

CONTRACTOR'S CLOSEOUT REPORT

SOIL REMEDIATION OPERABLE UNIT 1, SITES 21 AND 78 MCB CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA

Contract No. N62470-93-D-3032 Delivery Order 0062

Submitted to:

Atlantic Division Naval Facilities Engineering Command Norfolk, Virginia

Submitted by:

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October 1996

TABLE OF CONTENTS

EXEC	UTIVE	SUMMARY	
1.0	INTRO	DDUCTION	1-1
2.0	SUMM 2.1 2.2 2.3 2.4 2.5	IARY OF ACTION Submittals Mobilization and Site Preparation Delineation of Contaminated Soil Excavation of Contaminated Soil Backfilling and Revegetation	2-1 2-2 2-2 2-2
3.0	FINAL 3.1 3.2 3.3 3.4 3.5	Mobilization and Site Preparation On-Site Operations Air Monitoring Training Requirements Accidents and/or Injuries	3-1 3-1 3-2 3-2
4.0	SUMM	IARY OF RECORD DOCUMENTS	4-1
5.0	FIELD 5.1 5.2	CHANGES AND CONTRACT MODIFICATIONS Field Changes Contract Modifications	5-1
6.0	SUMM 6.1 6.2 6.3 6.4	Waste Characterization Pre-Excavation Screening Borrow Pit Analyses Confirmation Analyses	6-1 6-3 6-3
7.0	OFF-S	ITE DISPOSITION OF MATERIAL	7-1
8.0	QUAL	ITY CONTROL SUMMARY	8-1
TABLI Table 1 Table 2 Table 6 Table 6 Table 7	1.1 4.1 5.1 5.2	Remediation Goals for Operable Unit No. 1 Submittal Register Pre-excavation Screening Analyses Summary of Confirmation Analyses Summary of Off Site Waste Disposal	
FIGUR Figure Figure Figure Figure Figure Figure Figure Figure	2.1 2.2 2.3 2.4 6.1 6.2 6.3	Topographic Survey of AOC-1 Topographic Survey of AOC-2 Topographic Survey of AOC-3 Topographic Survey of AOC-4 Sample Locations at AOC-1 Sample Locations at AOC-2 Sample Locations at AOC-3 Sample Locations at AOC-4	

TABLE OF CONTENTS

APPENDICES

AFFENDICE	3
Appendix A	As-Built Drawings
Appendix B	Photographic Documentation
Appendix C	Waste Manifests
Appendix D	Disposal Certification
Appendix E	QC Analytical Report
Appendix F	Chain-of-Custody
Appendix G	Field Screening Summary Report
Appendix H	QC Documentation
Appendix I	Analytical Data
Appendix I.1	Waste Characterization Data
Appendix I.2	Borrow Pit Data
Appendix I.3	Pre-Excavation Screening Data
Appendix I.4	Confirmation Data

EXECUTIVE SUMMARY

From March to December 1995, OHM Remediation Services Corp. (OHM) performed a removal and disposal of pesticide and polychlorinated biphenyl (PCB) contaminated soils contained in Areas of Concern (AOC) 1, 2, 3, and 4 of Sites 21 and 78 on Operable Unit (OU) 1 at Marine Corps Base Camp Lejeune, North Carolina. OHM's project activities involved two distinct phases of work: on-site field screening, and final excavation. Approximately 649.76 tons of pesticide and contaminated soil was shipped off-site for incineration disposal and approximately 160.84 tons of PCB contaminated soil was shipped off-site for disposal in a Subtitle D landfill. Confirmation sampling performed upon completion of excavation activities revealed that soils remaining on-site exhibited levels of pesticide contamination below the cleanup goals identified in the Basis of Design Report dated November 11, 1994 prepared by Baker Environmental, Inc. Cleanup goals for areas that were effected by PCB contamination were modified with the permission of the USEPA to 10 ppm. All soil on-site exhibited levels of PCB below the modified cleanup goal. Site restoration included placement of clean backfill from the Base borrow area and revegetation.

OHM has completed all activities as required under LANTDIV RAC Contract No. N62470-93-D-3032, Delivery Order No. 62 - Remediation of Pesticide and PCB Contaminated Soil in Areas of Concern 1, 2, 3, and 4 at Sites 21 and 78 of Operable Unit 1 at the Marine Corps Base, Camp LeJeune, North Carolina, in accordance with the statement of work and NAVFAC Specification No. 05-94-4827.

This Closeout Report has been prepared in accordance with Specification Section 01010, Paragraph 1.3.1.10 and describes how OHM removed, transported, and disposed of pesticide and PCB contaminated soil at the project sites.

Marine Corps Base (MCB), Camp Lejeune, North Carolina was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) that became effective on October 4, 1989 (54 Federal Register 41015, October 4, 1989). The United States Environmental Protection Agency (USEPA) Region IV, the North Carolina Department of Environment, Health and Natural Resources (NC DEHNR) and the United States Department of the Navy (DoN) then entered into a Federal Facilities Agreement (FFA) for MCB Camp LeJeune. The primary purpose of the FFA was to ensure that environmental impacts associated with past and present activities at the Base were thoroughly investigated and appropriate CERCLA and Response/Resource Conservation and Recovery Act (RCRA) Corrective Action alternatives were developed and implemented as necessary to protect public health and the environment.

Camp Lejeune is a training base for the U.S. Marine Corps, located in Onslow County, North Carolina. The base covers approximately 170 square miles and includes 14 miles of coast line. MCB Camp Lejeune is bounded to the southeast by the Atlantic Ocean, to the northeast by State Route 24, and to the west by U.S. Route 17. The town of Jacksonville, North Carolina is located north of the Base. The remedial action area, OU No. 1, is one of 13 operable units within Camp Lejeune, and covers an area of approximately 690 acres and contains Sites 21 and 78. OU No. 1 is located approximately 1 mile east of the New River and two miles south of State Route 24. The Operable Unit is bordered to the northwest by Holcomb Boulevard, to the northeast by Sneads Ferry Road, to the southwest by Main Service Road, and to the southeast by Cogdels Creek.

Site 21 is located within the northwest section of Site 78. The site is bordered by Ash Street to the southwest, Center Road to the southeast, and a wooded area to the northwest. A dirt road surrounds most of the site along with surface drainage ditches. The southern and central portions of the site (approximately 220 feet by 900 feet) include several fenced-in areas, while the northern section (approximately 500 feet long) is an open area. A water tower is located in the fenced portion of the site. Surface cover within the site consists of gravel, sandy soil, and concrete with a few vegetated areas. The southern portion of the site is periodically utilized for storage by Marine Corps reserve units.



Three AOCs are located at Site 21. They are the Former PCB Transformer Disposal Area (AOC 1) and the Former Pesticide Mixing/Disposal Area (AOCs 2 and 3). The Former Transformer PCB Disposal Area is located in the northeastern portion of the site, and the Former Pesticide Mixing/Disposal Area is located in the southwestern portion of the site. With the exception of a small, slightly depressed area at the northern portion of the site, which may have been the former transformer oil disposal pit, there were no visual signs of waste disposal at the site. The contaminants of concern (COCs) at AOC 1 and AOC 2 were PCBs. The COCs at AOC 3 were pesticides, including 4,4'-DDD, 4,4'-DDT, and chlordane.

Site 78 encompasses the industrial area of MCB, Camp Lejeune and is bordered by Holcomb Boulevard, Sneads Ferry Road, Duncan Street, and Main Service Road. This area is comprised of maintenance shops, warehouses, painting shops, printing shops, automobile body shops, and other similar industrial facilities. Site 78 covers approximately 590 acres. With the exception of buildings, the majority of the site area is paved (e.g., roadways, parking lots, loading dock areas, and storage lots), however, there are many small lawn areas associated with individual buildings within the site and along lengthy stretches of roadways. In addition, there are several acres of woods in the southern portion of the site. Recreational ball fields and a parade ground are located in the southwest corner of the site. AOC 4 is within Site 78, a grassed area on the northeast side of Building 1502. The COCs at AOC 4 are pesticides.

Site 21 has had a history of pesticide usage and reported transformer oil disposal. The site was used as a pesticide mixing area and as a cleaning area for pesticide application equipment from 1958 to 1977. This area, the Former Pesticide Mixing/Disposal Area, was reported to be located in the southeast corner of the lot (the exact location is not documented). Chemicals reportedly stored and handled at this site included diazinon, chlordane, lindane, DDT, malathion (46 percent solution), mirex, 2,4-D, silvex, dalapon and dursban. Small spills, discharge of washout fluids, and indiscriminate disposal are believed to have occurred in this area. In 1977, before these mixing/cleaning activities were moved to a different location, overland discharge of washout fluids was estimated to be approximately 350 gallons per week. It is not clear for how long this discharge of washout fluids occurred.

The Former Transformer Oil Disposal Pit was located in the northeastern portion of the site. The pit was reportedly used as a disposal area for transformer oil during a one year period between 1950 and 1951. The pit reportedly measured 25 to 30 feet long by 6 feet wide by 8 feet deep. Sand was occasionally placed in the pit when oil was found standing in the bottom of the pit. The total quantity of oil disposed in this pit is unknown. A small area, slightly depressed in elevation, which may be the former oil pit, was evident in the northern portion of Site 21.

Site 78, constructed in the late 1930s, was the first developed area at MCB, Camp Lejeune. It was comprised of approximately 75 buildings and facilities including maintenance shops, gas stations, administrative offices, commissaries, snack bars, warehouses, and storage yards. There is



presently no known uncontrolled disposal of wastes related to the various industrial activities at the site. Due to the industrial nature of the site, many spills and leaks have occurred over the years. Most of these spills and leaks have consisted of petroleum-related products and solvents from underground storage tanks (USTs), drums, and uncontained waste storage areas.

The remedial objective for soil for this project was to remove and dispose of contaminated soil in OU No. 1, AOC-1, 2, 3, and 4 which had contaminants of concern exceeding the established remediation goals. The remediation goals for this project were provided in the final design package Basis of Design Report by Baker Environmental, Inc. dated November 11, 1994 except for PCBs. The remediation goal for PCBs was increased from the a value of 370 μ g/kg, established in the Basis of Design Report, to a value of 10,000 μ g/kg through an explanation of significant difference (ESD). The basis of the ESD was the results of the field screening which indicated that a massive volume of soil would have to be disposed. Table 1.1 presents the requirements that were fulfilled for contaminated soil.

	Table 1.1 Remediation Goals for Operable Unit No. 1						
Contaminants of Concern	Soil Cleanup Levels (µg/kg)						
4,4'-DDT	8,400						
4,4'-DDD	12,000						
Chlordane (total)	2,200						
PCBs (total)	10,000						

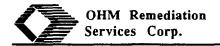
Once the Notice to Proceed was received from LANTDIV, OHM commenced preparatory activities for the project such as plan preparation and review for all site activities. The work was broken into definable portions of work for economical and efficient execution of the work. Listed below are phases of the site work that was performed from March to December of 1995 to fulfill the project specifications.

- Phase 1 was the mobilization of all equipment and personnel to the site. This included composite sample collection at each AOC for waste characterization.
- Phase 2 work consisted of delineation of the horizontal and vertical limits of pesticide and PCB contaminated soil by screening and sampling all four AOCs.
- Phase 3 consisted of the excavation, loading, transportation, and disposal of pesticide contaminated areas identified in Phase 2. This also included confirmation analyses to verify all contaminated soil was removed.
- Phase 4 was a modification of the remediation goals for PCBs from 370 μ g/kg to 10,000 μ g/kg by the issuance of an Explanation of Significant Difference (ESD) by the USEPA.
- Phase 5 was the filling with earth and seeding with grass of AOC-4 and covering with gravel of AOC-2 and 3.
- Phase 6 consisted of the excavation, loading, transportation, and disposal of PCB contaminated areas identified in Phase 2. This also included confirmation analyses to verify all contaminated soil was removed.
- Phase 7 was the filling with earth and seeding with grass of AOC-1.
- Phase 8 was the demobilization of all equipment and personnel from the site.

The following sections provide more detail on specific events and topics of the project.

2.1 SUBMITTALS

In March 1995 OHM submitted draft plans for Delivery Order No. 62. The plans consisted of a Remedial Action Work Plan; Construction Quality Control Plan, and Site-Specific Health and Safety Plan. Within these plans were sections which presented information for the Environmental Protection Plan, Sampling and Analysis Plan, and Air Monitoring Plan as required by the specifications. The plans provided a description of the project objectives, schedule, sampling and analysis requirements, decontamination procedures, site work and excavation procedures, construction requirements, and storage, transportation, and removal requirements that would be



implemented to fulfill the requirements of the project specifications. The plans were reviewed by LANTDIV and returned approved on May 30, 1995

2.2 MOBILIZATION AND SITE PREPARATION

Activities included the delivery of all equipment and personnel to the project site, construction of all necessary measures for site drainage, siltation, and erosion control. All excavations were diked and diversion ditches constructed to mitigate contaminate migration from the site. Soil samples were collected from various points within each AOC. Each AOC's samples were then composited and composite samples sent to an off-site laboratory for waste characterization analyses. Results of the analyses were submitted to various disposal facilities for pricing. The chosen facilities then prepared waste profiles for submission to the Base for final approval.

2.3 DELINEATION OF CONTAMINATED SOIL

A Pre-construction meeting was held on April, 1995 at MCB Camp Lejeune in conjunction with the weekly progress meeting. The areas requiring excavation were surveyed by a licensed surveyor based on the maps provided in the Final Design Specifications. The initial limits of excavation as depicted on the contract drawings were delineated with paint and/or wooden stakes for easy recognition.

To delineate the extent of pesticide and PCB contaminated soil at AOC-1, 2, 3, and 4, and thereby minimize unnecessary soil removal, a field screening program was implemented in May, 1995. The objectives of the program were to:

- Delineate the extent of pesticide and PCB contaminated soil, and
- Quantify the volumes of soils to be excavated

Personnel and analytical equipment to the site for the sampling event. A grid system having points at 10 feet centers in both directions was laid out at each AOC. A sample was collected at each point 6 inches below ground surface. A total of 289 soil grab samples were collected and analyzed by OHM's on-site gas chromatograph (GC) to measure concentrations of the COCs. A copy of the Field Screening Report which includes all the data generated during the screening event is located in Appendix H. On-site activities for pesticide and PCB contaminated soil delineation were conducted from May 1 to 10, 1995.

Once the data was checked and verified to determine that it was complete, correct and adequate, it was assimilated for use. The data was plotted on maps of each AOC so that waste boundaries could be identified indicating the areas affected by each of the COCs. A final boundary was determined which would encompass all soil identified as exceeding the remediation goals. Once



LANTDIV reviewed this information and concurred, the information was then transferred to the field to direct the excavation activities.

2.4 EXCAVATION OF CONTAMINATED SOIL

The results of the field screening were used to establish the limits of excavation for each AOC. Contaminated soils were removed to the depths indicated in the pre-excavation screening and sampling event using a tracked excavator and loaded directly into dump trailers. To mitigate the spread of contaminants off-site, the trucks were decontaminated by brushing the tires and the sides of the truck bed to remove soil and debris prior to leaving the site.

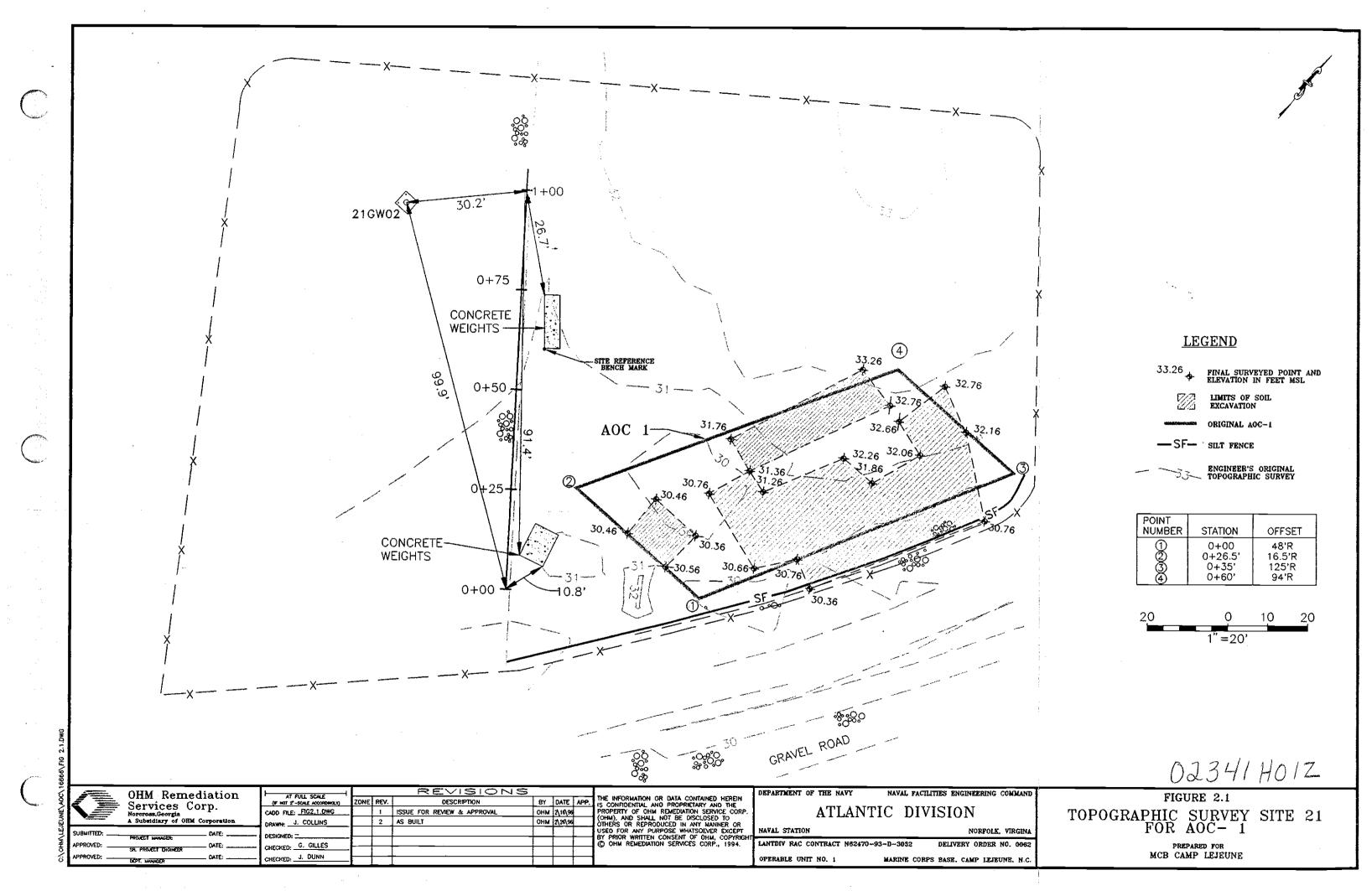
Confirmation sampling of the excavations was conducted in accordance with Section 01430, Paragraph 3.1.1 of the Specifications. The laboratory results of the chemical analyses of the COCs indicate that all pesticide and PCB contaminated soil were removed from all the AOCs.

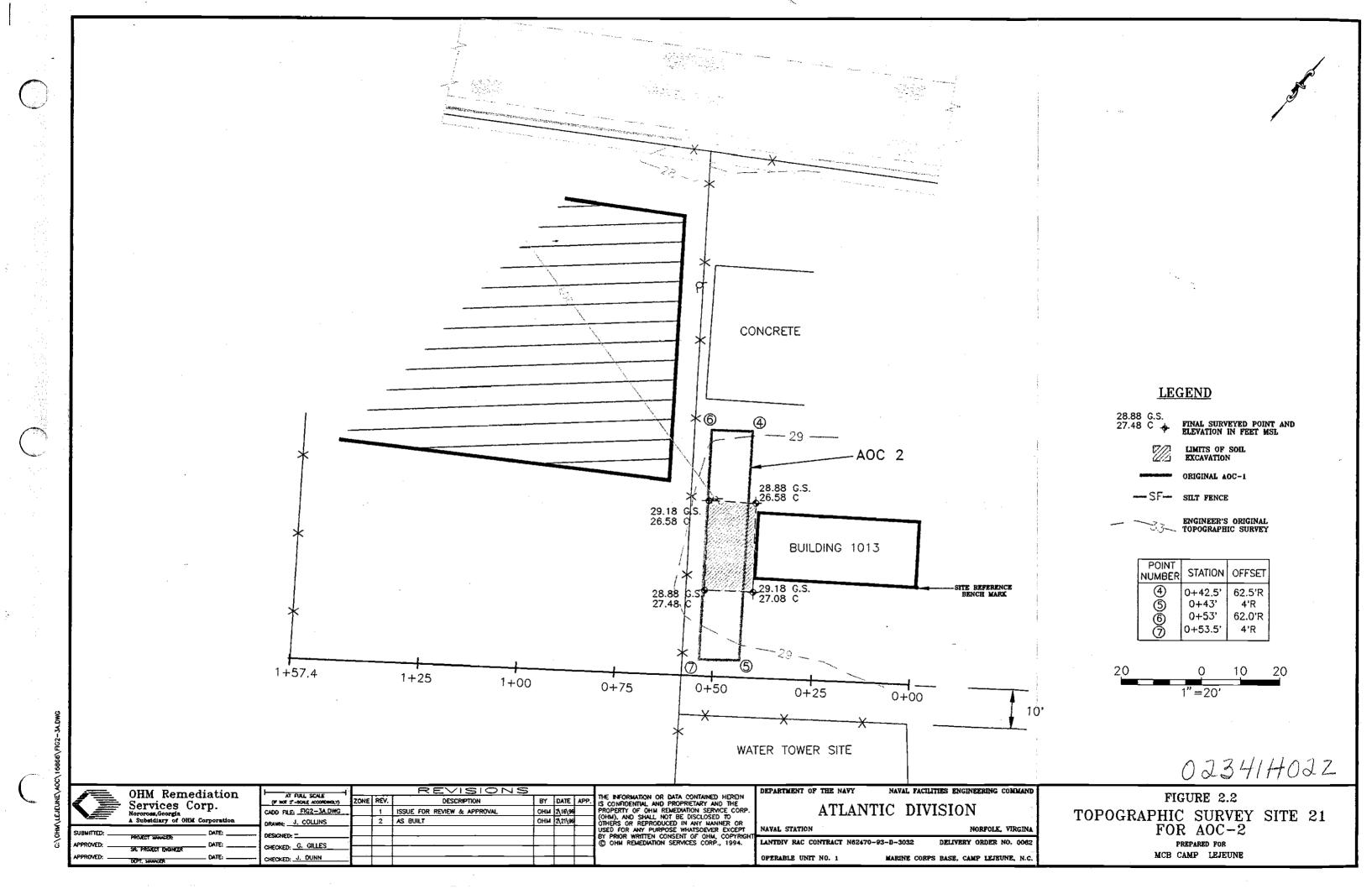
The excavation activities removed 649.76 tons of pesticide contaminated soil for incineration and 160.84 tons of PCB contaminated soil, 91.82 tons that were incinerated and 68.94 tons that were land disposed in accordance with the ESD approved by the USEPA.

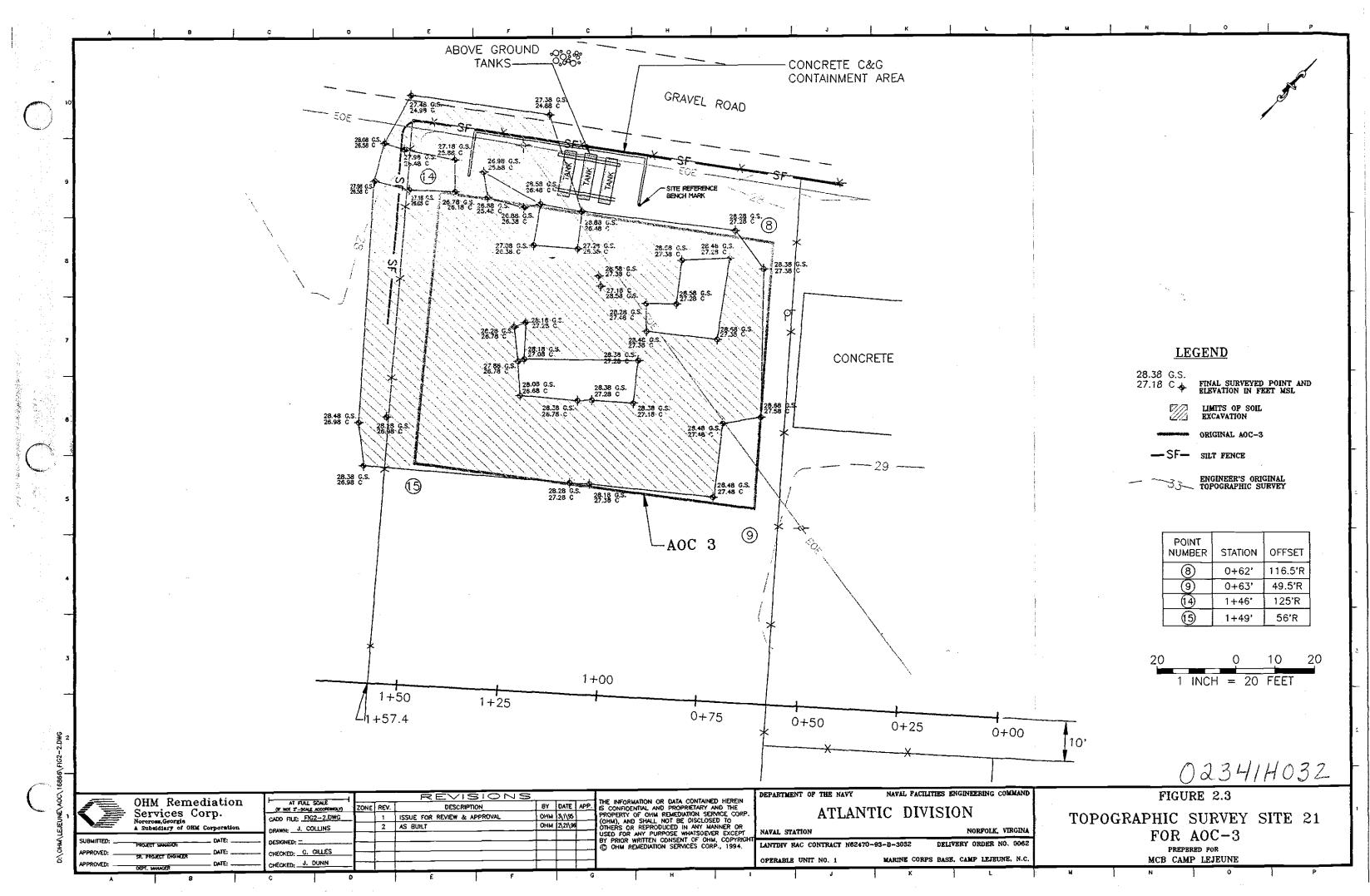
2.5 BACKFILLING AND REVEGETATION

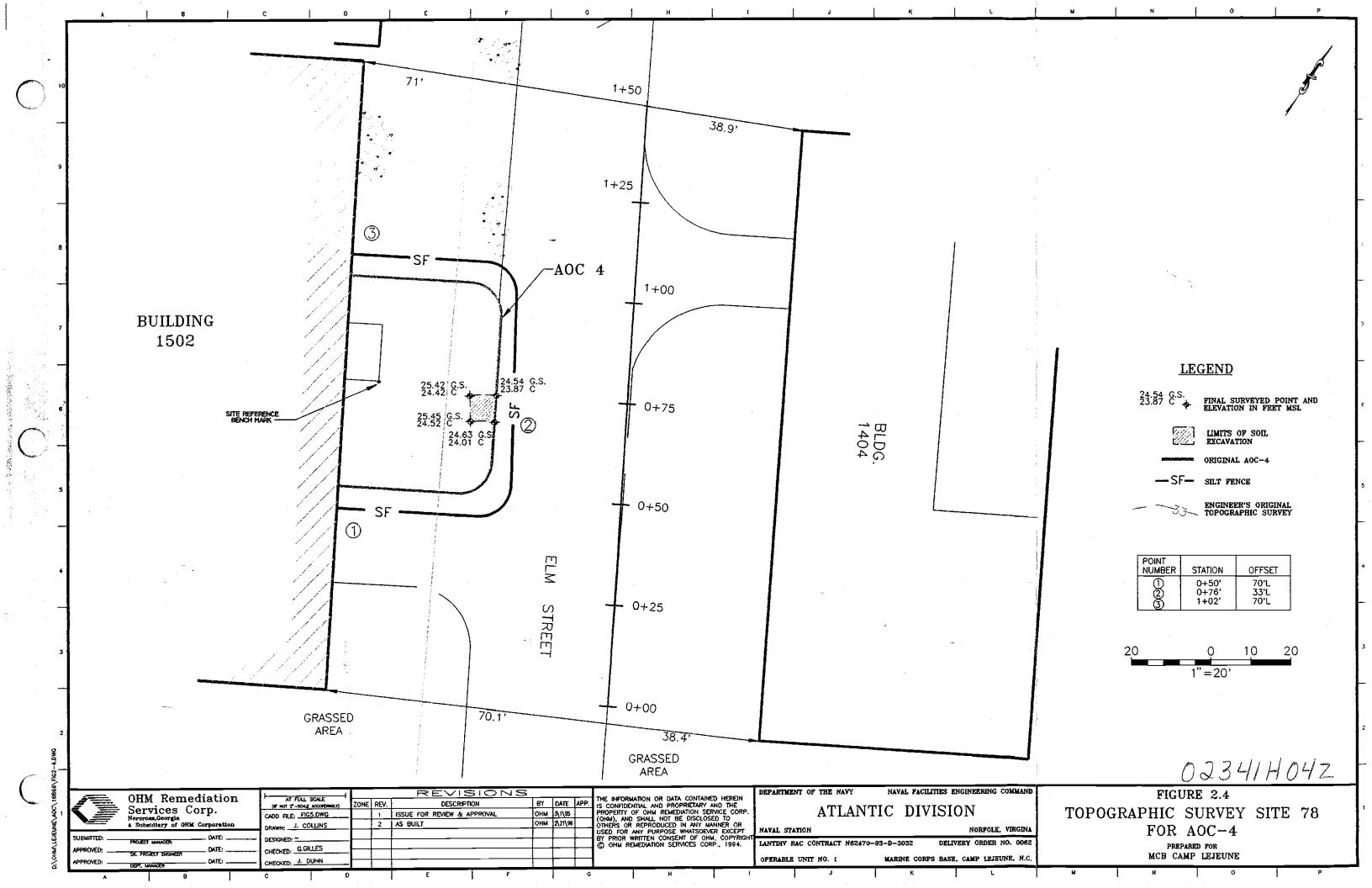
Upon completion of field construction activities, disturbed areas were backfilled with soils from the base borrow area and either seeded with grass or covered with gravel to restore them to pre-excavation conditions. The backfill was compacted utilizing the heavy equipment on-site to the approximate original grade. Areas to be seeded were fertilized to enhance seed growth and then seeded. Areas to be gravel covered were left approximately 3 inches below original grade. Gravel was then placed and compacted to final grade. As-built topographic drawings of the site which depict the excavation limits and final grade elevations are shown in Figures 2.1, 2.2, 2.3, and 2.4.

Photographic documentation of the performance of the project activities can be found in Appendix B.









3.1 MOBILIZATION AND SITE PREPARATION

The site set-up for Camp Lejeune, North Carolina, included the following:

- Utilization of previously established on-site command center
- Prior to the start of on-site operations, all on-site personnel read, understood and signed the Site-Specific Health and Safety Plan (HASP) and in accordance with OSHA requirements, the following items were set-up on-site:
 - An employee Right-To-Know poster and station
 - Material Safety Data Sheets (MSDSs) for all on-site chemicals
 - A hospital route and map was posted in the command center, and a copy placed in the glove compartments of all site vehicles
 - The site-specific evacuation plan was posted in the command center
 - Exit signs were posted in the command center

3.2 ON-SITE OPERATIONS

The remediation of pesticide and PCB contaminated soil at Camp Lejeune, North Carolina, included:

- Site sampling
- Excavation and load-out of pesticide and PCB contaminated soil for off-site disposal
- Backfill and site restoration

Prior to excavation of the pesticide and PCB contaminated soil for off-site disposal, all utility companies were notified to locate their lines, if any, in the area. Water was made available on-site for dust control measures.

