> Signature): <u>On</u> F SHIPMENT:			Field Sample Identification	acrete war	vorete lou	Ducrete u	concete 1	procete y	nc/etc 1		RELING	NIH	Oris			KEN
MFG, IN	Office Way 5521-6741 126-8430- FAX (707) 826-84	□ OR - Portland 1020 SW Taylor St. Ste. 530 Portand, OH 97205 Tel (503) 228-8615 Tel (503) 228-8631 Fax (503) 228-8631	PROJECT N SAMPLER (: METHOD OI	EC SEP)1 *ch/	IVED 8 2003 MFG, Inc.	B-61- con	3-61-200	8-62-61	B-62-1	B-63-4	B-63-Ce			SIGNATUR	Ruller			



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	lce
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 complex 4 5 6 11 8 12	RECEIVED
1000 samples 4, 5, 0, 11 or 12.	SEP 1 8 2003
	Tetra Tech/MFG, Inc.





RECEIVED

SEP 1 8 2003 Tetra Tech/MFG, Inc.

000018 of 000019





RECEIVED

SEP 1 8 2003

Tetra Tech/MFG, Inc.

000019 of 000019

D-8 Second Phase of Excavation Samples



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

2ND PHASE EXCAUATION SAMPLES - 9/2003

02 October 2003

MFG, Inc - Arcata Attn: Ed Conti 875 Crescent Way Arcata, CA 95521 RE: SPI - Arcata Work Order: A309412

دي معرف مرجع

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**

RECEIVED OCT 0 0 2003 Tetra Tech/MFG, Inc.



Receipt Date/Time

09/17/2003 19:00

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	

Client Code MFGARC

Client PO/Reference

Page 1 of 13

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

RECEIVED

OCT 0 0 2003

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.

Tetra Tech/MEG, Inc.

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03



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 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	

RECEIVED

OCT 0 6 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 Sheri L. Speaks Project Manager

10/2/03



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 A	Analytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
Pit Water (A309412-01)			Sample Typ	e: Water		Sampled: 09/17/03 00:	00		
Chlorinated Phenols by Canadian	Pulp Method					•			
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 %	7 9-1 19		S-06
S-1E-2.5' (A309412-02)			Sample Typ	pe: 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	**	"	17	**	"	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)			Sample Ty	pe: 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			"	09/30/03	"	18 "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	09/27/03	"	ND "		1.0	
Pentachlorophenol	17	n	"	09/30/03	"	32 "		1.0	
Surrogate: Tribromophenol	n	"	"	09/27/03		99.2 %	23-140		
S-3S-2.5' (A309412-04)			Sample Ty	pe: 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	"	"		11		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.



Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

OCT 0 6 2003

RECEIVED

Toto Took AEG Inc



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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 A	nalytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
S-3S-2.5' (A309412-04)			Sample Typ	e: Soil		Sampled: 09/14/03 00	:00		
Chlorinated Phenols by Canadian Pr	ulp 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 Tyj	oe: Soil		Sampled: 09/14/03 11	:00		
Chlorinated Phenols by Canadian Pr	ulp 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	"		"	"	. 11	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		74.2 %	23-140		
S-5N-2.5' (A309412-06)			Sample Ty	pe: Soil		Sampled: 09/15/03 09	9:15		
Chlorinated Phenols by Canadian P	ulp Method								
2,4,6-Trichlorophenol	EnvCan	AI33017	09/20/03	09/27/03	1	ND mg/kg		1.0	
2,3,5,6-Tetrachlorophenol		"	"	"	n	ND "		1.0	
2,3,4,6-Tetrachlorophenol		11		09/30/03	"	1.1 "		1.0	
2,3,4,5-Tetrachlorophenol	*1	"	"	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 Ty	pe: Soil		Sampled: 09/16/03 0	0:00		
Chlorinated Phenols by Canadian F	ulp Method								
2,4,6-Trichlorophenol	EnvCan	AI33018	09/23/03	09/27/03	1	ND mg/kg		1.0	
2,3,5,6-Tetrachlorophenol	"	n	"		"	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	"	"	"	00/27/03		258 %	23-140		5-0

S-7E-3' (A309412-08)

Sample Type: Soil

Sampled: 09/16/03 00:00

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

OCT 0 0 2003

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Page 4 of 13



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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 A	Inalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
S-7E-3' (A309412-08)			Sample Typ	e: Soil		Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian	Pulp Method					-		
2,4,6-Trichlorophenol	EnvCan	AI33018	09/23/03	09/30/03	1	ND mg/kg	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"		11	**	**	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	v	"		ND "	1.0	
Pentachlorophenol	"	"	"		17	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		43.5 % 23-140)	
S-8W-1.5' (A309412-09)			Sample Ty	pe: 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	"	"	*	**	"	6.5 "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	**	**	"	"	19 "	1.0	
Surrogate: Tribromophenol	"	"	"	17		% 23-14	0	S-06
S-9W-2.5' (A309412-10)			Sample Ty	pe: 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	"	**	11	**	*	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	**	"	"	"	1.6 "	1.0	
2,3,4,5-Tetrachlorophenol	- 11	"	"	"	n	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	3.2 "	1.0	
Surrogate: Tribromophenol	"	"	"	17		% 23-14	0	S-06
S-10S-0.5' (A309412-11)			Sample Ty	pe: 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		"	"			ND "	1.0	
2.3.4.5-Tetrachlorophenol	**	"	**	**	"	ND "	1.0	

The results in this report apply to the samples analyzer proceeding with the Chain of custody document. This analytical report must be represented in the entirely.

OCT 0 6 2003

Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Page 5 of 13



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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 A	Analytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
S-10S-0.5' (A309412-11)			Sample Ty	pe: Soil		Sampled: 09/16/03 00:0	0		
Chlorinated Phenols by Canadian 1	Pulp Method (cont'	d)				-			
Pentachlorophenol	EnvCan	"	"	09/30/03	"	ND "		1.0	
Surrogate: Tribromophenol	"	. 11	"	"		59.7 %	23-140		
S-11S-2.5' (A309412-12)			Sample Ty	pe: Soil		Sampled: 09/16/03 00:0	0		
Chlorinated Phenols by Canadian l	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	"	"		"	"	3.1 "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	*	**	"	ND "		1.0	
Pentachlorophenol	"	11	**	"	"	9.2 "		1.0	
Surrogate: Tribromophenol	"	"	"	"		%	23-140		S-06
S-12S-2.5' (A309412-13)			Sample Ty	pe: Soil		Sampled: 09/16/03 00:0	0		
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		17		n	"	4.5 "		1.0	
2,3,4,5-Tetrachlorophenol	ń ·	"	"	•	*	ND "		1.0	
Pentachlorophenol	"			**	"	7.1 "		1.0	
Surrogate: Tribromophenol	"	"	"	п		%	23-140		S-06
B-1-South (A309412-14)			Sample Ty	pe: Soil		Sampled: 09/14/03 09:	50		
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	"	**	"	11	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"		"			ND "		1.0	
2,3,4,5-Tetrachlorophenol		"		11	"	ND "		1.0	
Pentachlorophenol			"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		60.5 %	23-140		

B-2-East (A309412-15)

Sample Type: Soil

Sampled: 09/14/03 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.

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Page 6 of 13

OCT 0 6 2003

RECEIVED

Totro ToohAAEC Ino



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 7 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
5	

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A309412	09/17/2003 19:00	MFGARC	

		Alpha A	nalytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
B-2-East (A309412-15)			Sample Typ	oe: Soil		Sampled: 09/14/03 00:0	D0		
Chlorinated Phenols by Canadian I	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	۳	"	**	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	11	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		71.0 %	23-140		
B-3-East (A309412-16)	~		Sample Ty	pe: 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			11	"		ND "		1.0	
2,3,4,6-Tetrachlorophenol		11	"	"	**	ND "		1.0	
2,3,4,5-Tetrachlorophenol		"		"	"	ND "		1.0	
Pentachlorophenol	11	"	*	"	"	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	"	"	11		"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	09/30/03	"	170 "		1.0	
2,3,4,5-Tetrachlorophenol	"		H	09/27/03	"	ND "		1.0	
Pentachlorophenol	Ħ	**	11	09/30/03	11	640 "		1.0	
Surrogate: Tribromophenol	"	"	"	09/27/03		116 %	23-140		
B-5-West (A309412-18)			Sample Ty	pe: 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	n	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	n	n	"	"	н	2.2 "		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.

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

OCT 0 6 2003

RECEIVED

Tetra Tech/MEG Inc



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 A	nalytical	Laborator	ies, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
B-5-West (A309412-18)			Sample Typ	pe: Soil		Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian I	Pulp Method (cont'd)						
Pentachlorophenol	EnvCan	"	"	09/30/03	"	4.9 "	1.0	
Surrogate: Tribromophenol	"	"	"	"		% 2	3-140	S-06
RR-Ties (A309412-19)			Sample Ty	pe: Other (W))	Sampled: 09/16/03 00:00		
Chlorinated Phenols by Canadian I	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	"	"	"	11	1	170 "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	17	"	3.1 "	1.0	
Pentachlorophenol	"	"	"	"	"	260 "	1.0	
Surrogate: Tribromophenol	"	"	"	"		% 2	3-140	S-06
Temp Blank (A309412-20)			Sample Ty	pe: Water		Sampled: 09/14/03 00:00)	
Conventional Chemistry Paramete	rs by APHA/EPA M	lethods						
Temperature	Temperature	AI31802	09/18/03	09/18/03	1	4.8 °C		

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.

RECEIVED

OCT 0 0 ZUU3

Tatra Tach/MEG Inc

Reft-	

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Page 8 of 13



Receipt Date/Time

09/17/2003 19:00

208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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

SourceResult

Order Number A309412

Client Code MFGARC

Client PO/Reference

Page 9 of 13

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	"							
Surrogate: Tribromophenol	27.8		"	24.9		112	79-119			
LCS (AI32518-BS1)				Prepared	: 09/19/03	Analyzed	l: 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			
Surrogate: Tribromophenol	26.9		п	24.9		108	79-119			
LCS Dup (AI32518-BSD1)				Prepared	: 09/19/03	Analyzed	1: 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	
Surrogate: Tribromophenol	26.1		"	24.9		105	79-119			

Blank (AI33017-BLK1)

2,4,6-Trichlorophenol ND	1.0
--------------------------	-----

Prepared: 09/20/03 Analyzed: 09/27/03 0 mg/kg

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

OCT 0 6 2003



Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03



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

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata 875 Crescent Wav 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 PO/Reference

Page 10 of 13

MFGARC

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Client Code

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	11							
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	l: 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	17	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	d: 09/27/03	3		
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)			
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	н

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 the report Produced in the report of the report

OCT 0 6 2003

Nena M. Burgess For Sheri L. Speaks **Project Manager**

Prepared: 09/23/03 Analyzed: 09/27/03

10/2/03



Receipt Date/Time

09/17/2003 19:00

Client PO/Reference

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

Client Code 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	H							
Pentachlorophenol	ND	1.0	11							
Surrogate: Tribromophenol	0.0850		n	0.124		68.5	23-140			
LCS (AI33018-BS1)				Prepared:	: 09/23/03	Analyzed	l: 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	tt	0.0250		54.0	18-80			
2,3,4,6-Tetrachlorophenol	0.0123	1.0	H	0.0250		49.2	28-89			
2,3,4,5-Tetrachlorophenol	0.0149	1.0	11	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	1: 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	н	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	n	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		n	0.124		71.8	23-140			
Batch AJ30215 - Solvent Extraction										
Blank (AJ30215-BLK1)				Prepared	l: 09/27/03	3 Analyze	d: 09/30/03	3		
2,4,6-Trichlorophenol	ND	1.0	mg/kg	·····						
2,3.5,6-Tetrachlorophenol	ND	1.0								

"

n

n

1.0

1.0

1.0

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must b uset tr X Se month

2,3,4,6-Tetrachlorophenol

2,3,4,5-Tetrachlorophenol

Pentachlorophenol

	· · · · · · · · · · · · · · · · · · ·
A	22

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Page 11 of 13

Tetra Tech/MFG, Inc.

OCT 0 6 2003

ND

ND

ND



Receipt Date/Time

09/17/2003 19:00

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

Client Code MFGARC

Client PO/Reference

Page 12 of 13

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		п	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-BSD1)				Prepared	: 09/27/03	Analyzed	1: 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			

The results in this report apply to the samples analyzed in accordant of custody document. This analytical report must be reproduced in th he chain

Nena M. Burgess For Sheri L. Speaks Project Manager

10/2/03

Tetra Tech/MFG, Inc.

OCT 0 6 2003



208 Mason St. Ukiah, California 95482 e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

Page 13 of 13

N	FG Inc. Arcete			
8	75 Crescent Way	Report Date:	10/02/03 14:32	
А	rcata, CA 95521	Project No:	030229.11	
A	attn: Ed Conti	Project ID:	SPI - Arcata	
Order Number A309412	Receipt Date/Time 09/17/2003 19:00	Client Code MFGARC	Client PO/Reference	

Notes and Definitions

- OL-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%.
- The spike recovery was high for this analyte. The batch was accepted based on a non-detect for the analyte. QM-03
- The Reporting Limit for this analyte has been raised to account for matrix interference. R-01
- 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.
- Analyte DETECTED DET
- 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

OCT 0 6 2003

SIS								· to		ন	ſ					
=OR ANALY			AGE: OF: <u>7</u> ATE: 9/17/63 A Andly 4 CU/	auest	Remarks		1309412-1	a lasme co	received.	s Cooler Temp: 3		E COMPANY	ANDIA SI	CENED	3T 0 6 2003	
EQUEST	s Post Rd.	- Seattle 203 35th Ave. W. 100 nwood, WA 98036 (425) 921-4000 (425) 921-4040	ATION: ALP	ANALYSIS RE(Handling	ООН НЗИЯ ДЯАДИАТЗ	9	*	¥	CONDITION OF SAMPLE	RECEIVED BY:	PRINTED NAME	John Tay	o Shen Sp	n: F- filtered U - unfiltered OC	Tothe
ID AND RI	□ NJ - Edison 1090 King George 107 Ste. 703 2615on, 108337 161 (732) 738-570 98 Fax (732) 738-570	exarkana UMA Summerhill Rd. 192 ana, TX 75503 Ste 33) 794-0625 Lyn 03) 794-0626 Tal	DESTIN		Constituents/Method	כשטפקפיט	/ * /			ABORATORY COMMENTS	(SIGMATURE	munter (cay of Rel	n B - brass OT - other Filtratio or	
Y RECOR	□ MT - Missoula PO Box 7156 Missoula, MT 598 Missoula, MT 598 Fax (406) 728-466 Fax (406) 728-466	avaca 🗆 🗆 X - T Aain 4532 1 a, TX 77979 Texark 553-6115 Fax (9 553-6115 Fax (9	rate Ed (Containers	ΝΟ [:] ΔλδΕ _* (ώι/oz) ΛΟΓΩΜΕ	1 2 1 2					Z	U.30 m 1	Jool Dar	ers: P - plastic G - glass T - tellor y Copy WHITE: Return to Originat	
	□ ID - Osburn PO Box 30 Waltace, ID 83873 Tel (208) 556-3211 Fax (208) 556-7271	n ITX - Port L 8 Rd. 320 East N Port Lavac 77070 Tel (361) 5 0-5044 Fax (361)	SPT - A		servation	H ₂ SO ₄ COLD FILTRATION*	>			TAL NUMBER OF CONTA		DATE	9/11/03	11103 1	ım A - air OT - other Contain IK: Field Copy YELLOW: Laborator	
CHAIN-OF	CO - Boulder 4900 Pearl East Clr 51e, 300W Boulder, CO 80301 Tel (303) 447-1835 Fax (303) 447-1836	s Rd. 12337 Jones 12337 Jones Sie. 230 Fax (281) 89 Fax (281) 89	DJECT NAME: PRC	S	ole Pre	НИО ₃ Маtrix* НСІ	m At	>			Set soft back dog be data and here a book do	COMPANY	6. Tuc	e	SO - soil SL - sludge P - petroleu DISTRIBUTTON: PIN	
	CA - San Francisco 180 Howard St., Ste. 200 San Francisco, CA 94105 Tel (415) 495-7107 Fax (415) 495-7107	JTX - Austin 4807 Spicewood Springs Bidg. IV, 1 st Floor Austin, TX 78759 Tel (512) 338-1637 Fax (512) 338-1331	PHO	SAMPLE	Samp	DATE	9/113 1				D BY:	ME 0	che MD	Mac AIR	10 - aqueous NA - nonaqueous	-
	A - Irvine 7770 Cartwright Rd. 7770 Cartwright Rd. vine, CA 92614 el (949) 253-2951 ax (949) 253-2954	 Pittsburgh Pittsburgh 0 Viniat St., Bidg, A 15212 16412) 321-2278 16412) 321-2283 	1 (12): 22, 1 ure): 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,			eld nple cation	ter				RELINQUISHEI	PRINTED NA	Orringlo	John T	· KEY Matrix:)	
MFG, INC.	Diffice 0 Nay Nay 521-6741 16-8430- FAX (707) 826-8437 76 76	□OR - Portland □P# 1020 SW Taylor St. 80 Ste. 530 Peritand. OR 97205 Te Tel (503) 228-8631 Fax (503) 228-8631	PROJECT NO: <u>C</u> SAMPLER (Signati METHOD OF SHIF			Fie Sam Identifi	Pit Wat					SIGNATURE	(alla)	mpagen		
	Arcata C 875 Crescent W Arcata, CA 955 Phone (707) 82		I				l	<u>I. İ</u>			1999 C		12	M)	<u> </u>	I

	MFG, INC.			CH/	NIN	Ģ	Ş	JST	λdc	R	00	RD A	ND F	REQ	UES			ALYSIS 6184	
RYS Cresc B75 Cresc Arcata, C/ Phone (70)	(a Office ent Way A 95521-6741 7) 826-8430- FAX (707) 826-8437	CA - Irvine 17770 Cartwright Rd. Ste. 500 Irvine, CA 92614 Tel (349) 253-2951 Fax (949) 253-2951	□CA - San Francisco 180 Howard St., Ste. San Francisco, CA 9 Tel (415) 495-7110 Fax (415) 495-7107	105 105 31 105 100 100 100 100 100 100 100 100 10	D - Bould 00 Pearl e. 300W 1 (303) 4 x (303) 4	ler East Cii O 80301 47-1823 147-1836		- Osburn D Box 30 allace, ID 8 al (208) 556 tx (208) 556	3873 -6811 5-7271		Missoula 30x 7158 oula, MT 406) 728- (406) 728-	- CNJ - 109 59807 109 4600 Edit 4600 Edit	Edison 0 King Geo 703 801, NJ 088 732) 738-5 (732) 738-5	rges Post 37 5711	□ ' ' ₽	3			1 1 1
	□ OR - Portland 1020 SW Taylor St. Ste. 530 Portland, DR 97205 Tel (503) 228-8631 Fax (503) 228-8631	□ PA - Pittsburgh 800 Vinals 31, Bidg. A 9155burgh, PA 15212 Tel (412) 321-2283 Fax (412) 321-2283	□ TX - Austin 4807 Spiewood Sj 4807 W 1 ⁴⁴ Floor Bidg, IV 1 ⁴⁴ Floor Austin, TX 78759 Tel (512) 338-1637 Fax (512) 338-1331	orings Rd.	233 24 25 25 25 25 25 25 25 25 25 25 25 25 25	- Housto 37 Jone: 230 (281) 89 (281) 89	n s Rd. 0-5068 90-5044	D 320 TX - 220 Fax Fax	Port Lava East Main Lavaca, T 361) 552-8 (361) 553-8	а К 77979 839 5115	□ [13] 전원 전원 전원	(- Texarkana 32 Summerhill R xarkana, TX 755 (1903) 794-0626 x (903) 794-0626	1 8	MA - Seatt 19203 36th Ste. 100 Tel (425) 9 Fax (425) 9	le I Ave. W. WA 98036 21-4000 321-4040				
	PROJECT NO: SAMPLER (Sigi METHOD OF SI	030229.1 nature): 0.10 HIPMENT: 0.00	ier 1	PROJEC	CAF	ME: PR(RHEI	S P DJEC		AGER VO:	5 W	9	144	DESTI	NATIO	ž A	PAGE DATE:	2117 1171	1: -1 163 42cl	T
			SAMI	PLES										A	IALYSIS	REQUE	ST		T
			ŭ	ample		Pre	servat	ion		Contai	ners		its/Metho	- p	landling		Rema	ks	
		Field Sample intification	DATE	TIME	Matrix*	⁸ ONH	[⊅] OS ⁷ H	согр	FILTRATION*	(zo/im)	ON	Caradar 201/10-2		НОГР	HSUR				
	S-1E-2	2.5'	9/1/63	Å	R			X	9	1	- 2	7				Z A3	INFO	6-0	
	5-2E-	-2.5'	9/14/03	Am								2			1			٣	
	5-35-	2,5'	6/H/b	Am							~	7				·		יר	-
	- NH - S	2,5'	9/14/63	34							4	7						ŗ,	
	S-5N-	-2.5	9/12/03	dirst h				_			<u></u>	7			3			و ۱	
	5-6N-	١.٤'	E0191/P	Am				_			r L	2						ţ	
	S-7E	31	9/16/03	Am	3			N	-)	_ → 、	/	2			2	<u></u>		90 '	,
		م میں اور				T0	TAL NUN	IBER OF C	ONTAINE	ខ្ល	7	LABORATORY	COMMENT	S/CONDI	TION OF S/	MPLES	Cooler Te	^{mp:} ЭՎ	
		RELINQUISHE	:D BY:											۳	ECEIVEI) BY:			
	SIGNATURE	PRINTED N	AME	COMP/	γN		D	ΛTE	F	ME	$\overline{\Lambda}$	SIGNATUR	$\int_{\mathbf{q}}$		RINTED	VAME	COI	APANY	
	Chlud	h, Orrin Nou	the M	H SH	ر لا		9/17	103	ñ	5	\mathcal{Y}	and the second	N.	2	L Z	91/00		e f	
	K Min Hay a	1 may 1	A CON	Gue			1242	R	192	J	<u> </u>	Uev	Ruk	দ্র	ON CON	REC	ETVE TALO	D ^{ev}	
\mathcal{F}		• <u>KEY</u> Matrix:	AQ - aqueous NA - nonaque	DI: DI: DI SU	- siudge STRIBUTTe	- petroleu DN: PIN	m A - air (K: Field Copy)T - other YELLOW: L	Containers: F Iboratory Cop	- plastic G WHITE I	- glass T- I leturn to Oriĝ	eflon B - brass OT - tinator	other Filtr	ation: F - filte	red U - unfille	DCT	0 6 2003		
•																			