Site sampling of soils was accomplished using a stainless steel auger. The contents of the auger were dumped into a stainless steel bowl and any mixing was accomplished with a stainless steel spoon. Protective clothing required for this task included MSA air purifying respirator with attached MSA GMC-H type cartridges, tyvek and hood, sample gloves, hard hat, steel toe shoes, and vinyl booties. Safety issues stressed during work activities included good housekeeping and heat stress.

The excavation task required protective clothing including MSA full-face air purifying respirators with attached MSA GMC-H type cartridges, tyvek and hood, hard hat, safety, safety glasses, steel-toed safety shoes and vinyl booties. Issues stressed during work activities included good housekeeping, heat stress, a communication system for site personnel, and shoring and trenching requirements.



Backfill operations and gravel placement or grass seeding were performed to restore the site. These tasks required protective clothing including hard hat, safety glasses, steel toe boots and cotton gloves. Safety issues stressed during work activities included good housekeeping, heat stress, and communication system for site personnel.

3.3 AIR MONITORING

Air monitoring of the breathing zone was performed continuously for volatile organic compounds (VOC) and dust during the excavation and loading of the waste. A photoionization detector (PID) was used to identify the VOCs and a Mini-Ram was used to identify air borne particulates. As outlined in the HASP air monitoring readings and calibration data for the instruments were recorded and documented. The results indicate that no concentrations of dust or VOCs above background levels were identified in workers breathing zone during the excavation and loading or the sampling activities. No upgrades of protection were necessary during the course of the project.

3.4 TRAINING REQUIREMENTS

All employees, subcontractors and site visitors allowed access to work areas were required to have completed the 40-hour health and safety training course for Hazardous Waste Site Operations in accordance with 29 CFR 1910.120 and had to read, understand and sign the HASP.

3.5 ACCIDENTS AND/OR INJURIES

The project was completed without an OSHA Reportable Accident or Lost Time Injury.

4.0 SUMMARY OF RECORD DOCUMENTS

A tabular summary of the record documents submitted to the Navy Technical Representative for Delivery Order 62 is on included in Table 4.1. Documentation associated with quality control and its frequency of submission are located in Section 8.0.

Table 4.1 - Submittal Register

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Spec. No.	Product	Spec. Para. No.	Approval by CO	Gov. or A/E Reviewer	Trans. Control No.	Planned Sub. Date	Action Code	Date of Action	Date Forwarded to Appro. Auth/Date Received from Contr.	Date Forwarded to Other Reviewer	Date Received from Other Reviewer	Action Code	Date of Action	Malled to Contr/Recd, from Appro. Auth.	Remarks
a	ъ	С	d	8		g	h		J	k	7	m	n	0	р
01010	Work Plan	1.2.1.1	G						5/30/95						
01010	As-built Records	1.3.1.1	G												Closeout Report
01010	Environmental Condition Report	1.3.1.2												· · · · · · · · · · · · · · · · · · ·	
01010	Network Analysis Diagram	1.3.1.3							2/15/95						Monthly w/report
01010	Status Reports	1.3.1.3							Monthly						Monthly
01010	QC Meeting Minutes	1.3.1.4							Weekly						Prepared weekly
01010	Test Results Summary Report	1.3.1.5													Closeout Report
01010	Contractor Production Report	1.3.1.6							Daily						
01010	QC Report	1.3.1.7	•												Closeout Report
01010	Rework Items List	1.3.1.8							Weekly						
01010	Permits	1.3.1.9													NA NA
01010	Contractor's Closeout Report	1.3.1.10													
01430	Sample Log	1.2.1.1							Daily						
01430	Confirmatory Analysis Results	1.2.2.1													Closeout Report
01430	Waste Characterization Results	1.2.2.2							6/29/95						
01560	Class I ODS Prohibition	1.4							5/30/95						No fluorocarbona used on-site
01560	Safety Program	1.6							5/30/95						
01560	MSDS	1.6							5/30/95						
01560	Health and Safety Plan	1.6.4							5/30/95						
01560	Field Test Reports	1.3.2			i i				Daily						
	Solid Waste Disposal Permit	1.3.3.1							5/30/95						
01560	Disposal Permit for Hazardous Waste	1.3.3.2							5/30/95						
02220	Fill and Backfill	3.9.2.1													NA NA
02220	Density Tests	3.9.2.2													NA
02223	Disposal Facility Permit	1.2.1.1							5/30/95						
02223	Shipment Manifests	1.2.2.1							On Receipt						Duplicate in Closeout Report
02223	Delivery and Disposal Certificates	1.2.2.2													Closeout Report
02223	Dis. Site Decon Cert	1.2.2.3													Closeout Report
62610	Gravel	2.1.1													NA NA
				<u>-</u>	<u>-</u> -										

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5.1 FIELD CHANGES

During field operations, weekly quality control (QC) meetings were held with the Navy Technical Representative (NTR). During these meetings, items of concern and project status were discussed. Also during the QC meetings, field changes were discussed and implemented when conditions dictated. The following is a summary of changes agreed to by OHM and the Navy with a brief explanation:

Pre-Excavation Soil Sampling and Field Analyses

Pre-excavation soil sampling and analyses was added to the scope of work. Samples were procured and analyzed in the field laboratory using a gas chromatograph.

Protection Level of Sampling Personnel

The protection level for sampling personnel was changed from Level C to Modified Level D based on continuous air monitoring in accordance with the instructions of the Health and Safety Officer.

Compaction of Backfill

The backfill compaction requirements were modified to a performance specification requiring a minimum of three passes of the equipment on-site. No testing compaction was performed.

Weekly Health and Safety Summary

OHM submitted daily Health and Safety Reports for on-site operations in lieu of the weekly summary report.

Silt Fence

Silt fencing was eliminated from upgradient areas and placed only at locations downgradient of excavation operations to prevent erosion from run-off of stormwater and sedimentation off-site.

Vehicle Decontamination

Pressure washing of vehicles/containers leaving the site was changed to a dry brush decontamination to reduce the volume of waste water generated by decontamination.

Contractor Production Reports

The Contractor Production Report requirement was waived by the NTR and replaced by our daily PTS report with narrative.



5.2 CONTRACT MODIFICATIONS

Two contract modifications were submitted and approved for Delivery Order 62. The initial modification, Modification No. 1, was submitted on February 15, 1995 in the amount of \$737,120.00 for excavation and disposal of PCB and pesticide contaminated soil from four AOCs within the industrial complex. This modification covered the scope of work as depicted in the specifications and Basis of Design. The second modification, Modification No. 2 submitted and approved on August 31, 1995 in the amount of \$138,755.00, addressed additional transportation and disposal charges due to excavation required beyond the initial limits, unit weight variance of the waste that was excavated, and a pre-excavation sampling and screening event.

6.0 SUMMARY OF CHEMICAL AND GEOTECHNICAL TESTING

During the course of the project chemical analyses of the site soils were used to direct the excavation activities and to ensure that the project requirements were fulfilled. There were various sampling and analytical events that were conducted to achieve the project goals. Listed below are the chemical analytical events that were conducted for this project.

- Waste Characterization by an off site laboratory of composite soil samples from AOCs 1, 2, 3, and 4 for the disposal facilities parameters
- Pre-excavation Screening by on site equipment of grab soil samples from all AOCs for PCBs and pesticides
- Confirmation analyses by an off site laboratory of a composite sample from the borrow pit for the COCs.
- Confirmation analyses by an off site laboratory of discrete soil samples from AOCs 1, 2,
 3, and 4 for the COCs of each individual location

The following paragraphs discuss the general results of the sampling events and what actions were taken based on those results.

6.1 WASTE CHARACTERIZATION

Prior to the excavation of any of the sites a OHM technician collected composite samples from each of the AOCs. Each composite sample consisted of six grab samples from an AOC which were mixed into an homogenous mass. The four samples were labeled as follows:

Location	Label
AOC - 1	CLJAOC1001
AOC - 2	CLJAOC2001
AOC - 3	CLJAOC3001
AOC - 4	CLJAOC4001

They were then documented, preserved and shipped overnight to OHM's Analytical Division Laboratory in Findlay, Ohio where they were analyzed as follows:



Parameter	Reference	Method
Total Solids Contents	MCAWW	160.3
Paint Filter Test	SW-846	9095
RCRA Characteristics		
pН	SW-846	9045
Reactive Sulfide	SW-846	7.3.4.2
Flash Point, Seta Flash	SW-846	1020
Reactive Cyanide	SW-846	7.3.3.2
Metals		7.
Total Metals	SW-846	6010
Mercury by Cold Vapor	SW-846	7471
Arsenic by GFAA	SW-846	7060
Selenium by GFAA	SW-846	7740
Thallium by GFAA	SW-846	7841
Organics		
Pesticides and PCBs	SW-846	8080
Volatile Compounds by GC\MS	SW-846	8240
Semi-volatile Compounds by GCMS	SW-846	8270
RCRA TCLP		
Leachate Preparation	SW-846	1311
Herbicides by GC	SW-846	8150
Pesticides by GC	SW-846	8080
Metals	SW-846	6010
Mercury by Cold Vapor	SW-846	7470
Semi-volatile Compounds by GC\MS	SW-846	8270
Volatile Compounds by GC\MS	SW-846	8240

The complete results and data sheets for these analyses are included in this report as Appendix I.1. This information was forwarded to identified disposal facilities for disposal approval. Based on these results, the disposal facilities approved the disposal of the PCB contaminated soil by incineration at Chemical Waste Managements, Inc.'s facility in Port Arthur, Texas and landfilling at BFI, Inc. facility in Sampson County, North Carolina and the pesticide contaminated soil by incineration at LWD, Inc.'s facility in Calvert City, Kentucky.



6.2 PRE-EXCAVATION SCREENING

The remediation goals for PCBs for the project were originally set at 370 μ g/kg. The volume of soil that would have had to be removed to achieve this goal was prohibitive. The remediation goal was modified to 10,000 μ g/kg via an ESD and additional screening of the AOCs was proposed to more accurately identify the volumes of soil at each AOC that would be removed for disposal.

To perform the screening, a grid system with points at 10 feet centers was laid out on each AOC. The sample locations for each of the AOCs are shown in Figures 6.1, 6.2, 6.3, and 6.4. Grab samples were collected at each point 6 inches below ground surface and analyzed at site with a gas chromatograph for PCBs and pesticides by Method 8080. Grab samples were analyzed on the grid system in all directions until results indicated that the soil did not contain any of the COCs at levels above the remediation goals. Over a ten day period, 289 samples were collected and analyzed at the site. A summary of the results of these analyses are shown in Table 6.1 and the data is included in Appendix I.3. The screening event produced estimated boundaries of contaminated soil exceeding the remediation goals for each of the AOCs. These boundaries are depicted in Figures 6.1, 6.2, 6.3, and 6.4.

6.3 BORROW PIT ANALYSES

To fill the excavations from the removal of pesticide and PCB contaminated soil fill material was hauled from an off site borrow pit which was located on the Base. Analytical data for the borrow material was provided by the Base and is included in this report as Appendix I.2.

For compaction control of fill material that was placed into the open excavations once they were confirmed clean, soil samples were collected from the Base borrow pit. Soil and Materials Engineers collected a soil sample, identified as S-1, and performed a Standard Proctor Test in accordance with ASTM D698 and a sieve analysis in accordance with ASTM C136. The tan slightly silty fine to medium SAND exhibited a Standard Proctor maximum dry density of 104.7 pounds per cubic foot at an optimum moisture content of 15.8 percent. The sieve analysis yielded the following gradation.

Sieve Size (U. S. Sieve Size)	Percent Passing by Weight
#4	100.00
#10	100.00
#40	98.9
#80	48.1
#200	9.2

The data generated from these analyses are included in Appendix I.3.



6.4 CONFIRMATION ANALYSES

After excavation of the soil identified in the screening event, 70 confirmation samples were collected for laboratory analyses in accordance with Section 7 of the Remedial Action Work Plan to ensure that all soil contaminated with pesticides and PCBs at concentrations greater than the remediation goals had been removed. To ensure that all contaminated soil had been excavated prior to the collection of conformation samples destined for the off site laboratory, duplicate samples were collected for on site analysis by Method 8080. These on site duplicates were analyzed while preserving the samples destined for the laboratory. Any samples that indicated concentrations of the COCs greater than the remedial goals were identified and re-excavated and the sampling process was repeated until a sample from the area generated results that would meet the remediation goals.

Once the samples destined for the laboratory had been identified and were collected, they were preserved for transport and shipped by overnight courier to OHM Analytical Services in Findlay, Ohio for AOC-1 and PACE Laboratories, Inc. in Hampton, New Hampshire for AOC-2, 3, and 4 samples. The samples were analyzed in the laboratory for pesticides and PCBs by Method 8080. The results of the confirmation analyses indicate that no samples contained any COCs in excess of the remediation goals and that further excavation was not necessary. A summary of the confirmation data is contained in Table 6.2 and the laboratory data sheets are included in this report as Appendix I.4.

Table 6.1 PESTICIDE/PCB RESULTS JOB#16866 Field Screening AOC 1

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled	:	ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A1S-001	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	5.5
CLJ62-A1S-002	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	< 0.3
CLJ62-A1S-003	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	33.5
CLJ62-A1S-004	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	0.5
CLJ62-A1S-005	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	2.4
CLJ62-A1S-006	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	< 0.3
CLJ62-A1S-007	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	0.5
CLJ62-A1S-008	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	0.4
CLJ62-A1S-009	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	5.5
CLJ62-A1S-010	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	0.4
CLJ62-A1S-010D	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	< 0.3
CLJ62-A1S-011	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	0.4
CLJ62-A1S-012	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	2.1
CLJ62-A1S-013	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	1.3
CLJ62-A1S-014	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	13.5
CLJ62-A1S-015	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	14.5
CLJ62-A1S-016	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	2.0
CLJ62-A1S-017	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	14.4
CLJ62-A1S-018	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	3.7
CLJ62-A1S-019	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	15.3
CLJ62-A1S-020	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	9.5
CLJ62-A1S-020D	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	11.7
CLJ62-A1S-021	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	10.9
CLJ62-A1S-022	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	5.1
CLJ62-A1S-023	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	20.0
CLJ62-A1S-024	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	10.3
CLJ62-A1S-025	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	9.9
CLJ62-A1S-026	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	2.2
CLJ62-A1S-027	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	4.5
CLJ62-A1S-028	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	18.4
CLJ62-A1S-029	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	10.4

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
<u>Name</u>	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A1S-030	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	1.1
CLJ62-A1S-030D	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	1.5
CLJ62-A1S-031	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	4.8
CLJ62-A1S-032	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	13.2
CLJ62-A1S-033	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	4.4
CLJ62-A1S-034	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	1.6
CLJ62-A1S-035	AOC 1, PCB	5/2/95	PCB'S	NA	NA	NA	17.4
CLJ62-A1S-036	AOC 1, PCB	5/3/95	PCB'S	NA	NA	NA	8.2
CLJ62-A1S-036D	AOC 1, PCB	5/3/95	PCB'S	NA	NA	NA	11.7
CLJ62-A1S-014-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-016-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.9
CLJ62-A1S-017-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	0.6
CLJ62-A1S-019-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	2.6
CLJ62-A1S-022-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-024-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	5.1
CLJ62-A1S-025-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.5
CLJ62-A1S-027-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	4.4
CLJ62-A1S-033-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-035-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-037-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-038-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-039-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-040-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-041-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	4.2
CLJ62-A1S-042-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.2
CLJ62-A1S-043-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	3.9
CLJ62-A1S-044-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	2.6
CLJ62-A1S-045-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.9
CLJ62-A1S-046-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.0
CLJ62-A1S-047-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	7.1
CLJ62-A1S-048-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	2.2
CLJ62-A1S-049-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	1.2
CLJ62-A1S-050-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	3.3
CLJ62-A1S-051-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	7.4
CLJ62-A1S-052-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	2.6

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A1S-053-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	2.7
CLJ62-A1S-054-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	4.9
CLJ62-A1S-055-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	6.4
CLJ62-A1S-056-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	3.2
CLJ62-A1S-057-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	0.5
CLJ62-A1S-058-1	AOC 1, PCB, 1'	5/15/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-059-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	5.6
CLJ62-A1S-060-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	5.1
CLJ62-A1S-061-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	9.0
CLJ62-A1S-062-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	8.2
CLJ62-A1S-063-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	2.6
CLJ62-A1S-064-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-065-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	4.1
CLJ62-A1S-066-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	3.3
CLJ62-A1S-067-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	1.3
CLJ62-A1S-068-1	AOC 1, PCB, 11	5/18/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-069-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	1.6
CLJ62-A1S-070-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	5.8
CLJ62-A1S-071-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	5.8
CLJ62-A1S-072-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-073-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-074-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-075-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-076-1	AOC 1, PCB, 1'	5/18/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-076-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-077-1	AOC 1, PCB, 1'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-077-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-078-1	AOC 1, PCB, 1'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-003-1	AOC 1, PCB, 1'	5/19/95	PCB's	NA	NA	NA NA	< 0.7
CLJ62-A1S-003-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-059-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-060-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	4.9
CLJ62-A1S-061-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-062-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	8.3
CLJ62-A1S-065-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	< 0.7

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A1S-066-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-070-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	5.8
CLJ62-A1S-071-2	AOC 1, PCB, 2'	5/19/95	PCB's	NA	NA	NA	2.0
CLJ62-A1S-079-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-080-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-081-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	2.0
CLJ62-A1S-082-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	0.3
CLJ62-A1S-083-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-084-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-085-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	1.5
CLJ62-A1S-086-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	0.8
CLJ62-A1S-087-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	4.8
CLJ62-A1S-088-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	5.2
CLJ62-A1S-089-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	1.1
CLJ62-A1S-090-1	AOC 1, PCB, 1'	5/23/95	PCB's	NA	NA	NA	3.3
CLJ62-A1S-025-3	AOC 1, PCB, 3'	5/23/95	PCB's	NA	NA	NA	2.8
CLJ62-A1S-061-3	AOC 1, PCB, 3'	5/23/95	PCB's	NA	NA	NA	< 0.7
CLJ62-A1S-047-3	AOC 1, PCB, 3'	5/23/95	PCB's	NA	NA	NA	1.5
CLJ62-A1S-062-3	AOC 1, PCB, 31	5/23/95	PCB's	NA	NA	NA	< 0.7

 Clean-up Criteria
 Soil
 8400
 12000
 2200
 0.37

Table 6.1 PESTICIDE/PCB RESULTS JOB#16866 Field Screening AOC 2

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Sample	<u>Sample</u>	<u>Date</u>	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
<u>Name</u>	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A2S-001	AOC 2, Pest	5/1/95	Pesticides	494	ND	752	NA
CLJ62-A2S-002	AOC 2, Pest	5/1/95	Pesticides	406	129	728	NA
CLJ62-A2S-003	AOC 2, Pest	5/1/95	Pesticides	< 1000	11250	394	ND
CLJ62-A2S-003D	AOC 2, Pest	5/1/95	Pesticides	7190	15030	510	ND
CLJ62-A2S-004	AOC 2, Pest	5/1/95	Pesticides	5550	9510	758	ND
CLJ62-A2S-005	AOC 2, Pest	5/1/95	Pesticides	1065	645	468	ND
CLJ62-A2S-006	AOC 2, Pest	5/1/95	Pesticides	2213	591	827	ND
CLJ62-A2S-003-1	AOC 2, Pest, 1'	5/10/95	Pesticides	< 1000	1136	< 2000	NA
CLJ62-A2S-004-1	AOC 2, Pest, 1'	5/10/95	Pesticides	<1000	<1000	< 2000	NA

Clean-up Criteria Soil 8400 <u>12000</u> 2200 0.37

Table 6.1
PESTICIDE/PCB RESULTS JOB#16866
Field Screening
AOC 3

Sample	Sample	Date_	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A3S-001	AOC 3, Pest	5/4/95	Pesticides	<1000	<1000	< 2000	ND
CLJ62-A3S-002	AOC 3, Pest	5/4/95	Pesticides	27060	12760	16647	ND
CLJ62-A3S-003	AOC 3, Pest	5/4/95	Pesticides	14400	7680	< 2000	ND
CLJ62-A3S-004	AOC 3, Pest	5/4/95	Pesticides	16333	2306	2388	ND
CLJ62-A3S-005	AOC 3, Pest	5/4/95	Pesticides	>50000	10093	7860	ND
CLJ62-A3S-006	AOC 3, Pest	5/4/95	Pesticides	12872	19589	22923	ND
CLJ62-A3S-007	AOC 3, Pest	5/4/95	Pesticides	26477	8428	< 2000	ND
CLJ62-A3S-008	AOC 3, Pest	5/4/95	Pesticides	>50000	10093	< 2000	ND
CLJ62-A3S-009	AOC 3, Pest	5/4/95	Pesticides	>50000	>50000	6079	ND
CLJ62-A3S-010	AOC 3, Pest	5/4/95	Pesticides	1527	2264	2155	ND
CLJ62-A3S-010D	AOC 3, Pest	5/4/95	Pesticides	690	596	1961	ND
CLJ62-A3S-011	AOC 3, Pest	5/4/95	Pesticides	21750	1639	< 2000	ND
CLJ62-A3S-012	AOC 3, Pest	5/4/95	Pesticides	7500	3318	8364	ND
CLJ62-A3S-013	AOC 3, Pest	5/4/95	Pesticides	28444	3556	3704	ND
CLJ62-A3S-014	AOC 3, Pest	5/4/95	Pesticides	8751	3314	9559	ND
CLJ62-A3S-015	AOC 3, Pest	5/4/95	Pesticides	2738	26548	< 2000	ND
CLJ62-A3S-016	AOC 3, Pest	5/4/95	Pesticides	>50000	17224	< 2000	ND
CLJ62-A3S-017	AOC 3, Pest	5/4/95	Pesticides	>50000	>50000	< 2000	ND
CLJ62-A3S-018	AOC 3, Pest	5/4/95	Pesticides	>50000	18705	5088	ND
CLJ62-A3S-019	AOC 3, Pest	5/4/95	Pesticides	36029	5543	5514	ND
CLJ62-A3S-020	AOC 3, Pest	5/4/95	Pesticides	47417	8500	< 2000	ND
CLJ62-A3S-020D	AOC 3, Pest	5/4/95	Pesticides	17236	5009	< 2000	ND
CLJ62-A3S-021	AOC 3, Pest	5/4/95	Pesticides	2560	1226	< 2000	ND
CLJ62-A3S-022	AOC 3, Pest	5/4/95	Pesticides	5915	4127	< 2000	ND
CLJ62-A3S-023	AOC 3, Pest	5/4/95	Pesticides	5726	4615	< 2000	ND
CLJ62-A3S-024	AOC 3, Pest	5/4/95	Pesticides	4139	>50000	4639	ND
CLJ62-A3S-025	AOC 3, Pest	5/4/95	Pesticides	7667	30815	< 2000	ND
CLJ62-A3S-026	AOC 3, Pest	5/4/95	Pesticides	>50000	9490	< 2000	ND
CLJ62-A3S-027	AOC 3, Pest	5/4/95	Pesticides	>50000	>50000	6891	ND
CLJ62-A3S-028	AOC 3, Pest	5/4/95	Pesticides	13096	21173	13197	ND
CLJ62-A3S-029	AOC 3, Pest	5/4/95	Pesticides	22882	4664	3482	ND

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
<u>Name</u>	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A3S-030	AOC 3, Pest	5/4/95	Pesticides	8213	5973	10364	ND
CLJ62-A3S-030D	AOC 3, Pest	5/4/95	Pesticides	3914	3429	7300	ND
CLJ62-A3S-031	AOC 3, Pest	5/4/95	Pesticides	1563	1354	3681	ND
CLJ62-A3S-032	AOC 3, Pest	5/4/95	Pesticides	756	24000	< 2000	ND
CLJ62-A3S-033	AOC 3, Pest	5/4/95	Pesticides	3962	21731	<2000	ND
CLJ62-A3S-034	AOC 3, Pest	5/4/95	Pesticides	2112	1670	< 2000	ND
CLJ62-A3S-035	AOC 3, Pest	5/5/95	Pesticides	7748	>50000	< 2000	ND
CLJ62-A3S-036	AOC 3, Pest	5/5/95	Pesticides	32150	>50000	< 2000	ND
CLJ62-A3S-037	AOC 3, Pest	5/5/95	Pesticides	21297	>50000	25325	ND
CLJ62-A3S-038	AOC 3, Pest	5/5/95	Pesticides	1479	9600	< 2000	ND
CLJ62-A3S-039	AOC 3, Pest	5/5/95	Pesticides	1657	2803	< 2000	ND
CLJ62-A3S-040	AOC 3, Pest	5/5/95	Pesticides	1579	>50000	2000	ND
CLJ62-A3S-040D	AOC 3, Pest	5/5/95	Pesticides	2294	>50000	3088	ND
CLJ62-A3S-041	AOC 3, Pest	5/5/95	Pesticides	1908	>50000	6077	ND
CLJ62-A3S-042	AOC 3, Pest	5/5/95	Pesticides	1314	3065	< 2000	ND
CLJ62-A3S-043	AOC 3, Pest	5/5/95	Pesticides	>50000	4296	5444	ND
CLJ62-A3S-044	AOC 3, Pest	5/5/95	Pesticides	20352	>50000	4031	ND
CLJ62-A3S-045	AOC 3, Pest	5/5/95	Pesticides	7944	>50000	>50000	ND
CLJ62-A3S-046	AOC 3, Pest	5/5/95	Pesticides	3925	>50000	11962	ND
CLJ62-A3S-047	AOC 3, Pest	5/5/95	Pesticides	1347	3698	< 2000	ND
CLJ62-A3S-048	AOC 3, Pest	5/5/95	Pesticides	14444	3333	< 2000	ND
CLJ62-A3S-049	AOC 3, Pest	5/5/95	Pesticides	781	7229	< 2000	ND
CLJ62-A3S-050	AOC 3, Pest	5/5/95	Pesticides	2346	>50000	<2000	ND
CLJ62-A3S-050D	AOC 3, Pest	5/5/95	Pesticides	<1000	>50000	< 2000	ND
CLJ62-A3S-051	AOC 3, Pest	5/5/95	Pesticides	667	28528	<2000	ND
CLJ62-A3S-052	AOC 3, Pest	5/5/95	Pesticides	25425	3075	< 2000	ND
CLJ62-A3S-053	AOC 3, Pest	5/5/95	Pesticides	1475	>50000	< 2000	ND
CLJ62-A3S-054	AOC 3, Pest	5/5/95	Pesticides	1889	38917	< 2000	ND
CLJ62-A3S-055	AOC 3, Pest	5/5/95	Pesticides	<1000	<1000	< 2000	ND
CLJ62-A3S-056	AOC 3, Pest	5/5/95	Pesticides	4200	13600	< 2000	ND
CLJ62-A3S-057	AOC 3, Pest	5/5/95	Pesticides	5778	8889	< 2000	ND
CLJ62-A3S-058	AOC 3, Pest	5/5/95	Pesticides	1892	>50000	< 2000	ND
CLJ62-A3S-059	AOC 3, Pest	5/5/95	Pesticides	<1000	>50000	2541	ND
CLJ62-A3S-060	AOC 3, Pest	5/5/95	Pesticides	<1000	>50000	5363	ND
CLJ62-A3S-060D	AOC 3, Pest	5/5/95	Pesticides	<1000	>50000	< 2000	ND

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
<u>Name</u>	Location	Sampled	ļ	ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A3S-061	AOC 3, Pest	5/5/95	Pesticides	39796	>50000	11343	ND
CLJ62-A3S-062	AOC 3, Pest	5/5/95	Pesticides	>50000	25059	3529	ND
CLJ62-A3S-063	AOC 3, Pest	5/5/95	Pesticides	>50000	3218	< 2000	ND
CLJ62-A3S-063D	AOC 3, Pest	5/5/95	Pesticides	>50000	2016	< 2000	ND
CLJ62-A3S-002-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-011-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-012-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-013-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-014-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-015-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-019-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-020-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-024-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-028-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-029-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-032-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-033-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-037-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	8317	< 2000	NA
CLJ62-A3S-046-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-048-1	AOC 3, Pest, 1'	5/11/95	Pesticides	1714	<1000	< 2000	NA
CLJ62-A3S-050-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-051-1	AOC 3, Pest, 1'	5/11/95	Pesticides	<1000	< 1000	< 2000	NA
CLJ62-A3S-004-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-004-2	AOC 3, Pest, 2'	5/12/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-006-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-006-2	AOC 3, Pest, 2'	5/12/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-009-2	AOC 3, Pest, 2'	5/12/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-009-3	AOC 3, Pest, 3'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-057-2	AOC 3, Pest, 2'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-057-3	AOC 3, Pest, 3'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-036-2	AOC 3, Pest, 2'	5/12/95	Pesticides	< 1000	<1000	< 2000	NA
CLJ62-A3S-036-3	AOC 3, Pest, 3'	5/12/95	Pesticides	< 1000	<1000	< 2000	NA
CLJ62-A3S-060-2	AOC 3, Pest, 2'	5/12/95	Pesticides	1455	2269	< 2000	NA
CLJ62-A3S-060-3	AOC 3, Pest, 3'	5/12/95	Pesticides	15314	25474	< 2000	NA
CLJ62-A3S-063-2	AOC 3, Pest, 2'	5/12/95	Pesticides	<1000	< 1000	< 2000	NA

Sample	Sample	Date	Pest/PCBs	4,4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A3S-063-3	AOC 3, Pest, 3'	5/12/95	Pesticides	< 1000	<1000	< 2000	NA
CLJ62-A3S-064-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-065-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	< 1000	<2000	NA
CLJ62-A3S-066-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-067-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	6347	< 2000	NA
CLJ62-A3S-068-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	5681	< 2000	NA
CLJ62-A3S-069-1	AOC 3, Pest, 1'	5/12/95	Pesticides	1100	< 1000	< 2000	NA
CLJ62-A3S-070-1	AOC 3, Pest, 1'	5/12/95	Pesticides	2113	>50000	< 2000	NA
CLJ62-A3S-071-1	AOC 3, Pest, 1'	5/12/95	Pesticides	1160	5800	< 2000	NA
CLJ62-A3S-072-1	AOC 3, Pest, 1'	5/12/95	Pesticides	>50000	34082	< 2000	NA
CLJ62-A3S-073-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-074-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-075-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	< 1000	< 2000	NA
CLJ62-A3S-076-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	< 1000	< 2000	NA
CLJ62-A3S-077-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-078-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-079-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-080-1	AOC 3, Pest, 1'	5/12/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-081-1	AOC 3, Pest, 1'	5/15/95	Pesticides	< 1000	>50000	< 2000	NA
CLJ62-A3S-082-1	AOC 3, Pest, 1'	5/15/95	Pesticides	<1000	>50000	< 2000	NA
CLJ62-A3S-083-1	AOC 3, Pest, 1'	5/15/95	Pesticides	<1000	>50000	< 2000	NA
CLJ62-A3S-060-2	AOC 3, Pest, 2'	5/16/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-060-3	AOC 3, Pest, 3'	5/16/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-070-2	AOC 3, Pest, 2'	5/16/95	Pesticides	2926	21641	< 2000	NA
CLJ62-A3S-071-2	AOC 3, Pest, 2'	5/16/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-072-2	AOC 3, Pest, 2'	5/16/95	Pesticides	<1000	<1000	<2000	NA
CLJ62-A3S-070-3	AOC 3, Pest, 3'	5/17/95	Pesticides	2253	4567	<2000	NA
CLJ62-A3S-081-2	AOC 3, Pest, 2'	5/17/95	Pesticides	<1000	>50000	< 2000	NA
CLJ62-A3S-082-2	AOC 3, Pest, 2'	5/17/95	Pesticides	24988	15230	<2000	NA
CLJ62-A3S-083-2	AOC 3, Pest, 2'	5/17/95	Pesticides	<1000	41148	< 2000	NA
CLJ62-A3S-084-1	AOC 3, Pest, 1'	5/17/95	Pesticides	< 1000	<1000	< 2000	NA
CLJ62-A3S-085-1	AOC 3, Pest, 1'	5/17/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-086-1	AOC 3, Pest, 1'	5/17/95	Pesticides	< 1000	<1000	< 2000	NA
CLJ62-A3S-087-1	AOC 3, Pest, 1'	5/17/95	Pesticides	<1000	<1000	< 2000	NA
CLJ62-A3S-088-1	AOC 3, Pest, 1'	5/17/95	Pesticides	< 1000	<1000	< 2000	NA

	<u>Sample</u> Name	Sample Location	Date Sampled	Pest/PCBs	4,4'-DDT ug/Kg	4,4'-DDD ug/Kg	Chlordane ug/Kg	Aro-1260 mg/Kg
Γ	CLJ62-A3S-089-1	AOC 3, Pest, 1'	5/17/95	Pesticides	< 1000	<1000	< 2000	NA
	CLJ62-A3S-081-3	AOC 3, Pest, 3'	5/19/95	Pesticides	1234	11228	< 2000	NA
Γ	CLJ62-A3S-082-3	AOC 3, Pest, 3'	5/19/95	Pesticides	< 1000	<1000	< 2000	NA
	CLJ62-A3S-083-3	AOC 3, Pest, 3'	5/19/95	Pesticides	>50000	>50000	< 2000	NA
	CLJ62-A3S-083-5	AOC 3, PST, 5'	5/24/95	Pesticides	<8400	<12000	<2200	NA
	CLJ62-A3S-083-4	AOC 3, PST, 4'	5/24/95	Pesticides	<8400	<12000	<2200	NA

 Clean-up Criteria
 Soil
 8400
 12000
 2200
 0.37

Table 6.1
PESTICIDE/PCB RESULTS JOB#16866
Field Screening

AOC 4

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
<u>Name</u>	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A4S-001	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	<1000	< 2000	< 0.3
CLJ62-A4S-002	AQC 4, PCB/Pest	5/3/95	PCB'S/Pest	2644	1685	< 2000	< 0.3
CLJ62-A4S-003	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1151	<1000	< 2000	< 0.3
CLJ62-A4S-004	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	<1000	< 2000	< 0.3
CLJ62-A4S-005	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	<1000	< 2000	< 0.3
CLJ62-A4S-006	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1153	<1000	< 2000	< 0.3
CLJ62-A4S-007	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	2024	<1000	< 2000	< 0.3
CLJ62-A4S-008	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	<1000	< 2000	< 0.3
CLJ62-A4S-009	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	34313	3125	< 2000	< 0.3
CLJ62-A4S-010	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1177	1109	< 2000	< 0.3
CLJ62-A4S-010D	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1540	< 1000	< 2000	< 0.3
CLJ62-A4S-011	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	< 1000	< 2000	< 0.3
CLJ62-A4S-012	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	2611	<1000	< 2000	< 0.3
CLJ62-A4S-013	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1120	<1000	< 2000	< 0.3
CLJ62-A4S-014	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	<1000	<1000	< 2000	< 0.3
CLJ62-A4S-015	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1287	<1000	< 2000	< 0.3
CLJ62-A4S-016	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	1937	< 1000	< 2000	< 0.3
CLJ62-A4S-017	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	6117	< 1000	< 2000	< 0.3
CLJ62-A4S-018	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	2077	<1000	< 2000	< 0.3
CLJ62-A4S-018D	AOC 4, PCB/Pest	5/3/95	PCB'S/Pest	2265	<1000	< 2000	< 0.3

<u>Clean-up Criteria</u> <u>Soil</u> <u>8400</u> <u>12000</u> <u>2200</u> <u>0.37</u>

. Table 6.2 PESTICIDE/PCB RESULTS JOB#16866

Confirmation Analysis AOC 1

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chiordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-S-001	AOC1, Base, PCB	11/21/95	PCB's	NA	NA	NA	< 0.8
CLJ62-S-002	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	< 0.8
CLJ62-S-003	AOC1, Base, PCB	11/21/95	PCB's	NA	NA	NA	4.9
CLJ62-S-004	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	5.0
CLJ62-S-005	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	2.8
CLJ62-S-006	AOC1, Base, PCB	11/21/95	PCB's	NA	NA	NA	1.3
CLJ62-S-007	AOC1, Base, PCB	11/21/95	PCB's	NA	NA	NA	3.0
CLJ62-S-008	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	1.5
CLJ62-S-009	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	4.8
CLJ62-S-010	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	1.4
CLJ62-S-010D	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	1.5
CLJ62-S-011	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	2.7
CLJ62-S-012	AOC1, Sidewall, PCB	11/21/95	PCB's	NA	NA	NA	2.0

Clean-up Criteria Soil <u>8400</u> 12000 2200 <u>10</u>

Table 6.2
PESTICIDE/PCB RESULTS JOB#16866

Confirmation Analysis

AOC 2

Sample Name	Sample Location	Date Sampled	Pest/PCBs	4.4'-DDT ug/Kg	4.4'-DDD ug/Kg	Chlordane ug/Kg	Aro-1260 mg/Kg
CLJ62-A2S-002CS	AOC 2, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A2-001ZBC	AOC 2, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A2-002ZCS	AOC 2, Pest	6/15/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A2-003ZCS	AOC 2, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA

Clean-up Criteria Soil 8400 12000 2200 10

ND = not detected NA = not analyzed

1	nple me	Sample Location	<u>Date</u> Sampled	Pest/PCBs	4.4'-DDT ug/Kg	4.4'-DDD ug/Kg	Chlordane ug/Kg	<u>Aro-1260</u> mg/Kg
CLJ62-A	3-16.6CS	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A	3-16.6CSD	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A	3-17.6CS	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A	3-17.6BC	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA

<u>Clean-up Criteria</u> <u>Soil</u> <u>8400</u> <u>12000</u> <u>2200</u> <u>10</u>

ND = not detected NA = not analyzed

Table 6.2 PESTICIDE/PCB RESULTS JOB#16866 Confirmation Analysis
AOC 3

Sample	Sample	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A3S-001-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-002-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-003-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA NA
CLJ62-A3S-004-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-006-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-007-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-009-CS	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-001-BC	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-002-BC	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-004-BC	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-006-BC	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-006-BC D	AOC 3, Pest	5/30/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-011CS	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-015CS	AOC 3, Pest	6/7/95	Pesticides	< 8400	<12000	< 2200	NA
CLJ62-A3S-014BC	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-014CS	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-015BC	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3S-015BCD	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-013BC	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-012CS	AOC 3, Pest	6/7/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3S-016BC	AOC 3, Pest	6/8/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-11.5BC	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-12.5BC	AOC 3, Pest	6/12/95	Pesticides	<8400	< 12000	<2200	NA
CLJ62-A3-13.5CS	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-16.5CS	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-16.5CS D	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	< 2200	NA
CLJ62-A3-17.5CS	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-17.5BC	AOC 3, Pest	6/12/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-11.6BC	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-12.6BC	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA
CLJ62-A3-13.6CS	AOC 3, Pest	6/15/95	Pesticides	<8400	<12000	<2200	NA

Table 6.2
PESTICIDE/PCB RESULTS JOB#16866
Confirmation Analysis

AOC 4

Sample	Sample_	Date	Pest/PCBs	4.4'-DDT	4.4'-DDD	Chlordane	Aro-1260
Name	Location	Sampled		ug/Kg	ug/Kg	ug/Kg	mg/Kg
CLJ62-A4S-001BC	AOC 4, Soil, Pest	6/7/95	Pesticides	<8400	< 12000	< 2200	< 0.7
CLJ62-A4S-001-CS	AOC 4, Soil, Pest	6/7/95	Pesticides	<8400	<12000	< 2200	< 0.7
CLJ62-A4S-001-CSD	AOC 4, Soil, Pest	6/7/95	Pesticides	<8400	< 12000	< 2200	< 0.7

Clean-up Criteria

Soil

8400

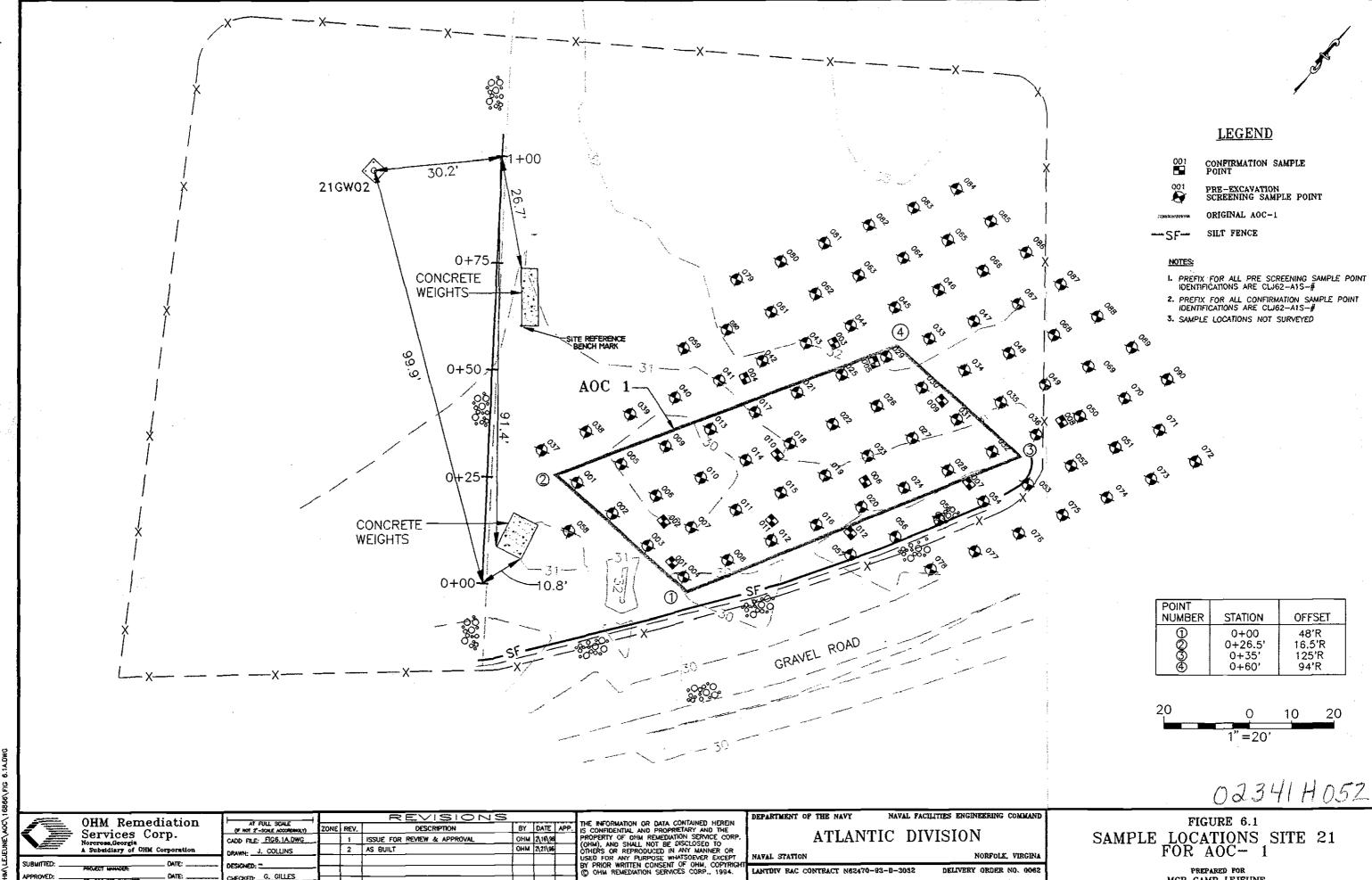
12000

2200

*10*_

ND = not detected NA = not analyzed

1



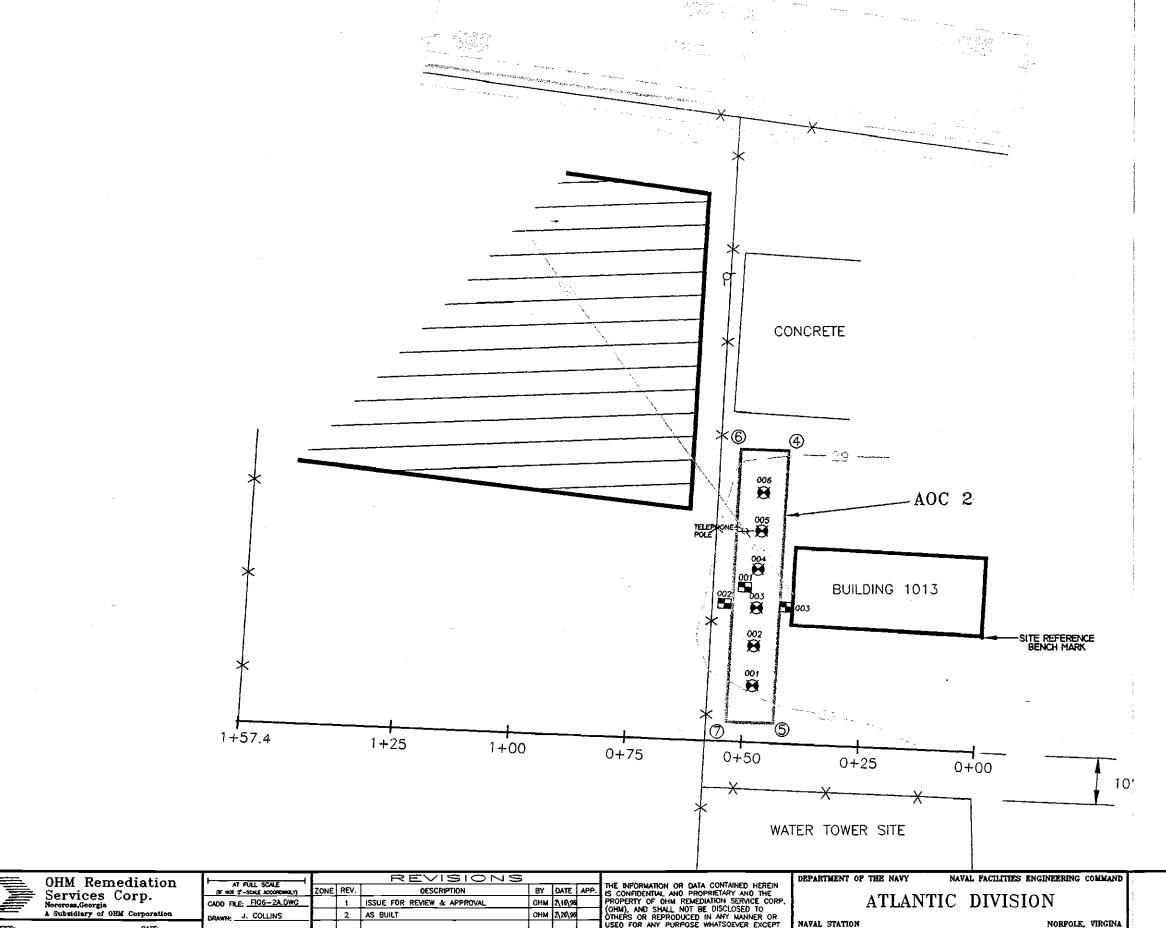
CHECKED: G. GILLES

CHECKED: J. DUNN

MARINE CORPS BASE, CAMP LEJEUNE, N.C.

OPERABLE UNIT NO. 1

PREPARED FOR MCB CAMP LEJEUNE



LEGEND

CONFIRMATION SAMPLE POINT

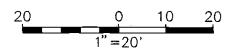
PRE-EXCAVATION SCREENING SAMPLE POINT

SILT FENCE

ORIGINAL AOC-2

- I. PREFIX FOR ALL PRE SCREENING SAMPLE POINT IDENTIFICATIONS ARE CLJ62-A2S-#
- 2 PREFIX FOR ALL CONFIRMATION SAMPLE POINT IDENTIFICATIONS ARE CLJ62-A2S-#
- 5. SAMPLE LOCATIONS NOT SURVEYED

POINT NUMBER	STATION	OFFSET
4667	0+42.5' 0+43' 0+53' 0+53.5'	62.5'R 4'R 62.0'R 4'R



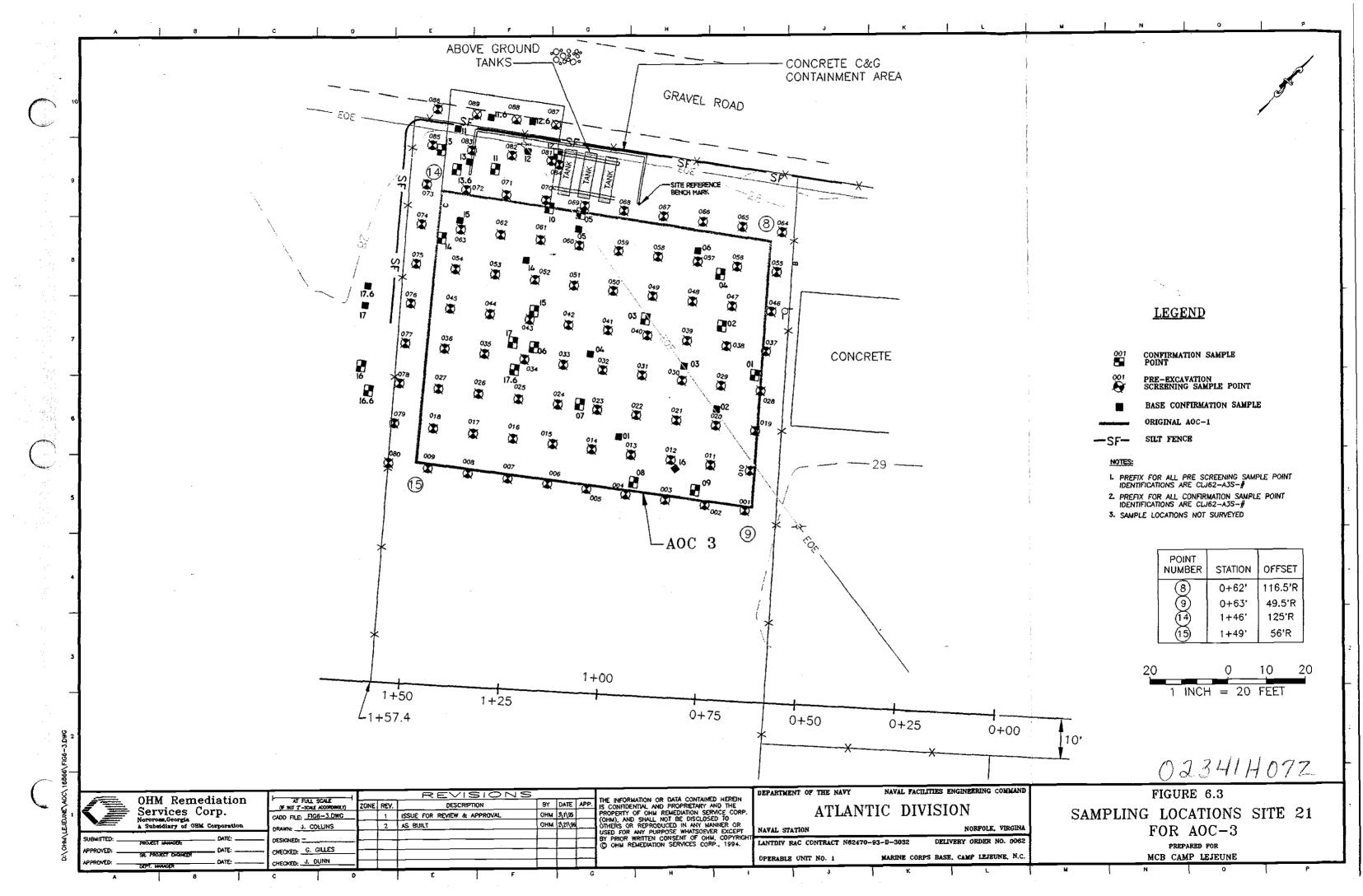
02341 H06Z

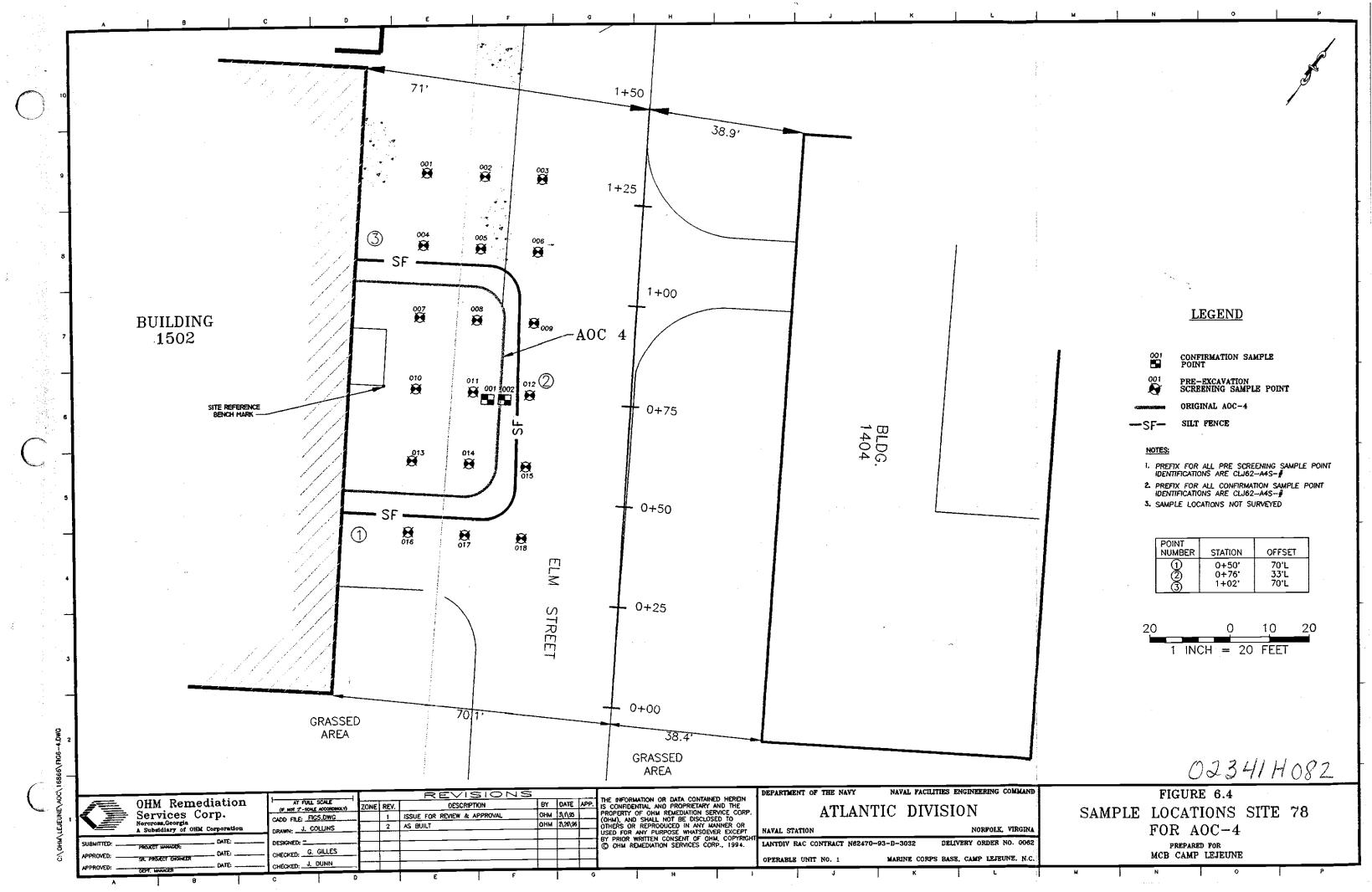
THE INFORMATION OR DATA CONTAINED HEREIN IS COMPIDENTIAL AND PROPRIETARY AND THE PROPERTY OF OHM REMEDIATION SERVICE CORP. (OHM), AND SHALL NOT BE DISCLOSED TO OTHERS OR REPRODUCED IN ANY MANNER OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY PRIOR WRITTEN CONSENT OF OHM, COPYRICH (©) OHM REMEDIATION SERVICES CORP., 1994. CHECKED: G. GILLES OPERABLE UNIT NO. 1 MARINE CORPS BASE, CAMP LEJEUNE, N.C. CHECKED: J. DUNN

FIGURE 6.2

SAMPLE LOCATIONS SITE 21 FOR AOC-2

PREPARED FOR MCB CAMP LEJEUNE





7.0 OFF-SITE DISPOSITION OF MATERIAL

All waste material that was excavated at the site and destined for off site disposal facilities were transported by a licensed waste hauler. Robbie D. Woods Inc. transported 29 truck loads containing approximately 649.76 tons of pesticide contaminated soil to LWD, Inc. in Calvert City, Kentucky. The PCB contaminated soil was transported to two different disposal facilities. Five truckloads containing approximately 91.90 tons of soil were transported by Robbie D. Woods Inc. to Chemical Waste Management, Inc. in Port Arthur, Texas. Three additional truckloads containing approximately 68.94 tons of soil were transported by Hilco Transport, Inc. to BFI, Inc.'s land disposal facility in Sampson County, North Carolina. A total of approximately 160.84 tons of PCB contaminated soil was disposed off site. All transportation and disposal was performed in accordance with state and federal regulations.

All trucks were weighed by the Base scales to establish their tare weight prior to being loaded. After loading, the trucks were re-weighed to ensure maximum load capacities within their legal haul weights. The trucks were brushed to remove soil and debris from the vehicles tires and bed, the manifests were signed by Base personnel, and the trucks released for travel to the disposal facility. The following table summarizes the load-out dates, weights and incineration date of the waste where applicable. Copies of the waste manifests are included in this report as Appendix C and disposal certification is found in Appendix D.

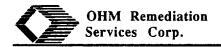


	Table 7.1 - 9	Summary of	Off-Site Waste	Disposal	
Manifest Number	Description	Quantity (Tons)	Destination	Disposal Method	Hazard. Classification
I 1078	PCB Contaminated Soil	17.91	CWM/Port Arthur, TX	Incineration	UN 3077
I 1079	PCB Contaminated Soil	18.05	CWM/Port Arthur, TX	Incineration	UN 3077
I 1080	PCB Contaminated Soil	19.08	CWM/Port Arthur, TX	Incineration	UN 3077
I 1081	PCB Contaminated Soil	19.28	CWM/Port Arthur, TX	Incineration	UN 3077
I 1082	PCB Contaminated Soil	17.58	CWM/Port Arthur, TX	Incineration	UN 3077
I 1086	Pesticide Contaminated Soil	23.89	LWD/Calvert City, KY	Incineration	NA 3077
I 1087	Pesticide Contaminated Soil	22.86	LWD/Calvert City, KY	Incineration	NA 3077
I 1088	Pesticide Contaminated Soil	22.41	LWD/Calvert City, KY	Incineration	NA 3077
I 1089	Pesticide Contaminated Soil	22.05	LWD/Calvert City, KY	Incineration	NA 3077
0 1090	Pesticide Contaminated Soil	22.50	LWD/Calvert City, KY	Incineration	NA 3077
0 1091	Pesticide Contaminated Soil	21.12	LWD/Calvert City, KY	Incineration	NA 3077
0 1092	Pesticide Contaminated Soil	23.78	LWD/Calvert City, KY	Incineration	NA 3077
0 1093	Pesticide Contaminated Soil	22.97	LWD/Calvert City, KY	Incineration	NA 3077
0 1094	Pesticide Contaminated Soil	23.15	LWD/Calvert City, KY	Incineration	NA 3077
0 1097	Pesticide Contaminated Soil	21.88	LWD/Calvert City, KY	Incineration	NA 3077
0 1099	Pesticide Contaminated Soil	22.83	LWD/Calvert City, KY	Incineration	NA 3077

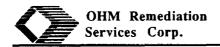


	Table 7.1 - 5	Summary of	Off-Site Waste	Disposal	
Manifest Number	Description	Quantity (Tons)	Destination	Disposal Method	Hazard. Classification
0 1100	Pesticide Contaminated Soil	23.94	LWD/ Calvert City, KY	Incineration	NA 3077
0 1101	Pesticide Contaminated Soil	22.70	LWD/Calvert City, KY	Incineration	NA 3077
0 1102	Pesticide Contaminated Soil	23.75	LWD/Calvert City, KY	Incineration	NA 3077
0 1105	Pesticide Contaminated Soil	22.98	LWD/Calvert City, KY	Incineration	NA 3077
0 1106	Pesticide Contaminated Soil	23.29	LWD/Calvert City, KY	Incineration	NA 3077
0 1107	Pesticide Contaminated Soil	24.32	LWD/ Calvert City, KY	Incineration	NA 3077
0 1108	Pesticide Contaminated Soil	23.16	LWD/Calvert City, KY	Incineration	NA 3077
0 1109	Pesticide Contaminated Soil	23.15	LWD/Calvert City, KY	Incineration	NA 3077
0 1114	Pesticide Contaminated Soil	24.00	LWD/Calvert City, KY	Incineration	NA 3077
0 1115	Pesticide Contaminated Soil	23.38	LWD/Calvert City, KY	Incineration	NA 3077
0 1116	Pesticide Contaminated Soil	22.57	LWD/Calvert City, KY	Incineration	NA 3077
0 1117	Pesticide Contaminated Soil	23.83	LWD/Calvert City, KY	Incineration	NA 3077
0 1118	Pesticide Contaminated Soil	24.02	LWD/Calvert City, KY	Incineration	NA 3077
0 1122	Pesticide Contaminated Soil	21.95	LWD/Calvert City, KY	Incineration	NA 3077
0 1125	Pesticide Contaminated Soil	23.22	LWD/Calvert City, KY	Incineration	NA 3077
0 1126	Pesticide Contaminated Soil	24.56	LWD/Calvert City, KY	Incineration	NA 3077



	Table 7.1 - 3	Summary of	Off-Site Waste	Disposal	
Manifest Number	Description	Quantity (Tons)	Destination	Disposal Method	Hazard. Classification
0 1127	Pesticide Contaminated Soil	24.87	LWD/Calvert City, KY	Incineration	NA 3077
0 1155	Pesticide Contaminated Soil	0.625 (4 drums)	LWD/Calvert City, KY	Incineration	NA 3077
883344	PCB Contaminated Soil	25.10	BFI/Sampson County, NC	Landfill	Non-Haz
883346	PCB Contaminated Soil	18.18	BFI/Sampson County, NC	Landfill	Non-Haz
883347	PCB/Contaminated Soil	25.66	BFI/Sampson County, NC	Landfill	Non-Haz

8.0 QUALITY CONTROL SUMMARY

The Quality Control (QC) Engineer conducted preparatory and initial site inspections during a site visit. This offered the QC Engineer an opportunity to review the completeness and adequacy of mobilization activities, to observe health and safety practices, to evaluate excavation operations, and to check sampling and analysis documentation. Follow-up inspections were completed after any modifications were approved.

Inspections were performed in accordance with the requirements of the contract (Section 6.11) as supplemented by the Delivery Order Contractor Quality Control Plan. Inspection results were documented and submitted on Contractor QC Report Forms. A weekly QC meeting was conducted and the minutes recorded and submitted with the inspection report to the ROICC by the Site Supervisor. All QC documentation is located in Appendix H.