۰ ·

.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS	Display Display <t< th=""><th>Is brings Rd. ITX - Houston ITX - Port Lavaca ITX - Texarkana WA - Seattle 1 Start Start 12337 Jones Rd. 320 East Main 4532 Summerhill Rd. 19203 36th Ave. W. 1 Start Start Start Start 230 East Main 4532 Summerhill Rd. 19203 36th Ave. W. 1 Start Start Start Start Port Lavaca. TX 77979 Texarkana. TX 75503 Start No. 2 Houston, TX 77070 Tel (361) 553-6115 Tel (303) 794-0625 Lymmwood, WA 98036 67 Fax (281) 890-5044 Fax (361) 553-6115 Fax (903) 794-0625 Tel (425) 921-4040</th><th>PROJECT NAME: SPJ-Arca H PROJECT MANAGER: Ed Canto CARRIER/WAYBILL NO: DESTINATION: Alpha Analy to cu</th><th>WPLES ANALYSIS REQUEST</th><th>Sample Preservation Containers Constituents/Method Handling Remarks</th><th>Щ щ щ щ щ щ щ щ щ щ щ щ щ щ</th><th>3 Am 50 X 6" B 1 C 1 C A 309412-9</th><th>of Am 11 </th><th>DM I I I I I I I I I I I I I I I I I I I</th><th>2 Du 1 2</th><th></th><th>Total number of containers Laboratory comments/condition of samples Cooler Temp: $3 \cdot 4$</th><th>RECEIVED BY:</th><th>COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY</th><th>MFC. Inc 9/11/00 2:30 Latin 260 Latre Taylor 10/10/19</th><th>piphia Myas 1900 Sheir March Sherr Spert Dinha</th><th>queeus SO-soil SL-studge P-petroleum A-air OT-other Containens: P-plastic G-glass T-tefton B-brass OT-other Filtration: F-filtered U-unfiltered OPT A L DCCO</th></t<>	Is brings Rd. ITX - Houston ITX - Port Lavaca ITX - Texarkana WA - Seattle 1 Start Start 12337 Jones Rd. 320 East Main 4532 Summerhill Rd. 19203 36th Ave. W. 1 Start Start Start Start 230 East Main 4532 Summerhill Rd. 19203 36th Ave. W. 1 Start Start Start Start Port Lavaca. TX 77979 Texarkana. TX 75503 Start No. 2 Houston, TX 77070 Tel (361) 553-6115 Tel (303) 794-0625 Lymmwood, WA 98036 67 Fax (281) 890-5044 Fax (361) 553-6115 Fax (903) 794-0625 Tel (425) 921-4040	PROJECT NAME: SPJ-Arca H PROJECT MANAGER: Ed Canto CARRIER/WAYBILL NO: DESTINATION: Alpha Analy to cu	WPLES ANALYSIS REQUEST	Sample Preservation Containers Constituents/Method Handling Remarks	Щ щ щ щ щ щ щ щ щ щ щ щ щ щ	3 Am 50 X 6" B 1 C 1 C A 309412-9	of Am 11	DM I I I I I I I I I I I I I I I I I I I	2 Du 1 2		Total number of containers Laboratory comments/condition of samples Cooler Temp: $3 \cdot 4$	RECEIVED BY:	COMPANY DATE TIME SIGNATURE PRINTED NAME COMPANY	MFC. Inc 9/11/00 2:30 Latin 260 Latre Taylor 10/10/19	piphia Myas 1900 Sheir March Sherr Spert Dinha	queeus SO-soil SL-studge P-petroleum A-air OT-other Containens: P-plastic G-glass T-tefton B-brass OT-other Filtration: F-filtered U-unfiltered OPT A L DCCO
CHAIN-OF-CUSTO	 San Francisco CO - Boulder Howard St., Ste. 200 Howard St., Ste. 200 A900 Pearl East Cir. PO Box 30 Francisco, CA 94105 Ste. 300W I Francisco, CA 94105 Ste. 300W Fox 300 Fax (208) 556- Fax (303) 447-1835 Fax (208) 556- 	X Austin TX Houston TX I 1807 Spicewood Springs Rd. 12337 Jones Rd. 320 E 3dg. IV, Floor 21. 32.230 adg. IV, Floor 21. 21. adg. IV, Floor 21. 21. adg. IV, Floor 21. 21. adg. IV, Floor 10. 21. adg. IV, Floor 10. 21. adg. IV, Floor 10. 21. 21. 21. 21. 23. 21. 21. 21. 23. 21. 21. 23. 23. 21. 21. 23. 24. 21. 23. 24. 24. 21. 23. 24. 24. 21. 23. 24. 24. 21. 23. 24. 24. 21. 23. 24. 24. 21. 23. 24. 24. 21. 24. 24. 24.	PROJECT NAME: SPT - PROJECT MANA CARRIER/WAYBILL N	SAMPLES	Sample Preservation	COFD H ⁵ SO [⊄] H00 ³ HCI Watrix TWE TIWE	9/16/03 Am 50 X	9/ into Am 1	9/16/03 PM	9/16/03 pm /	V M M Kini	TOTAL NUMBER OF CC	BY:	IE COMPANY DATE	chet MFC. Inc 9/11/03	Editify Shipping	aqueous MA - nonaqueous SO - soil SL - sledge P - petroleum A - air OT - other - O
MFG, INC.	Image: Control of the state of th	□OR - Portland □PA - Pittsburgh □1 1020 SW Taylor St. 800 Vinal St. 81dg. A 4 Ste. 530 P 97205 Tel (412) 321-2278 A Tel (503) 228-8615 Fax (412) 321-2283 F Fax (503) 228-8631 Fax (412) 321-2283 F	PROJECT NO: 030229.11 SAMPLER (Signature): 021/2			Field Sample Identification	<-BW-1.5'	5-9 W -2.57	5-105-0.5	5 - 115 - 2.51	5-125-25'		RELINQUISHED I	SIGNATURE PRINTED NAM	R. and Sorris No	Chindred Johns The	·KEY Matrix AO

	MFG, INC.			CHA	Ž	L L L	SUC	10	Σ	Ĕ	ļ <u>ö</u>	D D	NN N	E C	ğ	Ш Э	STI	NO	ANP No.	LYSI 6183	S
Arca 875 Cress Arcata, C	L ta Office 2at Way A 95521-6741 A 95521-6741 A 9555-8430- FAX (707) 826-8437	CA - Irvine CA - Irvine CC 17770 Cartwright Rd. 11 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 500 Ste. 750 Fax (949) 253-2954 Fax (949) 253-2954	A - San Francisco 20 Howard St., Ste. 200 an Francisco, CA 94100 31 (415) 495-7110 ax (415) 495-7107	CCO - 4900 Ste. 3 Fai (3 Fax (Boulder Pearl Ea: 000W (er, CO 8(03) 447-1 303) 447-	at Cir. 3301 823 1836	CID - Os PO Bo Wallac Tel (20 Fax (20	burn c 30 e, ID 8387 e, ID 8387 8) 556-681 8) 556-72	2-m	DMT - Mi PO Box Missoul Tel (406 Fax (40	ssoula 7158 a, MT 59) 728-46 6) 728-46	000 89807 698	INJ - Edit 1090 Kir Ste. 703 Edison, 1 Tel (732) Fax (732)	ton g Georg 4J 08837 738-570) 738-57	ss Post F	ц "į					
	☐ OR - Portland 1020 SW Taylor St. Ste. 530 OR 97205 Portland, OR 97205 Tel (503) 228-6631 Fax (503) 228-6631	□PA - Pritsburgh 800 Vinial St., Bidg, A Pritsburgh, PA 15212 Tel (412) 321-2283 Fax (412) 321-2283	TX - Austin 4807 Spicewood Sprin 4807 N, ¹⁴¹ Floor Bidg, IV, 17 79759 Austin, 177 79759 Tel (512) 338-167 Fax (512) 338-1331	– Ba	□TX - Hc 12337 - Hc Ste. 230 Houston Tel (281 Fax (28	uston Jones Rd 1, TX 770 1, 890-50 1) 890-50		□ TX - Por 320 Eas Port Lav Tel (361) Fax (361	t Lavaca t Main aca, TX 7 552-8836) 553-611	979	- 77X 453% Texe Texe Fax	Texarkana 2 Summerh 1rkana, TX 903) 794-0 (903) 794-0 (903) 794-0	75503 75503 625 0626	☐ ₽₽₽₽₽₽₽	- Seattl 203 36th 203 36th 200 100 100 100 100 100 100 100 100 100	e Ave. W. 11-4000 21-4040	g				
	PROJECT NO: SAMPLER (Sigi METHOD OF SI	630229,1 nature): 0,00	L PR	OJECT	NAM F CARR	E ROJI				F(1)	9	itu	DE	STIN	ATIO	l l z	A D D	AGE:	4 H	1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
			SAMPL	ES										-	A	ALYS	IS RE(QUEST			
	See at	Male Anded	Sam	ple		Presel	rvation		ŏ	ntaine	ers	.Constit	uents/I	Vethoc		landli	Б.		Remar	ks	
	Covered.	N to this		Ξ Π Matrix*	HCI	°OSª [©] ONI		*NOITABT II:		.АЬЕ+	10 [.]	Jeno Carego			НОГД	HSUF	QAAQNATS				
	1-5-1-	South	-	<u> </u> 8	s.	- -		1	مْلَهُ		v	1 2		╂─			2	8	GULA	17 -	Τ
	3-2	-603+	2								-	2					2			15	
	3-3	-10454									_	2					2			وا	
	3-4-	west										1					2			17	
	13-5	- west		7			-)	>		<u>с</u>					2			50	
	Ŕ	R-TICS		ତା	-		×		807	۰P	_	7					2			6	
	Ten	> Blank		Ŧ			\mathbf{X}		25	ച	-	د					2	8.1		5	0
				2		TOTAL	NUMBER	OF CON	AINERS			-ABORATC	DRY CON	MENTS	CONDIT	TON OF	SAMPLE	e (Cooler Te	mp:3 -4	
		RELINQUISHED	BY:												Ē	ECEIV	ED BY:				
	SIGNATURE	PRINTED NAN	AE	COMPAN	×	r	DATE		TIM		7	SIGNAT	₩ L	5	<u>н</u> .	SINTE	D NAME		ð.	APANY	
	A BULL	1 OICin Do	en BN	R 1	r.	0	11-1/1	53	2,130	2		med a	J.	a	ß	SA	ŝ	12m	D/P	Ч	
	CAMPAGE AND	A Lund	VAN 191	AND		0		103	1906	X	MK	0,61	S	ea kl	5	Nor	ð	aks	ALD	μĄ	
$\overline{}$	()		-				-			$\boldsymbol{\sum}$			-				-	-u a			
		• <u>KEY</u> Matrix: AQ	- aqueous NA - nonaqueous	SO - Soil SL - S DISTF	udge P-pi	etroleum A PINK: Fiel	- air 0T - ol d Copy YE	her Conta LLOW: Labora	iners: P - pl tory Copy	istic G-gli VHITE: Retu	tss T-teff rn to Origin	'on B - brass ator	0T - other	Filtratic	n: F-filtei	red U - Un	filtered				
							:		1									30	1062	003	•

COC No. 46183			46E: 4 OF: 4 ME: 9/17/63	QUEST	Remarks		HI-CINDOCH	5		B1	61	4.8 Sector Frances 1	4. C-duiat laroon	E COMPANY	the photo	Deuls Alpha	SECENCE A		UCT 0 6 2003	Their .
	at R4	aute. Bah Ava. VI. 0, VA. 98036 1, 921-4000 6) 921-4040	noi Alabi	ANALYSIS REC	Handling	djoh H zur Gfiadnate	2	2	22	2	2		DEFENCEN BV		A LANA	Sher.		I-Abred D- calibrad		Tetty
HD AND HEV	a DNJ - Eclean 1000 (4m) Georges Po 1000 (4m) Georges Po 1000 (4m) Georges Po 1000 (4m) Co 1000	X - Texanfeara SK2 Summenting RA: 19200 3 SK2 Summenting RA: 19200 3 SH2	DESTINAT		Constituents/Method	mal.	2	2		> >	2				and and	And Road	-	T-Mico B-kinss 07-004 Micabor		
IODY HECO	m DMT - Aluscotta 0 Boarra D Box 7 Han D Boarra Missoula, MT 286-851 Fax (406) 725 556-7271 Fax (406) 725	TX - Port Lawara 11. 200 East Math 44 And Lawara TX 77979 44 Fel (361) 352-8639 75 Far (361) 353-6115 Fe	- Arauta WAGER: Ed (NO:		Containers	FILTRATION* VOLUME (mi/oz) TYPE* NO.	1 er 8 1				Bo7 F 1	1 6 11			2 9:30		D	er Concheux P-pissis () giss) (cht Laturatory chy HABITE Record ch		
SUD-TO-NIN	- Baulder 10 Pearl East Cir. PO Box 3 2, 300 Pearl East Cir. PO Box 3 4, 300 Booth Tal (208) 407-1823 Fax (208) 471-1828 Fax (208)	CITX - Fourstan 12337 Jones Ru. Sta. 22397 Jones Ru. Houstan, TX 77070 Tai (201) 850-55058 Fax (201) 850-55058	T NAME: SOL PROJECT MA CARRIERMAYBIL		Preservation	COFD H ^S 2O ⁴ HNO ³ HCI WEILIK.	X				5T X	K X			The glade	an li mor		al-shidy P-periodaa A-at 07-cM streamonts Park Fed Day 192		
CHA	Pan Francisco Honeard SL, SA, 200 499 Francisco, CA M4105 519 415) 485-7110 840 (415) 485-7107 784	:- Auglin 10 Sharawoud Springs Rd. 11 Y 7 Fictor 11 J 7 7 13 20 15 20 20 - 16 7 16 13 20 20 - 16 7 16 13 20 20 - 15 21	PROJEC	SAMPLES	Sample	DATE TIME	d/14 4:30	9/14 Am	9/1-1 Am	9/15 Am	PILL Dr. C	719163 Am		:20	E COMP			a Toz-OS ulcadopula-M. zchopu 0.		
	CA - Invine CA - 17770 Cartwright Rd. 1820 Sia 500 Livra: CA 202014 201 Livra: CA 202014 201 Fax (948) 253-2954 Fax	P Preburgh (17) 200 Vanie (SJ, Gudy, A 48 Preskryth, P. 1627(2) 181 (4/12) 321 2218 Far (4/12) 321 22183 Far (4/12) 321 22183	03029.11 (ture): 0, 04			ield mpte fireation	500-Th	- 603+	-1203-	West	- 7103	Blank		RELINQUISHED 1		CITIN MA		-1EY 44555 AD-		
MFG, INC.	2006ce D100 Vay 221-5741 66-4404-7AX (7007) 206-5437	DOR - Portland 1020 SW Taylor SL Factorid OR 97205 Tal (503) 229-8616 Fact (503) 229-8616	PROJECT NO: SAMPLER (Signa METHOD OF SHI			Solution Control	3-1-5	3-2,	13-3-	2,4	P DR	Tere			SIGNATURE	X M ~				

аст. 11. сема 4. метрі III 6 - МКСМІМ 2

7

,

110.000 5.4

F.6/6



October 2, 2003

FAL Project ID: 2245

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

2ND PHASE EXCAVATION - 9/2003 S-1 -> S-7

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

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

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc. 000001 of 000014



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

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc. 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

RECEIVED

OCT 0 3 ZUUJ

Tetra Tech/MFG, Inc.

000003 of 000014

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.

RECEIVED OCT 0 3 2003 Tetra Tech/MFG, Inc.

000004 of 000014



FAL ID: 2245-001-MB Client ID: Method Blank	Date Extracted: 9/25/03				ICal: PCDDFAL2-9-07 GC Column: DB5	7-03 Acquired	Acquired: 26-SEP-03		
Matrix: Soil		Amount: 10.00) a		Units: pg/g	WHO TEQ:	0.00		
Extraction Batch No.: X0096		% Solids: NA	5		MS/MSD Batch No.: >	(0079			
Compound	Conc	DL Q	lual WHO	Тох	Compound	Conc DL	Qual	#Hom	
2,3,7,8-TCDD	-	0.121		· _		<i>e</i>			
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	- 0.12	1	0	
1.2.3.7.8.9-HxCDD	-	0.253		-	Total Penta-Dioxins	- 0.21	6	0	
1.2.3.4.6.7.8-HpCDD	-	0.267		-	Total Hexa-Dioxins	- 0.29	8	0	
OCDD	-	1.04		-	Total Hepta-Dioxins	- 0.26	7	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	- 0.099	4	0	
1.2.3.4.6.7.8-HpCDF	-	0.105		-	Total Penta-Furans	- 0.22	5	0	
1,2,3,4,7,8,9-HpCDF	-	0.124		-	Total Hexa-Furans	- 0.14	3	0	
OCDF	-	0.483		-	Total Hepta-Furans	- 0.12	4	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-0CDD	81.2	17.0 - 157							

24.0 - 169

24.0 - 185

21.0 - 178 26.0 - 152

26.0 - 123

29.0 - 147

28.0 - 136

28.0 - 143

26.0 - 138

17.0 - 157

35.0 - 197

108

100

93.3

123

121

110

99.6

102

109

79.1

13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-2,3,4,6,7,8-HxCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-0CDF

Cleanup Surrogate

37cl-2,3,7,8-TCDD 101

Analyst a Date:



Reviewed by Date

OCT 0 3 2003



FAL ID: 2245-001-OPR	Date Extracted: 9/25/03			
Client ID: OPR	Date Received: NA			
Matrix: Soil	Amount: 10.00 g			
Extraction Batch No.: XO	096	% Solids: 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 <u>4</u> 0	7 50 - 15 8		
1 2 3 7 8-PeCDF	49 6	40.0 - 67.0		
2 3 4 7 8-PeCDE	47.0	34.0 - 80.0		
1 2 3 4 7 8-Hyche	40.7 70 7	36.0 - 67.0		
1 2 3 6 7 8-HyCDE	50 6	42 0 - 65 0		
2 3 4 6 7 8-11/0	/0.8	30.0 - 45.0		
1 2 3 7 8 9-1-005	47.0	35.0 - 78.0		
1 2 3 / 6 7 8-WOODE	/8 7	55.0 - 78.0 (1.0 - 61.0		
1,2,3,4,0,7,80	40.7 50.4	3 0 - 6 0		
1,2,3,4,7,0,9-HPCDF	0.00	39.0 - 89.0 47.0 170		
OCDF	99.2	65.0 - 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-HDCDF	97.7	21.0 - 158		
13C-1,2,3,4,7.8.9-HDCDF	104	20.0 - 186		
13C-OCDF	74.9	13.0 - 198		

ICal: PCDDFAL2-9-07-03 Acquired: 26-SEP-03 GC Column: DB5 Units: ng/mL WHO TEQ: NA MS/MSD Batch No.: X0079

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

31.0 - 191

90.2

Analyst 9/29/03 Date:

RECEIVED

Reviewed by Date

OCT 0 3 2003



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 MS Acquired: 2-SEP-03 Batch No.: X0079 MSD Acquired: 2-SEP-03 Units: pg/g GC Column: DB5		
Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2 3 7 8-700	200	-	170	170	0.00	
1 2 3 7 8-PerDD	1000		848	880	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	_	150	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	

800

105

Analys Date:

RECEIVED

Reviewed by: Date:

OCT 0 X 2003


FAL ID: 2245-001-SA Client ID: S-1E-2.5 Matrix: Soil Extraction Batch No.: X0096		Date Extrac Date Receiv Amount: 9.9 % Solids: 8	ted: 9/ ed: 9/1 2 g 3.2	25/03 8/03	ICal: PCDDFAL2-9-0 GC Column: DB5 Units: pg/g MS/MSD Batch No.:	07-03 Acqu WHO X0079	tired: 27	'-SEP-03
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL G	ual #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
	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				
1,2,3,7,8,9-HxCDF	13.5	-		1.35	Total Tetra-Furans	2.96	-	2
1,2,3,4,6,7,8-HpCDF	4350	- 1		43.5	Total Penta-Furans	36.2	-	9
1,2,3,4,7,8,9-HpCDF	281	-		2.81	Total Hexa-Furans	2600	-	9
OCDF	19400	-		1.94	Total Hepta-Furans	17700		3
Internal Standards	% Rec	QC Limits	Qı	ual				
13C-2.3.7.8-TCDD	107	25.0 - 16	4					
13C-1-2-3-7-8-PeCDD	87.0	25.0 - 18	1					
13C-1.2.3.4.7.8-HxCDD	111	32.0 - 14	.1					
13c-1 2 3 6 7 8-HxCDD	113	28.0 - 13	n					
13c-1 2 3 4 6 7 8-HpcDD	101	23.0 - 14	.n					
13C-OCDD	82 4	17 0 - 15	7					
	02.4	17.0 15	•					
13C-2,3,7,8-TCDF	111	24.0 - 16	9					
13C-1,2,3,7,8-PeCDF	97.9	24.0 - 18	5					
13C-2,3,4,7,8-PeCDF	91.7	21.0 ⁻ - 17	8					
13C-1.2.3.4.7.8-HxCDF	125	26.0 - 15	2	,				
13C-1.2.3.6.7.8-HxCDF	122	26.0 - 12	3					
13C-2.3.4.6.7.8-HxCDF	106	29.0 - 14	7					
13C-1.2.3.7.8.9-HxCDF	98.7	28.0 - 13	6					
13C-1 2 3 4 6 7 8-HpCDF	102	28.0 - 14	3					
130-1 2 3 4 7 8 9-HocDF	106	26 0 - 13	19					
130-000	78 7	17.0 - 15	57					
130-0004	10.1	11.0 - 1.						
Cleanup Surrogate								

37cl-2,3,7,8-TCDD 92

92.5 35.0 - 197

Analyst: 9/29/0] Date:

RECEIVED

OCT 0 3 2003

Reviewed by Date:



FAL ID: 2245-005-SA Client ID: S-5N-2.5 Matrix: Soil	Dat Dat Amo	te Extracte te Received punt: 9.91	d: 9/25 : 9/18/ g	/03 03	ICal: PCDDFAL2-9- GC Column: DB5 Units: pg/g	07-03 Acq WHO	uired: 27 TEQ: 98.8	-SEP-03 8
Extraction Batch No.: X0096	% \$	Solids: 86.	7		MS/MSD Batch No.:	X0079		
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Q	ual #Hom
2,3,7,8-TCDD	-	0.324		-				
1,2,3,7,8-PeCDD	2.45	-	J	2.45				
1,2,3,4,7,8-HxCDD	3.98	-		0.398				
1,2,3,6,7,8-HxCDD	285	-		28.5	Total Tetra-Dioxins	8.33	· -	2
1,2,3,7,8,9-HxCDD	14.4	-		1.44	Total Penta-Dioxins	154	-	5
1,2,3,4,6,7,8-HpCDD	3840	-		38.4	Total Hexa-Dioxins	1100	-	6
OCDD	23900	-		2.39	Total Hepta-Dioxins	6710	-	2
· · · · · · · · · · · · · · · · · · ·			_					
2,3,7,8-TCDF	7.13	-	F	0.713	•			
1,2,3,7,8-PeCDF	8.59	-		0.430				
2,3,4,7,8-PeCDF	11.0	-		5.51				
1,2,3,4,7,8-HXCDF	21.4	-		2.14	· ·			
	10.2	-		7.72				
	33.2	-		3.32	Total Tatas Furan	FF 2		45
	15.5	-		1.55	Total Tetra-Furans	22.2	-	15
	900	-		9.00	Total Penta-Furans	3/3	-	10
1,2,3,4,7,8,9-HPCDF	22.2	-		0.552	Total Mexa-Furans	7670	-	8
UCDF .	4420	-		0.442	Total Repta-Furans	2020	-	4
					·			
Internal Standards	% Rec	QC Limits	Qu	Jal				
13C-2,3,7,8-TCDD	90.9	25.0 - 16	4					
13C-1,2,3,7,8-PeCDD	75.0	25.0 - 18	1					
13C-1,2,3,4,7,8-HXUDD	96.8	32.0 - 14						
13C-1,2,3,6,7,8-HXCDD	94.5	28.0 - 13	0					
130-1,2,3,4,6,7,8-HPUDU	90.7	23.0 - 14						
136-0600	73.4	17.0 - 15						
13C-2.3.7.8-TCDF	95.4	24.0 - 16	9					
13C-1,2,3,7,8-PeCDF	82.0	24.0 - 18	35					
13C-2,3,4,7,8-PeCDF	80.6	21.0 - 17	78					
13C-1,2,3,4,7,8-HxCDF	105	26.0 - 15	2	-				
13C-1,2,3,6,7,8-HxCDF	103	26.0 - 12	23		· · ·			
13C-2,3,4,6,7,8-HxCDF	94.9	29.0 - 14	7					
13C-1,2,3,7,8,9-HxCDF	88.4	28.0 - 13	56					
13C-1,2,3,4,6,7,8-HpCDF	90.6	28.0 - 14	3					
13C-1,2,3,4,7,8,9-HpCDF	102	26.0 - 13	88					
13C-OCDF	70.5	17.0 - 15	57					
Cleanup Surrogate						F =	DB225 Cor	firmation
37Cl-2,3,7,8-TCDD	81.4	35.0 - 19	97			l	Acquired:	01-OCT-03

Analyst: 10/1/03 Date:

OCT 0 3 2003

Reviewed by: Date:



FAL ID: 2245-006-SA		Date Extrac	ted: 9/	25/03	ICal: PCDDFAL2-9-	07-03 Acq	uired:	27-SEP	·03
Client ID: S-6N-1.5		Date Receiv	ed: 9/1	8/03	GC Column: DB5				
Matrix: Soil		Amount: 10.	10 g		Units: pg/g	WHO	TEQ: 1	1500	
Extraction Batch No.: X009	96 ,	% Solids: 8	6.1		MS/MSD Batch No.:	X0079			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	ÐL	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	29 500	-		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-HYCDE	3300	-		330					
1 2 3 7 8 9-HyCDF	1000	-		109	Total Tetra-Eurane	2650	-	рм	22
1 2 3 4 6 7 8-HoCDE	160000	-	*	1600	Total Penta-Eurans	16600	_	р ,м	15
1 2 3 4 7 8 9-HpcDF	100000	-		100	Total Heya-Furans	185000	-	рм*	11
OCDF	459000	-	*	45.9	Total Henta-Furans	726000	-	*	4
						120000			-
Internal Standards	% Rec	QC Limits	Qu	Jal					
13C-2-3-7-8-TCDD	109	25.0 - 16	4						
13C-1.2.3.7.8-PeCDD	99.2	25.0 - 18	1						
13C-1.2.3.4.7.8-HxCDD	113	32.0 - 14	1						-
13C-1,2,3,6,7,8-HxCDD	121	28.0 - 13	0						
13C-1,2,3,4,6,7,8-HpCDD	104	23.0 - 14	0	*					
13C-OCDD	105	17.0 - 15	7	*		· ·			
13C-2 3 7 8-TCDF	108	² 24 0 - 14	0						
13c-1 2 3 7 8-PeCDE	100	24.0 - 18	5						
13C-2 3 4 7 8-PeCDF	97.5	21 0 - 17	28						
13C-1.2.3.4.7.8-HxCDF	117	26.0 - 15	2						
13C-1.2.3.6.7.8-HxCDF	120	26.0 - 12	3						
13C-2.3.4.6.7.8-HxCDF	107	29.0 - 14	.7						
13C-1.2.3.7.8.9-HxCDF	108	28.0 - 13	6						
13C-1.2.3.4.6.7.8-HpCDF	116	28.0 - 14	3	* .		* =	Diluti	on	
13C-1.2.3.4.7.8.9-HpCDF	119	26.0 - 13	8				2 react		
13C-OCDF	114	17.0 - 15	7	*		Α	cquire	d: 29-s	EP-03
							•		
Cleanup Surrogate						F =	DB225	Confirm	ation
7701 0 7 7 0 7000		75 0 44	-						
5/01-2,5,7,8-TCDD	89.9	55.0 - 19				ļ	cquire	d: 01-0	CT-03
								_	
1. I.							1	1	
				RFC	FIVED	Keviewed b	»	\sim	
Datas QLANAS						Detre	9/20	an	
vare: 450/0/				0.07	0 9 2002	vate:	4 74		
				001	0 3 2003		• •		

OCT 0 3 2003

Tetra Tech/MFG, Inc.



FAL ID: 2245-007-SA Client ID: S-7E-3 Matrix: Soil Extraction Batch No.: X009	26	Date Extract Date Receive Amount: 10.0 % Solids: 93	ed: 9/ d: 9/1 8 g .0	25/03 8/03	ICal: PCDDFAL2-9-0 GC Column: DB5 Units: pg/g MS/MSD Batch No.:)7-03 Acq WHO X0079	uired: 27-SEP TEQ: 4560	-03
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 8-1005	31 0	_	F	7 10				
$2,3,7,0^{-1}$	10/	-	F	. 3.19				
7,2,3,7,6-FecDF	21/	_		9.09				
	1590	-		107				
1,2,3,4,7,0-ACDF	700	-		120				
	006	_		J7.7				
	540	-		90.0	Tatal Tatas Fusana	100		47
1,2,3,7,0,9-RCDF	50400	-	*	50.9	Total Dente Furans	192	-	15
	3050	-		70 F	Total Penta-Furans	2400	-	14
1,2,3,4,7,8,9-hpcbr	216000	-	*	21.6	Total Henta-Furans	22500	- D,M,*	31
OCDF	210000	-		21.0	Total Repta-Furans	285000		4
Internal Standards	% Rec	QC Limits	Qu	al				
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-TCDE	113	2/ 0 - 1/0	,					
130-1 2 3 7 8-Darbe	106	24.0 - 195						
13C-2 3 4 7 8-DeCDF	102	24.0 - 105						
130-1 2 3 4 7 8-Hyche	123	26.0 - 152						
13c-1 2 3 6 7 8-Hyche	123	26.0 - 122						
13C-2 3 / 6 7 8-HyCDE	106	20.0 - 1/7	,		x			
13C-1 2 3 7 8 0-HyCDE	105	29.0 - 14/						
13C-1 2 3 / 6 7 8-HochE	00 7	28.0 - 1/3		*		÷ _	Dilution	
13c-1 2 3 / 7 8 Q-NochE	118	20.0 - 143	,				Ditution	
13C-1,2,3,4,7,6,9-000F	106	17 0 - 157	, ,	*			aguinade 20-5	TD 07
	100	17.0 - 157				A	icquired: 29-S	EP-03
Cleanup Surrogate						F =	DB225 Confirm	ation
3701-2 3 7 8-1000	104	35 0 - 107	,				cauired 01-0	NCT-07
	104	5515 171					icquired: 01-0	C1-13

Reviewed by: RECEIVED Date

OCT 0 3 2003

Analyst:

Date:

103



	UEST FOR ANALYSIS		e Ave. W. 40 98036 21-4040 21-4040	PAGE: 2 OF: 4 DATE: 9/17/03	N: Frontier (ALYSIS REQUEST	landling Remarks	H2UA GRAGNAT2	×				×	×	TON OF SAMPLES COOLAR TAMAN	RINTED NAME COMPANY		Zipo Frantier		red U-unfillered	
	CORD AND REQU	Issoula INJ - Edison x 7158 1090 King Georges Post R Ja, MT 58907 Sta. 703 6) 728-4600 Edison, NJ 08837 728-4698 Tel (732) 738-5771 Fax (732) 738-5771	□TX - Texarkana □VA - Seattle 4532 Summehill Rd. 19203 36th Texarkana, TX 75503 5te. 100 Tel (903) 794-0625 Tel (425) 92 Fax (903) 794-0626 Tel (425) 92	x Conti	DESTINATION	AN	ers Constituents/Method H	HOLD 191-418				× -				SIGNATURE		Karler 300	5.1/ 20-31-6	lass T - tetton B - brass OT - other Filtration: F - filter urn to Originator	
• - op	JF-CUSTODY RE	t Cir. D - Osburn D B B 0 B 0 B 0 B 0 B 0 B 0 B 0 B 0 B 0	ston ITX - Port Lavaca ones Rd. 320 East Main Port Lavaca, TX 77979 Port Lavaca	E: 5PI-Arcata ROJECT MANAGER: DO	IER/WAYBILL NO:		Preservation Contain	LXbE∗ (m \os) AOF∩WE COFD H ⁵ SO [⊄] HNO ³	9 9 9 9						TOTAL NUMBER OF CONTAINERS	DATE TIME	9/n/3 3:30			troleum A - air 0T - other Containers: P - plastic G - g PINK: Field Copy YELLOW: Laboratory Copy WHITE: Ret	
	CHAIN-O	 San Francisco San Francisco Howard St., Ste. 200 4900 Pearl East Francisco, CA 94105 Ste. 300W 495-7107 Fax (303) 447-18 Fax (303) 447-18 	 Austin Austin Spicewood Springs Rd. 12337 Jou do, N, ¹⁴ Floor N. 78759 Nather Science Houston, (16:12) 338-1331 Fax (281) 	PROJECT NAME	LEX CARRI	SAMPLES	Sample P	DATE Matrix* DATE	9/14 Am150	fift Am	9/4 AM	6/14 11:00	9/15-9:15	9/16 AM 11	19/16 AM	E COMPANY	L MR. The	-		queous NA - nonaqueous SO - soil SL - sludge P - petr DISTRIBUTION:	
	Ū.	CA - Irvine 17770 Cartwright Rd. 180 17770 Cartwright Rd. 180 Ste. 500 Irvine, CA 25614 181 (949) 253-2954 Fax (949) 253-2954	 PA - Pittsburgh PA - Pittsburgh Bidg, A Bidg, A Bidg, A Fasturgh, PA 15212 Bidg, Au Fax (412) 321-2283 Fax Fax 	NO: 030229,11 (Signature): 001.	OF SHIPMENT:			Field Sample Identification	-2.5'	-2.5'	-2.5'	-2.5'	-2.5'	- 1.5'	. 3 '	RE PRINTED NAME	Don't Ploch			T 0 3 2003 KEY MATTIC AD - a	
	MFG, IN	SATCALA Office 735 Cracent Way read, CA 95521-6741 hone (707) 826-8430- FAX (707) 826	□ OR - Portland 1020 SW Taylor St Sile, 530 Portland, OR 9720 Portland, OR 9720 Fax (503) 228-8616 Fax (503) 228-8616	PROJECT SAMPLER	METHOD C				S-1E.	5-2E	5-35.	N4-2	5-51-	5-6N-	5-76-	SIGNATUF	° DAPlen	0001	2 of	000	014



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	lce
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 & 4.	RECEIVED
· · · · · · · · · · · · · · · · · · ·	OCT 0 3 2003





RECEIVED

OCT 0 3 2003



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

RECEIVED

OCT 0 3 2003

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



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

RECEIVED

0CT 0 3 2003 Tetra Tech/MFG, Inc.



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

RECEIVED

OCT 0 3 2003



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.

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.



FAL ID: 2246-002-MB	D	ate Extra	cted: 9/	/25/03	ICal: PCDDFAL2-9-07	-03 Ac	quired:	26-SEP	-03
Motoive Soil	U 4	ate Kecel	Ved: NA		GC Column: DB5		o TFO. 0		
Extraction Rotab No V0006	۲ ۵	Amount: Tu (Selide:	NA 9		Units: pg/g	WH	U IEQ: U	.00	
Extraction Batch No.: X0098		Solids:	NA		MS/MSD Batch No.:)	0079			
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 Standarda	% Boo	oc i mit							

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	
13С-1,2,3,4,6,7,8-НрСDD	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

35.0 - 197

101

Analyst 9/29 Date:

RECEIVED Reviewed by: The Date: 9/30/03 Date:___ OCT 0 3 2003



FAL ID: 2246-002-OPR Client ID: OPR Matrix: Soil	96	Date Extracted: 9/25/03 Date Received: NA Amount: 10.00 g		ICal: PCDDFAL2-9-07-03 GC Column: DB5 Units: ng/mL	Acquired: 26-SEP-03 WHO TEQ: NA
EXTRACTION BALCH NO.: X00	70	% SOLIDS: NA	~	MS/MSD Batch No.: X00/9	
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			
OCD F	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			
170.0005	7/ 0	17 0 400			

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

31.0 - 191

90.2

Analyst: 9/29/03 Date:



Reviewed by Date:

OCT 0 3 2003



FAL ID: 2199-001-MS/MSD Client ID: C4-SNS03 Matríx: Solid % Solids: 99.2	Date Date Samp MS Ar MSD /	Extracted: 8/2 Received: 8/20 Le Amount: 10.03 mount: 10.03 g Amount: 10.11	racted: 8/25/03 ICal: PCDDFAL1-6-13 eived: 8/20/03 Batch No.: X0079 mount: 10.07 g Units: pg/g t: 10.03 g nt: 10.11 g		MS Acquired: 2-SEP-0 MSD Acquired: 2-SEP-0 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 02		
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-0CDF	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: 9/30/0) Date:

RECEIVED

Reviewed Date

OCT 0 3 2003



FAL ID: 2246-002-SA Client ID: S-9W-2.5 Matrix: Soil Extraction Batch No.: X0096		Date Extrac Date Receiv Amount: 9.9 % Solids: 8	ted: 9/ ved: 9/1 95 g 94.5	25/03 8/03	ICal: PCDDFAL2-9-0 GC Column: DB5 Units: pg/g MS/MSD Batch No.:	17-03 Acqu WHO X0079	uined: 2	29-SEP 38	-03
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DļL	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					
1.2.3.7.8.9-HxCDF	19.2	· _		1.92	Total Tetra-Furans	5.92	-		3
1.2.3.4.6.7.8-HpCDF	2720	-		27.2	Total Penta-Furans	66.1	-		10
1,2,3,4,7,8,9-HpCDF	284	-		2.84	Total Hexa-Furans	2510	-	D.M	9
OCDF	9530	· -		0.953	Total Hepta-Furans	13700	-	- ,	4
Internal Standards	% Rec	QC Limits	ն նն	ual					
13C-2,3,7,8-TCDD	110	25.0 - 10	54		н. -				
13C-1,2,3,7,8-PeCDD	90.2	25.0 - 18	31						
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 14	¥1						
13C-1,2,3,6,7,8-HxCDD	110	28.0 - 13	30						
13C-1,2,3,4,6,7,8-HpCDD	109	23.0 - 14	40						
13C-OCDD	109	17.0 - 1	57						
13C-2,3,7,8-TCDF	105	24.0 - 10	59						
13C-1,2,3,7,8-PeCDF	83.6	24.0 - 18	85						
13C-2,3,4,7,8-PeCDF	86.5	21.0 - 1	78						
13C-1,2,3,4,7,8-HxCDF	126	26.0 - 1	52						
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 1	23						
13C-2.3.4.6.7.8-HxCDF	110	29.0 - 1	47						
13C-1,2,3,7.8.9-HxCDF	103	28.0 - 1	36						
13C-1,2,3,4,6.7.8-HpCDF	115	28.0 - 1	43						
13C-1.2.3.4.7.8.9-HpCDF	114	26.0 - 1	38						
13C-OCDF	107	17.0 - 1	57						
Cleanup Surrogate									

37C1-2,3,7,8-TCDD

102 35.0 - 197

Analyst 9/2 Date:

RECEIVED OCT 0 3 2003

Reviewed by Date:



FAL ID: 2246-004-SA Client ID: S-11S-2.5		Date Extrac Date Receiv	ted: 9/ ed: 9/1	/25/03 18/03	ICal: PCDDFAL2-9-(GC Column: DB5)7-03 Acqu	uired:	29-SEP	-03
Matrix: Soil		Amount: 9.9	7 g		Units: pg/g	WHO	TEQ: 6	50	
Extraction Batch No.: X0096		% Solids: 8	4.5		MS/MSD Batch No.:	X0079			
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	Qu	ual					
13C-2 3 7 8-TCDD	105	25 0 - 16							
13C-1 2 3 7 8-PerDD	88 7	25.0 - 18	+ 1 [·]						
13c-1 2 3 4 7 8-Hycop	112	32 0 - 14	1						
13C-1 2 3 6 7 8-Hycho	110	28.0 - 13	n						
13C-1 2 3 4 6 7 8-HpCDD	123	23.0 - 14	0						
13c-ocp	75.8	17 0 - 15	7	*					
	12.0	11.0 15	•						
13C-2,3,7,8-TCDF	103	24.0 - 16	9		•				
13C-1,2,3,7,8-PeCDF	91.0	24.0 - 18	5						
13C-2,3,4,7,8-PeCDF	86.0	21.0 - 17	8						
13C-1,2,3,4,7,8-HxCDF	132	26.0 - 15	2						
13C-1,2,3,6,7,8-HxCDF	123	26.0 - 12	3						
13C-2,3,4,6,7,8-HxCDF	113	29.0 - 14	7						
13C-1,2,3,7,8,9-HxCDF	99.0	28.0 - 13	6						
13C-1,2,3,4,6,7,8-HpCDF	121	28.0 - 14	3			* =	Dilutio	n	
13C-1,2,3,4,7,8,9-HpCDF	116	26.0 - 13	8						
13C-OCDF	125	17.0 - 15	7			A	cquired	1: 26-s	EP-03
Cleanup Surrogate						F =	DB225 (Confirm	nation
3701-2 7 9-TON	07 7	75 0 - 10	7						OT 07
5101-2,5,1,0-1000	73.1	JJ.0 - 19	,			A	cquire	1: 01-0	1-05

Analyst: 9/20/03 Date:

RECEIVED

OCT 0 3 2003

Reviewed by: ______ Date: _______



FAL ID: 2246-005-SA Client ID: S-12S-2.5 Matrix: Soil		Date Extract Date Receive Amount: 9.94	ed: 9/ d: 9/1	/25/03 8/03	ICal: PCDDFAL2-9-(GC Column: DB5 Units: pg/g	07-03 Acc	quired: 27	-SEP-03	3
Extraction Batch No.: X0096	5	% Solids: 93	.5		MS/MSD Batch No.:	X0079			
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Q	ual #	#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 Henta-Furans	71000	-	*	4
									4
Internal Standards	% Rec	QC Limits	01	lei					
Internatio danadi da	78 NCO		44						
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		* .					
130-2 3 7 8-TODE	108	24 0 - 140							
130-1 2 3 7 8-DeCDE	100	24.0 - 185							
13C-2 3 4 7 8-DeCDE	107	21 0 - 179			-				
130-1 2 3 4 7 8-NYCDE	114	24.0 - 152							
130-1,2,3,4,7,8-HXCDF	115	26.0 - 132							
130-2 3 4 4 7 8-HAUF	102	20.0 - 123							
130 1 2 7 7 8 0 Hucor	102	29.0 - 14/							
	102	20.0 - 130) ,						
	102	20.0 - 145				* =	Dilution		
13C-1,2,3,4,7,8,9-HpCUF	110	26.0 - 158	5						
13C-0C0F	80.9	17.0 - 157					Acquired:	26-SEP	-03
Cleanup Surrogate					~ .	F =	DB225 Cor	nfirmat	ion
37Cl-2,3,7,8-TCDD	87.5	35.0 - 197	,				Acquired:	01-OCT	-03

Analyst:

Date:

9/30/03

OCT 0 3 2003

RECEIVED

Tetra Tech/MFG, Inc.

Reviewed by:

Date:

	FOR ANALYSIS			AGE: 3 OF: 4 ATE: 9/17/05	DUEST	Remarks						ECEIVED	<u>31 0 3 300 mp</u> :	Fech/MFG, Inc.	COMPANY		LADATARY LABORATORY	
	REQUEST F	rges Post Rd.	WA - Seattle 19203 36th Ave. W. 19203 36th Ave. W. Lymwood, WA 98036 Tei (425) 921-4000 Fax (425) 921-4040		ANALYSIS REC	od Handling	ООН HSUЯ ДЯАДИАТ2	×	×	×	××	B	TS/CONDITION OF SAMPE	RECENTER REPORTS	PRINTED NAME		K.Zipp	ration: F - filtered U - unfiltered
	ORD AND F	ula □NJ - Edison 58 1090 King Geo MT 59807 818. 703 84.4600 Tel (732) 738-5 728-4698 Tel (732) 738-5 728-4698 Tel (732) 738-5	JTX - Texarkana JTX 4532 Summerhill Pd. 4532 Summerhill Pd. Texarkana, TX 75503 Tei (903) 794-0625 1 Fax (903) 794-0626 1	LONH, DESTI		s Constituents/Meth	51317489 5000	1							SIGNATURE		and Sep	T - tellon B - brass OT - other Filt o Originator
	rody rec	m DMT - Misso D Box 71 D 83873 Missoula, 12 D 856-811 556-7271 Fax (406) 7 556-7271	X - Port Lavaca 20 East Main ort Lavaca, TX 77979 61 (361) 552-8839 ax (361) 553-6115	-Arcater NAGER: Co NO:		Containers	FILTRATION* VOLUME (mi/oz) TYPE*	8 , 9							TIME		11:30	Containers: P - plastic G - glass W: Laboratory Copy WHITE: Return t
ance	N-OF-CUS	oulder Dillo - Osbui earl East Cir. PO Box 31 000 Wallace, II 53) 447-1823 Fax (208) 33) 447-1836	TX - Houston 12337 Jones Rd. Ste. 230 Ste. 230 TX 77070 Tel (281) 890-5044 Fax (281) 890-5044	VAME: SPT PROJECT MA		Preservation	COF⊡ H ⁵ 2O [⊄] HNO ³ HCI	¥ ا							DATE	Y	6-18-03	dge P - petroleum A - air 07 - other BUTION: PINK: Field Copy YELLO
	CHAIN CHAIN CHAIN CHAIN CHAIN CHAIN CC0 - Bould Str. 200 Str. 2	tin cewood Springs Rd. 14 Floor 338-1657 338-1331	PROJECT N	PROJECT	SAMPLES	Sample	DATE TIME Matrix*	VI6 AM SO	I AM I	P.M	V RM				COMPANY	MFGJU		NA - nonaqueous SO - soil SL - slu DISTRIE
		CA - Irvine CA - San F 17770 Cartwright Rd. 180 Howar 1806. 500 San Franci Irvine, CA 32614 Tel (415) 4 Tel (949) 253-2954 Fax (415)	A - Pittsburgh □ TX - Aus 200 Vinial St, Bldg, A 4807 Spi Pittsburgh, PA 15212 Bldg, IV, al (412) 321-2283 Austin, T eax (412) 321-2283 Fax (512)	30229.11 ture): Callun PMENT: Fed Ex			ield mple fication	1.5' 9	2-51	0.51	2.5 /			RELINQUISHED BY:	PRINTED NAME	onin Pecher		•KEY Matrix: AO - aqueous
	MFG, INC.	ta Office ta Office ta S121-6741 7) 826-8430- FAX (707) 826-8437	□ OR - Portland 1020 SW Taylor St. 69 Ste. 530 Portland, OR 97205 Tal (503) 228-86316 Fax (503) 228-8631	PROJECT NO: <u>O</u> SAMPLER (Signa METHOD OF SHI			E E	5-8W-	S-9W-	5-105-	5-115-	7-161			SIGNATURE	Rapla		

B75 Cresc Arcata, C. Phone (70



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:				
	RECEIVED			
Hold samples 1 & 3.	OCT 0 3 2003			





RECEIVED

OCT 0 3 2003



October 2, 2003

FAL Project ID: 2247

2ND PHASE EXCAVATION - 9/2008 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

RECEIVED

OCT 0 3 2003

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
2247-002-SA 2247-003-SA 2247-004-SA 2247-005-SA 2247-006-SA	0 0 0 0	SPI-Arcata SPI-Arcata SPI-Arcata SPI-Arcata SPI-Arcata	B-2-EAST B-3-EAST B-4-WEST B-5-WEST RR-TIES	EPA 1613 D/F EPA 1613 D/F EPA 1613 D/F EPA 1613 D/F EPA 1613 D/F	Soil Soil Soil Soil	09/14/2003 09/14/2003 09/15/2003 09/16/2003 09/16/2003	NP NP NP NP NP	09/13/2004 09/13/2004 09/14/2004 09/15/2004 09/15/2004

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.

eren a harrin ante



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

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.