Additional submittals forwarded to the ROICC and their frequency of submission were as follows:

Daily:

Sign-in Log

Health and Safety Report

Daily Cost Report

Monthly:

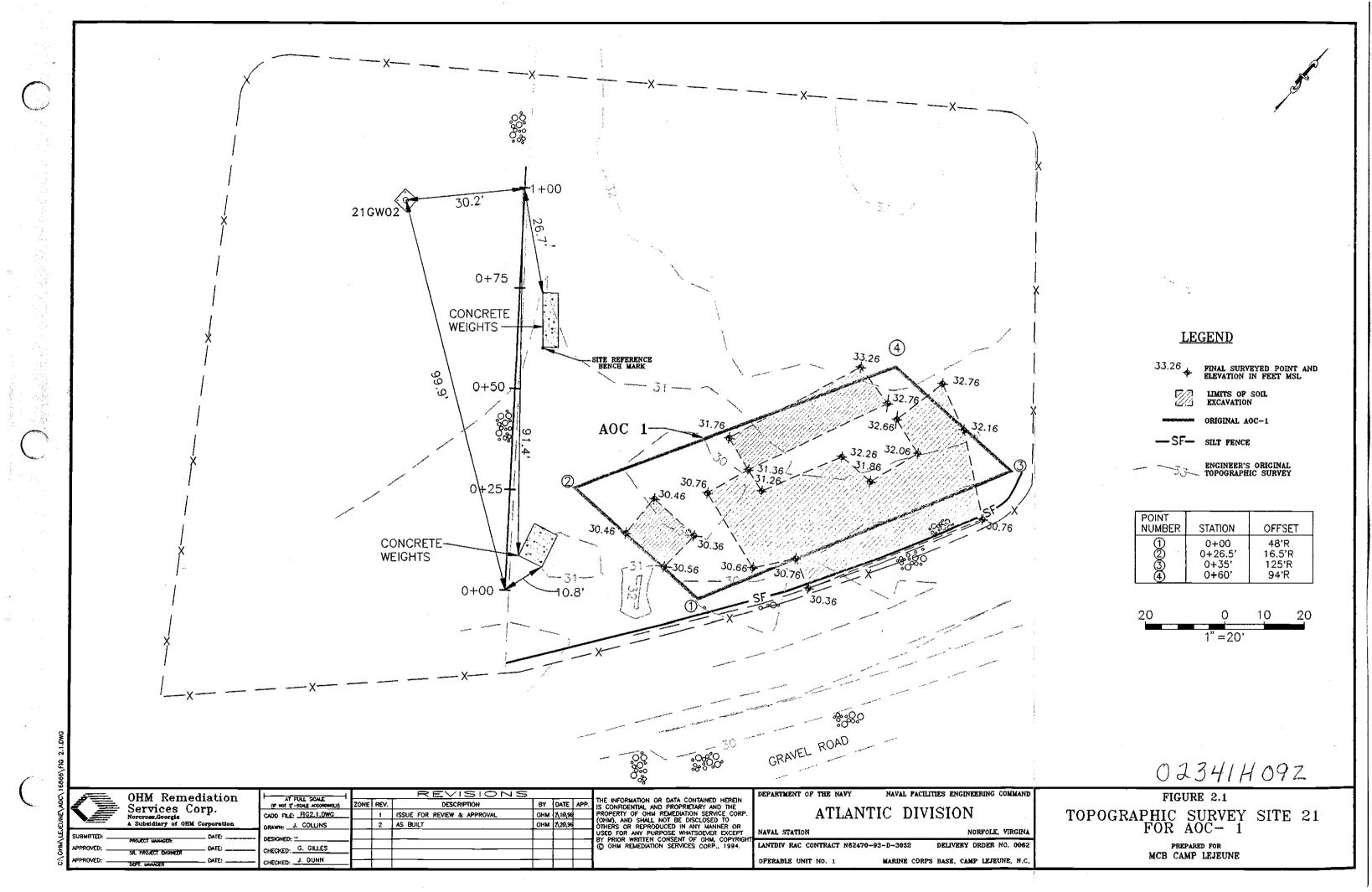
Progress Report

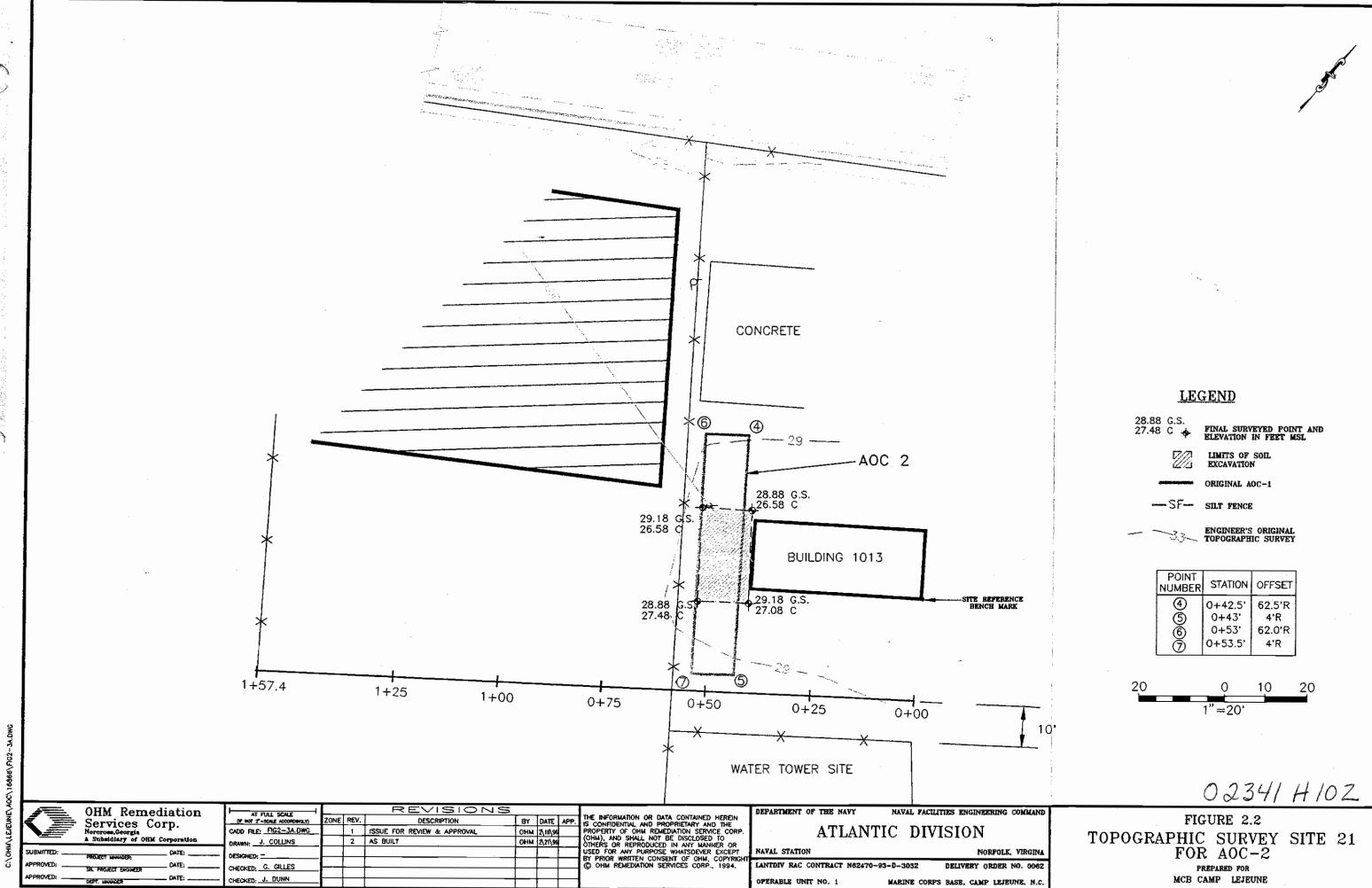
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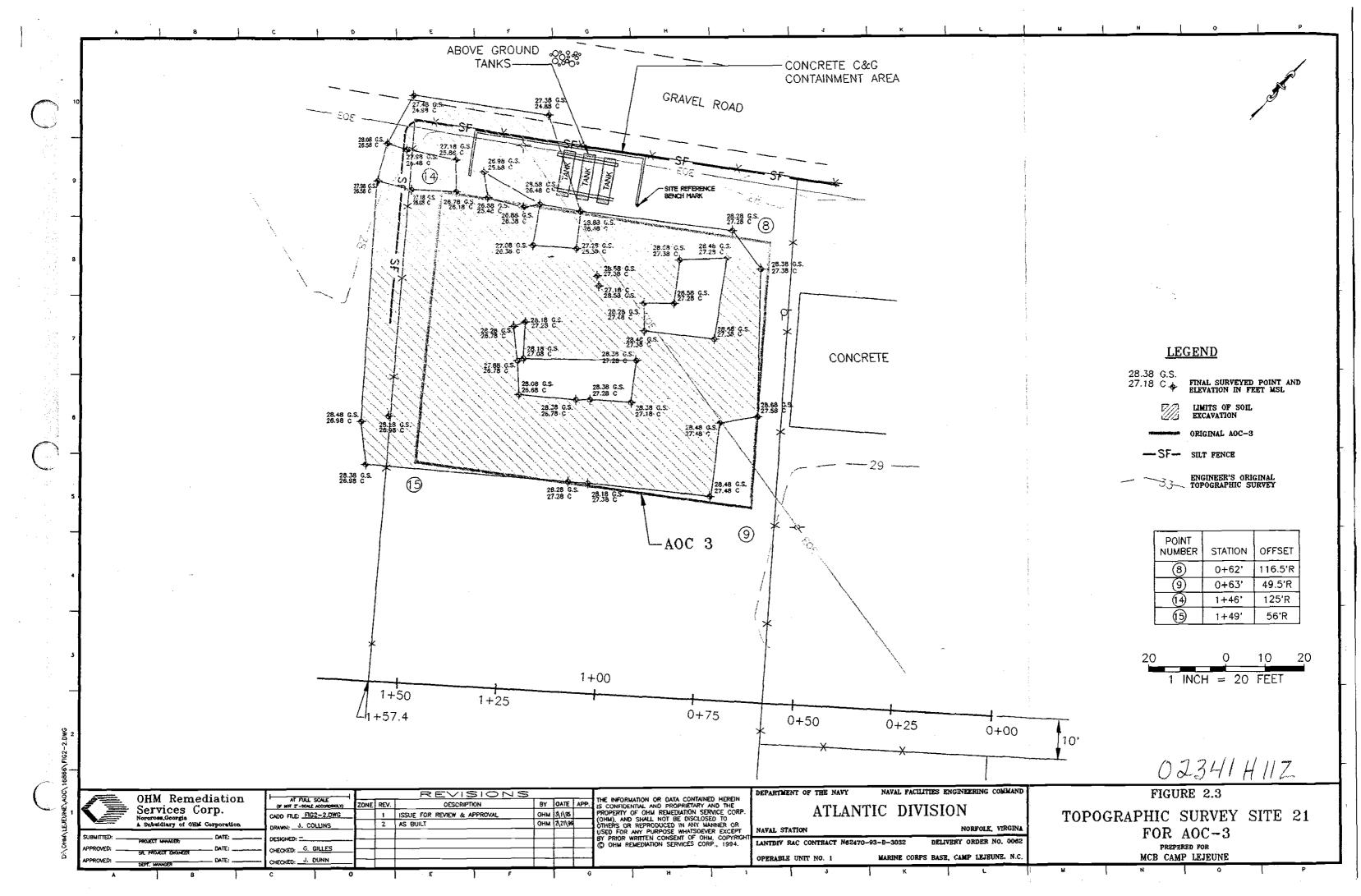
Field Sampling Test Results

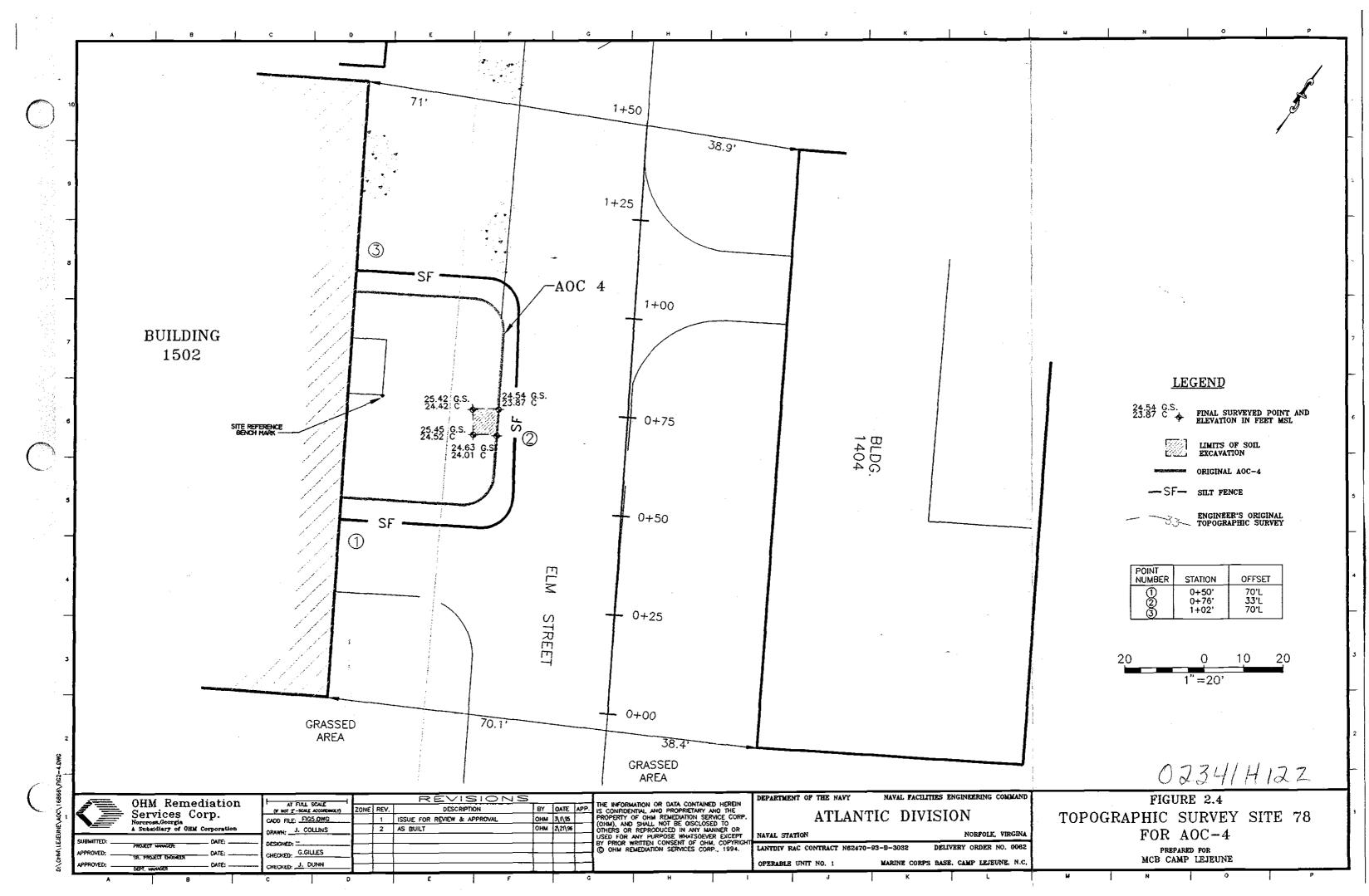
Confirmation Sample Test Results

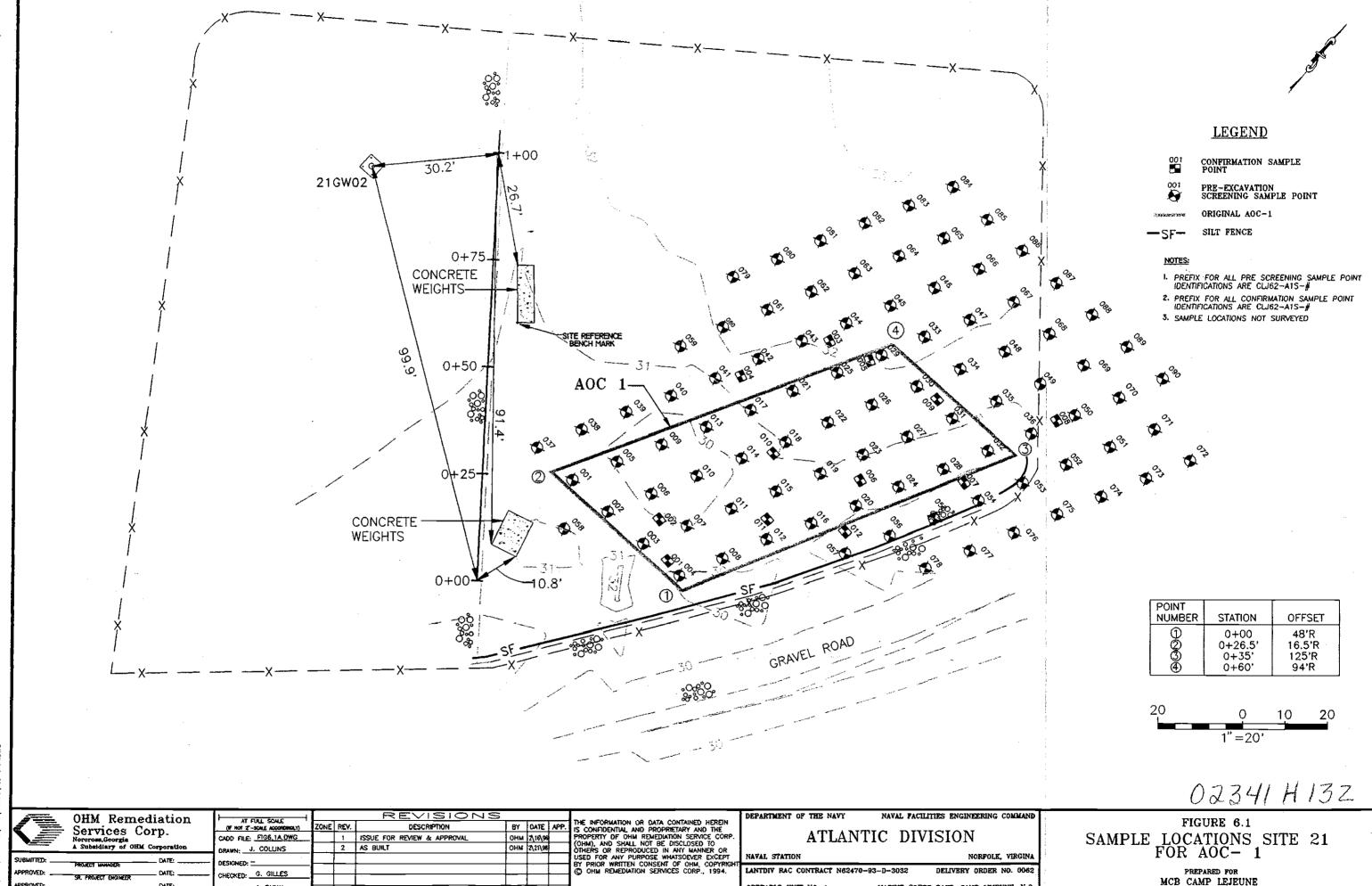
Appendix A As-Built Drawings







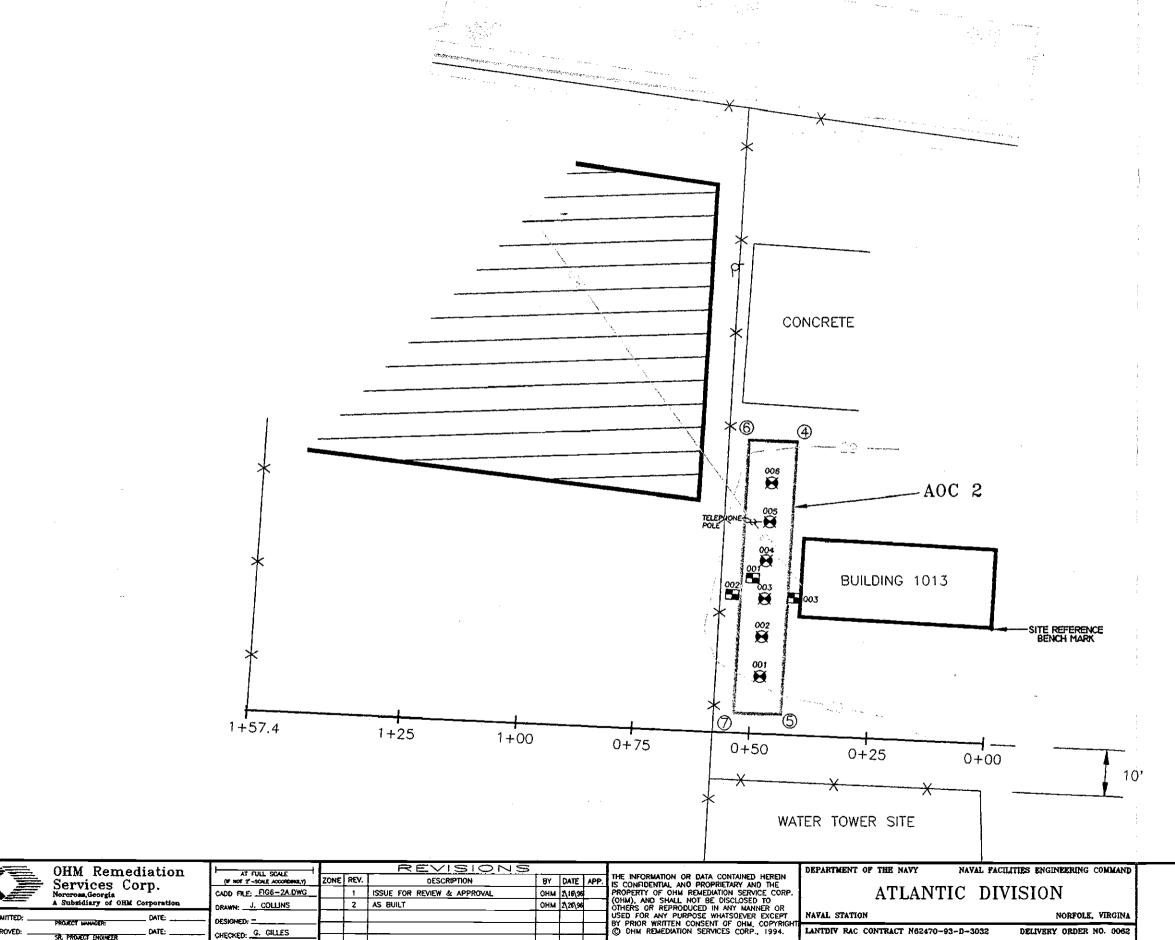




OPERABLE UNIT NO. 1

MARINE CORPS BASE, CAMP LEJEUNE, N.C.

C:\OHM\LEJEUNE\ADC\16



LEGEND

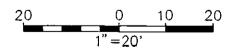
CONFIRMATION SAMPLE POINT

PRE-EXCAVATION SCREENING SAMPLE POINT

ORIGINAL AOC-2

- I- PREFIX FOR ALL PRE SCREENING SAMPLE POINT IDENTIFICATIONS ARE CLJ62-A2S-#
- 2. PREFIX FOR ALL CONFIRMATION SAMPLE POINT IDENTIFICATIONS ARE CLI62-A2S-#
- 3. SAMPLE LOCATIONS NOT SURVEYED

POINT NUMBER	STATION	OFFSET
46	0+42.5° 0+43°	62.5'R 4'R
<u>(6</u>	0+53' 0+53.5'	62.0'R 4'R



023414142

DELIVERY ORDER NO. 0062 MARINE CORPS BASE, CAMP LEJEUNE, N.C.

LANTDIV RAC CONTRACT N62470-93-D-3032

OPERABLE UNIT NO. 1

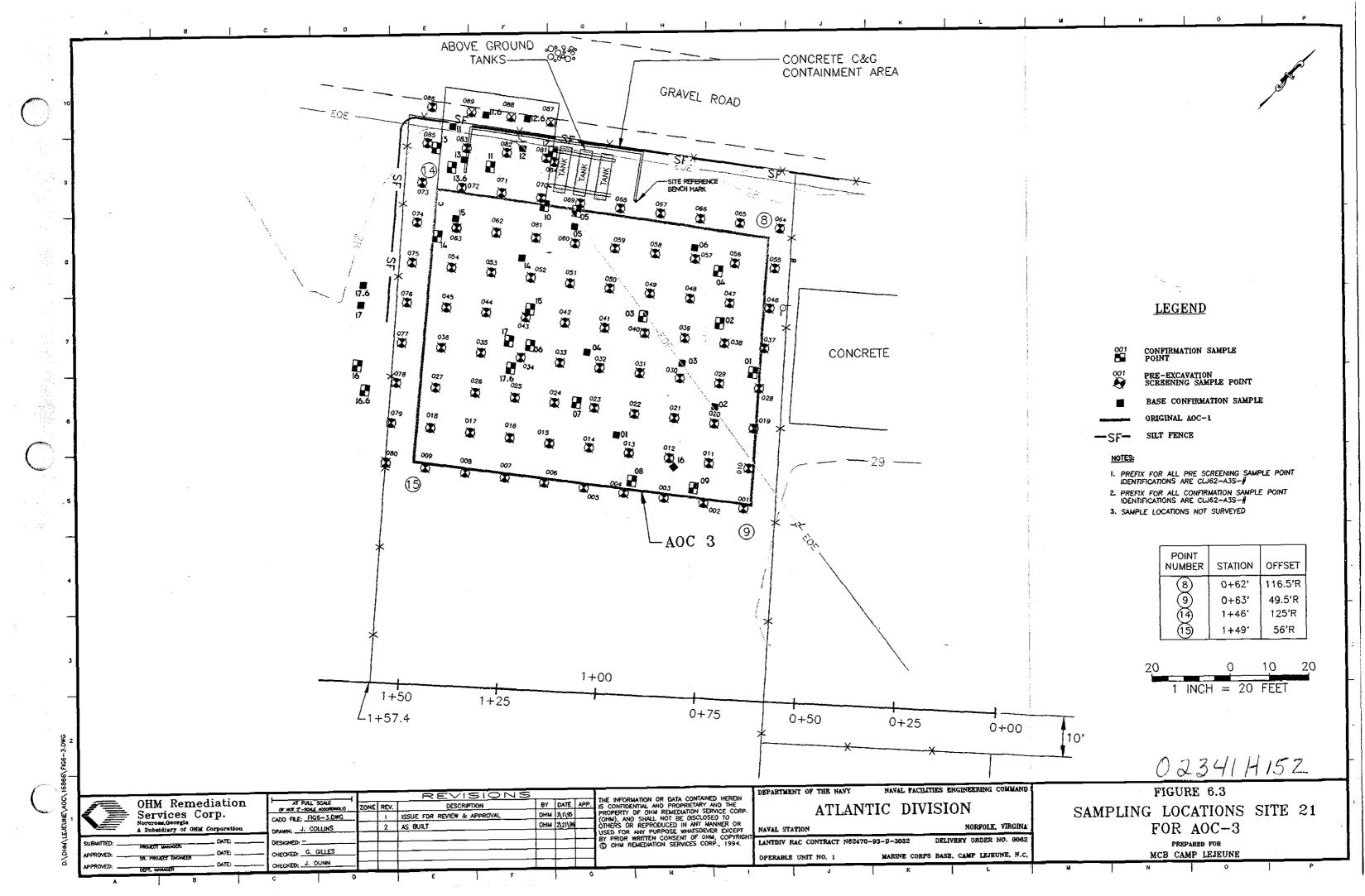
FIGURE 6.2 SAMPLE LOCATIONS SITE 21 FOR AOC-2

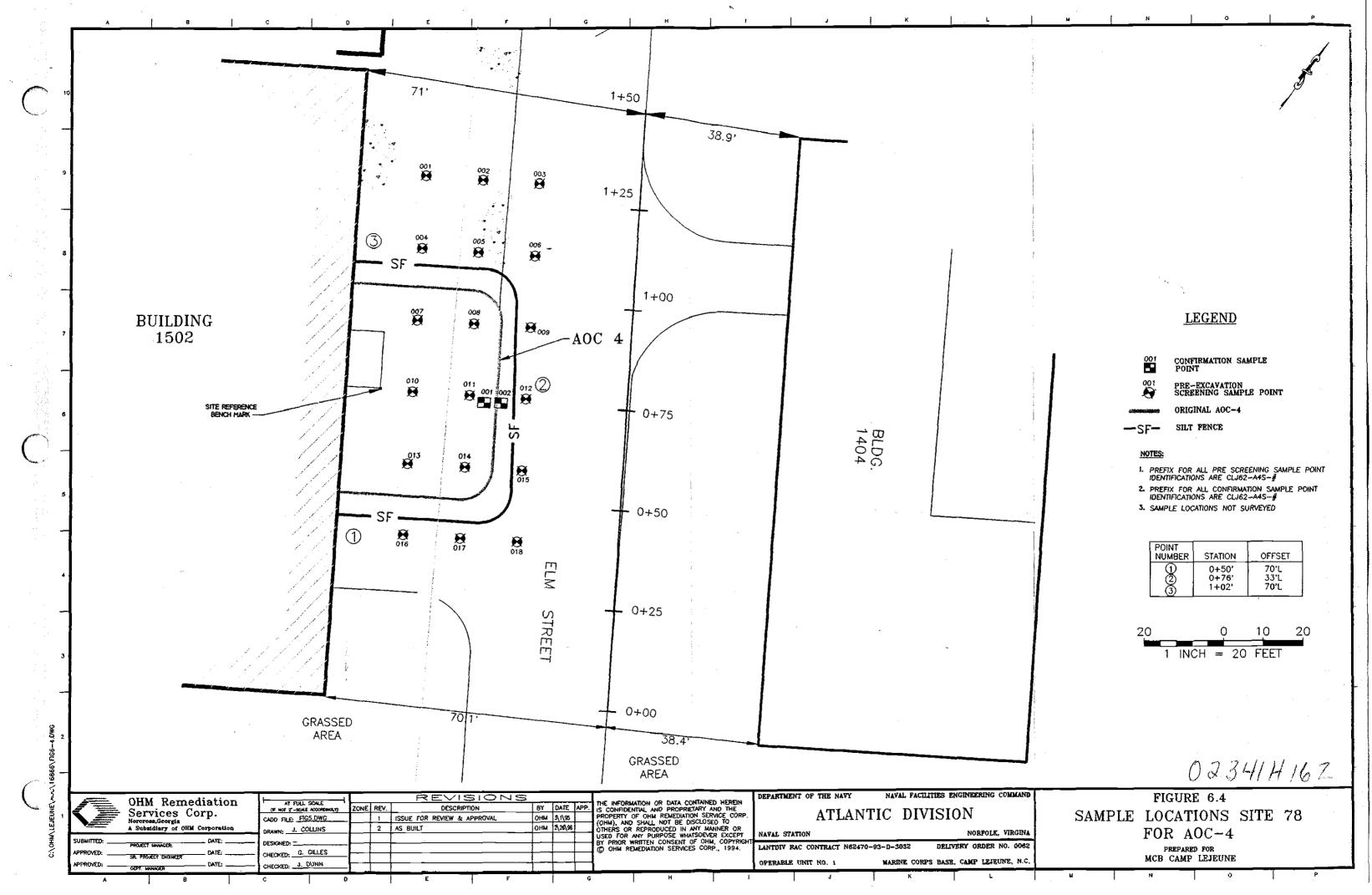
PREPARED FOR MCB CAMP LEJEUNE

APPROVED:

CHECKED: G. CILLES

CHECKED: J. OUNN





Appendix B Photographic Documentation



Project No. 16866 Date: 23 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC#1