Sugar States

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.

RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.



FAL ID: 2247-001-MB Client ID: Method Blank	י נ ו	Date Extra Date Recei	cted: 9, ved: NA	/25/03	ICal: PCDDFAL2-9-07 GC Column: DB5	7-03 Ad	quired:	26-SEP	-03
Matrix: Soil	1	Amount: 10	.00 g		Units: pg/g	Wł	IO TEQ: (00.00	
Extraction Batch No.: X0096	2	% Solids:	NA		MS/MSD Batch No.: >	(0079	,		
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

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-0CDF	79.1	17.0 - 157

Cleanup Surrogate

37Cl-2,3,7,8-TCDD

101 35.0 - 197

Analyst: 9 Date:



OCT 0 3 2003

Reviewed by Date:



FAL ID: 2247-001-OPR		Date Extracted: 9/25/03	ICal: PCDDFAL2-9-07-03	Acquired: 26-SEP-03
Matrix: Soil		Amount: $10,00$ g		UNO TEO- NA
Extraction Batch No.: X00	96	% Solids: NA	MS/MSD Batch No · Y0079	WHO IEW: NA
			HS/HSD Batch No.: A0079	
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 Supports				
creanup surrogate		,		

37cl-2,3,7,8-TCDD

90.2 31.0 - 191

Analyst: 9/20103 Date:

RECEIVED

Reviewed by: Date:

OCT 0 × 2003



FAL ID: 2199-001-MS/MSD Client ID: C4-SNS03 Matrix: Solid % Solids: 99.2	Date Date Samp MS Ar MSD /	Extracted: 8/25 Received: 8/20/ le Amount: 10.07 mount: 10.03 g Amount: 10.11 g	6/03 703 7 g	ICal: PCDDFAL1-6-13 Batch No.: X0079 Units: pg/g	MS Acquired: 2-SEP-03 MSD Acquired: 2-SEP-03 GC Column: DB5
	Amount	Sample	MS	MSD	
Compound	Spiked	Amount	Amount	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-0CDF	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:



Reviewed by: Date:

OCT 0 3 2003



FAL ID: 2247-001-SA Client ID: B-1-SOUTH Matrix: Soil Extraction Batch No.: X0096		Date Extract Date Receive Amount: 10.0 % Solids: 82	ted: 9/ ed: 9/1)2 g 2.9	25/03 8/03	ICal: PCDDFAL2-9-0 GC Column: DB5 Units: pg/g MS/MSD Batch No.:	17-03 Acq WHO X0079	uired: 29-: TEQ: 173	SEP-03
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL Qu	al #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	-	ſ	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	Qu	Jal				
13C-2.3.7.8-TCDD	107	25.0 - 16	4					
13C-1.2.3.7.8-PeCDD	95.8	25.0 - 18	1					
13C-1.2.3.4.7.8-HxCDD	111	32.0 - 14	1					
13C-1.2.3.6.7.8-HxCDD	106	28.0 - 13	0					
13C-1.2.3.4.6.7.8-HpCDD	107	23.0 - 14	0					
13C-OCDD	117	17.0 - 15	7					
13C-2,3,7,8-TCDF	103	24.0 - 16	9					
13C-1,2,3,7,8-PeCDF	94.4	24.0 - 18	5					
13C-2,3,4,7,8-PeCDF	89.9	21.0 - 17	8					
13C-1,2,3,4,7,8-HxCDF	129	26.0 - 15	2					
13C-1,2,3,6,7,8-HxCDF	125	26.0 - 12	3	Α		-		
13C-2,3,4,6,7,8-HxCDF	112	29.0 - 14	7					
13C-1,2,3,7,8,9-HxCDF	104	28.0 - 13	6					
13C-1,2,3,4,6,7,8-HpCDF	110	28.0 - 14	3					
13C-1,2,3,4,7,8,9-HpCDF	117	26.0 - 13	8					
13C-0CD F	100	17.0 - 15	7					
cleanup Surrogate								

37Cl-2,3,7,8-TCDD

101 35.0 - 197

Analyst: Date: 9/30/0

RECEIVED

Reviewed by: Date:

Tetra Tech/MFG, Inc.

OCT 0 3 2003



FAL ID: 2247-004-SA Client ID: B-4-WEST Matrix: Soil Extraction Batch No.: X009	96	Date Extracte Date Received Amount: 9.96 % Solids: 78.	d: 9/1 : 9/1 g 6	25/03 8/03	ICal: PCDDFAL2-9- GC Column: DB5 Units: pg/g MS/MSD Batch No.:	07-03 Acq WHO X0079	uired: 2 TEQ: 17	7-SEP-	03	
Compound	Conc	DL Q	ual	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	- 0	,м,*	12	
OCDF	429000	-	*	42.9	Total Hepta-Furans	751000	-	*	4	
Internal Standards	% Rec	QC Limits	Qu	al	· .					
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		*		· * =	Dilutio	n		
13C-1,2,3,4,7,8,9-HpCDF	99.7	26.0 - 138								
13C-0CD F	70.2	17.0 - 157		*		1	Acquired	: 26-s	EP-03	
Cleanup Surrogate						F =	DB225 C	onfirm	ation	
37Cl-2,3,7,8-TCDD	113	35.0 - 197				1	Acquired	: 01-0	CT-03	

Analyst:_____

RECEIVED

OCT 0 3 2003

Reviewed by: Date:



Matrix: Solid Amount: 5.00 g Unite: pg/g Hub TEC: 10700 Extraction Batch No.: X0096 X Solids: 40.9 MS/MSD Batch No.: X0079 Compound Compound Conc DL Qual WHO Tox Compound Conc DL Qual WHO Tox 2,3,7,8-rEDD 89.6 - 89.6 - 00.1 - 10.0 1,2,3,4,7,8-recDD 1900 - 119 - 119 - 119 1,2,3,4,7,8-recDD 1900 - 199 Total Tetra-Dioxins 316 - 14 1,2,3,4,7,8-recDD 1930 - 2130 Total Tetra-Dioxins 57100 - 2 2,3,7,8-recDF 65.2 - F 6.22 - 7.73 - 2.37,7,8-recDF 184 - 92.2 - 1.2,3,4,7,8-recDF 184 - 92.2 - 1.2,3,4,7,8-recDF 184 - 92.2 - 1.2,3,4,7,8-recDF 185 - 142.3,7,8,7-RecDF 124.0 <td< th=""><th>FAL ID: 2247-006-SA Client ID: RR-TIES</th><th></th><th>Date-Extract Date Receive</th><th>ed: 9/2</th><th>25/03 3/03</th><th>ICal: PCDDFAL2-9-0 GC Column: DB5</th><th>7-03 Ac</th><th>quired:</th><th>27-SEP</th><th>-03</th></td<>	FAL ID: 2247-006-SA Client ID: RR-TIES		Date-Extract Date Receive	ed: 9/2	25/03 3/03	ICal: PCDDFAL2-9-0 GC Column: DB5	7-03 Ac	quired:	27-SEP	-03
Extraction Batch No.: X0096 X Solids: 40.9 MS/MSD Batch No.: X0079 Compound Conc DL Qual WHO Tox Compound Conc DL Qual #Hom 2,3,7,8-FECDD 89.6 - 89.6 1,2,3,7,8-FECDD 1200 - 1200 1,2,3,6,7,8-FECDD 1200 - 119 1,2,3,6,7,8-FECDD 1590 - 159 Total Tetra-Dioxins 316 - 14 1,2,3,7,8,7,8-FECDD 1590 - 21300 Total Tetra-Dioxins 2500 - 10 1,2,3,6,7,8-FECDF 65.2 - F 6.52 1,2,3,7,8-FECDF 65.2 - F 6.52 1,2,3,7,8-FECDF 155 - 7,73 2,3,4,7,8-FECDF 155 - 7,73 2,3,4,7,8-FECDF 155 - 7,73 1,2,3,6,7,8-FECDF 12000 - 1590 Total Tetra-Furans 982 - 179 1,2,3,4,6,7,8-FECDF 12000 - 124 Total Tetra-Furans 982 - 179 1,2,3,4,6,7,8-FECDF 12000 - 124 Total Tetra-Furans 140000 - 112 1,2,3,4,6,7,8-FECDF 12200 - 124 Total Tetra-Furans 140000 - 122 Internal Standards X Rec QC Limits Qual 13C-1,2,3,6,7,8-FECDF 112 25.0 - 164 13C-1,2,3,7,8-FECDF 112 25.0 - 164 13C-1,2,3,7,8-FECDF 104 24.0 - 185 13C-1,2,3,6,7,8-FECDF 104 24.0 - 185 13C-1,2,3,6,7,8-FECDF 104 24.0 - 185 13C-1,2,3,6,7,8-FECDF 117 26.0 - 132 13C-1,2,3,6,7,8-FECDF 117 26.0 - 132 13C-1,2,3,6,7,8-FECDF 117 26.0 - 132 13C-1,2,3,6,7,8-FECDF 117 26.0 - 135 13C-1,2,3,6,7,8-FECDF 104 21.0 - 178 13C-1,2,3,6,7,8-FECDF 104 21.0 - 178 13C-1,2,3,6,7,8-FECDF 104 21.0 - 178 13C-1,2,3,6,7,8-FECDF 104 21.0 - 136 13C-1,2,3,6,7,8-FECDF 104 22.0 - 136 13C-1,2,3,7,8-FECDF 104 22.0 - 136 13C-1,2,3,7,8-FECDF 104 22.0 - 136 13C-1,2,3,7,8-FECDF 104 22.0 - 137	Matrix: Solid		Amount: 5.00) g		Units: pg/g	WHO	D TEQ: 1	0700	
Compound Conc DL Qual WHO Tox Compound Conc DL Qual #Hom 2,3,7,8-TCDD 89.6 - 89.6 - 120 - 1200 1,2,3,4,7,8-HXDDD 1190 - 119 - 120 - 1200 1,2,3,4,7,8-HXDDD 21300 - 2130 Total Tetra-Dioxins 316 - 14 1,2,3,4,7,8-HXDDD 25000 - 155 Total Hepta-Dioxins 59100 - 8 2,3,7,8-TCDF 65.2 - F 6.52 - 7.73 - 237 - 12,3,4,7,8-HXDDF 2500 - 19 1,2,3,4,7,8-HXDDF 2570 - 237 - - 12 - 19 1,2,3,4,7,8-HXDDF 2500 - 155 - 7.73 - - 17 - 157 12 - 19 1,2,3,4,7,8-HXDDF 2500 - 115 1,2,3,7	Extraction Batch No.: X009	96	% Solids: 40	.9		MS/MSD Batch No.:	X0079			
Longound Conc Dit Colait web fox Longound Conc Dit Cualt whom 2,3,7,8-FCDD 1200 - 1200 - 1200 - 1200 1,2,3,4,7,5+KCDD 1190 - 119 - 2130 Total Tetra-Dioxins 316 - 14 1,2,3,4,7,7,4,7,4,7,4,7,4,7,4,7,7,7,7,7,7,7	Correction	6		0	100 Ten	6	-		a . 'I	
2,3,7,8-TCDD 89.6 - 89.6 1,2,3,7,8-FCDD 1200 - 1200 1,2,3,4,7,8-FKCDD 21300 - 2130 Total Tetra-Dioxins 316 - 14 1,2,3,7,8,7,8-FKCDD 21300 - 2130 Total Penta-Dioxins 2500 - 100 1,2,3,4,6,7,8-FKCDD 425000 - * 4250 Total Heyta-Dioxins 772000 - * 2 2,3,7,8-TCDF 65.2 - F 6.52 1,2,3,7,8-FKCDF 184 - 92.2 1,2,3,4,7,8-FKCDF 184 - 92.2 1,2,3,4,7,8-FKCDF 184 - 92.2 1,2,3,4,7,8-FKCDF 645 - 64.5 2,3,4,7,8-FKCDF 645 - 64.5 1,2,3,7,8,7-FKCDF 184 - 92.2 1,2,3,4,7,8-FKCDF 645 - 64.7 1,2,3,4,7,8-FKCDF 647 - 64.7 1,2,3,4,7,8-FKCDF 1500 - 1390 1,2,3,4,7,8-FKCDF 15000 - 1590 1,2,3,4,7,8-FKCDF 159000 - 1590 1,2,3,4,7,8-FKCDF 159000 - 1590 1,2,3,4,7,8-FKCDF 159000 - 1500 1,2,3,4,7,8-FKCDF 159000 - 150 1,2,3,4,7,8-FKCDF 159000 - 150 1,2,3,4,7,8-FKCDF 159000 - 150 1,2,3,4,7,8-FKCDF 159000 - 45.9 Total Heyta-Furans 716000 - * 4 Internal Standards X Rec CL Limits Qual 13C-1,2,3,4,7,8-FKCDD 112 25.0 - 164 13C-1,2,3,4,7,8-FKCDD 112 25.0 - 164 13C-1,2,3,4,7,8-FKCDD 112 25.0 - 164 13C-1,2,3,4,7,8-FKCDD 112 25.0 - 164 13C-1,2,3,4,7,8-FKCDD 112 26.0 - 139 13C-1,2,3,4,7,8-FKCDD 112 26.0 - 139 13C-1,2,3,4,7,8-FKCDD 112 26.0 - 139 13C-1,2,3,4,7,8-FKCDD 112 26.0 - 138 13C-2,3,7,8-FCDD 112 26.0 - 138 13C-1,2,3,4,7,8-FKCDD 112 26.	Lompouria	Lonc	DL	Qual	WHU LOX	Compound	Conc	DL	Qual	#Hom
1,2,3,7,8-PecDD 1200 - 1200 1,2,3,4,7,8-H&CDD 1190 - 119 1,2,3,4,7,8-H&CDD 1590 - 159 1,2,3,4,6,7,8-H&CDD 1590 - 197 1,2,3,4,6,7,8-H&CDD 1590 - 190 1,2,3,4,6,7,8-H&CDF 159 2,3,7,8-PeCDF 155 - 7,73 2,3,4,7,8-PeCDF 155 - 7,73 1,2,3,6,7,8-H&CDF 2060 - 206 1,2,3,7,8,9-H&CDF 2060 - 206 1,2,3,7,8,9-H&CDF 2060 - 206 1,2,3,7,8-PECDF 159000 - 1590 Total Tetra-Furans 982 - 19 1,2,3,4,6,7,8-H&CDF 2060 - 214 1,2,3,4,6,7,8-H&CDF 159000 - 1590 Total Tetra-Furans 3760 - 15 1,2,3,4,6,7,8-H&CDF 1200 - 124 Total Hepta-Furans 716000 - 4 4 113C-1,2,3,7,8-FCDD 112 25.0 - 164 13C-1,2,3,7,8-FCDD 112 25.0 - 164 13C-1,2,3,7,8-FCDD 112 25.0 - 164 13C-1,2,3,4,7,8-H&CDF 112 24.0 - 169 13C-1,2,3,4,7,8-H&CDF 112 24.0 - 169 13C-1,2,3,4,7,8-H&CDF 112 24.0 - 169 13C-1,2,3,4,7,8-H&CDF 117 26.0 - 152 13C-2,3,7,8-FCDF 112 24.0 - 169 13C-1,2,3,4,6,7,8-H&CDF 117 26.0 - 152 13C-2,3,7,8,7-B+CDF 104 24.0 - 185 13C-2,2,3,7,8,7-B+CDF 104 24.0 - 185 13C-2,2,3,4,6,7,8-H&CDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-H&CDF 117 26.0 - 153 13C-1,2,3,4,6,7,8-H&CDF 117 26.	2,3,7,8-TCDD	89.6	-		89.6					
1,2,3,4,7,8+KCDD 1190 - 119 1,2,3,6,7,8+KCDD 21300 - 2130 Total Tetra-Dioxins 316 - 14 1,2,3,7,8,9-KKCDD 25000 - * 4250 Total Penta-Dioxins 59100 - 8 0 CDD 2910000 - * 291 Total Hepta-Dioxins 772000 - * 2 2,3,7,8-TCDF 65.2 - F 6.52 1,2,3,7,8-TCDF 184 - 92.2 1,2,3,4,7,8-KCDF 645 - 64.5 2,3,4,6,7,8-KKCDF 645 - 64.5 2,3,4,6,7,8-KKCDF 647 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,7,8-KCDF 184 - 92.2 2,3,4,6,7,8-KKCDF 647 - 64.7 Total Penta-Furans 14000 - * 12 0 CDF 459000 - 1590 Total Penta-Furans 140000 - * 12 0 CDF 459000 - 45.9 Total Hepta-Furans 17600 - * 4 1 Internal Standards X Rec 0C Limits Qual 13C-1,2,3,4,7,8-KCDF 112 20.0 - 164 13C-1,2,3,4,7,8-KCDF 12400 - 45.9 Total Hepta-Furans 716000 - * 4 13C-1,2,3,4,7,8-KCDF 112 20.0 - 164 13C-1,2,3,4,7,8-KCDF 112 20.0 - 164 13C-1,2,3,4,7,8-KCDF 112 20.0 - 164 13C-1,2,3,4,7,8-KCDF 112 24.0 - 169 13C-1,2,3,4,7,8-KCDF 112 24.0 - 165 13C-1,2,3,4,7,8-KCDF 112 24.0 - 165 13C-1,2,3,4,7,8-KCDF 112 26.0 - 152 13C-1,2,3,4,7,8-KCDF 112 26.0 - 152 13C-1,2,3,4,7,8-KCDF 112 26.0 - 152 13C-1,2,3,4,7,8-KCDF 112 26.0 - 152 13C-1,2,3,4,7,8-KCDF 117 2	1,2,3,7,8-PeCDD	1200	-		1200					
1,2,3,6,7,8+KCDD 21300 - 2130 Total Tetra-Dioxins 316 - 14 1,2,3,7,8,9-KCDD 1590 - 197 Total Penta-Dioxins 2500 - 10 1,2,3,4,6,7,8-KCDD 425000 - * 2291 Total Hepta-Dioxins 772000 - * 2 2,3,7,8-FCDF 65.2 - F 6.52 1,2,3,7,8-FCDF 65.2 - F 6.52 1,2,3,7,8-FCDF 155 - 7,73 2,3,4,7,8-KCDF 2370 - 237 1,2,3,6,7,8-KCDF 2370 - 237 1,2,3,6,7,8-KCDF 2060 - 2066 1,2,3,7,8,9-KCDF 155 - 7,73 2,3,4,6,7,8-KCDF 2060 - 2066 1,2,3,7,8,9-KCDF 159000 - 1590 Total Tetra-Furans 982 - 19 1,2,3,4,6,7,8-KCDF 159000 - 1590 Total Penta-Furans 3760 - 15 1,2,3,4,6,7,8-KCDF 12400 - 245.9 Total Hepta-Furans 149000 - * 122 1,2,3,4,7,8-FKCDD 112 25.0 - 164 13C-1,2,3,7,8,7-RCDD 112 25.0 - 164 13C-1,2,3,7,8,7-RCDD 112 25.0 - 164 13C-1,2,3,7,8-7-RCDD 112 25.0 - 164 13C-1,2,3,7,8-FKCDF 112 24.0 - 169 13C-1,2,3,7,8-FKCDF 112 24.0 - 169 13C-1,2,3,4,7,8-KKCDF 117 26.0 - 152 13C-1,2,3,4,7,8-KKCDF 117 26.0 - 152 13C-1,2,3,4,7,8-KKCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-KKCDF 117 26.0 - 152 13C-2,2,3,4,6,7,8-KKCDF 11	1,2,3,4,7,8-HxCDD	1190	-		119					
1,2,3,7,8,7,8+RCD0 1590 - 159 Total Penta-Dioxins 2500 - 10 1,2,3,4,6,7,8+RCD0 425000 - 42500 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 201000 - 20100 - 20	1,2,3,6,7,8-HxCDD	21300	-		2130	Total Tetra-Dioxins	316	• _		.14
1.2.3.4.6.7.8-HpCDD 425000 - * 291 Total Hexa-Dioxins 59100 - 8 0CDD 2910000 - * 291 Total Hexa-Dioxins 772000 - * 2 2.3.7.8-PeCDF 65.2 - F 6.52 1.2.3.7.8-PeCDF 155 - 7.7.3 2.3.4.7.8-HxCDF 22370 - 237 1.2.3.4.7.8-HxCDF 22370 - 237 1.2.3.4.6.7.8-HxCDF 22370 - 206 1.2.3.4.6.7.8-HxCDF 2060 - 206 1.2.3.4.6.7.8-HxCDF 159000 - 1590 Total Tetra-Furans 982 - 19 1.2.3.4.6.7.8-HxCDF 159000 - 1590 Total Penta-Furans 149000 - * 122 0CDF 459000 - 45.9 Total Hexa-Furans 716000 - * 4 Internal Standards X Rec 0C Limits 0usl 13C-1.2.3.7.8-PeCDD 101 25.0 - 181 13C-1.2.3.7.8-TCDD 112 25.0 - 164 13C-1.2.3.7.8-TCDD 112 25.0 - 164 13C-1.2.3.7.8-TCDD 112 25.0 - 164 13C-1.2.3.7.8-TCDD 112 25.0 - 181 13C-1.2.3.7.8-TCDD 112 25.0 - 181 13C-1.2.3.7.8-TCDF 112 24.0 - 185 13C-2.3.7.8-TCDF 112 24.0 - 185 13C-2.3.7.8-TCDF 112 24.0 - 185 13C-2.3.7.8-TCDF 112 24.0 - 185 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 123 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 123 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 123 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 123 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.7.8-HxCDF 117 26.0 - 132 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 137 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-HxCDF 117 26.0 - 136 13C-1.2.3.4.6.7.8-H	1,2,3,7,8,9-HxCDD	1590	-		159	Total Penta-Dioxins	2500	-		10
OCDD 2910000 - * 291 Total Hepta-Dioxins 772000 - * 2 2,3,7,8-TCDF 65.2 - F 6.52 - 7.73 2,3,7,8-PeCDF 155 - 7.73 - 237 1,2,3,7,8-PeCDF 184 - 92.2 - 12,3,7,8,7,8-HXOF 2660 - 206 1,2,3,7,6,7,8-HXOF 2667 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,7,8-HXOF 2600 - 206 - 14 149000 - 12 1,2,3,4,7,8,9-HpCDF 12400 - 124 Total Hepta-Furans 149000 - 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 - * 4 Internal Standards X Rec 0C Limits Qual - - * 4 13c-1,2,3,6,7,8-HXOD 125 32.0 130 - - -	1,2,3,4,6,7,8-HpCDD	425000	-	*	4250	Total Hexa-Dioxins	59100	-		8
2,3,7,8-TCDF 65.2 - F 6.52 1,2,3,7,8-PECDF 184 - 92.2 1,2,3,4,7,8-PECDF 184 - 92.2 1,2,3,4,7,8-PECDF 184 - 92.2 1,2,3,4,7,8-PECDF 184 - 92.2 1,2,3,4,7,8-PECDF 645 - 64.5 2,3,4,6,7,8-HKODF 647 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,7,8,9-HKODF 155000 - 1590 Total Penta-Furans 3760 - 15 1,2,3,4,7,8,9-HKODF 12200 - 124 Total Hepta-Furans 149000 * 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 * 4 13c-1,2,3,7,8-PECDD 112 25.0 164 13c-1,2,3,4,6,7,8-HKOD 125 32.0 140 * 13c-1,2,3,4,6,7,8-HKODD 125 32.0 140 * * 13c-1,2,3,4,6,7,8-HKOD 122 23.0 140 * 13c-2,3,4,7,8-HKOD 117 26.0 152 13c-1,2	OCDD	2910000	-	*	291	Total Hepta-Dioxins	772000	-	*	2
2,3,7,8-FODF 65.2 - F 6.52 1,2,3,7,8-PEODF 155 - 7.73 2,3,4,7,8-PEODF 184 - 92.2 1,2,3,4,7,8-PEODF 184 - 92.2 1,2,3,4,6,7,8-HXODF 2370 - 237 1,2,3,4,6,7,8-HXODF 645 - 64.5 2,3,4,6,7,8-HXODF 1500 - 150 1,2,3,4,6,7,8-HXODF 1500 - 150 1,2,3,4,7,8-PHDOF 12400 - 124 Total Penta-Furans 149000 * 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 * 4 Internal Standards X Rec 0C Limits Qual 130-1,2,3,4,7,8-HXDD 125.0 - 181 130-1,2,3,4,7,8-HXDD 125 25.0 - 141 130-1,2,3,4,7,8-HXDD 125 25.0 - 140 130-1,2,3,4,7,8-HXDD 125 25.0 - 140 * * 130-2,3,4,7,8-HXDD 126 24.0 - 185 130-1,2,3,4,7,8-HXDD 126 26.0 - 152 130-1,2,3,4,7,8-HXDF 117 26.0 - 123 *										
1,2,3,7,8-PEDF 155 - 7,73 2,3,4,7,8-PEDF 184 - 92.2 1,2,3,4,7,8-PEDF 2370 - 237 1,2,3,4,7,8-PEDF 2570 - 237 1,2,3,4,7,8-PEDF 2560 - 206 1,2,3,7,8,9-HXCDF 2660 - 206 1,2,3,7,8,9-HXCDF 647 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,7,8,9-HXCDF 12400 - 1590 Total Petra-Furans 149000 - * 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 - * 4 Internal Standards % Rec 0C Limits Qual 13C-1,2,3,7,8-PECDD 112 25.0 - 164 13C-1,2,3,7,8-PECDD 112 25.0 - 164 13C-1,2,3,7,8-PECDD 112 25.0 - 164 13C-1,2,3,7,8-PECDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-PECDF 104 24.0 - 169 13C-1,2,3,4,7,8-PECDF 104 24.0 - 169 13C-1,2,3,4,7,8-PECDF 104 24.0 - 169 13C-1,2,3,4,7,8-PECDF 104 24.0 - 165 13C-2,3,4,7,8-PECDF 104 24.0 - 165 13C-2,3,4,6,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 117 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 117 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,7,8	2,3,7,8-TCDF	65.2	-	F	6.52					
2,3,4,7,8-PEDF 184 - 92,2 1,2,3,4,7,8-PEDF 2370 - 237 1,2,3,6,7,8-PEXDF 2060 - 206 1,2,3,7,8,9-PEXDF 647 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,6,7,8-PEXDF 159000 - 1590 Total Penta-Furans 3760 - 15 1,2,3,4,7,8,9-PEXDF 12400 - 124 Total Hexa-Furans 149000 - * 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 - * 4 Internal Standards % Rec QC Limits Qual 13C-1,2,3,7,8-PEXDD 112 25.0 - 164 13C-1,2,3,7,8-PEXDD 125 32.0 - 141 13C-1,2,3,4,7,8-PEXDD 125 32.0 - 140 * 13C-1,2,3,4,7,8-PEXDF 112 24.0 - 169 13C-1,2,3,4,7,8-PEXDF 117 26.0 - 152 13C-1,2,3,4,7,8-PEXDF 117 26.0 - 152 13C-1,2,3,4,7,8-PEXDF 117 26.0 - 152 13C-1,2,3,4,7,8-PEXDF 117 26.0 - 152 13C-1,2,3,4,7,8-PEXDF 117 26.0 - 152 13C-1,2,3,4,5,7,8-PEXDF 111 28.0 - 136 13C-1,2,3,4,5,7,8-PEXDF 112 24.0 - 169 13C-1,2,3,4,5,7,8-PEXDF 111 28.0 - 136 13C-1,2,3,4,5,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,4,5,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,4,5,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,4,5,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,4,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,7,8-PEXDF 112 26.0 - 138 13C-1,2,3,7,8-	1,2,3,7,8-PeCDF	155	- ·		7.73					
1,2,3,4,7,8-HXCDF 2370 - 237 1,2,3,6,7,8-HXCDF 645 - 64.5 2,3,4,6,7,8-HXCDF 2060 - 206 1,2,3,7,8,9-HXCDF 547 - 64.7 Total Tetra-Furans 962 - 19 1,2,3,7,8,9-HXCDF 12400 - 152 1,2,3,4,7,8,9-HXCDF 12400 - 124 Total Hexa-Furans 137600 - * 12 0CDF 459000 - 45.9 Total Hepta-Furans 716000 - * 4 Internal Standards % Rec QC Limits Qual 13C-1,2,3,7,8-FCCD 112 25.0 - 164 13C-1,2,3,7,8-FCCD 112 25.0 - 164 13C-1,2,3,7,8-FCCD 112 25.0 - 164 13C-1,2,3,4,7,8-FCCD 125 32.0 - 141 13C-1,2,3,4,7,8-FCCD 125 32.0 - 141 13C-1,2,3,4,7,8-FCCD 125 32.0 - 140 * 13C-1,2,3,4,7,8-FCCD 125 28.0 - 130 13C-1,2,3,4,7,8-FCCD 104 24.0 - 157 * 13C-2,3,7,8-FCCD 104 24.0 - 157 * 13C-1,2,3,4,7,8-FCCD 104 24.0 - 152 13C-1,2,3,4,7,8-FCCD 104 24.0 - 165 13C-1,2,3,4,7,8-FCCD 104 24.0 - 178 13C-1,2,3,4,7,8-FCCD 104 24.0 - 165 13C-1,2,3,4,7,8-FCCD 104 24.0 - 165 13C-1,2,3,4,7,8-FCCD 104 24.0 - 178 13C-1,2,3,4,7,8-FCCD 104 24.0 - 178 13C-1,2,3,4,7,8-FCCD 102 28.0 - 147 13C-1,2,3,4,7,8-FCCD 102 28.0 - 147 13C-1,2,3,4,7,8-FCCD 102 28.0 - 147 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 104 122 50 - 152 13C-1,2,3,4,7,8-FCCD 104 122 50 - 152 13C-1,2,3,4,7,8-FCCD 104 24.0 - 155 13C-2,2,3,4,7,8-FCCD 104 24.0 - 156 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 102 28.0 - 138 13C-1,2,3,4,7,8-FCCD 102 28.0 - 138 13C-1,2,3,4,7,8-FCCD 102 28.0 - 138 13C-0,2,5,7,8-FCCD 104 55 13C-2,2,3,7,8-FCCD 104 55 13C-2,2,3,7,8-FCCD 105 55 13C-2,3,7,8,7-FCCD 105 55 13C-2,3,7,8,7-FCCD 105 55 13C-2,3,7,8,7-FCCD 102 28.0 - 143 * 13C-1,2,3,4,7,8-FCCD 105 55 13C-2,3,7,8,7-FCCD 105 55 13C-2,	2,3,4,7,8-PeCDF	184	-		92.2					
1,2,3,6,7,8-HXCDF 645 - 64,5 2,3,4,6,7,8-HXCDF 2060 - 200 1,2,3,7,8,9-HXCDF 159000 - 1590 Total Penta-Furans 982 - 19 1,2,3,4,7,8,9-HXCDF 159000 - 124 Total Mexa-Furans 149000 - * 12 0CDF 459000 - 45.9 Total Hexa-Furans 716000 - * 4 Internal Standards X Rec 0C Limits Qual 13C-1,2,3,7,8-HXCDD 112 25.0 - 164 13C-1,2,3,7,8-HXCDD 125 32.0 - 181 13C-1,2,3,7,8-HXCDD 125 32.0 - 181 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 140 * 13C-1,2,3,4,7,8-HXCDF 112 24.0 - 169 13C-1,2,3,4,7,8-HXCDF 112 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 153 3C-1,2,3,4,7,8-HXCDF 117 26.0 - 154 F = DE225 Confirmation 3C(1-2,3,7,8-HXCDF 112 26.0 - 188 F = DE225 Confirmation	1,2,3,4,7,8-HxCDF	2370	-		237					
2,3,4,6,7,8-HxCDF 2060 - 206 1,2,3,7,8,9-HxCDF 4647 - 647 Total Tetra-Furans 982 - 19 1,2,3,4,6,7,8-HxCDF 15900 - 1590 Total Penta-Furans 3760 - 15 1,2,3,4,7,8,9-HxCDF 12400 - 124 Total Hexa-Furans 149000 - * 12 0CDF 459000 - 45.9 Total Hexa-Furans 716000 - * 4 Internal Standards % Rec 0C Limits Qual 13C-1,2,3,7,8-FeCDD 101 25.0 - 184 13C-1,2,3,7,8-FeCDD 101 25.0 - 184 13C-1,2,3,4,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,7,8-HxCDD 40.2 17.0 - 157 * 13C-2,3,7,8-FeCDF 104 24.0 - 169 13C-1,2,3,4,6,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 138 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 138 13C-0,2,5,7,8-HCDF 102 28.0 - 137 Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-ICDP 105 35.0 - 197	1,2,3,6,7,8-HxCDF	645	- ·		64.5					
1,2,3,7,8,9-HxCDF 647 - 64.7 Total Tetra-Furans 982 - 19 1,2,3,4,6,7,8-HxCDF 159000 - 1590 Total Tetra-Furans 3760 - 15 1,2,3,4,7,8-HxCDF 12400 - 124 Total Hepta-Furans 149000 - 12 0CDF 459000 - 45.9 Total Hepta-Furans 149000 - + 4 Internal Standards % Rec QC Limits Qual Qual - + 4 13C-1,2,3,7,8-TCDD 112 25.0 164 - - - + 4 13C-1,2,3,7,8-TCDD 112 25.0 164 - - - + 4 13C-1,2,3,7,8-TCDD 112 25.0 164 - - + - - 4 - - - 4 - - - 4 - - - - - - - - - - - - - - - - - -	2,3,4,6,7,8-HxCDF	2060	- 1		206					•
1,2,3,4,6,7,8-HpCDF 15900 - 1590 Total Penta-Furans 3760 - 15 1,2,3,4,7,8,9-HpCDF 12400 - 124 Total Hexa-Furans 149000 - * 12 DCDF 459000 - 45.9 Total Hepta-Furans 149000 - * 4 Internal Standards % Rec QC Limits Qual - 45.9 Total Hepta-Furans 716000 - * 4 13C-1,2,3,7,8-TCDD 112 25.0 - 164 - 15 - - - - - - - - - - - - - - - - -	1,2,3,7,8,9-HxCDF	647	·		64.7	Total Tetra-Furans	982	-	,	19
1,2,3,4,7,8,9-HpCDF 12400 - 124 Total Hexa-Furans 149000 - * 12 Internal Standards % Rec QC Limits Qual Qual - * 4 Internal Standards % Rec QC Limits Qual - * 4 Internal Standards % Rec QC Limits Qual - * 4 13C-1,2,3,7,8-TCDD 112 25.0 - 141 - - - * 4 13C-1,2,3,6,7,8-TCDD 101 25.0 - 141 - - - * - 4 13C-1,2,3,6,7,8-TCDD 122 23.0 - 140 * - <	1,2,3,4,6,7,8-HpCDF	159000	-		1590	Total Penta-Furans	3760	· _		15
OCDF 459000 - 45.9 Total Hepta-Furans 716000 - * 4 Internal Standards % Rec QC Limits Qual 13C-1,2,3,7,8-TCDD 112 25.0 - 164 13C-1,2,3,7,8-TCDD 112 25.0 - 181 13C-1,2,3,4,7,8-HXCDD 125 32.0 - 141 13C-1,2,3,4,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HXCDD 128 28.0 - 150 13C-1,2,3,7,8-FCDF 112 24.0 - 169 13C-2,3,7,8-FCDF 104 24.0 - 185 13C-1,2,3,4,6,7,8-HXCDF 104 24.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 107 20.0 - 147 13C-1,2,3,4,6,7,8-HXCDF 107 20.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 <t< td=""><td>1,2,3,4,7,8,9-HpCDF</td><td>12400</td><td>) -</td><td></td><td>124</td><td>Total Hexa-Furans</td><td>149000</td><td>-</td><td>*</td><td>12</td></t<>	1,2,3,4,7,8,9-HpCDF	12400) -		124	Total Hexa-Furans	149000	-	*	12
Internal Standards % Rec QC Limits Qual 13C-2,3,7,8-TCDD 112 25.0 - 164 13C-1,2,3,7,8-FCDD 101 25.0 - 181 13C-1,2,3,4,7,8-HxCDD 125 32.0 - 141 13C-1,2,3,6,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,6,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDF 128 28.0 - 157 13C-1,2,3,7,8-PeCDF 104 24.0 - 169 13C-2,3,7,8-PeCDF 104 24.0 - 185 13C-1,2,3,7,8-PeCDF 104 24.0 - 185 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HxCDF 112 26.0 - 138 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 </td <td>OCDF</td> <td>459000</td> <td>- 1</td> <td></td> <td>45.9</td> <td>Total Hepta-Furans</td> <td>716000</td> <td>-</td> <td>*</td> <td>4</td>	OCDF	459000	- 1		45.9	Total Hepta-Furans	716000	-	*	4
Internal Standards % Rec QC Limits Qual 13C-2,3,7,8-TCDD 112 25.0 - 164 13C-1,2,3,7,8-TCDD 101 25.0 - 181 13C-1,2,3,4,7,8-HxCDD 125 32.0 - 141 13C-1,2,3,4,6,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDD 97.2 23.0 - 140 13C-1,2,3,7,8-TCDF 112 24.0 - 169 13C-2,3,7,8-TCDF 112 24.0 - 169 13C-1,2,3,7,8-PeCDF 104 21.0 - 178 13C-2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 111 28.0 - 136 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 143 13C-1,2,3,4,6,7,8-HxCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 136 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 13C-0.2,5,7,8,9-HpCDF 112 26.0 - 138 13C-0.2,5,7,8,9-HpCDF 112 26.0 - 138 13C-0.0E 78.7 17.0 - 157						-				
Internal Standards % Rec QC Limits Qual 13C-2,3,7,8-TCDD 112 25.0 - 164 13C-1,2,3,7,8-FeCDD 101 25.0 - 181 13C-1,2,3,4,7,8-HxCDD 125 32.0 - 141 13C-1,2,3,6,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDD 97.2 23.0 - 140 * 13C-0CDD 40.2 17.0 - 157 * 13C-0CDD 40.2 17.0 - 157 * 13C-2,3,7,8-FCDF 112 24.0 - 169 13C-1,2,3,7,8-FeCDF 104 24.0 - 185 13C-2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 117 26.0 - 123 13C-1,2,3,7,8,9-HxCDF 111 28.0 - 136 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 112 26.0 - 138 13C-1,2,3,4,7,8,9-HxCDF 112 26.0 - 138 13C-1,2,3,4,7,8,9-HxCDF 112 26.0 - 138 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 105 35.0 - 197										
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Internal Standards	% Rec	· QC Limits	Qua	al					
13C-1,2,3,7,8-PCDD 112 25.0 - 184 13C-1,2,3,4,7,8-PCDD 101 25.0 - 181 13C-1,2,3,4,7,8-HXCDD 125 32.0 - 141 13C-1,2,3,4,6,7,8-HXCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HXCDD 97.2 23.0 - 140 * 13C-0CDD 40.2 17.0 - 157 * 13C-2,3,7,8-PCDF 104 24.0 - 185 13C-2,3,4,7,8-PCDF 104 21.0 - 178 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HXCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HXCDF 107 29.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 143 * = Dilution 13C-1,2,3,4,6,7,8-HXCDF 112 26.0 - 138 13C-1,2,3,4,7,8,9-HXCDF 13C-1,2,3,4,7,8,9-HXCDF 112 26.0 - 138 * * = Dilution 13C-1,2,3,4,7,8,9-HXCDF 112 26.0 - 138 * * = Dilution 13C-1,2,3,4,7,8,9-HXCDF 112 26.0 - 138 * * = Dilution 13C-1,2,3,4,7,8,9-HXCDF 112 26.0 - 13	17c-2 7 7 8-TCDD	110	25 0 - 14/							
13C-1,2,3,4,7,8-HxCDD 125 32.0 - 181 13C-1,2,3,4,7,8-HxCDD 125 32.0 - 141 13C-1,2,3,4,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDD 97.2 23.0 - 140 * 13C-1,2,3,7,8-HxCDD 40.2 17.0 - 157 * 13C-2,3,7,8-TCDF 112 24.0 - 169		101	25.0 - 104	•						
13C-1,2,3,6,7,8-HxCDD 128 28.0 - 141 13C-1,2,3,6,7,8-HxCDD 128 28.0 - 130 13C-1,2,3,4,6,7,8-HxCDD 97.2 23.0 - 140 * 13C-2,3,7,8-TCDF 112 24.0 - 169 13C-1,2,3,7,8-TCDF 112 24.0 - 185 13C-2,3,7,8-TCDF 104 24.0 - 185 13C-2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,6,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 136 13C-1,2,3,4,6,7,8-HxCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 13C-0CDF 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation Acquired: 01-0CT-03		101	23.0 - 161							
13C-1,2,3,4,6,7,8-HpCDD 97.2 23.0 - 140 * 13C-0CDD 40.2 17.0 - 157 * 13C-2,3,7,8-TCDF 112 24.0 - 169 13C-1,2,3,7,8-PCDF 104 24.0 - 185 13C-2,3,4,7,8-PCDF 104 21.0 - 178 13C-1,2,3,4,7,8-PCDF 104 21.0 - 152 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HxCDF 107 29.0 - 143 13C-1,2,3,4,6,7,8-HxCDF 102 28.0 - 143 * 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 138 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,6,7,8-HpCDF 112 26.0 - 138 13C-1,2,3,4,6,7,8-PCDF 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation Acquired: 01-0CT-03	13c - 1 - 2 - 3 - 4 - 7 - 10 - 10 - 10 - 10 - 10 - 10 - 10	120	32.0 - 141	ו ז						
13C-0CDD 40.2 17.0 - 157 * 13C-2,3,7,8-TCDF 112 24.0 - 169 13C-2,3,7,8-PeCDF 104 24.0 - 185 13C-2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,6,7,8-HXCDF 117 26.0 - 123 13C-1,2,3,4,6,7,8-HXCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HXCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 136 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 143 * 13C-1,2,3,4,6,7,8-HCDF 112 26.0 - 138 13C-0CDF 13C-1,2,3,4,6,7,8-HCDF 112 26.0 - 138 * 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation Acquired: 01-071-03	13c - 1, 2, 3, 0, 7, 0 - 13c - 1	07.2	20.0 - 130). N	*					
13C-0CDD 40.2 17.0 - 137 13C-2,3,7,8-TCDF 112 24.0 - 169 13C-1,2,3,7,8-PeCDF 104 24.0 - 185 13C-2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,7,8-PeCDF 104 21.0 - 152 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,6,7,8-HXCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HXCDF 107 29.0 - 147 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 136 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HPCDF 112 26.0 - 138 13C-1,2,3,4,7,8,9-HPCDF 112 26.0 - 138 13C-0CDF 78.7 17.0 - 157 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197	13c-1,2,3,4,0,7,0-1000	×1.2	23.0 - 140	, ,	*			· · ·		
13C-2,3,7,8-TCDF 112 24.0 - 169 13C-1,2,3,7,8-PeCDF 104 24.0 - 185 13C-2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,7,8-HXCDF 117 26.0 - 152 13C-1,2,3,6,7,8-HXCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HXCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HXCDF 107 29.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HXCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HPCDF 102 28.0 - 143 13C-1,2,3,4,7,8,9-HPCDF 112 26.0 - 138 13C-0CDF 78.7 17.0 - 157 X Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37C1-2,3,7,8-TCDD 105 35.0 - 197	136-0600	40.2	17.0 - 157			-				
13c-1,2,3,7,8-PeCDF 104 24.0 - 185 13c-2,3,4,7,8-PeCDF 104 21.0 - 178 13c-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13c-1,2,3,6,7,8-HxCDF 117 26.0 - 123 13c-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13c-1,2,3,7,8,9-HxCDF 107 29.0 - 147 13c-1,2,3,7,8,9-HxCDF 111 28.0 - 136 13c-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * 13c-1,2,3,4,6,7,8-HpCDF 112 26.0 - 138 13c-1,2,3,4,7,8,9-HpCDF 13c-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation Acquired: 01-001-03	13C-2,3,7,8-TCDF	112	24.0 - 169	,						
13C-2,3,4,7,8-PeCDF 104 21.0 - 178 13C-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 102 28.0 - 143 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 13C-0CDF 78.7 17.0 - 157 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197	13C-1.2.3.7.8-PeCDF	104	24.0 - 185	5 ·						
13C-1,2,3,4,7,8-HxCDF 117 26.0 - 152 13C-1,2,3,6,7,8-HxCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 101 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 138 * = Dilution 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 * 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197 Acquired: 01-0CT-03	13C-2,3,4.7.8-PeCDF	104	21.0 - 178	3						
13C-1,2,3,6,7,8-HxCDF 117 26.0 - 123 13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 111 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 138 * = Dilution 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197 Acquired: 01-0CT-03	13C-1,2,3,4.7.8-HxCDF	117	26.0 - 152	2						
13C-2,3,4,6,7,8-HxCDF 107 29.0 - 147 13C-1,2,3,7,8,9-HxCDF 111 28.0 - 136 13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * 13C-1,2,3,4,6,7,8-HpCDF 112 26.0 - 138 * = Dilution 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 105 35.0 - 197 Acquired: 01-0CT-03	13C-1,2,3,6.7.8-HxCDF	117	26.0 - 123	3						
13C-1,2,3,7,8,9-HxCDF 111 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 112 26.0 - 138 * 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197 Acquired: 01-0CT-03	13C-2.3.4.6.7.8-HxCDF	107	29.0 - 147	7						
13C-1,2,3,4,6,7,8-HpCDF 102 28.0 - 143 * * = Dilution 13C-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 * Acquired: 27-SEP-03 13C-0CDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37Cl-2,3,7,8-TCDD 105 35.0 - 197	13C-1,2,3,7.8.9-HxCDF	111	28.0 - 136	5						
13c-1,2,3,4,7,8,9-HpCDF 112 26.0 - 138 13c-0CDF 78.7 17.0 - 157 Cleanup Surrogate F = DB225 Confirmation 37CL-2,3,7,8-TCDD 105 35.0 - 197	13C-1.2.3.4.6.7.8-HpCDF	102	28.0 - 147	3	*		* =	Diluti	on	
13C-OCDF 78.7 17.0 - 157 * Acquired: 27-SEP-03 Cleanup Surrogate F = DB225 Confirmation 37Cl-2.3.7.8-TCDD 105 35.0 - 197	13C-1.2.3.4.7.8.9-HpCDF	112	26.0 - 138	3				2 . Carro		
Cleanup Surrogate F = DB225 Confirmation 37Cl-2.3.7.8-TCDD 105 35.0 - 197 Acquired: 01-0CT-03	13C-0CDF	78.7	17.0 - 157	7	*			Acquire	1: 27-9	FP-03
Cleanup Surrogate F = DB225 Confirmation	100 0001							eu	3	2, 05
Cleanup Surrogate F = DB225 Confirmation										
37CL-2.3.7.8-TCDD 105 35.0 - 197 Acquired: 01-007-03	Cleanup Surrogate						F =	DB225 (Confirm	ation
	37CL-2.3.7.8-TCDD	105	35.0 - 197	7				Acquire	1. 01-0	CT-03