Description: excavating contaminated soil

for off site disposal

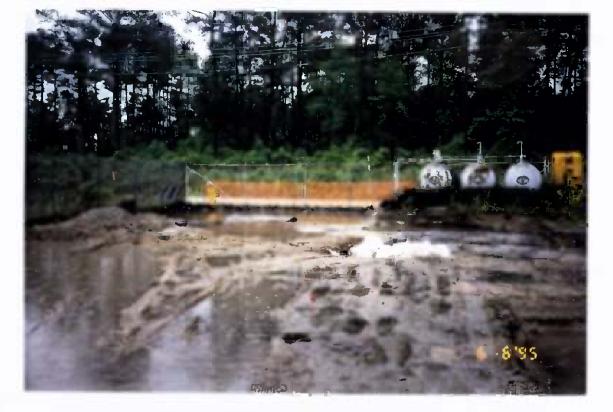


Project No. 16866 Date: 02 JUNE 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC #2

Description: preliminary photo



Project No. 16866 Date: 06 JUNE 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC#3

Description: sample locations



Project No. 16866 Date: 06 JUNE 95

Contract No. N62470-93-D-3032

Delivery Order: 62 Location : AOC#3

Description: sample locations



Project No. 16866 Date: 25 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC#3

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 25 MAY 95 Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC#3

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 25 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location:** AOC#3

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 31 MAY 95 Contract No. N62470-93-D-3032

Delivery Order: 62 Location: AOC#3

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 15 JUNE 95

Contract No. N62470-93-D-3032

Delivery Order: 62 Location : AOC#3

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 31 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location:** AOC#4

Description: preliminary photo



Project No. 16866 Date: 31 MAY 95 Contract No. N62470-93-D-3032

Delivery Order: 62 Location : AOC#4

Description: preliminary photo



Project No. 16866 Date: 03 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 Location : AOC#4

Description: soil sampling



Project No. 16866 Date: 03 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 Location : AOC#4

Description: soil sampling



Project No. 16866 Date: 31 MAY 95 Contract No. N62470-93-D-3032

Delivery Order: 62 **Location:** AOC#4

Description: excavating contaminated soils

for off site_disposal



Project No. 16866 Date: 31 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC #4

Description: excavating contaminated soil

for off site disposal



Project No. 16866 Date: 31 MAY 95

Contract No. N62470-93-D-3032

Delivery Order: 62 **Location :** AOC#4

Description: excavating contaminated soil

for off site disposal

Appendix C Waste Manifests

TEXAS NATURAL RESOURCE CONDENVATION COMMISSION

O. Box 13087

TNACC-0311 (Nev. 07/13/04)



istin, Texas 78711-3087 Rease print or type. (Form designed for use on elife (12-bitch) typewriter.) UNIFORM HAZARDOUS Generami's HS FPA ID selincM 2. Page 1 is not required by Federal law. ocureur you WASTE MANIFEST 17002 A State Manifest Cocament Nymber 07 3. Generator's Name and Mailing Address DRMO-CAMP LEJEUNE US MARINE CORPS BASE CAMP LEJEUNE NC 28547 COMMANDING GENERAL AC/S ENVIRONMENTAL MGMT. DEPT. ATTN: JOHN RIGGS B. State Generator's ID JOHN RIGGS 99937 4. Generator's Phone (919) 451-5863 Sestate Transporter's ID-,..--148762 5. Transporter 1 Company Name US EPA ID Number õ. ROBBIE D. WOOD, INC. O: Transporter's Phone (205) 744-8448 ALD06713889 US EPA ID Number 7. Transporter 2 Company Name Simm Representar's IO Fy Densporter's Zhone G. Green Faculty & IC- 12-US EPA ID Number 9. Designated Facility Name and Site Address IO. CHEMICAL WASTE MANAGEMENT, INC. HWY. 73. 3 1/2 MILES W. OF TAYLORS BAYOU See Property and the second HWY. 73, 3 1/2 MILES W. PORT ARTHUR TX 77640 H. Facility's Phone : T X D 0 0 0 8 3 8 8 9 6 3 409 736 252 1 10 Km m m m 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID 12. Containers 11A Total Unit Waste No. HM Тура Numbert WT/VQI Quantity AS, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SOIL WITH <50 PPM PCBS), UN3077, 9, PG. III W 0 1 P * OUTS3941 b. ATOR 17.7 C. K. Handling Codes for Wa K. Handling Codes for Wastes Listed Above to the state of th 15. Special Handling Instructions and Additional Information EMERGENCY CONTACT: 1-800-99 EMERGENCY RESPONSE GUIDE #31 1-800-999-6710 PIN: 995-2790 JOHN RHYNE 16. GENERATOR'S CERTIFICATION: I nereby declare that the commits of this cursignment are fully and accurately described above by proper snipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be and that I have selected the prenature threat to human health and the environment; OH, if I am a small quantity generator, I have made a good tath effor to minimize my waste generation and select the best waste management method that is available to me and that I can afford. Printed Typed Name Month Day Signature -u gene サインロハヒン 10.512.319 17. Transporter 1 Acknowledgement of Recaipt of Materials Date Signature Printed/Typed/Name Dey 5123195 18. Transporter 2 Acknowledgement of Receipt of Materials Ŭate Printed/Typed Name Signature Month Day Year 19. Discrepancy Indication Space 20 Facility Dwiner or Operator: Contrication of receipt of hazardous materials covered by this manifest except as noted in Item 19. Date Printed/Typed Name Signature Year Month Day

White - raiginal Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION P.Q. Box 13087



1, Texas 78711-3087 print or type. (Form designed for use on elite (12-pitch) typewriter.) Form approved. OMB No. 2050-0039. expires 08733796 UNIFORM HAZARDOUS 1. Generator's US EPA ID No. Manifest 2. Page 1 Information in the shaded areas الجناءتكافيتك is not required by Federal law. WASTE MANIFEST 3. Generator's Name and Mailing Aggress A. State Manifest Document Number DRMO-CAMP LEJEUNE US MARINE CORPS BASE CAMP LEJEUNE NC 28547 **业局起题 20079907**1 COMMANDING GENERAL AC/S ENVIRONMENTAL MGMT. DEPT. B. State Generator's ID ATTN: JCHN RIGGS THE PARTY OF THE P 4. Generator's Phone (919 451-506 5. Transporter 1 Company Name 8. US EPA ID Number Sale Jangoneca Dam 14762 ROBBIE D. HOOD, INC. Deficiency of the State of (295) 744-8449 0067138 Α 7. Transporter 2 Company Name US EPA ID Number Ci simpodenia Grana Editateporter's Phone: *** 9. Designated Facility Name and Site Address US EPA ID Number Sant Feeling Pipeline 10. CHEMICAL WASTE MANGGEMENT, HWY. 73, 3 1/2 MILES PORT ARTHUR TX 77640 TAYLORS BAYOU AND STATE OF THE STATE OF | T x D 0 0 0 0 3 3 8 8 9 HA. 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID 12. Containers 10 4. L Total Type No. wirl Weste No. Guantity Wi/Val a. -RO. ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 1100 N. D. S. (SOIL WITH <50 PPM PCBS), UN3077, 9, PG. III c 135100 9 6 1 0 2 OUTS3941 b. AT OR C. d. . . . "J'Additional Descriptions for Materials Lie K. Handling Codes for Wastes Usted Above THE PERSON NAMED IN THE PROPERTY AND THE PARTY AND PERMITANTAL AUSTRALIA SERVICE SEQUEST NO 770761 MORE SHIP IN THE CONTRACT 15. Special Handling Instructions and Additional Information EMERGENCY CONTACT: 1-800-999-6710 PIN: 995-2790 JOHN RHYNE EMERGENCY RESPONSE GUIDE #31 16. GENERATOR'S CERTIFICATION: hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be wal that I have because the present of treatment, storage, or casposal currency available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. Printed/Typed Name Signapare Month Day Year 19ena UNA 0.512.719.5 17. Transporter 1 Acknowledgement of Receipt of Materials Date 'gnted/Typed Name Signature Month Day Year Shirte Williamett 05 24 95 18. Transporter 2 Acknowledgement of Heceipt of Materials Date Printed/Typed Name Signature Month Day Year 19. Discrepancy Indication Space racility Owner or Operator: Cardification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Date Printed/Typed Name Signature Day Year

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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	4. Generators Phone (919) 451-586				13937 ***	Filter.			
1	5 Transporter 1 Company Name	6. US EPA ID Number		5	∰jeizabouse.»		48752		
1	ROBBIE D. WOOD, INC.	ALDØS ALJ B	8 7 1		فتحدث المحدد المحدد المحدد		25174	1-84	43
1	7. Transporter 2 Company Name	a. US EPA ID Number			A Remocaraca			<u>. </u>	
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	9. Designated Facility Name and Site Address	ss 10. US EPA ID Number			CHARLES TO		•		
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-	HUY. 73, 3 1/2 MILES W. OF PORT ARTHUR TX 77640	TX X D 0 0 0 8 3 8			Maria Prone			٠,	
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	EMERGENCY CONTACT: 1-800-	-999-6710 PIN: 995-2790 JCH	N RHYN	Ε					
П	EMERGENCY RESPONSE GUIDE	131							
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11	16. GENERATOR'S CERTIFICATION: I hereby o	declars that the conterns of this consignment are fully and are in all respects in proper condition for transpo	and accure or his his his	tely desc	ended 200ve by pi ording to englicab	roper sm te intern	poing name	a ang a 1 nator	100 1120
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION P.O. Box 13087

in, Texas 78711-3087

a print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS

WASTE MANIFEST 3. Generator's Name and Mailing Address

9. Designated Facility Name and Site Address

CHEMICAL MASTE MANAGEMENT, INC.

DRMO-CAMP LEJEUNE US MARINE CORPS BASE CAMP LEJEUNE NC 28547 4. Generator's Phone (919) 44

5. Transporter 1 Company Name

ROBBIE D. WOOD, INC.

7 Transporter 2 Company Name

Form approved, CMB No. 2050-0039, expires of the Po 1. Generator's US EPA ID No. 2. Page 1 Manifest Information in the snaded areas đ is not required by Federal law. As State Manifest Document Number 007990 COMMANDING GENERAL MC/S ENVIRONMENTAL MGMT. DEPT. ATTN: JOHN RIGGS B. State Generator's ID . 1 CATALOTE DE CATALOTES 6. US EPA ID Number De Danaporara Phone 1 (295)744-3449 A 6 0 8 6 7 1 3 8 8 Company (and porters 10 ... 5. US EPA ID Number The factor and Coole. Some Facility & Drive 10. US EPA ID Number

11. US DOT Description (including Proper Shippin Number) 2 10. ENVIRONMENTALLY HOZARDON N. O. S. (SOIL WITH <50 PPM PC35	ng Name, Hazard Class, and ID			15733	-2821		: ::	••	
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EMERGENCY CONTACT: 1-800-999-6718 EMERGENCY RESPONSE GUIDE #31	DIN: 995-2790 JO	HN SHVI	Æ						
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION P.O. Box 13087

Austin, Texas 78711-3087



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		3. Generator's Name and Mailing Address	IG GENERAL		A_SI	late Manifest D		Number 7991	060
	11	ŪS MARINE CORPS BASE — AČ/S ENVI	RONMENTAL MGMT. DE	PT.		tate Generator		133	000
		CÂMP LÉJEUNE NC 28547 ATTN: JO 4. Generator's Phone (919) 451-5063	HN RIGGS			99937			
		5. Transporter 1 Company Name	6. US EPA ID Number			ate-Transporte			
		ROBBIE D. WOOD, INC.	ALD067138			ansporter's Ph			4-8440
		7. Transporter 2 Company Name	8. US EPA ID Number			tate:Transporte			
		9. Designated Facility Name and Site Address	10. US EPA IO Number		L	ransporter's Ph			•••
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1	ا ا	20. Facility Owner or Operator: Certification of receipt of haza	ardous materials covered by th	is manifes	t exce	pt as noted in	tem 19.		
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. ; 3	WASTE MANIFEST B. Generator's Name and Mailing Address	CONTINUOUNG GEN		. J.U. S.E	} 		<u> </u>	
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4	i. Generator's Phone (901-151-1809	CAP LEJEURE,	NC 2	8540-0004				
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—	. Generator's Phone (901-451-1809	CAP LE.ELNE.		28540-0004	 			
5	. Transporter 1 Company Name ROBBIE MOOD. INC.	ة. ا	. US EPA ID Nun A.L. D. 0 - 6-7 - 1 -3			ansporter's Phone		4 344 044
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]	. Additional Descriptions for Materials Listed Abo	3V6			K. Ho	TOS/107	r Wastes Li	sted Above
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	-	Designated Facility Name and Site Address	10. US EPA ID Num			porter's Phone Facility's ID	- P- P N	
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ž		11. US DOT Description (Including Proper Shipping Name, Haza	erd Class, and IO Number)	12. Cont		13. Total	14. Unit	l
	-	HM RQ, HAZARDOUS HASTE SOLID, N.O.S., S	9, NA3077,	No. 1	Type DT	Quantity	Wt/Vol	Waste No.
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100000000000000000000000000000000000000		15. Special Handling Instructions and Additional Information	EMERGENCY CONTACT: 1- EMERGENCY RESPONSE QU		O PIN	: 995 - 2790	JOHN	RIME.
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	7	20. Facility Owner or Operator: Certification of receipt of haza	ardous materials covered by this ma	snifest except as	noted in	Item 19.		D-: V
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UNIFORM HA	ZARDOUS	1. Generator's U	S EPA ID No.	Manifest Designation	2. Pa		on in the	e shaded area
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Generator's Name and	Mailing Address	CONTINUOUNG &	ENERAL.		A. Sto	ate Manifest Docum	ent Num	iber
		ATTN: AC/S E	34D/1JRD					
		HARINE CORPS	8 BASE PSC BOX 2000	4	B. Sto	ite Generator's ID		
4. Generator's Phone (901-451-1809	CHP LEJEINE		28540-0004	<u> </u>			
5. Transporter 1 Company	Name		6. US EPA ID Nu	mber		ate Transporter's iD		
ROBBIE WOOD,			A-L D . 0 . 6.7 . 1.			insporter's Phone		5-744-8440
7. Transporter 2 Company	Name		8. US EPA ID Nu	mber	-	ite Transporter's iD		
		· · · · · · · · · · · · · · · · · · ·	<u> </u>			insporter's Phone		
9. Designated Facility Nam	ne and Site Address		10. US EPA ID No	mber	G. Sh	ate Facility's ID		
L W D, INC.	_				-			· · · · · · · · · · · · · · · · · · ·
HIGHAY 15Z	T		1		1	cility's Phone		
CALVERT CITY		2029	K-Y-D -0 - 8-8 - 4-			1.0		2-395-63 13
11. US DOT Description (In	cluding Proper Shippii	ng Name, Hazard Cla	iss, and ID Number)	12. Cont	1	13. Total	14. Unit	I. Waste No.
HMI SO HAZAGOGO	F 4467 6	NAC 4 ***		No.	Туре	Quantity	Wt/Vol	
a. RQ, HAZAROXX	US WASTE SOLID.	M.U.S., Y, M	IS J//,	1	דמ		P	U061
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J. Additional Descriptions f	or Materials Listed Ab	iove .		· · · · · · · · · · · · · · · · · · ·	K. Ha	ndling Codes for W	/astes Lis	ted Above
1061-1942. (هـ_					Į.			
	urtions and Additional	Information				106/107		
 Special Handling Instru GENERATOR'S CERTIFIED marked, and labeled, and 	ICATION: I hereby ded are in all respects in pro	gre that the contents of per condition for transp	this consignment are fully and coord by highway according to as	accurately described	l above t	IN: 995–2790 by proper shipping national governmental	l regulatio	e classified, pack
15. Special Handling Instru 16. GENERATOR'S CERTIFI marked, and labeled, and If I am a large quantity gen- and that I have selected the	ICATION: I hereby deci are in all respects in pro erator, I certify that I have practicable method of tre	are that the contents of per condition for transper a program in place to note that the content, storage, or disp	this consignment are fully and a bort by highway according to a educe the volume and toxicity of lossed currently available to me w inimize my waste generation an	accurately described pplicable internation in waste generated to hich minimizes the pr	i above b nai and n the degi	IN: 995-2790 by praper shipping national governmental retinated determined different to huma	me and ar I regulation to be econ an health of I available	e classified, pack ins. iomically practica and the environme
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15. Special Handling Instruction 16. GENERATOR'S CERTIFMarked, and labeled, and if I am a large quantity generated the OR, if I am a small quantity afford. Printed/Typed Name Printed/Typed Name Printed/Typed Name 18. Transparter 2 Acknowle Printed/Typed Name 19. Discrepancy Indication 3	ICATION: I hereby decide are in all respects in properties. I certify that I have practicable method of the practicable method of the practicable method of the practicable method of Receipt of TUORY adgement of Receipt of Receipt of Receipt of Receipt of Tuory.	are that the contents of per condition for transper a program in place to motion, storage, or disperations, storage, or disperations of the effort to minute a good faith effort to minute	this consignment are fully and a cort by highway according to a seduce the volume and toxicity of cosal currently available to me winimize my waste generation and Signature Signature Signature	accurately described applicable internation is waste generated to hich minimizes the produced to the best was	d above to nai and in the degree manarete manarete	Dis 995-2790 by praper shipping nated and governmented future threat to huma gement method that is	me and ar I regulation to be econ an health of available	re classified, pack ins. comically practically practically practically practically practically practically promise to me and that for the meanth Day Y

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	$(C6 \cdot 1.7 \cdot 0.0 \cdot 2.2 \cdot 5.8 \cdot 0)$	2.1.04.1		ate Manifest Docum	nent Number
•	ATTN: AC/S EMD/IRD				
4 C	WRINE CORPS BASE PSC BOX 20004		B. Sto	ate Generator's ID	
5. Transparter 1 Company Name	APP LEJELNE, NC 2 6. US EPA ID Num	28540-0004	C. Str	ate Transporter's ID)
ROBBIE WOOD, INC.	A-L D -0 - 6-7 - 1-5				205-744-844
7. Transporter 2 Company Name	8. US EPA ID Num			ste Transporter's ID	
			F. Tro	insporter's Phone	
Designated Facility Name and Site Address ,	IO. US EPA ID Num	nber	G. St	ate Facility's ID	
L W D. INC.			<u> </u>	-11°- /- 21	
HIGHWAY 1523 CALVERT CITY, KENTUCKY 4202	×9 Κ.Υ.DO. 8.8 . 4.3		1	cility's Phone	502 -395-6 31
11. US DOT Description (Including Proper Shipping N		12. Con		13.	14.
HMI	raine, mazaru Class, and ib Mumber,	No.	Туре	Total Quantity	Unit Wt/Vol Waste N
a. RQ, HAZARDOUS WASTE SOLID, N.	.O.S., 9, NA3077,	1	DT		P U061
PGIII. (CONTAINS DOT)					
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b.					
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a).HH42-U061					
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15. Special Handling Instructions and Additional Infa	ermation EMERGENCY CONTACT: 1- EMERGENCY RESPONSE Q		10 P	IN: 995-2790	JOHN RIME
15. Special Handling Instructions and Additional Infa	EPERGENCY RESPONSE Q. that the contents of this consignment are fully and a	CCUrately describe	d above	IN: 995–2790	Ime and are classified. pa
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UNIFORM HAZARDOUS				DE CONTRACTOR IS	The state of the s	tres 9-30-94
WASTE MANIFEST	1. Generator's US EPA ID No. N.C. 6	Manifest Dogument 100	2. Page of	Information not require	on in the shader red by Federal la	d areas is iw.
3. Generator's Name and Mailing Address	COMMOING GENERAL		A. State	Manifest Docum	ent Number	
	ATTN: AC/S EMD/IRD MARINE CORPS BASE PSC BOX 20004					
4. Generator's Phone (901-)451-1809	****	540-0004	B. State	Generator's ID		
5. Transporter I Company Name	á, US EPA ID Numb		C. State	Transporter's ID		
ROBBIE WOOD, INC.	A.L.D. 0. 6.7. 1.3	. 8.8 . 9.1			205-744	8440
7. Transporter 2 Company Name	8. US EPA ID Numb	er	E. State	Transporter's ID		
	<u> </u>		F. Transp	porter's Phone		
P. Designated Facility Name and Site Address L W D. INC.	10. US EPA ID Numb)er	G. State	Facility's ID		
HIGHMAY 1523	`		H Facilit	ly's Phone		
CALVERT CITY, KENTUCKY 4	12029 K,Y,D,O,8,8,4,3	, 8,8 , 1,7		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	502 -395	-8313
11. US DOT Description (Including Proper Shippi	ing Name, Hazard Class, and ID Number)	12. Conto	ainers	13.	14.	l.
HM		No.	Туре	Total Quantity	141/ VOI	ste No.
PGIII. (CONTAINS DOT)	. M.U.S., Y, NKSU77 ,	1	דם		P U061	
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l.						
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. Additional Descriptions for Materials Listed Ab	Jove		K. Handi	ling Codes for W	astes Listed Abo	ve
HH42-U061		_				
				106/107		
·						
	Information EMERGENCY CONTACT: 1-6		O PIN:	995-2790	JOHN RHMNE	
5. Special Handling Instructions and Additional	EHERGENCY RESPONSE GUT	LIEN 31				
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5. Generator's indine and indining address	COTTON DING GENERAL ATTN: AC/S EMD/IRD		A. Sto	ate Manifest Docum	nent Num	ber
4. Generator's Phone (901;451-1809	NARINE CORPS BASE PSC BOX 20004 CAMP LEJELNE, NC 285	10-0004	B. Sta	ite Generator's ID		
5. Transporter 1 Company Name ROBBIE WOOD, INC.	6. US EPA ID Number A.L.D., O., 6, 7, 1, 3, 8			nte Transporter's IC		5-744-8440
7. Transporter 2 Company Name	8. US EPA ID Number		E. Sta	te Transporter's ID		
9. Designated Facility Name and Site Address	10. US EPA ID Number		 	insporter's Phone are Facility's ID		
L W D, INC. HI GHA Y 1523				<u> </u>		
CALVERT CITY, KENTUCKY 420	29 K,Y,D,O,8,8,4,3,8	3,8 _, 1,7		cility's Phone	50	2 -395-83 13
11. US DOT Description (Including Proper Shipping I	Name, Hazard Class, and ID Number)	12. Con	1	13. Total	14. Unit	l. W
a, RQ, HAZARDOUS WASTE SOLID. N	.O.S., 9, NASU77,	No. 1	Type DT	Quantity	Wt/Vol	Waste No.
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19. Discrepancy Indication Space * I tem L per John Phine	104m, 5-31- 95, LH/C	√ Ø		:		
20. Facility Owner or Operator: Certification of rece	ipt of hazardous materials covered by this manife	st except as	noted i	n Item 19.		
Prinsed/Typed Name	Signature Signature	1/	al	He	,, K	anth Day Ye
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3.	Generator's Name and	Mailing Address	COMMODING C	ENERAL.		A. Sto	ate Manifest Docum	ent Num	ber
			ATTN: AC/S E	750/IRO					
			MARINE CORPS	BASE PSC 80X 20004	t .	B. Sto	ite Generator's ID		
4.	Generator's Phone (901-451-1809	CAP LEJELNE	. NC 2	28540-0004				
5.	Transporter 1 Company	y Name		6. US EPA ID Num	nber	-	ate Transporter's ID		
_	ROBBIE HOOD			A-L D -0 - 6-7 - 1-3			insporter's Phone		5-744-844
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3. Generator's Name and Mailing Address	COMMODING GENERAL		<u> </u>	Α.	State Mo	anifest Docum	ment Num	ber
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	HARDNE CORPS BASE PS	SC BOX 200	04	В.	State Ge	nerator's ID		
4. Generator's Phone (901-451-1809	CMP LELEUNE, NC		28540-00	04				
5. Transporter 1 Company Name	ó.	US EPA ID N			State Tro	ansporter's i	5	····
ROBBIE WOOD, INC.	A.L.D.	0 . 6.7 . 1	.3.8.8.			rter's Phone		5-744-84
7. Transporter 2 Company Name	8.	US EPA ID N				insporter's iD		
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9. Designated Facility Name and Site Address	10.	US EPA ID N	umber	G.	State Fa	cility's ID		
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11. US DOT Description (Including Proper Shipping	Name, Hazard Class, and ID N	lumber)	12.	Containe	rs	13.	14.	
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UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. N.C 6 . 1.7 . 0.0 . 2.2 . 5.8 . 0 /) . /	Manifest cument Ho	2. Page of		ion in the	shaded areas is derai law.
3. Generator's Name and Mailing Address	COMMOING GENERAL ATTN: AC/S EMD/IRD	_1/-1-1	A. State	Manifest Docum	nent Numi	ber
4. Generator's Phone (and Laza sono	HARZINE CORPS BASE PSC BOX 20004		B. State	Generator's ID		
5. Transporter 1 Company Name	6. US EPA ID Number	40-0004	C. State	Transporter's ID)	-
ROBBIE WOOD, INC.	A.L.D .0 . 6.7 . 1.3 .:		 	porter's Phone		5-7 44-844 0
7. Transporter 2 Company Name	8. US EPA ID Number			Transporter's ID		<u> </u>
9. Designated Facility Name and Site Address L W D. INC.	10. US EPA ID Number	•	G. State	Facility's ID		
HIGHWAY 1523 CALVERT CITY, KENTUCKY 42	2029 K.Y.D.O. 8.8. 4.3.	00 17	i.	ty's Phone		3 202 204
11. US DOT Description (Including Proper Shippin		12. Cont		_13.	14.	2 -395-6313 I.
HM	N. O. O. W.	No.	Type	Total Quantity	Unit Wt/Vol	Waste No.
RQ, HAZARDOUS WASTE SOLID, PGIII, (CONTAINS DOT)	N.U.S., 9, MA3077,	1	DT	456.6.C	P	U061
ь.						
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15. Special Handling Instructions and Additional I	Information EMERGENCY CONTACT: 1-60	0 -999-6 71	O PIN:	: 9 95 -2790	JOHN F	ame
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Discrepancy Indication Space 20. Facility Owner or Operator: Certification of re	ceipt of hazardous materials covered by this manife	est except as	noted in It	em 19.		
Printed/Typed Name	Signature Signature	!!	all	<u> </u>	Mo P	inih Day Yea
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3.	3. Generator's Name and Mailing Address	C .6 . 1 . 7 . 0 . HYWDING CENE TN: AC/S EHD/	RAL	<u> </u>		are Manifest Docum		
4	HH.		ISE PSC 80X 200			ate Generator's ID	-	
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_	ROBBIE WOOD, INC.		LD .0.6.7.1			ansporter's Phone		5-744-8440
7.	7. Transporter 2 Company Name	8.	US EPA ID N	lumber	<u> </u>	ate Transporter's ID)	
9.	9. Designated Facility Name and Site Address L. W. D. INC.	10.	US EPA ID N			ate Facility's ID		
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11	11. US DOT Description (Including Proper Shipping New		· · · · · · · · · · · · · · · · · · ·		ontainers	13. Total	14. Unit	1.
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۱.	Additional Descriptions for Materials Listed Above				K. Ha	indling Codes for V	Vastes Lis	ted Above
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15. S _f	pecial Handling Instructions and	Additional Information	ENERGENCY CONTACT: 1-8	 00 -999-6 71	O PIN:	995-2790	JOHN	RHME
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70. Fa	acility Owner or Operator: Certific	cation of receipt of hazi	ardous materials covered by this mani	fest except as	noted in Ite	em 19,		
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		UNIFORM HAZARDO WASTE MANIFES	NC 6	rator's US EPA ID No. 17 00 222		nifest nent No.5	2. Pag of	→ not requi	ired by Fe	shaded area
	3.	Generator's Name and Mailing Ad	alem	AC/S EMD/IRD			A. Stat	e Manifest Docum	nent Num	ber
				CORPS BASE PSC	BOX 20004		B. Stat	e Generator's ID		
	4.	Generator's Phone (901+451		E.ELNE, NC		-0004				
	5.	Transporter 1 Company Name		6. U	IS EPA ID Number		C. Stat	re Transporter's ID)	
		ROBBIE WOOD, INC.		A.L.D.O	, 6, 7 , 1, 3 , 8	8 , 9 , 1	D. Trai	nsporter's Phone	20	5-7 44-844
١Ī	7.	Transporter 2 Company Name		8. U	IS EPA ID Number			e Transporter's ID		
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	9.	Designated Facility Name and Site L # D. INC.	Address	1 0. U	IS EPA ID Number		G. Sra	te Facility's ID		
		HIGHNAY 1523					H. Fac	ility's Phone		
		CALVERT CITY, KENTL	JCKY 42029	K, Y,D, O	. 8,8 . 4,3 . 8	8 . 1.7		•	50	2-395-63 1
	11.	. US DOT Description (Including Pro	per Shipping Name, Hi	ezard Class, and ID Nun	nber)	12. Cont	ainers	13. Total	14. Unit	1.
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	15	. Special Handling Instructions and	Additional Information		ESPONSE GUIDE					
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N,	. Generator's Name and Mailing Address	ATTN: AC/S EMD/I	RD		A. State	Manifest Docum	ient Number	
4	. Generator's Phone (901+451-1809	CMP LEJEUNE, NO		3540-0004	B. State (Generator's ID		
5	. Transporter 1 Company Name ROBBIE WOOD. INC.	6. A. L	US EPA ID Numb			(ransporter's ID orter's Phone	205-744	-844
7	7. Transporter 2 Company Name	8.	US EPA ID Numb			ransporter's IO orter's Phone		
9	Designated Facility Name and Site Address . L W D. INC.	10.	US EPA ID Numb			facility's ID		
	HIGHAY 1523 CALVERT CITY, KENTUCKY 42	029 KY	',D ,O, 8,8 , 4,3	88 17	H. Facilit	r's Phone	502-39	5-631
-	1. US DOT Description (Including Proper Shipping			12. Con	, 1	13. Total	14. Unit	i. aste N
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1	1. US DOT Description (Including Proper Shipping Name, Ho	azard Class, and ID Number)	12. Com	1	13. Totai	14. Unit	. Wasta Ma
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- I I	I. Additional Descriptions for Materials Listed Above		. <u>. </u>	K. Ha	ndling Codes for V	Vastes Lis	ted Above
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	15. Special Handling Instructions and Additional Information	GENERAL COMPANY		10 P	DN: 995-2790	JOHN	RHME
	15. Special Handling Instructions and Additional Information 16. GENERATOR'S CERTIFICATION: I hereby declare that the comarked, and labeled, and are in all respects in proper condition if I am a large quantity generator, I certify that I have a program in and that I have selected the practicable method of treatment, stord OR, if I am a small quantity generator, I have made a good faith a afford.	contents of this consignment are fully and a for transport by highway according to ap a place to reduce the volume and toxicity of age, or disposal currently available to me who	CCUrately described plicable internation waste generated to tick minimizes the property of the	d above to national and re-	by proper shipping no national governments ree I have determined d future threat to hum	ime and ai regulation to be ecor an health o	e classified, pac ins. namically practic and the environn
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3.	WASTE MANIFEST Generator's Name and Mailing Address	ATTN: AC/S E	EVERAL.	1.1.08	A. Sta	ate Manifest Docum	ient Num	iber
4.	Generator's Phone (901-451-1809	CAP LE.FINE		40-0004	0. 3.0	ine Generalia 110		
5.	Transporter 1 Company Name		6. US EPA ID Number		C. Sta	ite Transparter's ID		
_	ROBBIE WOOD, INC.		A.L.D .0 . 6.7 . 1.3 . 8		 	insporter's Phone		15-744 -8 440
/.	Transporter 2 Company Name		8. US EPA ID Number		<u></u>	insporter's Phone		<u></u>
9.	Designated Facility Name and Site Address		10. US EPA ID Number		 	ate Facility's ID		
	L W D. INC.							
	HIGHWY 1523 CALVERT CITY, KENTUCKY 4	2029	1 K V D O 9 9 4 2 4		H. Fac	ality's Phone		
			K.Y.D.O. 8.8.4.3.1	12. Cont		13.	14.	12-395-63 13
	. US DOT Description (<i>Including Proper Shippir</i> [†] HMI	ng Name, Mazard Cla	ass, and IU Number)	No.	Type	Total Quantity	Unit Wt/Voi	l. Waste No.
a.	RQ. HAZARDOUS WASTE SOLID.	N.O.S 9. N	12077 ,	1	DT	Godinity	P	U061
	PGIII. (CONTAINS DOT)					11.1222		
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15.	. Special Handling Instructions and Additional	-	HERGENCY CONTACT: 1-60 HERGENCY RESPONSE GUID		IO PI	T06/T07 IN: 995-2790	JOHN	RIME
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	UNIFORM HAZARDOUS WASTE MANIFEST		0 . 2.2 . 5.8 . 0 0.4	lanifest ument No 9	2. Pag of			s shaded areas is ederal law.
3. 0	Generator's Name and Mailing Address	ATTN: AC/S END/			A. Sta	te Manifest Docum	ent Num	ber
4 . ¢	Generator's Phone (901-)451-1809	HARINE CORPS BA	SE PSC BOX 20004 C 2854	10-0004	B. Star	e Generator's ID		**************************************
5. T	ransporter 1 Company Name	6.	US EPA ID Number	3337	C. Sta	te Transporter's ID		
- -	ROBBIE WOOD, INC.	A. 8.	L.D. 0.6.7.1.3.8 US EPA 10 Number	3.8 . 9.1		nsporter's Phone re Transporter's ID	20	5-744-8440
7. 1	ransporter 2 Company Name	1				nsporter's Phone		
9. C	Designated Facility Name and Site Address	10.	US EPA ID Number		G. Sto	rte Facility's ID		
	HIGHMY 1523			_	H. Fac	ility's Phone	-	
			Y.D.O. 8.8.4.3.6	12. Cont		13.	14.	2 -395-83 13
	US DOT Description (<i>Including Proper Shipping</i> IMI	i Name, Hazard Class, a	nd ID Number)	No.	Type	Total Quantity	Unit Wt/Vol	l. Waste No.
a.	RQ, HAZARDOUS WASTE SOLID, I	N.O.S., 9, NA307	7,	1	DT		ρ	U061
	PGIII, (CONTAINS DOT)					4.6.3.00		•
b .								
c.								
d.								
15.	Special Handling Instructions and Additional In	FLEW	ENCY CONTACT: 1-80		 O P1	N: 995-2790	JOHN	RHME
1		ees	ency response guidi	EN 31				
	GENERATOR'S CERTIFICATION: I hereby declar marked, and labeled, and are in all respects in prop- if I am a large quantity generator, I certify that I have a and that I have selected the practicable method of trea	er condition for transport b a program in place to reduct tment, starage, or disposal c	y highway according to applica e the volume and toxicity of wast currently available to me which m	ble internation egenerated to sinimizes the pr	ial and r the degi esent an	ational governmenta see I have determined d future threat to humo	regulation to be economic to health:	ons. nomically practicabl and the environmen
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	CONTINUO DE GENERAL ATTN: AC/S EMD/IRD		A. State	Manifest Docur	nent Numbe	or
<u> </u>	HARINE CORPS BASE PSC BOX 20004		0 5	2 - / 12		· · · · · · · · · · · · · · · · · · ·
		0-0004	b. State	Generator's iD		
5. Transporter 1 Company Name	6. US EPA ID Number		C. State	Transporter's iC		
ROBBIE WOOD, INC.	A.L.D. 0 . 6.7 . 1.3 . 8	.8 . 9 . 1	D. Trans	parter's Phone	205	-7 44-844 0
7. Transporter 2 Company Name	8. US EPA ID Number			Transporter's ID	·	· · · · · · · · · · · · · · · · · · ·
9. Designated Facility Name and Site Address	10. US EPA ID Number	· · ·	 	porter's Phone Facility's ID		
L W D. INC.				, , , , , , , , ,		
HIGHAY 1523			H. Facili	ty's Phone		
CALVERT CITY, KENTUCKY 420						395-83 13
11. US DOT Description (Including Proper Shipping if	Name, Hazard Class, and ID Number)	12. Cont	Type	13. Total Quantity	14. Unit Wt/Vol	l. Waste No.
a. RQ. HAZARDOUS WASTE SOLID. N	.O.S., 9, NA3077,	1	DT	Quantity		1061
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b.						•
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d.						
		}	1 . 1		1	
J. Additional Descriptions for Materials Listed Above			K. Hand	ling Codes for V	Vastes Lister	Above
_a)_H142-U061				T06/107		-
15. Special Handling Instructions and Additional Inf	PERCENCY CONTACT: 1-800 EMERGENCY RESPONSE GUIDE		O PIN:	: 9 95- 2790	JOHN RI	ME
16. GENERATOR'S CERTIFICATION: I hereby declare	that the contents of this consignment are fully and accurate condition for transport by highway according to applicable					lassified, packed,
If I am a large quantity generator, I certify that I have a p	ragram in place to reduce the volume and toxicity of waste	generated to	the degree	l have determined	ta be econom	ically practicable
OR, if I am a small quantity generator, I have made a go	ent, storage, or disposal currently available to me which min ood faith effort to minimize my waste generation and select	imizes the pri the best was	e managen	iture threat to humi nent method that is	an health and s available to	the environment; me and that I can
Printed/Typed Name	Signature	- 1	1		Mont	L 0 V
Eusene H Jones		<u> </u>	(b	m/	10.4	10 A 9.5
17. Transporter 1 Acknowledgement of Receipt of M	aterials					<u> </u>
Printed/Typed Name	Signature		1	_	Mont	h Day Year
FRNDS I W. GIREET	1		He-	<u> </u>	17.6	50875
18. Transporter 2 Acknowledgement of Receipt of M Printed/Typed Name	Signature				Mont	h Day Year
					.	. .
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of recei	pt of hazardous materials covered by this manifest	except as	noted in It	am 19.		
Printed/Typed Name	Signature		//	A.	Mont I	h Day Year
0000	The state of the s	/ · E-	ري و.	F. 10 S.		
To any other transfer of the second					BLC-M5	(Rev.≤10-92)