Analyst: <u>}</u> Date: <u>9/20/03</u> RECEIVED

OCT 0 3 2003

Reviewed by: Date



\mathbf{i}	MFG, INC.		Ū	HAIN-C	л-ц	STOD	Y REC	ORD /	AND F	REQU	EST	FOR ANALYS	S
75 Cresc reats, C. hone (70	ta Office een Way A 95521-6741 77) 826-8430- FAX (707) 826-8437	CA - Irvine CA - Irvine 1770 Cartwright Rd. 11 17770 Cartwright Rd. 11 1786 500 55 1816 CA 22614 16 161 (949) 253-2954 FE Fax (949) 253-2954	A - San Francisco B0 Howard St., Ste. 200 Bn Francisco, CA 94105 al (415) 495-7110 ax (415) 495-7107	CO - Boulder 4900 Pearl East 8te. 300W Boulder, CO 803 Tel (303) 447-15 Fax (303) 447-1	: Cir. DID - 801 Tel (836 Fax	Osburn Box 30 lace, ID 83873 lace, ID 83873 (208) 556-7271 (208) 556-7271	☐ MT - Mis PO Box 7 Missoula Tel (406) Fax (406)	soula 158 MT 59807 728-4600 728-4698	NJ - Edison 1090 King Geo Ste. 703 Edison, NJ 08E Tel (732) 738-5 Fax (732) 738-5	orges Post Rd. 337 5711			
	☐ OR - Portland 1020 SW Taylor St. Ste. 530 Portland, OR 97205 Tal (503) 228-8616 Fax (503) 228-8631	Pat - Pittsburgh 800 Vinial St., Bidg, A Pittsburgh, PA 15212 Tel (412) 321-2288 Fax (412) 321-2288	TX - Austin 4807 Spicewood Springs Rt Bidg, 1X - Floor Austin, TX 78759 Tel (512) 338-1331 Fax (512) 338-1331	12337 Jourson 12337 Jourson 12337 Jourson 12337 Jourson Houston Tai (281) Fax (281)	iston bnes Rd. TX 77070 890-5044) 890-5044	TX - Port Lav 320 East Ma Port Lavaca, Tel (361) 552 Fax (361) 552	aca In 1.4 77979 -8839 3-6115	□ TX - Texarkana 4532 Summent Texarkana, TX Tel (903) 794-0 Fax (903) 794-0	iii Rd. 75503 625 0626	WA - Seattle 19203 36th Av Ste. 100 Lynnwood, W/ Tel (425) 921 Fax (425) 921	re. W. 1 98036 4040		
	PROJECT NO:_ SAMPLER (Sigr METHOD OF SI	030229,1 nature): 0n06 HIPMENT: Fed	PROJ 67	ECT NAME PI CARRI	ROJECT ER/WAYI	T-Ac Managef Bill NO:	Ed Ed	Cont 1	DEST	NATION	t lav	PAGE: 4 OF: 4 DATE: 9/17/03	
			SAMPLES							ANA	LYSIS R	EQUEST	
			Sample	u.	reservatic	u u	Containe	's Constit	uents/Meth	od Ha	ndling	Remarks	
	S Ider	Field sample ntification	DATE TIMI	Matrix* HCI	СОГ D Н ⁵ 2О⁴ НИО ³	FILTRATION*	⊥λbE₊ (ɯl/oz) ΛΟΓΩΜΕ	Conferences 19175		ΗΟΓD	HSUA GRAGNATS		
	K-1-50	110 m	105,14 9,501	المركم		< (8	メー		1	X		
	8-2-Ec	+56	11/4 Am							X			
	8-3-E	ast	9/14 Am					-		×	_		
	8-4-1	est	9/15 Am	->							×		
	RR-T;	65	9/16 Pm	QL QL			302 G	, ↓ ,			×		
	Temp B	lank	9/14 Am	A9	5	1 1	EMG	۲ X				RECEIVED	
					TOTAL NUMB	ER OF CONTAIN	ERS	LABORATO	DRY COMMENT	IS/CONDITIO	N OF SAMP	Les Cooler Temp:	
		RELINQUISHED	BY:							REC	EIVED B	v: UCI 0 3 2003	
	SIGNATURE	PRINTED NAW	AE CO	MPANY	DAT		LIME	SIGNAT	URE	PRIN		Etra Tech/NEG Inc	
0	Ch Phi	Orri. Na	LL MPG	Im	w/h	103 3;	30						
00011					3-6	11 20	R	lary	a M	K'J	da	FORTION LABORATORY	
of 00		- KEY Matrix: AQ -	- aqueous NA - nonaqueous SO - s	oil SL - studge P - petr	oleum A - air OT	- other Containers:	P - plastic G - giass	T - lefton B - brass	0T - other Filtr	ation: F - filtered	U - unlittered		Τ
)001				DISTRIBUTION:	PINK: Field Copy	YELLOW: Laboratory u	py WHILE: Heturn	to Originator	ŀ				٦

000


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:	КZ
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	lce
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:	L
Hold samples 2,3 & 5.	RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.





RECEIVED

OCT 0 3 2003

Tetra Tech/MFG, Inc.

000013 of 000013

D-9 Third Phase of Excavation Samples



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

208 Mason St. Ukiah, California 95482

3RD PHASE EXCANATION

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. Spece

Melanie B. Neece For Sheri L. Speaks Project Manager



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

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

Page 1 of 4

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.

Malanie L. There

Melanie B. Neece For Sheri L. Speaks Project Manager



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

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 A	nalytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	P	QL	NOTE
S-30-1.5 (A311137-01)		1	Sample Ty	pe: Soil		Sampled: 11/06/03 10	:10		
Chlorinated Phenols by Canadian H	ulp 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	"	n	*	"	F4	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	**	*	"	ND "		1.0	
Pentachlorophenol	"	11	"	**	"	ND "		1.0	
Surrogate: Tribromophenol	"	n	"	"		95.2 %	23-140		
S-31-5.5 (A311137-02)			Sample Ty	pe: Soil		Sampled: 11/06/03 10	:45		
Chlorinated Phenols by Canadian I	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	"	19	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	11	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	17	n	**	ND "		1.0	
Pentachlorophenol	"	n	"	"	**	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		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.

Malanie D. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/10/2003

Page 2 of 4



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

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	

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	& Analyze	ed: 11/07/0	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	н							
2,3,4,5-Tetrachlorophenol	ND	1.0								
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	0.109		n	0.124		87.9	23-140			
LCS (AK31007-BS1)				Prepared	& Analyz	ed: 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	n	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	& Analyz	ed: 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	n	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.

Malanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

Page 3 of 4



Geomatrix Consultants

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

2101 We	bster Street, 12th Floor	Report D	ate: 11/10/03 13:53
Oakland,	CA 94612	Project	No: 9329.000/11
Attn: Ge	omatrix Consultants	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
- Sample results reported on a dry weight basis dry
- RPD Relative Percent Difference
- PQL Practical Quantitation Limit

1/2/02 Page / of /	REMARKS		Additional Comments	Bill to Sierra Pacific Industries. Arratu	D 10. of D	× 11 Reid-2-snitubes/110	× / / /									_	2	Method of Shipment:	Laboratory Comments and Log No.:	H311137		Geometrix Consultants	2101 Webster Street, 12th Floor - Oakland, CA 94612 Phone: 510-663-4100 Fax: 510-663-4141
3		╞		pə	Filtered Preserve				\rightarrow		 				 -/	, 	ſS	Date	Time		Date	Time	
Date		╞	(0)	Vater (W) or Other (Soil (S),	Ś	S			Ź	 			 			ontaine	ıre):					
011527	ANALYSES		soline) sel) ots 75%	0815m (282) س5108 108 مت (Mor 108 مت (Mor 109 مت 109 مت 100 مت 1	Method Method CHLO CHLO CHLO		X							 7			Results to: Ross Steenson Total No. of Co	: Date: Relinquished by (Signatu	Time: Printed Name:	ISSS Company:	Date: Received by:	Time: Printed Name:	Company:
Record				thod 8021 an) thod 8021 thod 8021 thod 8021 thod 8020 thod 8270 thod 8270 an) thod 8260 thod 8270 thod 8270 thod 8270 thod 8270	EPA Mé (Full Sc (Full Sc)(Full Sc)(Ful	4	12				-	T T					Turnaround Time:	Herhoduraned by Signature)	Frinted Name:	Aroniclabs	Received by:	Printed Name:	Company:
					lumber	ر ک	5											Date:	Time:	<u>7</u> 25	Date:	Time:	
-of Cust	11/000	11/100		ron	Sample N	S-30-1	S-31-5.										JALYTICAL	ignature):	STEENSON .	TRix			
Chain	1001 No. 9230	Ject No.: 7 524	nplers (Signature:)	Poor Sea	ate Time	6/03 1010	6/03 1045	/									ALPHA A	inquished by (S	nted Name: Ross	npany: GEOMA	seived by:	nted Name:	npany:

1.8

APPENDIX E

Waste Disposal Documentation



Alpha Analytical Laboratories Inc 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

JUL 2-8 2003 Tetra Tech/MFG, Inc.



Alpha Analytical Laboratories Inc

CHEMICAL EXAMINATION REPORT

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

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 JUL²⁸²⁰⁰³ 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

Page 1 of 4



Alpha Analytical Laboratories Inc. e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

MFG, Inc - Arc 875 Crescent W Arcata, CA 955 Attn: Orrin Plo	cata Vay 521 ocher				Report Dat Project N Project II	te: 07/23/03 12 fo: 030229.11 D: SPI - Arcata	::06 1		
Order Number A307300	Receipt Date/Time 07/10/2003 17:45		Clie MI	ent Code FGARC		Client PO	/Reference		
		Alpha A	Analytical	Laborato	ries, Inc.				
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
Wood Composite (A307300-01)			Sample Typ	oe: Other (W	') Sa	mpled: 07/09/03 1	7:20		
TCLP Chlorinated Phenols by Ca	anadian Pulp Method								
Pentachlorophenol	EnvCan	AG32118	07/15/03	07/19/03	1	7700 ug/l		1.0	
Surrogate Tribromophenol	"	"	11	"		82 7 %	79-119		

CHEMICAL EXAMINATION REPORT

RECEIVED JUL 2 8 2003 Tetra TechMFG, 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

Page 2 of 4



Alpha & Analytical Laboratories Inc e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	

SourceResult

TCLP 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 AG32118 - Solvent Extraction										
Blank (AG32118-BLK1)				Prepared	07/15/03	Analyzed	07/18/03			
Pentachlorophenol	ND	10	ug/l							
Surrogate [.] Tribromophenol	22 7		n	24 9		912	79-119		·	
LCS (AG32118-BS1)				Prepared:	07/15/03	Analyzed	: 07/18/03			
Pentachlorophenol	4 88	10	ug/l	5 00		97 6	86-109			
Surrogate Tribromophenol	24 2	. 1997 8	"	24 9		97 2	79-119			
LCS Dup (AG32118-BSD1)				Prepared	07/15/03	Analyzed	07/18/03			
Pentachlorophenol	5.15	10	ug/l	5 00		103	86-109	5 38	20	
Surrogate. Tribromophenol	25 0		N	24 9		100	79-119			



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

Page 3 of 4



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, In 875 Cres Arcata, (Attn: Or	c - Arcata scent Way CA 95521 rin Plocher		Report Date: Project No: Project ID:	07/23/03 12:06 030229.11 SPL - Arcata
Order Number A307300	Receipt Date/Time 07/10/2003 17:45	Client Code MFGARC	110,000 120	Client PO/Reference

Notes and Definitions

MEG I

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



								- >
	<i>X</i>75 Crestent Vay <i>Aveata Office</i> <i>Aveata ffice</i> <i>Aveata Office</i> <i>Aveata Office</i> <i>Aveata Office</i>	CHAIN-OF-CUSTO CIVINE Office 11770 Cartwright Road 11770 Cartwright Road Nome, CA 92614-5650 Irone, CA 92614-5650 Irone, CA 9263, 253-2954 Fax (949) 253-2954	MFG , DY RECORD / 108burn Office 1 Si 108burn Office 2 Si 18873-0030 Si56-6811 Phone 18873-0030 Si56-7271 Phone	, INC. AND REQUE an Francisco Office ovard Street, Suita 200 ovard Street, Suita 200 ovard Street, Suita 200 (415) 495-7110 - Fax (41	ST FOR ANALY Seattle Office 19203 3611 / 19203 3611 / 19203 3611 / 101 Suite 101 Urrnwood, M 1425) 92 Fax (425) 92	SIS wenue W 14000 14040	COC No. 43	302
	PROJECT NO: USOZZA. 11	PROJECT NAI	ME: SPT-	Arcata	Green Che	2	PAGE. 1	0F
	SAMPLER (Signature): METHOD OF SHIPMENT: Courtient	Allard CAR	PROJECT MANA		DESTIN	VATION. A	1pha 1	
		SAMPLES				ANALYSIS R	REQUEST	
		Sample	Preservation	Containers	Constituents/Metho	d Handling	Rema	rks
	Field Sample	HCI Mg(ti)x*	:огם I ⁵ 80⁴ INO ³	- 	1772 870 0784-12161 022/872	алон Ваван 88, № Ваварар	United	ysial
\star	Pit Under Zud Slarb	7/9 1705 50	- X 	402 G 1		×	PUP/72P	by controlion
•	Pit Hader 2nd Slaks	7/9 170520	×	402 5 1	×	X	Pulp M	ethod
Ж	Pit Better	05 0021 6/2	×	10261	×	X	•	
	Pit Botton	7/4 1700 50	X	402 (2)	X	\mathbf{X}		
	Wood Composite	7/9 1720 OT	X	Hoz 6 1	X A:	307300-1	Divrin/F	Lian 1
	8						by Metho	d 1613
							~	
	AE T						conart to	
	CF JUI etre						orrin-plach	era megan
	ree		-					LOM
			TOTAL NUMBER OF CO	ONTAINERS 5	LABORATORY COMMENT	S/CONDITION OF SAME	PLES Cooler T	emp
	MELINGOISHED BY					RECIEVED E	BY:	
	SIGNATURE	COMPANY	DATE	TIME	SIGNATURE	PRINTED NA	AME CC	MPANY
	Matt Hallon / Matt Hallya	M MPC	7/10/03	1:25	Matthews	J. MATH	ins AA	PHA
	What have N. Mathurs	Alpha	2/10/03	15.451	M (ally	K. DAL	4 ALI	OHA
			,	17.45,40				SORATORY
	- KEY Marnx AO - agu	eous NA-nonaqueous SO-soil SL-sludge F DISTRIBUTTO	P - petroleum A - air 07 - other (DN PINK Freid Copy YELLOW La	Containers P - plastic G - glass aboratory Copy WHITE Return to	T - tetton B - brass OT - other Filt Originator	aton F tiltered U - unfiltered		
\star	See UCC A 307245							

5



Alpha Analytical Laboratories Inc 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 0 8 2003 Tetra Tech/MFG, Inc.



Alpha 🕻 Analytical Laboratories Inc.

Receipt Date/Time

09/23/2003 16:55

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: 10/03/03 13:59 Project No: 030229.11 Project ID: SPI - Arcata

Order Number A309545

Client Code MFGARC

Client PO/Reference

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

RECEIVED

OCT 0 8 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 Sheri L. Speaks Project Manager



Alpha V 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: 10/03/03 13:59 Project No: 030229.11 Project ID: SPI - Arcata

Order Number A309545	Receipt Date/Time 09/23/2003 16 55		Cli M	ent Code FGARC		Client P	Client PO/Reference		
		Alpha A	Analytical	Laborato	ries, Inc.				.
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
"Composite A" (A309545-01) Phenols by EPA Method 8041			Sample Ty	pe: Soil		Sampled: 09/22/03	16:27		• ···
Pentachlorophenol	8041	AI32602	09/25/03	10/01/03	50	95 mg/k	g	10	
Surrogate Tribromophenol	"	"	"	10/02/03		116 %	36-122		
"Composite B" (A309545-02)			Sample Ty	pe: Soil		Sampled: 09/22/03	16:24		

Phenols by EPA Method 8041						-			
Pentachlorophenol	8041	AI32602	09/25/03	10/01/03	100	120 mg/k	g	20	
Surrogate Tribromophenol	"	"	"	10/02/03		147 %	36-122		S-04

RECEIVED

	00	T 0	8	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 Sheri L Speaks Project Manager



Alpha Analytical Laboratories Inc e-mail clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

CHEMICAL EXAMINATION REPORT

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	

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		H	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)	Sou	rce: A309	545-01	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		H	2 49		228	36-122			S-06
Matrix Spike Dup (A132602-MSD1)	Sou	rce: A309	545-01	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

RECEIVED

OCT 0 8 20	103
------------	-----

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

Page 3 of 4



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, In 875 Cre Arcata, Attn: Or	nc - Arcata scent Way CA 95521 rrin Plocher	Report Date Project No Project ID	e: 10/03/03 13:59 b: 030229.11 b: SPI - Arcata	
Order Number A309545	Receipt Date/Time 09/23/2003 16:55	Client Code MFGARC	Client PO/Reference	

Notes and Definitions

- The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix **OM-01** 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

RECEIVED

OCT 0 8 2003 Tetra Tech/MFG, Inc.

	MFG, INC.		U	HAIN	ЦО-	-cus	STODY	REC	ORD	AND	REQU	EST	FOR /	ANALYSIS 46157
Arcata, C. ² shone (70).	ta Office ta Office en Way > 95221-6741) 826-8430- FAX (707) 826-8437	JCA - Irvine 17770 Cartwrght Rd 17770 Cartwrght Rd 17770 Cartwrght Rd 17700 Cartwrght Rd 1800 253-2951 Fax (949) 253-2954	□ CA - San Francisco 180 Howard Si, Sie 200 San Francisco, CA 94105 Tel (415) 495-7110 Fax (415) 495-7107	CO - Boi 4900 Pe- Ste 300' Boulder, Tel (303) Fax (303)	ulder arl East Cir <i>N</i> CO 80301 447-1823) 447-1836	DID - OS PO Boo Wallac Tel (20 Fax (20	tburn x 30 e, ID 83873 8) 556-6811 38) 556-7271	DMT - MIS PO Box Missoula Tel (406) Fax (406)	soula 158 - 15807 - 728-4600 - 728-4698	□ NJ - Edison 1090 King G 1090 King G 1090 King G 1032 733 Fax (732) 73 Fax (732) 73	eorges Post Rd 8837 85707			IVED
	☐ OR - Portland 1020 SW Taylor SI Ste 530 Portland, OR 97205 Tel (503) 228-8631 Fax (503) 228-8631	□ PA - Pritsburgh 800 //mail St, Bidg A Pritsburgh, PA 15212 Tel (412) 321-2278 Fax (412) 321-2263	☐ TX - Austin 4807 Spicewood Springs F Bidg IV, ¹⁴ Floor Austin, 17 27559 Tel (512) 338-1667 Fax (512) 338-1331		X - Houston 2337 Jones te 230 custon, TX 2810, 890 ax (281) 890	Rd 5068 3-5044	□ TX - Port Lave 320 East Maun Port Lavaca, T Tel (361) 552- Fax (361) 553	ca X 77979 8839 6115	☐ TX - Texarke 4532 Summ Texarkana, Tel (903) 79 Fax (903) 75	na erhill Rd 4-0625 4-0626	□ WA Seattle 19203 36th Av Ste 100 Lynnwood, WA Tel (425) 921-4 Fax (425) 921-6	e W 88036 1000 4040 Tetra	0CT 0 8 a Tech/N	8 2003 AFG, Inc.
	PROJECT NO:_ SAMPLER (Sign METHOD OF SH	030229.1 nature). 7000	1 May PRO		AME: PRO RRIER	<i>S P</i> JECT N WMAYBI	<u>T - Ar</u> Ianager Ll NO:	uta Orriv	Alo (Cher DES	TINATION:	April	PAGE: DATE: 9 La An	1 0F. 2 1/22/03 dytical
			SAMPLES								ANA	LYSIS RE	EQUEST	
			Sample	0	Pres	servation		Containei	's Cons	stituents/Me	thod Ha	ndling		Remarks
	S S S S S S S S S S S S S S S S S S S	Field sample httication	DATE	m Matrix*	HNO ³ HCI	orb ⊦ ⁵ s0⁴	*00.11MF	LAbE* (ml/oz)	01-08 80-10 255-11-5 0N		ногр	HSUA GRAGNATS	Lah Ca San, S 601 in	omposite 74,581 and to one
		597	9/22 16:20	R			1	05 6	2				Sample	ard
	5	74	162	-				ļ	7				report (as
	5	e i		- 0					2				Compos	site A"
	9	0	1 101	2		<u> </u>		-) -)	2				A309	1-242-1
					TOT	TAL NUMBER	OF CONTAINE	Rs L	LABOR	ATORY COMM	ENTS/CONDITIO	N OF SAMPL	Es Co	ooler Temp 고·서
		RELINQUISHE	ED BY:								REC	CEIVED BY	۲:	
	SIGNATURE	PRINTED N		OMPANY		DATE	Т	IME	SIGN	ATURE	PRI	NTED NAN	ЛЕ	COMPANY
	Alast Rilling	1 ++++	TV Contli	2	0	1/23/1	50	13 30	4					
	d. Matthew	J. Mitthew	15 1/10	246		1/23/0	3 12	3:30	N m/	rtur?	J-M-P	Hours	<u> </u>	K110 h &
	1 .	9/2 3/03	12:31	ner Si	ر کر	ήa∂/	23/ 16	SS	ľ. Č	205 /	0 0 0	peg	L N	10hA
		KEY Matrix	AO - aqueous NA - nonaqueous SO	soil SL sludg	e P - petroleun I TION PINK	n A - au OT - o C Field Copy YE	ther Containers LLOW Laboratory Co	P - plastic G - glas oy WHITE Return	s T tetton B - b to Onginator	ss OT - other	Futuration F - futured	U ¹ untitered		
	1:01 - 80/1/01	40 - 142 01	Nhew - dea	STRO	3	arie	tion /	N. W	- Prad	192	and	Male	una	

Ň	MFG, INC.			Ū	TAIN	10-1	-cu	STOL	N RI	N N	RD A	ND R	EQUE	ST	FOR ROR	ANAI No. 46	-YSIS 168
C Cresce Vicata, CA Phone (707	a Office M Wy (95521-6741) 826-8430- FAX (707) 826-8437	CA - Irvine 17770 Cariwright Rd Ste 500 Irvine, CA 32614 Teil (949) 253-2951	CA - San Francis 180 Howard St, San Francisco, C Tel (415) 495-71 Fax (415) 495-71	sco Ste 200 XA 94105 10	CO - Bo 4900 Pe Ste 300 Boulder, Tel (303)	ulder aarl East Cir W CO 80301 (477-1823	DID - C PO B Walla Tel (2 Fax (Ssburn ox 30 ce, ID 83873 (08) 556-6811 208) 556-727	E B B B B B B B B B B B B B B B B B B B	- Missoula Box 7158 ssoula, MT (406) 728- x (406) 728-	259807 4698 4698	J - Edison 390 King Geor te 703 dison, NJ 0883 et (732) 738-57 et (732) 738-57	jes Post Rd 7 77				
	 OR - Portland 1020 SW Taylor St 555 530 Portland, OR 97205 Tel (503) 228-8616 Fax (503) 229-8631 	Fax (949) 253-2954 □ PA - Pritsburgh 800 Vinial S1, Bldg A 1715burgh A 15272 Tel (412) 331-2283 Fax (412) 321-2283	□ TX - Austin 4807 Spicewoo Bidg IV, 1 ⁸¹ Flor Austin, TX 7872 Tel (512) 338-1 Fax (512) 338-1	od Springs R(or 59 1331		3) 447-1830 [X - Houstor [2337 Jones [te 230 [te 281] 890 [ax (281] 89]	. Rd 77070 5068 0 5044	☐ TX - Port 320 East Port Lave Tel (361) Fax (361)	Lavaca Maın 55.2-8839 553-6115		- 1 - Texarkana 32 Summerhill carkana, TX 75 (903) 794-06 x (903) 794-06	26 26 5503 26 71 26 71 27 71 71 71 71 71 br>71 71 71 br>71 71 71 71 71 71 71 71 71 71 71 71 71 7		⁸⁰³⁶ Tetr	NEC 0CT (ra Tech	EIVE: 0 8 2003	Q
	PROJECT NO _ SAMPLER (Sign METHOD OF SI	0 30 22 9 . 1 nature): 11/200 HIPMENT: Cau	1 - 74Ma	PRO.		IAME: PRC ARRIEF	SP2 JECT I	T - Ar Manag sill no:	ER: 0	5	Ploch.	DESTIN	IATION: ,	Alph	PAGE:	10 N 01	
			SA	MPLES									ANALY	/SIS RE	EQUEST		
				Sample		Pre	servatio		Cont	ainers	Constitu	ents/Metho	d Hanc	gling		Remark	(0)
		Field Sample	DATE		*xmatter	HNO ³ HCI	00ГD †05 ⁷ н	*NOITAATII	(zo/jɯ) \Or∩WE	NO. LYPE*	0208423		ногр ногр	GRADNATS	Lab C Sabi	Composi 602, 5 7, and 5	¥7 =
		596	aler	160	50				402	6 1	>				50M	PL0 0,0	Þ
		602		1624	-					-	7				repo	1 9	
		572		160							22				" (om	<u>لمحدد الم</u>	, D
		575	>	161 166:	17	_					. 7		_		A30	9545	n i
									,								
						10		ER OF CONT	AINERS	- 5	LABORATO	RY COMMENT	S/CONDITION	OF SAMPI	LES	Cooler Ten	h.B.d
	「「「「「「」」」、「「」」、「」」、「」」、「」、「」」、「」、「」、「」、「	RELINQUISH	ED BY:		401 Co 7791 00 00 00 00 00								RECE	EIVED B	:7:		
	SIGNATURE	PRINTED	NAME	8	MPANY		DAT	щ.	TIME		SIGNATI	JRE	PRINT	red nai	ME	COM	PANY
	Wet Wills	1 Act+1	+1/1 your	M	92		0	5 363		10	mau	Leve	J-M#	Thew	v	Alph	4
							125	6.0/	13:3	>			(LAGOR	АТОНУ
	1. Watchur	J. MANDE	10	HIP.	49		7/33	63	16:5:	5	g.	S R S	10	Pea		nd ll	4
	6 1	*KEY Matry	x AQ-aqueous NA-nc	oraqueous SO -	soil SL slud DISTRIB	tge P - petroleu UTION PIN	im A-air OT 'K Field Copy	- other Conta YELLOW Laborat	ners P - plastic ory Copy WHI1	G - glass T - E Return to On	tetion B Drass ginator	01 - otner Filtr	non r meren o	naiaiiiin			

UNIFORM_HAZARDOUS A P P P P P P P P P P P P P P P P P P P	nation in the shaded area								
View Size ANALYSIC [A B B C B B C B B C B B C B B C B C B C	required by Federal law								
3 Construct - Name of Moding Address SECRAPACHEC NOUSERIES - ARCATA SECRAPACHEC NOUSERIES - ARCATA SECRAPACHEC None 1 701 443-3111 STF : 2400 NEW NAVY BASE RD 4. Generation's Plane 1 701 443-3111 CA 95518 5. Transporter 1 Company Mome A Generation's Plane 1 701 443-3111 C 95518 ASBURY ENVIRONMENTAL SERVICES C A D D 2 B 2 7 7 0 3 6 D Transporter's 100 (2000) 7. Transporter 2 Company Mome B US EPA ID Number 0 US EPA ID Number E Solet Transporter's 10 (2000) F 9. Durgedet Facily Name and Site Address 10 US EPA ID Number C Solet Transporter's 10 (2000) 9. Durgedet Facily Name and Site Address 10 US EPA ID Number C Solet Transporter's 10 (2000) 9. Durgedet Facily Name and Site Address 10 US EPA ID Number C Solet Transporter's 10 (2000) 9. Durgedet Facily Name and Site Address 10 US EDO LocoCleven 13 Total 14 U 9. Durgedet Facily Name and Site Address 10 US EPA ID Number C Solet Transporter's Pose 9. Durgedet Facily Name N ESOO3 N M EP B P P P P P P P P P 10 (2000) N A total 9. State Table Solet Transporter's Name Base Table Number C Solet Transport									
PC BOX 1169 SITF - 2542 NEW NAVY BASE RD 8 Sum Careerour's ID ACCATA GA SITF - 2542 NEW NAVY BASE RD 8 Sum Careerour's ID ACCATA Gaserour's Powe I 707 4333111 C Sum Careerour's Powe I Company Name 6 US FAID Number C Subt Transporter's Disconting To Power ID ASBURY ENVIRONMENTAL SERVICES C [A iD]3 [2]9 [2]7 [0]3 [6 Transporter's Power (Bougarder's Power (Bo	228177								
A. General Y Roma 1, 701 433,311 CA \$9518 S. Transporter 1 Comparison Name a US EPA ID Number C. Sorte Transporter's The DEstances of Transporter's Points ASBURY ENVIRONMENTAL SERVICES C Ja JD JD J2 JB J2 7 7 0 3 6 D. Transporter's Points BUS EPA ID Number 9. Designated Facility Name 8. US EPA ID Number E. Softe Transporter's Points BUS EPA ID Number 9. Designated Facility Name 8. US EPA ID Number C. Softe Tariby's ID 10. US EPA ID Number 0. US EPA ID Number C. Softe Tariby's ID 11. US DOT Description Including Proper Shapping Name, Hazard Clash, and ID Number 12. Construent 13. Total 14. UV, V, V	· · · · · · · · · · · · · · · · · · ·								
3 Transporter 1 Company Name 6 USEPA ID Number C 3 Transporter 1 Company Name E State Transporter 1 Distanced Transporter Distanced Transporter 1									
ASBURY ENVIRONMENTAL SERVICES C A ID 0 12 18 12 7 7 0 3 16 Transporter's Phone (800) 2 Transporter's Company Neme 0 US DPA ID Number E State Transporter's Phone (800) 2 Transporter's Company Neme 0 US DPA ID Number F Transporter's Phone (800) 9 Dupgeted Faculty Neme and Site Address 10 US DPA ID Number G State Facility's D 9 Dupgeted Faculty Neme and Site Address 10 US DPA ID Number G State Facility's D 9 Dupgeted Faculty Neme and Site Address 10 US DPA ID Number I State Transporter's ID Total 14 U 9 Dupgeted Faculty Neme and Site Address 10 US DPA ID P P P P P P P P P P P P P P P P P P									
Product Environment NA: SERVICES C A D D D 2 B 2 D 2 7 7 0 3 6 E State Transporter's Research Construction (Research Construction Constr									
7 Tongorter 2 Comparison 8 US EPA ID Number E State Facility 7 9 Designated facility Name and Site Address 10 US EPA ID Number F Tongorter's Thome 9 Designated facility Name and Site Address 10 US EPA ID Number F Tongorter's Thome 9 Designated facility Name and Site Address 10 US EPA ID Number F Tongorter's Thome 9 Designated facility Name and Site Address 10 US EPA ID Number F Tongorter's Tongort)974-4495								
9 Durgender faculty Neare and Site Address 10 US EPA ID Number F Transports' Rhome 9 Durgender faculty Neare and Site Address 10 US EPA ID Number G Site Facility's ID 11 US ECOLOGY N M 5003 N V P P B P P P P P P P P P (000)239-3343 11 US DOT Descriptions Including Proper Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N Type Gaussian Property Singping Neme. Histord Clauk, and ID Number! N	• • • • • • • • • • • • • • • • • • •								
P. Designated facely Nome and Site Address 10 US EPA ID Number C. Setter Becliny's ID US ECOLOGY HWY, 95, 12 MILES SO OF BEATTY B8003 N P </td <td>+ *</td>	+ *								
US ECOLOGY HWY, 65 L2 MILES SO OF BEATTY BEATTY HWY, 65 L2 MILES SO OF BEATTY BEATTY NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE VI. US DOT Description (including Proper Simping Name, Nazard Class, and D Number) NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE PENTACHLOROPHENOL) B C C C C C C C C C C C C C C									
WY. 59. 12 MILES SU OF DENT 89003 N V P P P P P P P P P P P P P Reading Instant 11 US DOT Description Including Proper Shipping Name. Hazard Cluik, and ID Numberi 12 Continues 13 Total WA. MON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE VIII 4 Dim (DEBRIS) Dim (DEBRIS) VIII 4 Dim (DEBRIS) D									
EXPTIT IN DOUD Exciption Induding Proper Simplify Name, Hozard Class, and D Number) 12. Continuer 13. Table 14. L 14. L 14. L 15. Sold Description Induding Proper Simplify Name, Hozard Class, and D Number) 16. Non RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE PINTACHLOROPHENOL) 17. Additional Descriptions for Menerals Ested Above 18. Additional Descriptions for Menerals Ested Above 19. Additional Information 19. Additional Information 19. Additional Information 19. EMERGENCY CONTACT. CHEMITREC 1.800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 19. DESERVES CERTIFICATIONS: Interby defare that the contents of this constraint of fully and according described above by proper byperge anome and means of partners of the constraint of fully and according described above by proper byperge anome and means of additional antional quentity generator, I carly Multi Hove a grayment pick fully and according described above by proper byperge anome and means of additional antional quentity generator, I carly Multi Property Conditions for means of the pick condition of additional antional quentity generator, I bave and a grayment of the means and additional antional quentity generator, I form and a grayment of the advected by additional antional quentity generator, I bave and a grayment of the advected by additional antional quentity generator, I advected the base of the constraint of the advected by methed advected by additional antional quentity generator, I advected									
In Subjection information property support Support Note Type Quentity W/V NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE No Type Quentity W/V NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE No Type Quentity W/V NON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE No Type Quentity W/V Image: Solid S	Unit								
MON RCRA HAZARDOUS WASTE SOLID (DEBRIS WITH TRACE PENTACHLOROPHENOL) b c d d d d d d d d d d	Vol I Waste Number								
G PENTACHLOROPHENOL) Ø114 Dim ØFi0000 P b Ø114 Dim ØFi0000 P c Ø114 Dim ØFi0000 P c Ø114 Dim ØFi0000 P d Ø114 Dim ØFi000 P d Ø114	State 352								
	EPA7Other								
Additional Descriptions for Memorals Lined Above 1. Additional Information 1. Special Hendling Instructions and Additional Information Infor	State								
R d J. Additional Discriptions for Apparals Lined Alone K. Handling Codes for Watter Lined 13. OT 013.0419. Handling Codes for Watter Lined 14. OT 013.0419. Handling Codes for Watter Lined 15. Special Handling Instructions and Additional Information 0 USE PPE EMERGENCY CONTACT. CHEMTREC 1.800-424 9300 NAERG # 11A. 171 FILE 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 16. GENEATORY SCRETTERATION: I hardby declare that the content of this conservent of fully and accurately described above by proper sheping name and markfully and accurately described above by proper sheping name and markfully and accurately described above by proper sheping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government of the environment, CR, if an a simil quantity generator, I certify that I have a program in place to reduce the volue and torical and national government of the environment, CR, if an a simil quanty generator, I have made a good faith effort to minimar my waste generation and select the best waste availed to medical to an direct of transmit stores, or disposition and select the best waste availed by the store of the proceinable method of transmit stores, or disposition and select the best waste availed for the antime of the select the proceedby the method for the antime my waste generation and select the best waste availed for the antime of the select the proceedby the method the fifter to minimar my waste generation and select the best waste availed for the antime of the select the proceedby the maintese excepris a noted in tem 19. <tr< td=""><td></td></tr<>									
To c d d 1. Additional Descriptions for Monerals Listed Above K. Handling Codes for Wasnes Listed 13. 07 0130419: 14:x555 G 0.3 14. 13. 07 0130419: 14:x555 G 0.3 15. Special Handling Instructions and Additional Information 0.3 USF PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERC # 114. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 16. of the average upontly description and reaction of the contents of the content of the second the value and toxicle of worth with strengts of the other and national government of the second the value and toxicle of worth with strengts of the value and toxicle of the value and the average of the value and toxicle of the value and the terrotoxicle and the time second the the second the the value and the terrotoxicle and the time second the terrotoxic and the value and the average of the second to the degree I have degree the terrotoxic and the terrotoxic and the second to the degree I have degree the terrotoxic and the second the terrotoxic and the second the terrotoxic and the value and the average of the second the terrotoxic and th									
0 1. Additional Discriptions for Materials Listed Above 13. Additional Discriptions for Materials Listed Above K. Hundling Codes for Waster Listed 13. Additional Discriptions for Materials Listed Above 0.3 14. Additional Instructions and Additional Information 0.3 USE PDE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 14. GENERATOR'S CERTIFICATION: I horeby decise host the contents of this contents of this content of this content of this content of this content of the co	State								
d d 1. Additional Descriptions for Materials Listed Above K. Handling Codes for Wasters Listed 1.1. Statistical State	EPA/Other								
1. Additional Descriptions for Materials Listed Above K. Handling Codes for Wastes Listed 11A) 07/013-0419, 14:X5550 03 115. Special Handling Instructions and Additional Information 03 USE PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 01.15 116. GENERATOR'S CERTIFICATION: I hereby declare that the contents of his consignment of hilly and accurately described above by proper shipping more an another of heat and hold have selected the prochable with a material above by proper shipping more an another of heat and hold to a filly and accurately described above by proper shipping more an another of heat and that have selected the prochable with a manifest except of more and hold have selected the prochable and hold above by proper shipping more an another of heat and hold have a good failty and accurately described above by proper shipping more an another which maximizes the present and fails and activity of waste generated to the degree I have de good failty and accurately described above by proper shipping more an another transport by highway decording to applicable internetional and notional government of and the environment, OR, II on a sould quarity generator, I have made a good failty, acculate that best wate available to me which maximizes the present and fill and accurately described above by proper shipping more an available to me which maximizes the present and fill and activity generator. I have made a good failt failty acculate the best wate available to me which maximizes the present and fill and activity of waste generated to the degree I have degree I have degree I have degree I have de good failty failty aculate the best wate available to me and that	State								
J. Additional Descriptions for Materials Listed Abore 11A) 07:013-0419: 14:X 555G K. Handling Codes for Waster Listed 15. Special Handling Instructions and Additional Information USE PPE NAERG # 11A. 171 EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 16. GENERATORS: CERTIFICATION: 1 hareby declare that the content of this canagement and fully and accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international antibility of accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international antibility of accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international antibility of accurately described above by proper shipping name and marked, and labeled, and are in all respects on program in place to reduce the value and lowate generation and national government of practicable and that I can afford Printed/Typed Name Signature 17. Transporter 1 Acknowledgement of Receipt of Materials 18. Transporter 1 Acknowledgement of Receipt of Materials 19. Discrepancy Induction Space 20. Facility Owner or Operator Centification of receipt of hazardous materials covered by this manifest except as noted in item 19. Frinted/Typed Name 20. Facility Owner or Operator Centification of receipt of hazardous materials covered by this manifest except as noted in item 19. Frinted/Typed Name 20. Facility Owner or Ope									
1 Additional Descriptions for Materials Listed Above K Handling Codes for Waste Listed 11A) 07-013-0419:14:X5550 0 0 0 15 Special Handling Instructions and Additional Information USE PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 11:5 11:5 PUH ACI 16 GENERATOR'S CERTIFICATION: 1 hareby declare that the contents of this consignment g/s fully and accurately described above by proper shipping name and marked, and labeled, and are mail respects in proper condition for transport by IngNery according to applicable international and national government if and labeled, and are mail respects in proper condition for transport by IngNery according to applicable international and national government if and labeled, and are mail respects in proper condition for transport by IngNery according to applicable international and national government if and labeled, and are mail respects in proper condition for transport by IngNery according to applicable international and national government if and the environment, 0R, if I am a small quantity generator, I have made a disposite the value and value generation and select the best waste generation and select the best waste generation and select the base of the condition to minimize may waste generation and select the base w	EPA/Other								
11A) 07-013-0419, 14 XXXX 0 15 Special Handling Instructions and Additional Information USE PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 16 CENTRATOR'S CERTIFICATION: I hardby delare that the contents of this consignment of fully and accurately described above by proper shaping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international government 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 de procticable and that I have selected the procticable method of treatment, storage, or disposal currently acalable to me which minimizes the present and far the minimizer my waste generated to the degree I have de good furth generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have de good furth generator, I certify that I have a good furth fort to minimize my waste generated to the degree I have de good furth generator, I berefund available to me which minimizes the present and for the environment, OR if I am a shall quantity generator, I have made a good furth generator and that I cen afford Printed/Typed Name Signature 12 Transporter I Acknowledgement of Receipt of Materials Printed/Typed Name Signature 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in them 19 Printed/Typed Name <	Above								
15 Special Handling Instructions and Additional Information USE PPE NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 If an 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 de procticable and that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have de procticable and that I have a small quantity generator, I have made a good furth effort to minimize my waste generated to the degree I have de procticable and that I have a small quantity generator, I have made a good furth effort to minimize my waste generated to the degree I have de procticable and that I have a small quantity generator, I have made a good furth effort to minimize my waste generated and select the best waste available to me and that I can a small quantity generator. They made a good furth effort to minimize my waste generated and select the best waste available to me and that I can a ford Printed/Typed Name To many Advance 20. Facility Owner or Operator Certification of recept of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name To m Dym on d									
15 Special Handling Instructions and Additional Information USE PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 16 CENERATOR'S CERTIFICATION: 1 horeby declare that the contents of this consignment of fully and accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable to the which minimizes the procession and notional government r practicable and that 1 have elected the procisable method freedment, storage, or disposal currently accurately described above by according to applicable to the which minimizes the present and f and the environment. OR, if I am a small quantity generator, I have made a good farth effort to minimize my waste generation and select the best waste available to me and that 1 con afford Printed/Typed Name Signature 112 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 113 Tonsporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 114 Tonsporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 119 Discreptoncy Indicemon Space 20 Facility Owner or Operator Certification of receipt of hazardous meterials covered by this manifest except as noted in item 19 Printed/Typed Name Si									
15 Special Handling Instructions and Additional Information USE PPE EMERGENCY CONTACT. CHEMTREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 D++++++									
USE PPE EMERGENCY CONTACT. CHEMIREC 1-800-424 9300 NAERG # 11A. 171 SITE. 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 16 GENERATOR'S CERTIFICATION: 1 hereby declare that the contents of this considement ack fully and accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by hybridy accurately described to the degree I have de proceed the proceed the proceed by ended of transports in proper condition for transport by hybridy accurately and toxicity of waste generation and select the best waste available to me and that I can afford Printed/Typed Name I Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name I and I for a space I and the internation of receipt of hozardous materials covered by this manifest except as noted in item 19 Printed/Typed Name I and Diverse D and	15 Special Handling Instructions and Additional Information								
Inclusion for the first series of the constant of the constant are fully and accurately described above by proper shipping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and notional government is fill an 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 de a good faith effort to minimize the present and f and that I have a mall quantity generator, I have and of treatment, storage, or disposal currently acalable to me which minimizes the present and f and the interacticable and that I can afford Printed/Typed Name Signature 117 Transporter 1 Acknowledgement of Receipt of Materials 120 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 121 Discrepancy Indication Space 12 To m Dymond	ل ا								
16 GENERATOR'S CERTIFICATION: 1 hereby declare that the contents of this consistent and builty and accurately described above by proper shupping name and marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government if if 1 and a large quantity generator, 1 certify that 1 have a program in place to reduce the volume and toxicity of waste generated to the degree 1 have de practicable method of treatment, storage, or disposal currently a-alable to me which minimizes the present and fa and the environment, OR, if 1 and a small quantity generator, 1 have made a good faith effort to minimize the waste generation and select the best waste available to me and that 1 can afford Printed/Typed Name Signature 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in item 19 17 Transporter or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in item 19 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in item 19 17 To m Diym On d Greal for the second for the second for the	12201000								
10 CenterNot S Leximodations in narrow decider and the contents of this constant and that according to applicable international and national government is marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government is in 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 de and that I have selected the practicable method of terrainty, a single to main and that I and that I and small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste available to me and that I and afford Printed/Typed Name Signature 9-222-033 11 Transporter 1 Acknowledgement of Receipt of Materials Minited/Typed Name Signature 9-222-033 12 Transporter 2 Acknowledgement of Receipt of Materials Signature 9-222-033 13 Transporter 2 Acknowledgement of Receipt of Materials Signature 11 19 Discrepancy Indication Space Signature 11 14 Discrepancy Indication Space Signature 11 19 Discrepancy Indication Space Signature Signature 11 To m Dymond Signature Signature	1002233								
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 de prochable and that I have selected the prochable method of treatment, storage, or disposal currently available to me which minimizes the present and f 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 available to me and that I can afford Printed/Typed Name Signature 9-22-03 0 17. Transporter 1 Acknowledgement of Receipt of Materials Signature 9-22-03 0 18. Transporter 2 Acknowledgement of Receipt of Materials Signature Signature 1 19. Discrepancy Indication Space Signature Signature 1 20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Signature 1 7. To m. Difficient Of Name Signature Signature 1	regulations								
A charge downly generator, it can be produced by produce the volue and toxicity or waste generated in the degree information of the degree info	latermined to be accessive								
and other one and that I can afford Signature Signature Printed/Typed Name Signature 9-22-03 17 Transporter 1 Acknowledgement of Receipt of Materials Signature 9-22-03 18 Transporter 2 Acknowledgement of Receipt of Materials Signature Signature 18 Transporter 2 Acknowledgement of Receipt of Materials Signature Signature 19 Discrepancy Indication Space Signature Signature 1 20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Hem 19 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in Hem 19 19 Printed/Typed Name Signature 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in Hem 19 1 Printed/Typed Name Signature 1 To m Dy mond Graduation of Graduation o	future threat to human he								
Printed/Typed Name Signature 9-22-03 (17 Transporter 1 Acknowledgement of Receipt of Materials Proted/Typed Name HABREL ARANDA 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name R 19 Discrepancy Indication Space 1 120 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									
17 Transporter 1 Acknowledgement of Receipt of Materials Prived/Typed Name Signature 18 Transporter 2 Acknowledgement of Receipt of Materials 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 19 Discrepancy Indication Space 1 20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name Signature 1 20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 To m Difference Signature	Month 17 Doy								
Printed/Typed Name Signature 18 Transporer 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space 1 20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 Printed/Typed Name 19 Discrepancy Indication Space 10 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 19 Printed/Typed Name 19 Discrepancy Indication Space 10 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 19 Discrepancy Indication of receipt of hazardous materials covered by this manifest except as noted in item 19 10 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19 10 Facility Owner 11 Owner	JILLL								
HABKIEL ARANDA Multiple 18 Transporier 2 Acknowledgement of Receipt of Materials Signature Printed/Typed Name Signature 1 19 Discrepancy Indication Space 1 1 20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 1 Printed/Typed Name Signature 1 Printed/Typed Name Signature 1 To m Difference Currence	Month Day								
18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space 1 20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 1 1 20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 1 1 1 1 1 1 1 1 1 1 20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 1	DM ZIZI								
F I I Printed/Typed Name T Discreption of the standard standar	Month Day								
Image: Printed/Typed Name Signature Image: Printed/Typed Name Signature Image: Printed/Typed Name Signature									
20 Facility Owner or Operator Certification of receipt of hozardous materials covered by this manifest except as noted in Item 19 1 20 1 Printed/Typed Name 1 Signature 1 Owner	<u></u>								
20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 1 Printed/Typed Name Y Tom Dymond									
1 20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 1 Printed/Typed Name Y TOm Dymond									
Printed/Typed Name Tom Dymond Signature									
Tom Dymond Con ful	Month Day								
	1009								
DO NOT WRITE BELOW THIS LINE									