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UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. N C · 6 · 1 · 7 · 0 · 0 · 2 ·	انهوه(کیر	nifest MINT 195	2. Pag of			shaded areas is deral law.
3. Generator's Name and Mailing Address	COMMODING GENERAL ATTN: AC/S EMD/IRD			A. Sta	te Manifest Docum	ent Numl	Der
4. Generator's Phone (901 451-1809	MARINE CURPS BASE PS CAMP LEJELNE, NC		D-0004	8. Stat	te Generator's ID		
5. Transporter I Company Name	6. I	US EPA ID Number			te Transporter's iD		
7. Transporter 2 Company Name	<u> A· L·D··</u> 8.	0 · 6 · 7 · 1 · 3 · 8 US EPA ID Number	·8 · 9·1		nsporter's Phone	20	5 -744-844 0
,	Ĭ				rsporter's Phone		
9. Designated Facility Name and Site Address L W D. INC.	10.	US EPA IO Number		G. Sta	te Facility's ID		
HIGHNAY 1523				H. Fac	ility's Phone		
CALVERT CITY, KENTUCKY 40	2029 K.Y.D.	0 - 8 - 8 - 4 - 3 - 8				50	2 -395-63 13
11. US DOT Description (Including Proper Shippin	g Name, Hazard Class, and ID No	umber)	12. Cont No.	Type	13. Total Quantity	14. Unit Wt/Vol	l. Waste No.
RQ, HAZARDOUS WASTE SOLID, PGIII, (CONTAINS DOT)	N.O.S., 9, NA3077,		1	ग	14.6.7.6.D	P	U061
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15. Special Handling Instructions and Additional	EMERGENCY	CONTACT: 1-600-		O PI	T06/T07	JOHN I	∂-M€
16. GENERATOR'S CERTIFICATION: I hereby dedo marked, and labeled, and are in all respects in project in all respects in project in the law and that I have selected the practicable method of tree OR, if I am a small quantity generator, I have made afford. Printed Typed Name	per condition for transport by highwa a pragram in place to reduce the volu atment, storage, or disposal currently a good faith effort to minimize my was	y according to applicabl me and toxicity of waste of available to me which min	e internation generated to imizes the pr	al and no the degr esent and	ational governmenta se I have determined I future threat to hum	l regulation to be econ an health a ravailable	ns. omically practicable nd the environment
17. Transporter Acknowledgement of Receipt of							
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18. Transporter 2 Acknowledgement of Receipt of Printed/Typed Name		nature			-	Me	onth Day Yea
19. Discrepancy Indication Space	1 -						
20. Facility Owner or Operator: Certification of re	eceipt of hazardous materials co	vered by this manifest	r except as	noted in	ı item 19.		
Printed/Typed Name	la leter Sig	natura		//	rek	<u> </u>	onth Day Year
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	3. Generator's Name and Mailing Address	ing general C/S end/IRD		A. Sta	te Manifest Docum	tent Nun	nber
	1.00	CORPS BASE PSC BOX 2		B. Sta	te Generator's ID		
	5. Transporter 1 Company Name	6. US EPA I	28540-0004 D Number	C. Sto	te Transporter's iD	· · · · · ·	
	ROBBIE WOOD, INC.		· 1·3 · 8·8 · 9·1		insporter's Phone		X5-744-844 0
	7. Transporter 2 Company Name	1	D Number	-	te Transporter's ID nsporter's Phone		·
	9. Designated Facility Name and Site Address		D Number		nte Facility's ID		
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	HIGHWY 1523 CALVERT CITY, KENTUCKY 42029	V N N 0 0 0	· 4·3 · 8·8 · 1·7	1	cility's Phone	E/	Y-205-0212
	11. US DOT Description (Including Proper Shipping Name, Haz		12. Con		13.	14.	22-395-631 3
	HM	· · · · · · · · · · · · · · · · · · ·	No.	Туре	Total Quantity	Unit Wt/Vol	Waste No.
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	J. Additional Descriptions for Materials Listed Above	•		K. Ha	ndling Codes for V	Vastes li	sted Above
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	15. Special Handling Instructions and Additional Information	EMERGENCY CONTACT EMERGENCY RESPONS		10 PI	N: 995-2790	JOHN	RHME
	16. GENERATOR'S CERTIFICATION: I hereby declare that the cormarked, and labeled, and are in all respects in proper condition for lift am a large quantity generator, I certify that I have a program in p and that I have selected the practicable method of treatment, storage OR, if I am a small quantity generator, I have made a good faith eff	or transport by highway according face to reduce the volume and tox o, or disposal currently available to	g to applicable internation icity of waste generated to me which minimizes the p	nal and r o the degr cresent an	ational governmenta ree I have determined d future threat to hum	il regulati I to be eco an health	ons. nomically practice and the environm
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	UNIFORM HAZARDOU WASTE MANIFEST	T. Generator's US N.C., 6, 1,7	S EPA ID No. . 0.0 . 2.2 . 5.8 . 0 000	Manifest sument No	2. Pag of			shaded areas is deral law.
3. Gen	erator's Name and Mailing Addres	ATTN: AC/S E				te Manifest Docum	ent Numb	per
4. Gen	erator's Phone (901+451-1	809 CAMP LEJEUNE	. NC 285	40-0004				
5. Tran	nsporter I Company Name		6. US EPA ID Number	7	C. Sta	ite Transporter's ID		
	ROBBIE WOOD, INC.		A.L.D .0 . 6.7 . 1.3 .	8.8 . 9.1	D. Tro	insporter's Phone	205	744-8440
7. Tran	nsporter 2 Company Name		8. US EPA ID Number	•		te Transporter's ID		
						nsporter's Phone		
P. Desid	ignated Facility Name and Site Add	dress	10. US EPA ID Number	•		ate Facility's ID		
	HIGHWAY 1523	y 42029	W W N N 0 0 4 2	00 17	H. Fac	cility's Phone	E~	2-395-6313
11 115	CALVERT CITY, KENTUCK		K.Y.D., 0. 8.8. 4.3.	12. Cont	giners	13.	14.	. 393 - 03 (3
11. US	DOT Description (Including Proper	Snipping Ivame, nazaro Cia	ss, and ID Number)	No.	Туре	Total Quantity	Unit Wt/Vol	l. Waste No.
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ا ا	litional Descriptions for Materials Li	sted Above			K. Ha	ndling Codes for V	/astes List	ed Above
15. Sp	ecial Handling Instructions and Add		ERGENCY CONTACT: 1-80 ERGENCY RESPONSE GUIT		10 P	T06/T07	JOHN I	g ₩€
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17. Tra	inspecier 1 Acknowledgement of Re	eceipt of Materials			X			
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	insparter 2 Acknowledgement of Rented/Typed Name	eceipt of Materials	Signature		· .	 	Me	onth Day Year
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19. Disc	crepancy Indication Space					· · · · · · · · · · · · · · · · · · ·		
20. Fac	cility Owner or Operator: Certificat	tion of receipt of hazardous	materials covered by this manif	est except as	noted i	n Item 19.		
	nted/Typed Name		Signorora		_	1 /11	M	onth Day Year
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UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EP/ N.C. 6 . 1.7 . 0.	A ID No.	Manifest Posument No	2. Pag	e l informati	on in the sha red by Federa	ded areas is si law.
3. Generator's Name and Mailing Address	COMMOING GENE ATTN: AC/S EMD/	RAL.	10 . 7 . 7 . 7 . 6		re Manifest Docum	nent Number	
	MARINE CORPS BA	SE PSC 80X 200	04	B. Stat	te Generator's ID		
4. Generator's Phone (901+451-1809 5. Transporter 1 Company Name	CAMP LEJEINE, N	US EPA ID N	28540-0004 umber	C. Sta	te Transporter's ID		
ROBBIE WOOD, INC. 7. Transporter 2 Company Name	A. 8.	L. D. O. 6.7.1		-	nsparter's Phone te Transporter's ID		44-8440
	<u> </u>			F. Trai	nsporter's Phone		
9. Designated Facility Name and Site Address L W D, INC. HIGHAY 1523	10.	US EPA ID N	umber		te Facility's ID		
	029 K.	Y.D.O.8.8.4	.3 . 8 . 8 . 1 . 7		ility's Phone	502-3	95-6 313
11. US DOT Description (Including Proper Shipping	7 Name, Hazard Class, a	nd ID Number)	12. Con No.	Type	13. Total Quantity	14. Unit Wt/Voi	l. Waste No.
RQ, HAZARDOUS WASTE SOLID, PGIII. (CONTAINS DOT)	N.O.S., 9, NA307	7.	1	DT	<u> </u>	P UO	61
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J. Additional Descriptions for Materials Listed Abo	ve			K. Har	ndling Codes for V	Vastes Listed	/pove
		• • •			T06/T07		
15. Special Handling Instructions and Additional le		ENCY CONTACT: ENCY RESPONSE		10 PI	N: 995-2790	JOHN RHOL	NE
16. GENERATOR'S CERTIFICATION: I hereby dedain marked, and labeled, and are in all respects in proper lift am a large quantity generator, I certify that I have a and that I have selected the practicable method of treator, if I am a small quantity generator, I have made a afford.	er condition for transport by program in place to reduct tment, storage, or disposal o	y highway occording to the volume and taxicity surrently available to me	applicable internation of waste generated to which minimizes the p	nal and no the degreesent and	ational governmenta se I have determined I future threat to hum	f regulations. to be economic on health and th	ally practicable e environment;
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Printed/Typed Name		Signature				Month	Day Year
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of rec	eipt of hazardous mate		manifest except as	noted in	i Item 19.		
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UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA		Manifest Pocument No.	2. Pag			shaded areas is ederal law.
Generator's Name and Mailing Address	COTTWOING GENER	XAL.	0.1.1 -	A. Sta	ite Manifest Docu	nent Num	ber
	ATTN: AC/S EMD/I MARINE CORPS BAS		14	8. Sta	te Generator's ID		
4. Generator's Phone (901-451-1809	CAP LEJEINE, NO	· · · · · · · · · · · · · · ·	28540-0004				
5. Transporter 1 Company Name	6. I	US EPA ID No			ite Transporter's IC		
7. Transporter 2 Company Name	A- L 8.	_ D + O + 6+7 + 1+ US EPA ID NO		- 	insporter's Phone te Transporter's IC		5-744-8440
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9. Designated Facility Name and Site Address L W D. INC.	10.	US EPA ID No	mber	G. Ste	ate Facility's ID		
HIGHMY 1523				1	cility's Phone		
42.20 42.17 (20.000)		/ D .O . 8.8 . 4.	.3 . 8 . 8 . 1 . 7 12. Cai		13.	50 14.	2 -395-8 313
11. US DOT Description (Including Proper Shipping	y mame, nazaru Ciass, afi	id id iadinder)	No.	Туре	Total Quantity	Unit Wt/Vol	i, Waste No.
a. RQ, HAZARDOUS WASTE SOLID,	N.O.S., 9, NA3077	7.	1	דמ		P	U 061
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15. Special Handling Instructions and Additional	ETERM	ENCY CONTACT:		710 PI	IN: 995-2790	JOHN	RIME
16. GENERATOR'S CERTIFICATION: I hereby declar marked, and labeled, and are in all respects in prop If I am a large quantity generator, I certify that I have and that I have selected the practicable method of tree QR, if I am a small quantity generator, I have made a afford. Printed/Typed Name	er condition for transport by a program in place to reduce stment, storage, or disposal c	highway according to a the volume and taxicity a urrently available to me v	pplicable internation of waste generated which minimizes the property of the p	onal and n ta the degi present an	iational government ree I have determine d future threat to hun	al regulation do be economian health c is available	ns. iomically practicable and the environment
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18. Transporter 2 Acknowledgement of Receipt of	Materials				/		
Printed/Typed Name		Signature					onth Day Yea
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of re				s noted i	n Item 19.		
20. Facility Owner or Operator: Certification of re	ceipt of hazardous mate	rials covered by this r	nanirest except o				
Printed/Typed Name	ceipt of hazardous mate	Signature	adnirest except of		Ja Ch		Jonih Day Yea
			And Andrews		Jalle Salle	CB MCC	Conth Day Yes

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	!	WASTE MANIFEST	N.C.,6.1.7.0.	0 . 2.2 . 5.8 . 0	Godning 1, 102	of	1 ou cedni	red by Fede	rai law.
	3.	Generator's Name and Mailing Address	COMMODIG GRE	-		A. Sto	te Manifest Docum	ent Number	
A			ATTN: AC/S END/						5
		Comment Share (State)	HARZINE CORPS BA		-	B. Sta	te Generator's iD		
	-	Generator's Phone (901-451-1809	CAP LEJEINE, N		28540-0004				
	5.	Transporter 1 Company Name	6. l a /	US EPA ID Nu			ite Transporter's IO		
	-	ROBBIE WOOD, INC.	8.	US EPA ID No			insporter's Phone te Transporter's ID		744-8440
	/.	Transporter 2 Company Name	•. !				nsporter's Phone		
	9	Designated Facility Name and Site Address	10.	US EPA ID Nu			tre Facility's ID		
		L W D. INC.					,		
		HICHAY 1523				H. Fac	ality's Phone		
		CALVERT CITY, KENTUCKY 43	2029 K.	Y.D.,O. 8.8.4.	3 . 8,8 . 1,7		·	502-	395-8 313 🗜
	11	. US DOT Description (Including Proper Shippin	g Name, Hazard Class, ai	nd 10 Number)	12. Cont	ziners	13. Total	14. Unit	1.
		НМ			No.	Type	Quantity	Wt/Vol	Waste No.
	a.	RQ, HAZARDOUS WASTE SOLID, PGIII, (CONTAINS DOT)	N.U.S., 9, NRSU/	7.	1	ग		PU	061
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a i	ا. ا	Additional Descriptions for Materials Listed Ab	ove.			K. Ha	ndling Codes for V	Vastes Listed	Above
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	15	. Special Handling Instructions and Additional	Information ENERG	ENCY CONTACT: 1	-900-999- 671	0 P	N: 995-2790	JOHN RH	YNE
			e erg	ENCY RESPONSE 6	LUIDEN 31				
	<u></u>	CONTRACTOR CONTRACTOR				-6			
	10	 GENERATOR'S CERTIFICATION: I hereby decle marked, and labeled, and are in all respects in pre- 							assined, packed,
		If I am a large quantity generator, I certify that I have							
		and that I have selected the practicable method of tre- OR, if I am a small quantity generator, I have made o							
	<u>_</u>	afford.			·	_/		<u>-</u>	
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R	-	Transporter Acknowledgement of Receipt of	Materials	Signature				Manti	Day Year
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	18	I. Transporter 2 Acknowledgement of Receipt of	Materials	/	7-1-00	<u> </u>			<u> </u>
ORTWR	-	Printed/Typed Name		Signature				Mont	Day Year
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	19	P. Discrepancy Indication Space							
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	20). Facility Owner or Operator: Certification of re	sceipt of hazardaus mate	rials covered by this n	anifest except as	noted i	n item 19.	-	
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UNIFORM HAZARDOUS WASTE MANIFEST		ignifest 2. Page 1 will Information in the shaded areas is not required by Federal law.						
3. Generator's Name and Mailing Address	CONNUCTING GENERAL ATTN: AC/S EMD/JRD	A. State Manifest Document Number						
4. Generator's Phone (901-151-1809	MARINE CORPS BASE PSC BOX 20004	B. State Generator's ID 0-0004						
5. Transporter 1 Company Name	6. US EPA ID Number	C. State Transporter's ID						
ROBBIE WOOD, INC.	A-L-D-0-6-7-1-3-8							
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID						
9. Designated Facility Name and Site Address	10. US EPA ID Number	G. Stare Facility's ID						
L W D. INC.	13. GG 4.7.10 1.5.							
HIGHAY 1523	<u>.</u>	H. Facility's Phone						
CALVERT CITY, KENTUCKY 42	029 K·Y·D·O·8·8·4·3·8							
11. US DOT Description (Including Proper Shipping	g Name, Hazard Class, and ID Number)	12. Containers 13. 14. 1. 1. 1. 1. 1. 1.						
a. RQ, HAZARDOUS WASTE SOLID,	N.O.S., 9, NA3077,	1 DT P U061						
PGIII. (CONTAINS DOT)		1. 1. 19.1.20						
b.								
5 b. 								
		1						
с.								
	·							
d.								
-								
15. Special Handling Instructions and Additional	Т06/Т07							
16. GENERATOR'S CERTIFICATION: I hereby deck	EPERCENCY CONTACT: 1-600 EPERCENCY RESPONSE GLIDE are that the contents of this consignment are fully and accurate	Tety described above by proper shipping name and are classified, packed.						
If I am a large quantity generator, I certify that I have and that I have selected the practicable method of tree OR, if I am a small quantity generator, I have made a afford.	atment, storage, or disposal currently available to me which mi a good faith effort to minimize my waste generation and selec	ple international and national governmental regulations. I generated to the degree I have determined to be economically practicable inimizes the present and future threat to human health and the environment, at the best waste management method that is available to me and that I can Month Day Yea.						
Priored/Typed Name FUSER H JONS	Signature Cus	act long 10.61159						
17. Transposer 1 Acknowledgement of Receipt of	Materials Signature	A Month Day Yea						
Pripred/Typed Name	raldson & enne	# 1 Hours 18611.5195						
Pripred/Typed Name NWLW 18. Transporter 2 Acknowledgement of Receipt of Printed/Typed Name	Materials							
Printed/Typed Name	Signature	Month Day Yea						
	1							
19. Discrepancy Indication Space	ceipt of hazardous materials covered by this manife	at except as noted in Item 19.						
,								
Printed Typed Name	Signature	Month Day Year						
		Manual Andrews 10-9						

	UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US	0.0 . 2.2 . 5.8 . 0	Manifest cument 10:	2. Paç af	Information of require	on in the	e shaded areas ederal law.
3. (Generator's Name and Mailing Address	COMMOING G		<u>, – . /</u>	A. Sta	re Manifest Docum	ent Num	iber
		ATTN: AC/S E	- · •		B. Sto	te Generator's ID		
4. (Generator's Phone (901 451-1809	CMP LEJEINE	BASE PSC BOX 20004 NC 285	40-0004	J. 310	ie Generalor 3 io		
5. 1	Transporter 1 Company Name		6. US EPA ID Number		C. Sta	ite Transporter's ID		
	ROBBIE WOOD, INC.		A-L-D -0 - 6-7 - 1-3 -		D. Tre	insporter's Phone	20	X-744-8440
7.	Transporter 2 Company Name	ı	8. US EPA ID Number			te Transporter's ID nsporter's Phone		
0 1	Designated Facility Name and Site Address		10. US EPA ID Number			nsporier's Phone		
·· ·	L W D. INC.					,		
	HIGHAY 1523				H. Fa	cility's Phone		
		2029	K-Y-D-0-8-8-4-3				<u>50</u>	1 2-395-63 13
	US DOT Description (Including Proper Shippin	ng Name, Hazard Cla:	ss, and 1D Number)	12. Cont	1	13. Total	14. Unit	I, Waste No.
a.	RQ, HAZARDOUS WASTE SOLID.	N.O.S., 9. NA		1	Type	Quantity	Wt/Vol	U061
-	PGIII. (CONTAINS DOT)					110 7 11 3		
_	·			<u> </u>	1:	<i>4.9.</i> 7.4.0	1	
b.								
c.	_	· · · · · · · · · · · · · · · · · · ·	-,					
	·							
_				1::-	1 .			
d.								
						T06/T07		
15.	. Special Handling Instructions and Additional	램	ERGENCY CONTACT: 1-60 ERGENCY RESPONSE GUID		10 P	T06/T07 DN: 995-2790	JOHN	RIME
16.	GENERATOR'S CERTIFICATION: I hereby dedo marked, and labeled, and are in all respects in prop If I am a large quantity generator, I certify that I have and that I have selected the practicable method of tree OR, if I am a small quantity generator, I have made a afford.	are that the contents of per condition for transport or program in place to reamment, storage, or disp	this consignment are fully and accur nort by highway according to applice educe the volume and toxicity of was local currently available to me which a inimize my waste generation and sel	extery described able internation te generated to minimizes the pr	d above to not and r a the degrater and	IN: 995–2790 by proper shipping national governmentations of the state of the stat	ime and a il regulation I to be econ an health s available	are classified, packe ons. nomically practical and the environme e to me and that I c
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16.	GENERATOR'S CERTIFICATION: I hereby dedo marked, and labeled, and are in all respects in property of the large quantity generator, I certify that I have and that I have selected the practicable method of the OR, if I am a small quantity generator, I have made afford. Prints 17 Typed Name Caral Caral Caral	ere that the contents of per condition for transp or program in place to rearment, storage, or disp a good faith effort to mi	this consignment are fully and accur nort by highway according to applice educe the volume and toxicity of was local currently available to me which a inimize my waste generation and sel	extery described able internation te generated to minimizes the pr	d above to not and r a the degrater and	IN: 995–2790 by proper shipping national governmentations of the state of the stat	ime and a il regulation to be econ an health s available	ire dassified, packe ons. nomically practical and the environme to me and that I c footh Day Ye 2.6 1 . 5 9
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UNIFORM HAZARDOUS WASTE MANIFEST						1	C SAME NAME OF
AMDIE MMIAILEDI	1. Generator's US	S EPA ID No. • 0•0 • 2•2 • 5•8 • 0	On Manifest	2. Pag of		tion in the pired by Fe	shaded areas i derai law.
3. Generator's Name and Mailing Address	CONTINUING C	ENERAL,	, , , , , , , , , , , , , , , , , , , 	A. Stat	e Manifest Docur	ment Num	ber
1	ATTN: AC/S E	· · ·					
4. Generator's Phone (901-451-1809		BASE PSC BOX 200		B. Stat	e Generator's iD		
5. Transporter 1 Company Name	CAMP LEJELNE	& US EPA ID N	28540-0004 umber	C Stor	e Transporter's II	<u> </u>	
ROBBIE WOOD, INC.		A.L.D .0 . 6.7 . 1			sporter's Phone		5-744-8440
7. Transporter 2 Company Name		8. US EPA ID N		E. Stat	e Transporter's ID		
		^		F. Tran	sporter's Phone		
9. Designated Facility Name and Site Address L W D. INC.		10. US EPA ID N	nwper	G. Sta	te Facility's ID		
CALVERT CITY, KENTUCKY	42029	K.Y D .O. 8.8 . 4	.3 . 8.8 . 1.7	H. Fac	lity's Phone	50	2 -395-8 313
11. US DOT Description (Including Proper Ship)	ping Name, Hazard Clas	ss, and ID Number)	12. Cont	Type	13. Total Quantity	14. Unit Wt/Voi	l. Waste No.
a. RQ, HAZARDOUS WASTE SOLID	. N.O.S., 9, NA	3077,	4	מזמ		P	U061
PGIII. (CONTAINS DUT)	•				1250		
b					,		
							·• ·
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7							•
				<u> </u>			
d.							
J. Additional Descriptions for Materials Listed A	Above			K. Han	dling Codes for V	Naster II-	ad Abova
					T06/T07	- · - -	•
	•						
15. Special Handling Instructions and Additiona	al Information	ERGENCY CONTACT:	1 -600-999-6 71	O PD	N: 995-2790	JOHN I	RIME
		ERGENCY RESPONSE					
16. GENERATOR'S CERTIFICATION: I hereby de marked, and labeled, and are in all respects in pr	eclare that the contents of	this consignment are fully and	accurately described				
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		complete Sections I, II, III and IV ALE: COMPlete any Sections I, II and III.	883344
	CENERATOR .	Seed mor sampletus all of Section ()	The second of the second
. Generator Name: COI	amanding General	b. Generating Location: SAME	
		d. Address:	
		mp LeJeune. NC 28542-0004	
Phone Na: 13101	facility differs from the generator, provide:	f. Phone No.:	
_	-		
. Owner's Neme:		h. Owner's Phone No.:	TYPE
BP WASTE CODE	1 1 1 1 1 1 1	7 2 3 8 3 1 2 Containers	DM METAL DRUM DP - PLASTIC CHUM B - BAG
Description of Waster	ioil	k. Quantity Units No. TYPE	BA - 6 MIL, PLASTIC B.
		50200000	T -TRUCK
GENERATOR'S CERTIFIC	ATION! I heraby madily that the show as and mutad	e is not a Aggerdous waste as defined by 40 CFR Part 781	UNITS
explicable regulations; AND	D. If the weste is a treatment residue of a previous arrant the the weste has been treated in accordance as by 40 CPR Part 281	id, and is in proper condition for transportation according to a matrix of the Land Disposal with the requirements of 40 CFR Pen 238 and is no longer	Y - YOUNDS Y - YARDS MI - CUBIC METERS YI - CUBIC YARDS O - OTHER
		(anicone Campage we)	- 19 (A)
The state of the s		Renicomplets and Transporter U complete has 1	
	Transporter [TRANSPORTEH	II
Name:	Transport, Inc.	n. Name:	
. Address:	est Meuntain Street	i. Address.	
- Kerner			
Doner Name/Title:	War District	j. Driver Name/Title:	
	303 2400 e. Truck No.: 43	K. Phone No.:	
	NO: 18 1795 FUE		
	Ayuaipt of Materials.	Acknowledgement of Receipt of Materi	
	4	TO ACCUPATE OF METERS	· · · · · · · · · · · · · · · · · · ·
_ toha	11/2/19	5 n Short Sappeture	
The second second second			
Alea Namer - 8 m 9-5 d	- COMPANY DISTRICT LIST	c. Phone No.: (\$10)525-4132	
Physical Address A. 2.A	- · · · · · · · · · · · · · · · · · · ·	·	
	· •	d. Mailing Address: 20 Box 2096	
Rose	boro, NC 28382	Rosebora, NC 28382	
Discrepancy Indication 5	ipace:		
I hereby cartify that the	above named material has been accepted and	s to the best of my knowledge the foregoing is true a	nd acourate.
EVELYN M	Sitauria Levelya M	12195	
AND THE PROPERTY OF	ARBESTOS (devenue e	project add (a Operator completes et	To the control of the second
.Operator's Name:		c. Operator's Phone No.:	
Operator's Address:		·-	
	tions and additional information:	inment are fully and accurately described above by proper a	
ided, marked, and lebeled, a	nd are in all respects in groots consider for transpo	up of sighway according to abblicable international and density an	intoping riems and Its classi Tribum (bywations
veloris* Nama & Tizi	•:		
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NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