÷ *'~

EPA 8700-22

A	UNIFORM HAZARDOUS	A ID No Mc	nifest Documen	t No	2 Page 1	Information	in the shaded areas	
	WASTE MANIFEST C A D 0 4 7	4 0 3 6 9 6 1	8 2	9 8	of		red by rederal law	
	3 Generator's Name and Mailing Address SIFRRA PACIFIC INDUSTRIES - ARCATA	¥		A State M	anifest Document h	Number	2281829	
	P.O. BOX 1189 SIT	F · 2593 NFW NAVY B/	ISF RO	B State G	enerator's ID			
	ARCAIA SS ARCAIS Phone (707 443-3111							
	5 Transporter 1 Company Name 6	US EPA ID Number		C State Tr	ansporter's ID [<u>Res</u>	served]		
	ASBURY ENVIRONMENTAL SERVICES	A D 0 2 8 2 7	7 0 3 6	D Transpo	orter's Phone	(800)974	-4495	
	7 Transporter 2 Company Name 8	US EPA ID Number		E., State Tr	ansporter's ID [<u>Res</u>		· · · · · ·	
	Designated Eacily Name and Site Address	US EPA ID Number		G States F	acility's.ID			
	CHEMICAL WASTE MANAGEMENT (KETTLEMAN FA	CILITY)			AITOPI	5/04/	PILDI	
	35251 OLD SKYLINE ROAD	ลสายอย่างสม	6 11 11 17	H Facility	's Phone		· · ·	
	ILLUS DOT Description (including Proper Shipping Nome Hazard Class	and ID Number)	12 Co	ntainers	13 Total	14 Unit		
I			No	Туре	Quantity	Wt/Vol	I. Waste Number	
1	NON RCRA HAZARDOUS WASTE SOLID (SOIL WIT	HTRACE			nalsu	G	EPA/Other	
E	h		UQ	CIM	2010100	100	NONE	
N E	· ·						EDA (Out	
R A	\$							
T O							Diate	
R							EPA/Other	
		-				7	, State	
X	1/ \						EPA/Other	
1	J Additional Descriptions for Materials Listed Above	مر میں	K. Handling Codes for Wastes Listed Above					
ľ	11A) EC-2228, BIN # 5-01	•		0	5 : 1			
/			. 1	c d				
	15 Special Handling Instructions and Additional Information			<u> </u>	<u></u>			
	USE PPE	EMERGENCY	CONTACT	:CHEMTE	REC 1-800-42	4-9300		
N	NAERG #: 11A. 171	05518 Tr . H 2-	7.7.	1-1-1	D.H.	- Carl 1916	11/230	
	16 GENERATOR'S CERTIFICATION Thereby declare that the contents of	f this consignment are fully and	accurately desci	ribed above b	r OAI FIL	name and ar	e classified, packed,	
	marked, and labeled, and are all respects in proper condition for	r transport by highway accordin	ig to applicable	internationa	l and national gov	ernment regu	lations	
	N am a large quantity generator, I certify that I have a program i practicable and that I have selected the practicable method of treat	n place to reduce the volume o ment, storage, or disposal curre	ind toxicity of v ently available t	vaste genera o me which i	ted to the degree I minimizes the pres	I have detern ent and futur	nined to be economica e threat to human hea	
	and the environment, OR, if I am a small quantity generator, I have available to me and that I can afford	e made a good faith effort to n	unimize my wa	ste generatio	n and select the b	est waste ma	nagement method that	
	During / Turing I Nilawa	Signature	/		\	Mo	Inth Day	
	Printed/ typed Name			1			UCIC	
	- JA 1 1721700 J 17 Transporter 1 Acknowledgement of Receipt of Materials	Chary 11	ance					
TRAN	Printed/Typed Name	Signature	<u>ance</u>	12.		I Mo	unth Day ` しつ丨つ」~1~	
T R A N SPO	Printed/Typed Name - JA / 'Man Company of Materials Printed/Typed Name B Transporter 2 Acknowledgement of Receipt of Materials 18 Transporter 2 Acknowledgement of Receipt of Materials	Signature!	<u>ance</u>	lila	1722-	,	$\frac{ D }{2} \frac{ 7 }{D}$	
T R A N S PO R T E	Printed/Typed Name - JA / JAPARCE J 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	<u>ance</u>	lila	2220-	/ / ^{Mo}	IDZTD	
T R A N S PORTER	Printed/Typed Name - JA / JAPARCE 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space	Signature	ances 	liu	2700-	Mo	$\begin{array}{c c} \text{Day} \\ \hline D \\ \hline 2 \\ \hline 7 \\ \hline 0 \\ \hline 2 \\ \hline 7 \\ \hline 0 \hline \hline 0 \\ \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \hline $	
TRANSPORTER FA	Printed/Typed Name - JA / JAPARCE 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space	Signature	ance 	lita	1720-	Mo	$\begin{array}{c c} \text{Day} \\ \hline D \\ \hline 2 \\ \hline 7 \\ \hline 5 \\ \hline 5 \\ \hline 7 \\ 7 \\$	
TRANSPORTER FAC1.	Printed/Typed Name - JA / Jan Cr. 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space	Signature	ancer 	l'étai	112	, Mo Mc	ID 2 7 D	
TRANSPORTER FACILIT	Printed/Typed Name - JA / JAPARCE 17 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18 Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19 Discrepancy Indication Space 20 Eacility Owner or Operator Certification of receipt of hazardous ma Printed/Typed Name	Signature Signature	except as noted	In Item 19	1722	Mo Mc	$\begin{array}{c c} \text{nuth} & \text{Day} \\ \hline D & 2 & 7 & D \\ \hline \end{array}$	

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 cays.)

٠,

e or car n Appro ise prin	byed OMB No 2050-0039 (Expires 9-30-99) t or type Form designed for use on elite (12-pyth) typewriter	on/back of	page 6.	Department of Toxic Substance Sacramento, Californi				
	UNIFORM HAZARDOUS / 1, Generator's US EPA ID No Man	nifest Document No	o 2 Page 1	Information in the shaded areas is not required by Federal law				
	WASTE MANIFEST C A D 0 4 7 4 0 3 6 9 6 1	8 2 9	9 of					
	3 Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA	A	State Manifest Document	1 Number 228182				
	P.O. BOX 1189 SITE : 2593 NEW NAVY RAS		State Generator's ID	LLUIUL				
	ARCAIA CA 95518 4 Generator's Phone (707 443-3111							
	5 Transporter 1 Company Name 6 US EPA ID Number	C	State Transporter's ID [<u>R</u>	eserved]				
	ASBURY ENVIRONMENTAL SERVICES C A D 0 2 8 2 7 7	0 3 6 D	Transporter's Phone	(800)974-4495				
	7 Transporter 2 Company Name 8 US EPA ID Number	E	State Transporter's ID [R	eserved }				
	· · · · · · · · · · · · · · · · · · ·	F.	Transporter's Phone					
	9 Designated Facility Name and Site Address 10 US EPA ID Number	G	State Bacily's UN	22646/17				
	35251 OLD SKYLINE ROAD	н	Facility's Phone	174(14/11/1				
	KETTLEMAN CITY CA 93239 ГАГРРАБИ		(800)222-2964	· · · · · · · · · · · · · · · · · · ·				
	11 US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12 Conta: No	ners 13 Total Type Quantity	14 Unit Wt/Vol I Waste Number				
	NON RCRA HAZARDOUS WASTE SOUD (SOIL WITH TRACE		r	P State 611				
G	PENTACHLOROPHENOL)	0610	21 260 h	G EPA/Other				
E -	ь			State				
E				EPA/Other				
Â				State				
0								
R	//							
	d ,			State				
				EPA/Other				
	J Additional Descriptions for Materials Listed Above	K	Handling Codes for Wa	stes Listed Above				
	11A) EC-2228, BIN #	a	615					
		c		d 1 4 -				
	15 Special Handling Instructions and Additional Information		· · · · · · · · · · · · · · · · · · ·					
	USE PPE EMERGENCY C	CONTACT C	HEMTREC 1-800-4	24-9300				
	NAERG #: 11A. 171	1. Ang 1	Dations	NJU33D				
	16 GENERATOR'S CERTIFICATION: 1 hereby declare that the contents of this consignment fore fully and ac	ccurately described	d above by proper shippin	a name and are classified, packed.				
	marked, and labeled, and are in all respects in proper condition for transport by highway according	j to applicable inte	urately described above by proper shipping name and are classified, packed, io 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 practicable and that I have selected the gracticable method of treatment storage, or disposal current	d toxicity of waste	e generated to the degree e which minimizes the or	I have determined to be economic sent and future threat to human he				
	and the environment, OR, if I am a small quantity generator, I have made a good faith effort to mir available to me and that I can afford	nimize my waste g	generation and select the	best waste management method th				
	Printed/Typed Name	1 6		Month Day				
T	17. Transporter 1 Acknowledgement of Receipt of Materials	1 ha	encert.	1029				
R A A	Printed/Typed Name 6 1411 / 11/14 MAS Signature	. 20		Month Day				
S P O	18 Transporter 2 Acknowledgement of Receipt of Materials	1 mil	مسلقين عمرً غومستسبع سر					
R T E	Printed/Typed Name	k		Month Day				
R	19 Discrepancy Indication Space							
A								
		-						
		frént ar notad in li	tem 197					
	20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest ex	Cepi di noled in n	1.1					
C 	20 Facility Ovyfier or Operator Certification of receipt of hazardous materials covered by this manifest ex Printed/Typed Name Signature Signature Signature		12	Month Day				

_ - - -----

, ŧ

. · - ---

State of Cantornia-t	invironmental Protection Agency	3
Form Approved OMB	No 2050-0039 (Expires 9-30-99)	
Please print or type	Form designed for use on elite (12-pil	ich) ty

See Instructions on back of page 6.

Department of Toxic Substa r.

ase p	1 Generator's US EPA ID No	Mahilest Document N	No.	2 Page 1	Sacramento, California
T	UNIFORM HAZARDOUS WASTE MANIFEST C A D 0 4 7 4 0 3 6 9 6	1 8 2	9 <u>1</u> 6	oft '	is not required by Federal law
	3 Generator's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA SITF : 2593 NFW NAVY ARCATA CA 95518	BASE RO	A State Mo B State Ge	nerator's ID	^{1umber} 228182
	4 Generator's Phone (707 443-3111) 5 Transporter 1 Company Name 6 US EPA ID Number		C State Tra	ansporter's ID [Rese	
	ASBURY ENVIRONMENTAL SERVICES	7 17 10 13 16	D Transpo	rter's Phone	(800)974_6495
	7 Transporter 2 Company Name 8 US EPA ID Number		E. State Tra	insporter's ID [Rese	arved]
			F. Transpor	ter's Phone	······
	9 Designated Facility Name and Site Address 10 US EPA ID Number CHEMICAL WASTE MANAGEMENT (KETTLEMAN FACILITY) 35251 OLD SKYLINE ROAD		G State Fa H Facility's	ality's ID A INDODD s Phone	10461171
	KETTLEMAN GITY CA 93239 PAT PPP P	t D L L / 12 Conte	(OUU)22	13 Total	14 Unit
	a	No	Туре	Quantity	Wt/Vol I. Waste Number
G E	NON RCRA HAZARDOUS WASTE SOLID (SOIL WITH TRACE PENTACHLOROPHENOL)	Ø[0]]	<u>c</u> im	24900	611 EPA/Other NONE
E R	•		1		EPA/Other
T O D	¢				State
	d			<u> </u>	State
					EPA/Other
	1 Additional Descriptions for Matérials Listed Above		a C	g Codes for Waste	b.
	15. Special Handling Instructions and Additional Information		c. "	•	d
, 1	USE PPE EMERGENO NAERG #: 11A, 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518 EVALUATE	CY CONTACT :C	CHEMTR	EC 1-800-424	L9300
	16 GENERATOR'S CERTIFICATION. I hereby declare that the contents of this consignment are fully a marked, and lobeled, and res in all consists on encode and the factors of the contents of the contents of the consignment are fully a marked, and the factors of the contents	nd accurately describe	2 G ed above by	proper shipping n	ame and are classified, packed,
	If I am a large quantity generator, I certify that I have a program in place to reduce the volum practicable and that I have selected the practicable method of treatment, storage, or disposal cr and the environment, OR, if I am a small quantity generator, I have made a good faith effort t available to me and that I can afford	raing to applicable in ne and toxicity of was urrently available to r to minimize my waste	ite generate ne which m generation	d to the degree I I inimizes the present and select the best	rnment regulations have determined to be economical nt and future threat to human heal st waste management methoa that
↓	Printed/Typed Name Signature Signature 17 Transporter Acknowledgement of Receipt of Materials	1 have	4	``````````````````````````````````````	Month Doy Y
N S P O	Printed/Typed Name 7/21/2011/10/1775 Signature	b de	an,	27A-	Month Doy Y
R T E R	Printed/Typed Name Signature				Montha Day Y
-	19 Discrepancy Indication Space				
A C					
r A C I L	20. Eacility Owner or Operator Certification of receipt of basedone - stored		h 10		
F A C I L I T Y	20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manife Printed/Typed Name Signature	est except as noted in	Item 19		Month Day Y

*

For Plea	n App ise pri	noroved OMB No 2050-0039 (Expires 9-30-99) Int or type Form designed for use on elite (12-pitch) typewriter	on back o	of page	6.	Departme Sc	nt of Toxic Substances Control acramento, California
	↑	UNIFORM HAZARDOUS 1 Generator's US EPA ID No Man WASTE MANIFEST C A D 0 4 7 4 0 3 6 9 6 1 1	ifest Document	No 15	2 Page 1 off	Information is not requi	in the shaded areas red by Federal law
50 ·		3 Generation's Name and Mailing Address SIERRA PACIFIC INDUSTRIES - ARCATA P.O. BOX 1189 ARCATA CA 95518	SF RO	A State A B State C	Aanifest Document N Generator's ID	lumber	22818295
52-75		4 Generator's Phone 1 707 443-3111 5 Transporter 1 Company Name 6 US EPA ID Number		C, State T	ransporter's ID [<u>Rese</u>	erved]	
800-8		ASBURY ENVIRONMENTAL SERVICES C A D 0 2 8 2 7 7	0 3 6	D Transp	orter's Phone	(800)974	-4495
の の				F. Transp	orter's Phone		3
L & Z		9 Designated Facility Name and Site Address 10 US EPA ID Number CHEMICAL WASTE MANAGEMENT (KETTLEMAN FACILITY)	<u> </u>	G State	ATPTO	quait	ALILTY
IFOR C		35251 OLD SKYLINE ROAD KETTLEMAN CITY · CA 93239 САГРРБАБ	ррр	H Facilit (800)2	y's Phone 22-2964	•	,
		11 US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12 Cor No	Type	13 Total Quantity	14 Unit Wt/Vol	I. Waste Number
- MITHIN	1 G	NON RCRA HAZARDOUS WASTE SOLID (SOIL WITH TRACE PENTACHLOROPHENOL)	601	CIM	30,500	1 F	State 611 EPA/Other
3802:	E N E	ь b	<u> </u>				State
-424-	R	C					EPA/Other
1-800	T O R						EPA/Other
NTER				11	<u>i </u>		State
SE CE			<u>L</u> Į,			<u> </u>	EPA/Other
ESPONS		1. Additional Descriptions for Materials Listed Abore 11A) EC-2228, BIN # 572			ing Codes for Waste	b	
AAL RI				¢.,**	57 	d . "s	- I (
THE NATION		15 Special Handling Instructions and Additional Information EMERGENCY (USE PPE EMERGENCY (NAERG #: 11A. 171 SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518	CONTACT	.CHEMT 2_Le	REC 1-800-424 Dolt no 8	19300 'OOG '	4330
CALL		16 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and a marked, and labeled, and are in all respects in proper condition for transport by highway according	ccurately descr to applicable	ibed above internation	by proper shipping r al and national gove	name and ar ernment regu	e classified, packed, ilations
OR SPILL,		If I am a large quantity generator, I certify that I have a program in place to reduce the volume ar practicable and that I have selected the practicable method of treatment, storage, or disposal currer and the environment, OR, if I am a small quantity generator, I have made a good faith effort to m available to me and that I can afford	nd toxicity of w htty available to nimize my was	raste genern o me which ite generati	ated to the degree I minimizes the prese on and select the be	have detern ent and futur est waste ma	nined to be economically e threat to human health nagement method that is
SENCY	↓	Printed/Typed Name Stephen Shear Share 17. Transporter 1 Acknowledgement of Receipt of Materials	p:L		ferrer	- Mo	inth Day Year
EMERC	R A N S P	Printed/Typed Name 6/2011/11/17/11/17/11/18/15 Signature	-1.)1	ille	x ma	Mo	10503
ASE OF	R T R R	Printed/Typed Name Signature			· · · · · · · · · · · · · · · · · · ·	Mo	onth Day Year
U Z	F A C I L	19 Discrepancy Indication Space					
16 7 - Ragio	L. Y	Printed/Typed Name Printed/Typed Name Schulp Child Schulp Child Signature	xcept as noted	in Item 19		Mc	onth Day Year
	L	DO NOT WRITE BELOW	THIS	•		I	<u>, , , , , , , , , , , , , , , , , , , </u>
D E	TSC 8 PA 87	Yellow 2022A (1/99) 200—22	TSDF SENDS (Generators - produce com ,	THIS CO who subm p ejed cop	PY TO GENERATC it hazardous wasti by of this copy an	DR WITHIN e f <u>or</u> transj d send to	30 DAYS port out of store DISC within 30 days)

1.