36. _	If waste is automice waste, compile waste is NOT automice waste.	complete only Sections 1, 11 and 111.
	A PARAMETER OF THE PARA	tive sombletes all of Section ()
		Generating Location: SAME
	/atte: AC/S FMD/John Binds	Address
Address: _	Corps Base, PSC Box 20004, Camp	
	/010) 451 5279	
•	generating factify differs from the generator, provide:	Phona Nr.:
. Owner's No	Arrie:	Owner's Phone No.:
ITEAW IND	E CODE N C 1 2 1 4 9 6 1 1 1 7	TYPE MURC METAL DRUM DP - PLASTIC DRUM MURC DITAL DRUM DP - PLASTIC DRUM
Description	or Weste: Scil	A. CURNITY LIME NO. TYPE BA - 8 MIL PLASTIC BAG
		36360 P To THUCK
or any applications of Reservoirs	IT'S CENTIFICATION: I nereby dentity (not the store named moreme is nable state law, has then properly described, showfied and peeraged, an guildons; AND, if the wasta he is breakent residue of a previously real Lossity and warrant that the waste hee been residue in accordance with waste as defined by 40 CZR Part 261.	d is in prepar condition for transportation according to tricted Nazardous waste subject to the Land Disposal tricted Nazardous waste subj
	charited Agent Name Signature	Shipment Date
DE COUNTY.		ompials 4d; Transports (complete ad
	TRANSPORTER 1	TRANSPORTER II
	Hiles Isansport Inc	
	1024 Fast Mountain Street	i. Address.
-	MATTHE ROOFT Hadgest	- Start Name (First
	The state of the s	Dilver Name/Title:
•	: (910)993-2400 . Truck No.: 41	k. Phone Ne.: I. Truck No.:
	dgement of Receipt of Materials.	nu Vehicle License No./State: Acknowledgement of Receipt of Materials.
Rose	Hadgelt 1112195	n
One Charles	SNormani Date	Sharram Date Sharram Date Sharram Date
STATE OF THE PARTY		
	Sampson County Disposal Inc	
. Physical A	adi -2134 Rosobero Hwy.	
	Roseboro, NC 28382	Roseboro, NC 28382
· -	y Indication Space:	
EVUI	VN MGLaucia Europ MS.	the heat of my beneviange the faregiting in true and earthwate 1 2 9 5
Telephone .	ASBESTOS COMO COMO	Ste ed, f, g, Operator Domoletee b.)
. Operator's	* Name:	b. Operator's* Phone No.;
	* Address:	
. Special Ha	andling instructions and additional information:	
TROTA	CERTIFICATION: I hereby declars that the contemp of this consignm	ent are fully and accurately described above by proper shipping name and are classified, y highway according to applicable international and government regulations.
. Operator's	* Name & Title:	
. Name and		Contracts Constitute Contracts
	Norwfriebie: Both 46 Maple	

12/28/35 FRI 14:04 FAX 910 525 4150

DFI/SCD

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

	complete only Sections 1, If and 111.
GENERALOR (O.	
General Commanding General	Generating Location: SAME
Address: (Attn: AC/S EMD/John Riggs d.	
Marine Corps Base, PSC Box 20004. Camp	<u>LeJeune</u> , NC 28542-0004
Phone No.: (910) 451-5878	Phone No.
owner of the generating facility differs from the generator, provide:	
Owner's Name: h.	Owner's Phone No.
BFI WASTE CODE NC 2169611	Z J 8 3 2 Containers DM - METAL DRUM DP - PLASTIC DRUM R - BAG
	5/320 P / TYPE BA - 6 MIL PLASTIC BAC T - TRUCK O - OTHER
GENERATOR'S CERTIFICATION: I norsely certify that the acove names material is no or any applicable state iaw, has been properly described, classified and packaged, and applicable requestions; ANO, if the waste is a beniment residue of a previously rest. Restrictions, I certify and warrant that the waste has been treated in accordance with a a hazardous waste as certified by 40 CFR Peri 201.	6 is in proper condition for transportation according to P - POUNDS rectact harventous wasts studget to the Land Disposal Y - YARDS
GEFENGER AUTHORIZED Agent Name GEFENGER AUTHORIZED AGENT NAME	Stripment Date
TRANSPORTER Consult I	Implets 1-d: Transporter to compare 1-1
TRANSPORTER I	TRANSPORTER II
Name	n, Name:
Address: 1024 Fast Mountain Street	i, Address;
Kernersville Nr 27284	
Driver Name / Trile: ROBBHT L Guther's	j. Driver Name/Title:
Phone No.: (910)993-2400 e. Truck No.: 34	K. Phane No.: I. Tryon No.:
Vehicle License No./State: LX/993	m. Vehidis License No./State.
Ackperioegement of Receipt of Materials.	Acknowledgement of Receipt of Materials
Toket Nuther 11/2/195	T. Orrest Squarus Religions Chief
DESTINATION BOWER	plants and documental demplates a M
Site Name: Sampson County Disposal Inc	c. Phone No.: (910)525-4132
Physical Address 434 Roseboro Hwy	•
Roseboro NC 29382	Roseboro NC 28332
	_ NOSCOOLINE ENGLE
Discrepancy indication Space:	the hant of my browledge the faregains in the and account
Thereby certify triat trie appear instruction material new poets accepted and to	the best or my knowledge the loregating is thus and accurate.
Evelyn Milburia Burlyn My	7042 11 19 19 19 19 19 19 19 19 19 19 19 19
SESTOS (Canocalor comp	entitional: [, qu'Conteros Completie e.)
Operator's Name:	b. Operator's* Phone No.:
Operator's Address:	
Special Handling Instructions and additional information:	
STATOR'S CERTIFICATION: I hereby deciare that the contents of this correspond	and are Netly and amountably described above by proper enlipping name and are class?
ened, mailled, and leveled, and are in as respects in preper condition for transport by	r highway according to applicable international and government regulations.
Coerstor's Name & Tiller	Openitor's Signature Opin
Name and Address	Control Contro

Appendix D Disposal Certification

PAG-

203E

CHENICAL WASTE MANAGEMENT Federal EPA ID: TXD00838896 State EPA ID: 50212-001 Highway 73 PORT ARTHUR,, TX 77643 (409) 736-2821

DRNO-CAMP LEJEUNE ATTN: HANIFEST SECTION NC6170022580 US MARINE CORPS BASE CAMP LEJEUNE NC 28547

CERTIFICATE OF DESTRUCTION

Chemical Wasta Management, Inc. has received wasta material from DRMO-CAMP LEJEUNE on 05/24/95 as described on [Stata Manifest or Uniform] Hazardous Wasta Manifest number 0000799072 Sequence number 01. Chemical Wasta Management, Inc., hereby certifies that the above described material was incinerated and thereby destroyed in accordance with the 40 CFR part 761 as it pertains to the incineration of Fely-Chlorinated Riphanyl contaminated materials.

Profile Number: AR4721 CMM Tracking ID: 52201101 Treatment Date: 05/31/95 CWM Unit #: 1*0

under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Cartificate # 9696 06/08/95

- 1 -

01/23/1996 15:32 4097364155

CHEMICAL WASTE MIGT

CHEMICAL WASTE MANAGEMENT Federal EPA ID: TXD00838896 State EPA ID: 50212-001 Highway 73 PORT ARTHUR,, TX 77643 (409) 736-2821

DEMO-CAMP LEJEUNE ATTN: MANIFEST SECTION NC6170022580 US MARINE CORPS BASE CAMP LEJEUNE NC 28547

CERTIFICATE OF DESTRUCTION

Chemical Waste Hanagement, Inc. has received waste material from DRHO-CAMP LEJEUNE on 05/21/95 as described on [State Manifest or Uniform] Hasardous Waste Manifest number 0000799071 Sequence number 01. Chemical Waste Management, Inc., hereby cartifies that the above described material was incinerated and thereby destroyed in accordance with the 40 CFR part 761 as it pertains to the incineration of Poly-Chlorinated Biphenyl contaminated materials.

Profile Number: AR4721 CMM Tracking ID: 52201201 Treatment Date: 05/31/95

CWN Unit #: 1*0

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Certificate # 9692 06/08/95

- 1 -

4897384155

@1/23/1996 15:32

CHEMICA_ WASTE MINGT

PAGE PASE K-

CHEMICAL WASTE HANAGEMENT Federal EPA ID: TXD00838896 State EPA ID: 50212-001 Highway 73 PORT ARTHUR,, TX 77643 (409) 736-2821

DRMO-CAMP LEJEUNE ATTN: MANIFEST SECTION NC6170022580 US MARINE CORPS BASE CAMP LIJEUNE NC 28547

CERTIFICATE OF DESTRUCTION

Chamical Waste Management, Inc. has received waste material from UNMU-CAMP LEJEUNE on 05/14/95 as described on 1state manifest or Uniform! Hazardous Waste Manifest number 0000799070 Sequence number 01. Chemical Waste Management, Inc., hereby certifies that the above described material was incinerated and thereby destroyed in accordance with the 40 CFR part 761 as it pertains to the incineration of Poly-Chlorinated Biphenyl contaminated materials.

Profile Number: AR4721 CMM Tracking ID: 52201001 Treatment Date: 05/30/95 CWM Unit #: 1*0

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Certificate # 9697 06/08/95

Francis

- 1 -

CHENICAL WASTE MANAGEMENT Federal EPA ID: TXD00838896 State EPA ID: 50212-001 Highway 73 PORT ARTHUR,, TX (409) 735-2821

DRHO-CAMP LEJEUNE ATTM: MANIFEST SECTION NC6170022580 US MARINE CORPS BASE CAMP LEJEUNE NC 28547

CERTIFICATE OF DESTRUCTION

Chemical Waste Hanagement, Inc. has received waste material from DRMO-CAMP LEJEUNE on 05/25/95 as described on [State Manifest or Uniform] Hazardous Wests Manifest number outdrysubs Sequence number of Chemical Wasts Management, Inc., hereby certifies that the above described material was incinerated and thereby destroyed in accordance with the 40 CFR part 761 as it pertains to the incineration of Delu-Chlorinated Riphanyl contaminated materials Poly-Chlorinated Biphenyl contaminated materials.

Profile Number: AR4721 CWM Tracking ID: 52202501 Treatment Data: 06/01/95

CMM Unit #: 1*0

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Cartificate # 9699

06/09/95

CHEMICAL WASTE MANAGEMENT Federal BPA ID: TXD00838896 State BPA ID: 50212-001 Highway 73 PORT ARTHUR,, TX 77643 (409) 736-2821

DRMO-CAMP LEJEUNE ATTN: MANIFEST SECTION MC6170022580 US MARINE CORPS BASE CAMP LEJEUNE NC 28547

CERTIFICATE OF DESTRUCTION

Chemical Waste Management. Inc. has received waste material from DRMO-CAMP LEJEUNE on 05/24/95 as described on [State Manifest or Uniform] Hazardous Waste Manifest number 0000799068 Sequence number 01. Chemical Waste Management, Inc., hereby certifies that the above described material was incinerated and thereby destroyed in accordance with the 40 UFR part 761 as 1t pertains to the incineration of Poly-Chlorinated Biphenyl contaminated materials.

Profile Number: AR4721 CMM Tracking ID: 52201701 Treatment Date: 06/13/95

CNM Unit #: 1*0

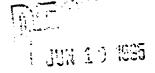
Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy. T certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Certificate # 9850 06/16/95

- 1 -



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029



U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No. 11086

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on 3-3/-95 in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method compiles with all applicable Federal / State laws and regulations.

Genera: Manager

Date



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

11087

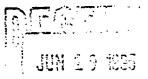
Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on. in accordance with operating permit number KYD088438817 parameters at Calvert City. Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.







U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No. 21088

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on. in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

JUN 19 1935

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NC

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

11089

Purchase Order No. N/A

Billed on Invoice No. 9406

General Manager

Date



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01090

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on. in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01091

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on in accordance with operating permit number KYD088436817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



F.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 57 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinaliter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01092

Purchase Order No. N/A

Billed on Invoice No. 9426

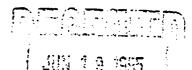
The TSD facility certifies that these wastes were incinerated on <u>06/11/95</u> in accordance with operating permit number KYD088438617 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

Tate.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029



U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01093

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



LWD,

P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01094

Purchase Order No. N/A

Billed on Invoice No. 9406

The TSD facility certifies that these wastes were incinerated on 6-5-75: in accordance with operating permit number KYD086436817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 37** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01097

Purchase Order No. N/A

Billed on Invoice No. 9667

The TSD facility certifies that these wastes were incinerated on 08/14/95 in accordance with operating permit number KYD086438817 parameters at Carvert City. Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 87** CAMP LEJEUNE, NO

28540

LWD, INC P.C. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01099

Purchase Order No. M/A

Billed on Invoice No. 9667

The TSD facility certifies that these wastes were incinerated on 06/14/95 in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

23540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01190

Purchase Order No. N/A

Billed on Invoice No. 9687

The TSD facility certifies that these wastes were incinerated on <u>06/15/95</u> in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

F.Z.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 87 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01101

Purchase Order No. N/A

Billed on invoice No. 9667

The TSD facility certifies that these westes were incinerated on 06/11/95 in accordance with operating permit number KYD088438317 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State

laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERTICITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (increinalter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01102

Purchase Order No. N/A

Billed on Invoice No. 9867

The TSD facility certifies that these wastes were incinerated on <u>06/13/95</u> in accordance with operating permit number KYD088438817 parameters at Caivert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42023

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document cartifles that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

C11C5

Purchase Order No. N/A

Billed on Invoice No. 9733

The TSD facility certifies that these wastes were incinerated on <u>06/15/85</u> in accordance with operating permit number KYD088438817 parameters at Calvert City Kentucky, and that such disposal method compiles with all applicable Federal / State laws and regulations.

General เปลกส่นสำ

Date

(4696)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document cartifies that LWD, Inc. (heroinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01106

Purchase Cider No. N/A

; Billed on Invoice No. 9733

The TSD facility certifies that these wastes were indinerated on <u>08/19/95</u> in accordance with operating permit number KYD083438617 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

Date

(4896)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This occurrent certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01107

Purchase Order No. N/A

Billied on invoice No. 9733

The TSD facility certifies that these wastes were incinerated on <u>06/16/95</u> in accordance with operating permit number KYD086438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / States laws and regulations.

General Manadez

Jate

(469∂)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNG, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This decument certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01108

Purchase Order No. N/A

Billed un invoice No. 15931

The TSO facility certifies that these wastes were incinerated on <u>06/17/95</u> in accordance with operating permit number KYD088436817 parameters at Calvert City, Kentuphy, and that such disposal method compiles with all applicable Federal / State laws and regulations.

Ganarál Manader

Date:

(4696)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BCX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01109

Purchase Order No. N/A

Billed on Invoice No. 9733

The TSD facility certifies that these wastes were increarted on <u>C6/18/95</u> in accordance with operating permit number KYD088438817 parameters at Calvert City. Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

(4698)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 87 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. 50X 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01114

Purchase Order No. N/A

; Billed on Irvoice No. 9369

The TISO facility certifies that these wastes were incinerated on <u>06/16/95</u> In accordance with operating permit number KYD086438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manage

Dáte

(4898)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

26540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document pertifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

Q1115

Purchase Order No. N/A

Billed on Invoice No. 9869

The TSD facility certifies that these wastes were incinerated on <u>C6/16/95</u> in accordance with operating permit number KYD088433317 parameters at Calvert City. Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

Data

(4693)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility.) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01116

Purchase Order No. N/A

Billed on invoice No. 9869

The TSD facility certifies that these wastes were incinerated on <u>06/15/95</u> in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manage

Date:

(4895)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 87** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01117

Purchase Order No. N/A

Billed on Invoice No. 9869

The TSD facility certifies that these wastes were incinerated on 03/14/95 in accordance with operating permit number KY0088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

(4696);



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 87 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42929

This document certifles that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01118

Purchase Order No. N/A

· Billed on Invoice No. 9869

The TSD facility certifies that these wastes were indinerated on <u>06/16/95</u> in accordance with operating permit number KYD038438817 parameters at Caivert City, Kentucky, and that such disposal method complies with all applicable Federal / State is laws and regulations.

General Manadèr

Date

(4696)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 87** CAMP LEJEUNE, NO

28540

LWD. INC P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01122

Puichase Order No. N/A

Billed on Invoice No. 10060

The TSD facility certifies that these wastes were incinerated on <u>C6/18/95</u> In accordance with operating permit number KYO085438817 parameters at Caivert City Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

(4398)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01125

Purchase Order No. N/A

'Billad on Invoice No. 10133

The TSD facility certifies that these wastes were incinerated on <u>07/08/95</u> in accordance with operating permit number KYD088438817 parameters at Caivert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

General Manager

Spre

(4693)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS BUILDING 67 CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01126

Purchase Order No. N/A

Billed on Invoice No. 10133

The TSD facility certifies that these wastes were incinerated on <u>06/24/95</u> in accordance with operating permit number KYD088438317 parameters at Calvert City. Kentucky, and that such disposal method complies with all applicable Federal. State laws and regulations.

General Managor,

Data

(4696)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 87** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, inc. (hereinefler known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

Purchase Order No. M/A

Billed on Invoice No. 10133

The TSD facility certifies that these wastes were incinerated on 06/26/95 in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

(4393)



P.O. BOX 327 - CALVERT CITY, KENTUCKY 42029

U.S. MARINE CORPS **BUILDING 67** CAMP LEJEUNE, NO

28540

LWD, INC. P.O. BOX 327 CALVERT CITY, KENTUCKY 42029

> This document certifies that LWD, Inc. (hereinafter known as the TSD facility) has serviced wastes sent to the TSD facility by

U.S. MARINE CORPS

with Manifest No.

01155

Purchase Order No. N/A

Billed on Invoice No. 11770

The TSD facility certifies that these wastes were incinerated on 07/28/95 in accordance with operating permit number KYD088438817 parameters at Calvert City, Kentucky, and that such disposal method complies with all applicable Federal / State laws and regulations.

(4696)





Sampson County Landfill District

TO WHOM IT MAY CONCERN.

We accepted soil carrying manifests numbers: \$83344 (11/21/95), 883346 (11/21/95), 883347 (11/21/95), 883343 (12/07/95), 883342 (12/07/95), 824528 (12/07/95), into our landfill from the United States Marine Corps, Camp LeJeune.

Regards,

Shirley A. Robinson

Inside Sales Representative

Appendix E QC Analytical Report

QC ANALYTICAL REPORT

Samples from AOC 2,3, & 4 were analyzed by PACE Laboratory, Inc. Samples from AOC 1 were analyzed by Analytical Services, Inc. All samples were analyzed within the required holding times. All initial and continuing calibration criteria were met. Method blanks were analyzed for each matrix and determined to be contaminant free.

The data was validated by Laboratory Data Consultants, Inc. Validation was performed under NEESA Level C guidelines. These reports are included in this Appendix E. The calculations for matrix spike/matrix spike duplicates, RPD, and % difference were within the QC limit. The % difference of calibration factors in continuing standard mixtures were within the 15% QC limit except for those listed in Table A. The associated data has been qualified as estimated (J) to account for this event. Table B is a cross-reference of Laboratory Data consultants review groups to the Sample Delivery Groups (SGD) from the laboratories.

Table A - Qualified Data Summary		
OHM ID	4,4-DDT Conc.	4,4-DDD Conc.
CLJ62-A3S-11.6BC		2100Ј
CLJ62-A3S-12.6BC		300J
CLJ62-A3S-13.6CS		1800Ј
CLJ62-A3S-16.6CS		1100Ј
CLJ62-A3S-16.6CSD		1400Ј
CLJ62-A3S-RB	BDL	
CLJ62-A2S-RB	BDL	
CLJ62-FB	BDL	
CLJ62-A3S-001CS	180 J	
CLJ62-A3S-003CS	31 J	
CLJ62-A3S-004CS	740 Ј	
CLJ62-A3S-001BC	220 Ј	
CLJ62-A3S-004BC	BDL	
CLJ62-A3S-003.2BCD	220 Ј	
CLJ62-A3S-003.2BC	140 J	
CLJ62-A3S-008.2SC	100 Ј	
FB	BDL	
RB	BDL	

Table B - LDC Cross Reference		
LDC Group	SDG#	
Group #1579 (Samples received from PACE)		
1579A3	44280	
1579B3	44328	
1579C3	44360	
1579D3	44393	
1579E3	44479	
1579F3	44544	
1579G3	44626	
Group #1729 (Samples received from Analytics	al Services, Inc.)	
1729A3	CLJ62-001	

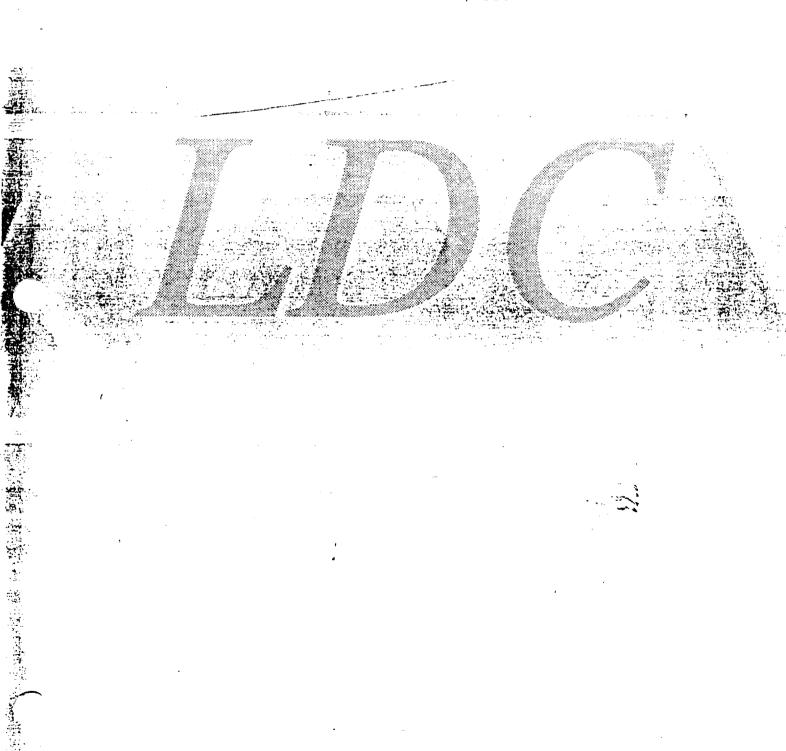
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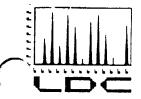
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Camp Lejeune Data Validation Reports LDC# 1579

Chlorinated Pesticides/PCBs





LABORATORY DATA CONSULTANTS, INC.

7750 El Camino Real, Suite 2C, Carlsbad, CA 92009 Phone: 619/634-0437 Fax: 619/634-0439

Missy Art

September 26, 1995

OHM Remediation Services Corp. 5335 Triangle Parkway, Suite 450 Norcross, GA 30092

SUBJECT:

Camp Lejeune, Data Validation

Dear Ms. Art,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 22, 1995.

LDC Project # 1579:

SDG

Fraction

44280, 44328,

Chlorinated Pesticides/PCBs

44360, 44393,

44479, 44544,

44626

The data validation was performed under NEESA Level C guidelines. The analyses were validated using the following documents, as applicable to each method:

- NEESA document 20.2-047B, Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program, June 1988.
- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, February 1994
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, November 1986; Revision 1, July 1992; Revision 2, November 1992; and update 1, August 1993

Please feel free to contact us if you have any questions.

Sincerely

Richard M. Amano

President/Principal Chemist

Attachment 1

Committee of the Commit

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		- 12						. =		L	DC	#15			M/C		o Le	ejet	ıne))		===::		·											
LDC	SDG#	DATE REC'D	DATE DUE	Pest	icides	PC	:Bs																												
Matrix:	Water/Soil			W	s	W	s	W	S	W	s	W	s	W	s	W	s	W	S	W	s	W	s	w	s v	v s	W	s	w s	s W	s	ws	W	s v	v s
Α	44280	8-22-95	9-19-95	2	14	2	14																												
В	44328	8-22-95	9-19-95	4	18	4	17				<u> </u>																								
С	44360	8-22-95	9-19-95	2	3	2	3																								П		П		
D	44393	8-22-95	9-19-95	3	12	3	13																												
E	44479	8-22-95	9-19-95	3	5	3	5																	П					\top	Τ			П	T	
F	44544	8-22-95	9-19-95	1	11	1	13																	П	$\neg \Gamma$		T			T	П		П	Т	
G	44626	8-22-95	9-19-95	2	5	2	5																	П						T	\sqcap		П		
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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

May 30, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44280

Sample Identification

CLJ62-A3S-001-CS

CLJ62-A3S-002-CS

CLJ62-A3S-003-CS

CLJ62-A3S-004-CS

CLJ62-A3S-006-CS

CLJ62-A3S-007-CS

CLJ62-A3S-009-CS

CLJ62-A3S-001-BC

CLJ62-A3S-002-BC

CLJ62-A3S-004-BC

CLJ62-A3S-006-BC

CLJ62-A3S-006-BCDUP

CLJ62-RB

CLJ62-FB

CLJ62-A3S-001-CSMS

CLJ62-A3S-001-CSMSD

Introduction

This data review covers 14 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB	112/110	Heptachlor	17.7	CLJ62-A3S-009-CS CLJ62-A3S-001-BC CLJ62-A3S-002-BC CLJ62-A3S-004-BC CLJ62-A3S-006-BC CLJ62-A3S-006-BCDUP CLJ62-RB CLJ62-FB	2	Р
IND2AB	112/110	4.4'-DOT '	22.4	CLI62-A3S-001-CS CLI62-A3S-003-CS CLI62-A3S-004-CS CLI62-A3S-001-BC CLI62-A3S-004-BC	J	P

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	AorP
All samples in SDG 44280.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	Р

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were analyzed according to the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All soil samples in SDG 44280.	All TCL compounds	MS/MSD was spiked with 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT.	MS/MSD should be spiked with Gamma-BHC, Heptachlor, Aldrin, Dieldrin, Endrin and 4,4'-DDT.	None	P

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG 44280.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Р

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LS-P4320	Endosulfan i	40 (41.20-98.53)	CLJ62-RB CLJ62-FB B-P4320 BLK	J	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A3S-006-BC and CLJ62-A3S-006-BCDUP were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

	Concentr	Concentration (ug/Kg)			
Compound	CLJ62-A3S-006-BC	CLJ62-A3S-006-BCDUP	RPD		
Alpha-chiordane	9.9	8.9	11		
Gamma-chlordane	10	9.0	11		

	Concentra		
Compound	CLJ62-A3S-006-BC	CLJ62-A3S-006-BCDUP	RPD
4,4'-DDT	9.0	ND	Not calculable
4,4'-DDE	4.2	3.9	7

XV. Field Blanks

Sample CLJ62-RB was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in the rinsate.

Sample CLJ62-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44280

SDG	Sample	Compound	Flag	A or P	Reason
44280	CLJ62-A3S-009-CS CLJ62-A3S-001-BC CLJ62-A3S-002-BC CLJ62-A3S-004-BC CLJ62-A3S-006-BC CLJ62-A3S-006-BCDUP CLJ62-RB CLJ62-FB	Heptachlor	J	Р	Continuing calibration (%D)
44280	CLJ62-A3S-001-CS CLJ62-A3S-003-CS CLJ62-A3S-004-CS CLJ62-A3S-001-BC CLJ62-A3S-004-BC	4,4'-DDT	J	Р	Continuing calibration (%D)
44280	CLJ62-A3S-001-CS CLJ62-A3S-002-CS CLJ62-A3S-003-CS CLJ62-A3S-004-CS CLJ62-A3S-007-CS CLJ62-A3S-007-CS CLJ62-A3S-009-CS CLJ62-A3S-001-BC CLJ62-A3S-002-BC CLJ62-A3S-004-BC CLJ62-A3S-006-BC CLJ62-A3S-006-BC CLJ62-A3S-006-BC	All TCL compounds	None	Р	Surrogate spikes
44280	CLJ62-A3S-001-CS CLJ62-A3S-002-CS CLJ62-A3S-003-CS CLJ62-A3S-004-CS CLJ62-A3S-006-CS CLJ62-A3S-007-CS CLJ62-A3S-009-CS CLJ62-A3S-001-BC CLJ62-A3S-002-BC CLJ62-A3S-004-BC CLJ62-A3S-006-BC CLJ62-A3S-006-BC CLJ62-RB CLJ62-FB	All TCL compounds	None	P	Matrix spike/Matrix spike duplicates
44280	CW62-RB CW62-FB	Endosulfan I	J	A	Laboratory control samples (%R)

Camp Lejeune Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary -SDG 44280

No Laboratory Blank Data Qualified in this SDG.

Sample Designation: CLJ62-A3S-001-CS

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 % , elevating the reporting limits by a factor of 1.16 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	40
alpha-BHC	BDL	40
beta-BHC	BDL	40
gamma-BHC (Lindane)	BDL	40
delta-BHC	BDL	40
alpha-Chlordane	140	40
gamma-Chlordane	160	40
4,4'-DDT	180	80 J
4,4'-DDE	130	40
4,4'-DDD	330	80
Dieldrin	BDL	40
Endosulfan I	BDL	40
Endosulfan II	BDL	80
Endosulfan sulfate	BDL	80
Endrin	BDL	40
Endrin aldehyde	BDL	80
Heptachlor	BDL	40 🗶
Heptachlor Epoxide	BDL	40
PCB-1242 (Arochlor 1242)	BDL	400
PCB-1254 (Arochlor 1254)	BDL	400
PCB-1221 (Arochlor 1221)	BDL	400
PCB-1232 (Arochlor 1232)	BDL	400
PCB-1248 (Arochlor 1248)		400
PCB-1260 (Arochlor 1260)	BDL	400
PCB-1016 (Arochlor 1016)	BDL	400
Toxaphene	BDL	2000
Endrin Ketone	BDL	- 80
Methoxychlor	BDL	400

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-002-CS

Date Extracted: 06/06/95
Date Analyzed: 06/07/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 %, elevating the reporting limits by a factor of 1.17 .

PESTICIDES/PCB'S	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	200
alpha-BHC	BDL	200
beta-BHC	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	BDL	200
alpha-Chlordane	BDL	200
gamma-Chlordane	BDL	200
4,4'-DDT	220 J	400
4,4'-DDE	170 J	200
4,4'-DDD	2500	400
Dieldrin	BDL	200
Endosulfan I	BDL	200
Endosulfan II	BDL	400
Endosulfan sulfate	BDL	400
Endrin	BDL	200
Endrin aldehyde	BDL	400
Heptachlor	BDL	200
Heptachlor Epoxide	BDL	200
PCB-1242 (Arochlor 1242)	BDL	2000
PCB-1254 (Arochlor 1254)	BDL	2000
PCB-1221 (Arochlor 1221)	BDL	2000
PCB-1232 (Arochlor 1232)	BDL	2000
PCB-1248 (Arochlor 1248)	BDL	2000
PCB-1260 (Arochlor 1260)	BDL	2000
PCB-1016 (Arochlor 1016)	BDL	2000
Toxaphene	BDL	8000
Endrin Ketone	BDL	400
Methoxychlor	BDL	2000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-003-CS

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 16 $\mbox{\ensuremath{\$}}$, elevating the reporting limits

'by a factor of 1.2 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	20
alpha-BHC	BDL	20
beta-BHC	BDL	20
gamma-BHC (Lindane)	BDL	20
delta-BHC	BDL	20
alpha-Chlordane	9.7 J	20
gamma-Chlordane	BDL	20
4,4'-DDT	31 J	40 J
4,4'-DDE	36	20
4,4'-DDD	280	40
Dieldrin	BDL	20
Endosulfan I	BDL	20
Endosulfan II	BDL	40
Endosulfan sulfate	BDL	40
Endrin	BDL	20
Endrin aldehyde	BDL	40
Heptachlor	BDL	20
Heptachlor Epoxide	BDL	20
PCB-1242 (Arochlor 1242)	BDL	200
PCB-1254 (Arochlor 1254)	BDL	200
PCB-1221 (Arochlor 1221)	BDL	200
PCB-1232 (Arochlor 1232)	BDL	200
PCB-1248 (Arochlor 1248)	BDL	200
PCB-1260 (Arochlor 1260)	BDL	200
PCB-1016 (Arochlor 1016)	BDL	200
Toxaphene	BDL	800
Endrin Ketone	BDL	<u>.</u> 40
Methoxychlor	BDL .	200

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.





Sample Designation: CLJ62-A3S-004-CS

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 $\mbox{\ensuremath{\$}}$, elevating the reporting limits

• by a factor of 1.13.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	90
alpha-BHC	BDL	90
beta-BHC	BDL	90
gamma-BHC (Lindane)	BDL	90
delta-BHC	BDL	90
alpha-Chlordane	BDL	90
gamma-Chlordane	BDL	90
4,4'-DDT	740	200 J
4,4'-DDE	530	90
4,4'-DDD	1500	200
Dieldrin	BDL	90
Endosulfan I	BDL	90
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	90
Endrin aldehyde	BDL	200
Heptachlor	BDL	.90
Heptachlor Epoxide	BDL	90
PCB-1242 (Arochlor 1242)	BDL	900
PCB-1254 (Arochlor 1254)	BDL	900
PCB-1221 (Arochlor 1221)	BDL	900
PCB-1232 (Arochlor 1232)	BDL	900
PCB-1248 (Arochlor 1248)	BDL	900
PCB-1260 (Arochlor 1260)	BDL	900
PCB-1016 (Arochlor 1016)	BDL	900
Toxaphene	BDL	4000
Endrin Ketone	BDL	200
Methoxychlor	BDL	900
•		- 0 -2500

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-006-CS

Date Extracted: 06/06/95
Date Analyzed: 06/07/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 16 \$, elevating the reporting limits by a factor of \$1.2\$.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	4
alpha-BHC	BDL	4
beta-BHC	BDL	4
gamma-BHC (Lindane)	BDL	4
delta-BHC	BDL	4
alpha-Chlordane	2.9 J	4
gamma-Chlordane	2.5 J	4
4,4'-DDT	BDL	8
4,4'-DDE	7.9	4
4,4'-DDD	79	8
Dieldrin	BDL	4
Endosulfan I	BDL	4.
Endosulfan II	BDL	8
Endosulfan sulfate	BDL	8
Endrin	BDL	4
Endrin aldehyde	BDL	8.
Heptachlor	BDL	4
Heptachlor Epoxide	BDL	4
PCB-1242 (Arochlor 1242)		40
PCB-1254 (Arochlor 1254)		40
PCB-1221 (Arochlor 1221)	BDL	40
PCB-1232 (Arochlor 1232)		40
PCB-1248 (Arochlor 1248)		40
PCB-1260 (Arochlor 1260)		40
PCB-1016 (Arochlor 1016)	BDL	40
Toxaphene	BDL	200
Endrin Ketone	BDL	8 3
Methoxychlor	BDL -	

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

9/22/95 px



Sample Designation: CLJ62-A3S-007-CS

Date Extracted: 06/06/95

06/07/95

Date Analyzed: Matrix:

SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 % , elevating the reporting limits

by a factor of 1.17.

PESTICIDES/PCB'S	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	8
alpha-BHC	BDL	8
beta-BHC	BDL	8
gamma-BHC (Lindane)	BDL	8
delta-BHC	BDL	8
alpha-Chlordane	32	8
gamma-Chlordane	37	8
4,4'-DDT	130	20
4,4'-DDE	25	8
4,4'-DDD	BDL	20
Dieldrin	BDL	8
Endosulfan I	BDL	8
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	8
Endrin aldehyde	BDL	20
Heptachlor	BDL	8
Heptachlor Epoxide	BDL	8
PCB-1242 (Arochlor 1242)	BDL	80
PCB-1254 (Arochlor 1254)	BDL	80
PCB-1221 (Arochlor 1221)	BDL	80
PCB-1232 (Arochlor 1232)	BDL	80
PCB-1248 (Arochlor 1248)	BDL	80
PCB-1260 (Arochlor 1260)	BDL	80
PCB-1016 (Arochlor 1016)	BDL	80
Toxaphene	BDL	300
Endrin Ketone	BDL	_ 20
Methoxychlor	· BDL	8 0

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range. Detection limits were elevated accordingly.





Sample Designation: CLJ62-A3S-009-CS

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 \$, elevating the reporting limits by a factor of 1.16 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
		-
Aldrin	BDL	4
alpha-BHC	BDL	4
beta-BHC	BDL	4
gamma-BHC (Lindane)	BDL	4
delta-BHC	BDL	4
alpha-Chlordane	3.5 J	4
gamma-Chlordane	3.3 J	4
4,4'-DDT	23	8
4,4'-DDE	10	4
4,4'-DDD	15	8
Dieldrin	BDL	4
Endosulfan I	BDL	4
Endosulfan II	BDL	8
Endosulfan sulfate	BDL	8
Endrin	BDL	4
Endrin aldehyde	BDL	8
Heptachlor	BDL	4 J
Heptachlor Epoxide	BDL	4
PCB-1242 (Arochlor 1242)	BDL	40
PCB-1254 (Arochlor 1254)	BDL	40
PCB-1221 (Arochlor 1221)	BDL	40
PCB-1232 (Arochlor 1232)	BDL	40
PCB-1248 (Arochlor 1248)	BDL	40
PCB-1260 (Arochlor 1260)	BDL	40
PCB-1016 (Arochlor 1016)	BDL	40
Toxaphene	BDL	200
Endrin Ketone	BDL	"8 %
Methoxychlor	BDL -	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit





Sample Designation: CLJ62-A3S-001-BC

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 % , elevating the reporting limits

by a factor of 1.18.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
91 dui -		
Aldrin	BDL	20
alpha-BHC	BDL .	20
beta-BHC	BDL	20
gamma-BHC (Lindane)	BDL	20
delta-BHC	BDL	20
alpha-Chlordane	24	20
gamma-Chlordane	28	20
4,4'-DDT	220	40 J
4,4'-DDE	40	20
4,4'-DDD	ຸ 30 ວັ	40
Dieldrin	23	20
Endosulfan I	BDL .	20
Endosulfan II	BDL	40
Endosulfan sulfate	BDL	40
Endrin	BDL	20
Endrin aldehyde	BDL .	40
Heptachlor	BDL	20 J
Heptachlor Epoxide	BDL	20
PCB-1242 (Arochlor 1242)	BDL	200
PCB-1254 (Arochlor 1254)	BDL	200
PCB-1221 (Arochlor 1221)	BDL	200
PCB-1232 (Arochlor 1232)	BDL	200
PCB-1248 (Arochlor 1248)	BDL	200
PCB-1260 (Arochlor 1260)	BDL	200
PCB-1016 (Arochlor 1016)	BDL	200
Toxaphene	BDL	800
Endrin Ketone	BDL	40 _
Methoxychlor	BDL	200

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

9/22/95 M



Sample Designation: CLJ62-A3S-002-BC

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was $6 \ \$, elevating the reporting limits

by a factor of 1.07.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	20
alpha-BHC	BDL	20
beta-BHC	BDL	20
gamma-BHC (Lindane)	BDL	20
delta-BHC	BDL	20
alpha-Chlordane	14 J	20
gamma-Chlordane	16 J	20
4,4'-DDT	32 J	40
4,4'-DDE	48	20
4,4'-DDD	200	40
Dieldrin	BDL	20
Endosulfan I	BDL	20
Endosulfan II	BDL	40
Endosulfan sulfate	BDL	40
Endrin	BDL	20
Endrin aldehyde	BDL	40
Heptachlor	BDL	20 J
Heptachlor Epoxide	BDL	20
PCB-1242 (Arochlor 1242)	BDL	200
PCB-1254 (Arochlor 1254)	BDL	200
PCB-1221 (Arochlor 1221)	BDL	200
PCB-1232 (Arochlor 1232)	BDL	200
PCB-1248 (Arochlor 1248)	BDL	200
PCB-1260 (Arochlor 1260)	BDL	200
PCB-1016 (Arochlor 1016)	BDL	200
Toxaphene	BDL	700
Endrin Ketone	BDL	40
Methoxychlor .	BDL	200

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

9/22/95 M



Sample Designation: CLJ62-A3S-004-BC

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits

• by a factor of 1.13.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
		3, 3,
Aldrin	BDL	400
alpha-BHC	BDL	400
beta-BHC	BDL	400
gamma-BHC (Lindane)	BDL	400
delta-BHC	BDL	400
alpha-Chlordane	210 J	400
gamma-Chlordane	190 J	400
4,4'-DDT	BDL	700 ブ
4,4'-DDE	370 J	400
4,4'-DDD	6700	700
Dieldrin	BDL	400
Endosulfan I	BDL	400
Endosulfan II	BDL	700
Endosulfan sulfate	BDL	700
Endrin	BDL	400
Endrin aldehyde	BDL	700
Heptachlor	BDL	400 J
Heptachlor Epoxide	BDL	400
PCB-1242 (Arochlor 1242)	BDL	4000
PCB-1254 (Arochlor 1254)	BDL	4000
PCB-1221 (Arochlor 1221)	BDL	4000
PCB-1232 (Arochlor 1232)	BDL	4000
PCB-1248 (Arochlor 1248)	BDL	4000
PCB-1260 (Arochlor 1260)	BDL	4000
PCB-1016 (Arochlor 1016)	BDL	4000
Toxaphene	BDL	10000
Endrin Ketone	BDL	700
Methoxychlor	BDL	4000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit.

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

4/22/91 pt



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Sample Designation: CLJ62-A3S-006-BC

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 18 % , elevating the reporting limits

by a factor of 1.22.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	4
alpha-BHC	BDL	4
beta-BHC	BDL	4
gamma-BHC (Lindane)	BDL	4
delta-BHC	BDL	4
alpha-Chlordane	9.9	4
gamma-Chlordane	10	4
4,4'-DDT	9.0	8
4,4'-DDE	4.2	4
4,4'-DDD	BDL	8
Dieldrin	BDL	4
Endosulfan I	BDL	4
Endosulfan II	BDL	8
Endosulfan sulfate	BDL	8
Endrin	BDL	4
Endrin aldehyde	BDL	8
Heptachlor	BDL	4 5
Heptachlor Epoxide	BDL	4
PCB-1242 (Arochlor 1242)	BDL	40
PCB-1254 (Arochlor 1254)	BDL	40
PCB-1221 (Arochlor 1221)	BDL	40
PCB-1232 (Arochlor 1232)	BDL	40
PCB-1248 (Arochlor 1248)	BDL	40
PCB-1260 (Arochlor 1260)	BDL	40
PCB-1016 (Arochlor 1016)	BDL	40
Toxaphene	BDL	200
Endrin Ketone	BDL	8
Methoxychlor	BDL	40
•		

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit



Sample Designation: CLJ62-A3S-006-BCDUP

Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 % , elevating the reporting limits by a factor of 1.24 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	4
alpha-BHC	BDL	4
beta-BHC	BDL	4
gamma-BHC (Lindane)	BDL	4
delta-BHC	BDL	4
alpha-Chlordane	8.9	4
gamma-Chlordane	9.0	4
4,4'-DDT	BDL	8
4,4'-DDE	3.9 J	4
4,4'-DDD	BDL	8
Dieldrin	BDL	4
Endosulfan I	BDL	4
Endosulfan II	BDL	8
Endosulfan sulfate	BDL	8
Endrin	BDL	4
Endrin aldehyde	BDL	8
Heptachlor	BDL	4 ブ
Heptachlor Epoxide	BDL	4
PCB-1242 (Arochlor 1242)	BDL	40
PCB-1254 (Arochlor 1254)	BDL	40
PCB-1221 (Arochlor 1221)	BDL	40
PCB-1232 (Arochlor 1232)	BDL	40
PCB-1248 (Arochlor 1248)	BDL	40
PCB-1260 (Arochlor 1260)	BDL	40
PCB-1016 (Arochlor 1016)	BDL	40
Toxaphene	BDL	200
Endrin Ketone	BDL	_8
Methoxychlor	BDL	40.

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Laboratory number: 44280-013
Sample Designation: CLLJ62-RB
Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/L)	(ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	
delta-BHC	BDL	0.05
alpha-Chlordane		0.05
-	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05 J
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05丁
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5
	225	4.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984
METHOD 8080
EPA SW846, 3rd Edition

BDL = Below reporting limit



Laboratory number: 44280-014
Sample Designation: CLLJ62-FB
Date Extracted: 06/06/95
Date Analyzed: 06/08/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (uq/L)	REPORTING LIMIT
	(49/11)	(ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05 丁
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05 ブ
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984

METHOD 608

EPA SW846, 3rd Edition

BDL = Below reporting limit



LDC #: 1579A3	VALIDATION COMPLETENESS WORKSHEET	Date: <u> </u>
SDG #: 44280	EPA Level III XNEESA Level C	Page: <u>/</u> of <u>/</u>
Laboratory: Pace, Inc.		Reviewer:
1		2nd Reviewer:
.METHOD: GC Organochlori	ne Pesticides/PCBs (EPA SW 846 Method 8080)	` _

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: 5-30-95
it.	GC/ECD Instrument Performance Check	A	
111.	Initial calibration	A	r > 0.975
īV.	Continuing calibration	SW	30
V.	Blanks	A	91.6/25
VI.	Surrogate spikes	SWAC	
VII.	Matrix spike/Matrix spike duplicates	·sw	
VIII.	Laboratory control samples	SWA	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	·
XIV.	Field duplicates	SW	0,=11,12 R=13 FB=14
XV.	Field blanks	NO	R=13 FB=14

Note:

A = Acceptable

N = Not.provided/applicable SW = See worksheet

ND = No compounds detected

R = Rinsate

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

Validated Samples:

1	CLJ62-A3S-001-CS	SOIL	11 /	CLJ62-A3S-006-BC	SOIL	21	
2	CLJ62-A3S-002-CS		120,	CLJ62-A3S-006-BCDUP	1	22	
3	CLJ62-A3S-003-CS		13 R	CLJ62-RB	AQ	23	i
4	CLJ62-A3S-004-CS		14 F 8	CLJ62-FB	<u></u>	24	
5	CLJ62-A3S-006-CS		15	CLJ62-A3S-001-CSMS	SOIL	25	
6	CLJ62-A3S-007-CS		16	CLJ62-A3S-001-CSMSD	J	26	
7	CLJ62-A3S-009-CS		17	B-P4322 BIK	+	27	
8	CLJ62-A3S-001-BC		18	B-P4322SCC BIK		28	
9	CLJ62-A3S-002-BC		19	B-P4320 BIK	AQ	29	
0	CLJ62-A3S-004-BC	V	20			30	

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VALIDATION FIN 3S WORKSHEET Continuin alibration

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METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all que	estions answered "N" Not applicable	questions are identified as "N/A"
---	-------------------------------------	-----------------------------------

What type or calibration verification calculation was performed? _____ %D or ____ RPD

Were Evaluation mix standards run before initial calibration and before samples?

Were Endrin & 4,4' DDT breakdowns acceptable in the Evaluation Mix standard (<20.0% for individual breakdowns)?

Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of ≤15.0%?

Level IV/D Only

A/N N/A

Y N N/A Y (N)N/A

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

Y N N/A Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.)

Y N N/A Were the (%D) recalculated results within 10.0% of the reported results?

	19/74				o or the reperted re			
#	Date	Standard ID	Column	Compound	%D / BPD (Limit ≤ 15.0)	AT (Limits)	Associated Samples	Qualifications
7	6-8-45	IND 2 AB	112/110	Ε	17.7		7-14	J/AP
)	
						()	
						()	Q-1/,5/95
2	6-8-95	INP ZAB	112/110	0	22.4	(1, 3.4.8, 10	JIX P
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A Alpha BHC B Beta-BHC C Delta-BHC	E. Heptachlor F. Aldrin G. Heptachlor epoxide H. Endosultan I	I. Dieldrin J. 4,4'-DDE K. Endrin I. Endosulfan II	M. 4,4'-DDD N. Endosullan sulfate O. 4,4'-DDT P. Methoxychlor	R. Endrin Aldehyde S. Alpha-chlordane T. Gamma-chlordane	V. Arodor-1018 W. Arodor-1221 X. Arodor-1232	7. Arodor-1242 Z. Arodor-1248 AA. Arodor-1254 BB. Arodor-1260	DD. DB 1701 EE	HH JJ.
D Gamma-BHC	H. Endosulfan I	L. Endosulfan II	P. Methoxychlor	T. Gamma-chlordane	X. Arodor-1232	BB. Arodor-1260	ff	JJ

LDC	#:	15	73
SDG	#:	440	ں'ں

VALIDATION FIND" 'S WORKSHEET Surroga pikes

Page:	
Review	on
2nd Reviewer.	(3)

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y)N N/A Were surrogates spiked into all samples, standards and blanks? XY)N N/A

Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R	(Limits)	Qualifications
		DIBUTYL CHLORE	SAPPE ST	ECIFICA AS)	NONG/P
		SUPPOLIATE IN QU	190			(ALL SAMPLES	<u>'</u>
		TETRACHLORD MESTA	XYCENE A	WA DICHLOROL	PENZENE	(fames)	
		WELL AS SURROG	19105.			()	
		ь				()	
				<u> </u>		()	
						()	
						()	
						()	
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						()	
						()	
						()	
						()	
						()	
						()	
						()	
			<u>:</u>			()	
			. <u> </u>			()	
			4 987		(()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soll)	Recovery QC Limits (Water)	Comments
A				
В				

LDC #: 1 E 34 A 3 SDG #: 80

VALIDATION FIN GS WORKSHEET Matrix Spike/Matrix Spike Duplicates

Reviewer: 1970
2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y(N) N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N)N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limita)	APD (Limits)	Associated Samples	Qualifications 4.4
	6-8-95	15/16	ALL	MS/IMSD SPII	KED (WITH)	()	All Soil Samples	short No aure It
	<u> </u>			4,4'(-00E, t.)+	-000 18 9,4-00ty	()		NONE/A
				INSTAAD UF)	A-FL LISTED BE	cow ()		
<u></u>				()	()	()		
2	6-8-95	15/16	ALL	ir (e RPO)	ALL (OUT OF)	()	All Soil Samples	NO DUAL
				QC (LIMIT V	UE TO SAMPLE)	()		
				CONC. (72x SPI)K	E AMI AND)	()		
				DILUTION)	()	()		7/15/95
3	1-8-95	No AU MI/MID	ALL	()	()	()	ALL ALL SAMPLES	NO DIST
				()	()	()		Manon
				()	()	()		
				()	()	()		

		Soll QC	Limits	Water	QC Limits
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127	§ 50	56-123	€ 15
В	Heptachlor	35-130	E31	40-131	€ 20
С	Aldrin ,	34-132	543	40-120	€ 1 ²
D	Dieldrin	31-134	€38	52-126	€18
E	Endrin	42-134	\$45	56-121	£21
F	4,4,'-DDT	23-134	. 50	38-127	€27
G					
Н					
ı					
J					\

LBC # 1 43 snG #: + 2PD

VALIDATION FIN GS WORKSHEET <u>Laboratory Control Samples</u>

	F.)	/ of /
	Reviewer:	pro
2nd	Reviewer:	(31)

ME ITIOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	6-7-95	Ls-P4320	9	40 (41.10 -9 8.53)	()	()	13, 14, 19	J/A
		(AU)		()	()	()		
				()	()	()		
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				()	()	()		
				()	()	()		

		Soil QC Limits			QC Limits
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC				
В	Heptachlor				
С	Aldrin				
D	Dieldrin				
E	Endrin				
F	4,4'-DDT				
G	Endosulfon I			41.20-98.53	€ 30
Н					
ı					
J					

LDC	#:_	1579A3
		44280

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	/ of /
Reviewer:	on
2nd reviewer:	(4)

THOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

(Y) N N/A

Were field duplicate pairs identified in this SDG? Were target compounds detected in thie field duplicate pairs?

	Concentrati		
Compound	11	12	RPD
a - Chlordane	9.9	8.9	11
q - Chlordane	10	9.0	11
4,4'-00T	9.0	NO	NC
4,4'-00E	4.2	3.9	7
·			

	Concentration ()	_
Compound		RPD
J		

	Concentration ()		
Compound			RPD
	_		

	Concentration ()	
Compound		RPD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

June 7, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44328

Sample Identification

CLJ62-A4S-001-BC

CLJ62-A4S-001-CS

CLJ62-A4S-001-CSD CLJ62-A3S-011-CS

CLJ62-A2S-002-CS*

CLJ62-A2S-002-CSRE*

CLJ62-A2S-002-CSDL**

CLJ62-A2S-002-CSD*

CLJ62-A2S-002-CSDRE*

CLJ62-A2S-002-CSDDL**

CLJ62-A3S-015-CS

CLJ62-A3S-014-BC

CLJ62-A3S-014-CS

CLJ62-A3S-014-CSRE**

CLJ62-A3S-015-BC

CLJ62-A3S-015-BCD

CLJ62-A3S-013-BCD

CLJ62-A3S-012-CS

CLJ62-A3-RB

CLJ62-A4-RB

CLJ62-A2-RB

CLJ62-FB

CLJ62-A2S-002-CSDMS

CLJ62-A2S-002-CSDMSD

CLJ62-A2S-002-CSREDL**

CLJ62-A2S-002-CSDREDL**

Indicates PCBs only

^{**} Indicates Pesticides only

Introduction

This data review covers 22 soil samples and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8600	112/110	Gamma-8HC	16.4	CLJ62-A4S-001-CS CLJ62-A4S-001-CSD	1	Р
IND2AB P8675	112/110	Heptachlor	15.4	CLJ62-A3S-012-CS CLJ62-A3-RB CLJ62-A4-RB CLJ62-A2-RB CLJ62-FB		Р
IND2AB P8675	112/110	Endrin	20.4	CLI62-A2S-002-CSDL** CLI62-A2S-002-CSDDL** CLI62-A3S-015-CS CLI62-A3S-014-CS CLI62-A3S-012-CS CLI62-A2S-002-CSDMS CLI62-A2S-002-CSDMSD	1	P

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8675	112/110	Endrin	20.7	CLJ62-A2S-002-CSDL** CLJ62-A2S-002-CSDDL** CLJ62-A3S-015-CS CLJ62-A3S-014-CS CLJ62-A3S-012-CS CLJ62-A2S-002-CSDMS CLJ62-A2S-002-CSDMSD	J	p.

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44328.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	Р

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

	4				
Sample	Compound	Finding	Criteria	Flag	AorP
All water samples in SDG 44328.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Ρ

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A4S-001-CS and CLJ62-A4S-001-CSD, samples CLJ62-A2S-002-CS* and CLJ62-A2S-002-CSD*, samples CLJ62-A3S-015-BC and CLJ62-A3S-015-BCD, samples CLJ62-A2S-002-CSDL** and CLJ62-A2S-002-CSDDL**, samples CLJ62-A2S-002-CSRE* and CLJ62-A2S-002-CSDRE*, and samples CLJ62-A2S-002-CSREDL** and CLJ62-A2S-002-CSDREDL** were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

	Concentra		
Compound	CLJ62-A4S-001-CS	CLJ62-A4S-001-CSD	RPD
4,4'-DDT	11	33	100
4,4'-DDE	18	48	91

	Concentra		
Compound	CLJ62-A2S-002-CS*	CLJ62-A2S-002-CSD*	RPD
Aroclar 1250	510	1200	81

	Concentra		
Compound	CLJ62-A2S-002-CSDL**	CLJ62-A2S-002-CSDDL**	RPD
Alpha-chlordane	260	ND	Not calculable
Gamma-chlordane	220	ND	Not calculable
4,4'-DOT	1600	61000	190
4,4'-DDE	450	2600	141
4,4'-000	6000	13000	74

	Concentra		
Compound	CLJ62-A25-002-CSRE*	CLJ62-A2S-002-CSDRE*	RPO
Aroclor 1260	400	3200	156

	Concentra		
Compound	CLJ62-A2S-002-CSREDL**	CLJ62-A2S-002-CSDREDL**	RPD
Alpha-chiordane	280	ND	Not calculable
Gamma-chlordane	240	ND	Not calculable
4,4',-DDT	,3000	170000	193
4,4'-DOE	520	5600	. 166
4,4'-000	4300	21000	132

	Concentra		
Compound	CLJ62-A3S-015-BC	CLJ62-A3S-015-BCD	RPD
4,4'-DDT	1000	390	88

	Concentra		
Compound	CLJ62-A3S-015-BC	CLJ62-A3S-015-BCD	RPD
4,4'-DDE	ND	45	Not calculable
4,4'-000	950	690	32

XV. Field Blanks

Samples CLJ62-A3-RB, CLJ62-A4-RB, and CLJ62-A2-RB were identified as rinsates. No chlorinated pesticide or PCB contaminants were found in the rinsates.

Sample CLJ62-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44328

SDG	Sample	Compound	Flag	A or P	Reason
44328	CLJ62-A4S-001-CS CLJ62-A4S-001-CSD	Gamma-BHC	J	P	Continuing calibration (%D)
44328	CLJ62-A3S-012-CS CLJ62-A3-RB CLJ62-A4-RB CLJ62-A2-RB CLJ62-FB	Heptachlor	J	Р	Continuing calibration (%D)
44328	CLJ62-A2S-002-CSDL** CLJ62-A2S-002-CSDDL** CLJ62-A3S-015-CS CLJ62-A3S-014-CS CLJ62-A3S-012-CS	Endrin	J	Р	Continuing calibration (%D)
,	CLJ62-A4S-001-BC CLJ62-A4S-001-CS CLJ62-A4S-001-CSD CLJ62-A3S-011-CS CLJ62-A2S-002-CSRE* CLJ62-A2S-002-CSDL** CLJ62-A2S-002-CSDRE* CLJ62-A2S-002-CSDDL** CLJ62-A2S-002-CSDDL** CLJ62-A3S-015-CS CLJ62-A3S-014-CS CLJ62-A3S-014-CS CLJ62-A3S-015-BC CLJ62-A3S-015-BC CLJ62-A3S-013-BCD CLJ62-A3S-013-BCD CLJ62-A3S-012-CS CLJ62-A3RB CLJ62-A3RB CLJ62-A2RB CLJ62-FB CLJ62-A2S-002-CSDREDL CLJ62-A2S-002-CSDREDL	All TCL compounds	None	Р	Surrogate spikes
44328	CLJ62-A3-R8 CLJ62-A4-RB CLJ62-A2-RB CLJ62-FB	All TCL compounds	None	P ,	Matrix spike/Matrix spike duplicates

Camp Lejeune

Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary - SDG 44328

No Laboratory Blank Data Qualified in this SDG.

Sample Designation: CLJ62-A4S-001-BC

Date Extracted: 06/09/95
Date Analyzed: 06/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 %, elevating the reporting limits

by a factor of 1.23.

PCB'S		CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Aroch)	or 1242)	BDL	40
PCB-1254 (Aroch)	or 1254)	BDL	40
PCB-1221 (Aroch)	or 1221)	BDL	40
PCB-1232 (Aroch)	or 1232)	BDL	40
PCB-1248 (Aroch)	lor 1248)	BDL	40
PCB-1260 (Aroch)	Lor 1260)	BDL	40
PCB-1016 (Aroch)	lor 1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-001DL Sample Designation: CLJ62-A4S-001-BC

Date Extracted: 06/09/95
Date Analyzed: 06/12/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 % , elevating the reporting limits by a factor of 1.23 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	80
alpha-BHC	BDL	80
beta-BHC	BDL	80
gamma-BHC (Lindane)	BDL	80
delta-BHC	BDL	80
alpha-Chlordane	BDL	80
gamma-Chlordane	BDL	80
4,4'-DDT	1300	200
4,4'-DDE	950	80
4,4'-DDD	140 J	200
Dieldrin	360	80
Endosulfan I	BDL	80
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	80
Endrin aldehyde	BDL	200
Heptachlor	BDL	80
Heptachlor Epoxide	BDL	80
Toxaphene	BDL	3000
Endrin Ketone	BDL	200
Methoxychlor	BDL	800

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A4S-001-CS

Date Extracted: 06/09/95
Date Analyzed: 06/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits

by a factor of 1.13.

Aldrin BDL 4 alpha-BHC BDL 4 beta-BHC BDL 4 beta-BHC BDL 4 delta-BHC BDL 7 Dieldrin BDL 7 Dieldrin BDL 7 Dieldrin BDL 7 Endosulfan II BDL 7 Endosulfan II BDL 7 Endosulfan Sulfate BDL 7 Endrin BDL 4 Endrin BDL 4 Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor BDL 4 DCB-1242 (Arochlor 1242) BDL 40 PCB-1242 (Arochlor 1254) BDL 40 PCB-1254 (Arochlor 1221) BDL 40 PCB-1260 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1248) BDL 40 PCB-1016 (Arochlor 1016) BDL 40 Toxaphene	PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
alpha-BHC BDL 4 beta-BHC BDL 4 gamma-BHC (Lindane) BDL 4 delta-BHC BDL 4 alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDD BDL 7 Dieldrin BDL 7 Endosulfan I BDL 4 Endosulfan II BDL 7 Endrin BDL 7 Endrin BDL 7 Heptachlor BDL 4 Heptachlor BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40		(ug/Kg)	(ug/Kg)
alpha-BHC BDL 4 beta-BHC BDL 4 gamma-BHC (Lindane) BDL 4 delta-BHC BDL 4 alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDD BDL 7 Dieldrin BDL 7 Endosulfan I BDL 4 Endosulfan II BDL 7 Endrin BDL 7 Endrin BDL 7 Heptachlor BDL 4 Heptachlor BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40			
beta-BHC BDL 4 gamma-BHC (Lindane) BDL 4 delta-BHC BDL 4 alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDE 18 4 4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan I BDL 4 Endosulfan II BDL 7 Endrin BDL 7 Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	- :- -		_
gamma-BHC (Lindane) BDL 4 delta-BHC BDL 4 alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDE 18 4 4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan I BDL 4 Endosulfan II BDL 7 Endosulfan sulfate BDL 7 Endrin BDL 7 Endrin aldehyde BDL 4 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1232 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	alpha-BHC		
delta-BHC BDL 4 alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDE 18 4 4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan I BDL 4 Endosulfan II BDL 7 Endosulfan sulfate BDL 7 Endrin BDL 7 Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40			
alpha-Chlordane BDL 4 gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDE 18 4 4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan I BDL 4 Endosulfan Sulfate BDL 7 Endrin BDL 7 Endrin aldehyde BDL 4 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1232 (Arochlor 1221) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40		BDL	4 5 /
gamma-Chlordane BDL 4 4,4'-DDT 11 7 4,4'-DDE 18 4 4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan I BDL 4 Endosulfan sulfate BDL 7 Endrin BDL 7 Endrin aldehyde BDL 4 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	delta-BHC	BDL	4
4,4'-DDT 4,4'-DDE 18 4,4'-DDE 18 4,4'-DDD BDL 7 Dieldrin BDL Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin Endrin BDL	alpha-Chlordane	BDL	4
4,4'-DDE	gamma-Chlordane	BDL	4
4,4'-DDD BDL 7 Dieldrin BDL 4 Endosulfan II BDL 7 Endosulfan sulfate BDL 7 Endrin BDL 4 Endrin aldehyde BDL 4 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1232 (Arochlor 1221) BDL 40 PCB-1238 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	4,4'-DDT	11	7
Dieldrin BDL 4 Endosulfan I BDL 7 Endosulfan II BDL 7 Endosulfan sulfate BDL 7 Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	4,4'-DDE	18	4
Endosulfan I BDL 4 Endosulfan II BDL 7 Endosulfan sulfate BDL 7 Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	4,4'-DDD	BDL	7
Endosulfan II	Dieldrin	BDL	4
Endosulfan sulfate BDL 7 Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Endosulfan I	BDL	4
Endrin BDL 4 Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Endosulfan II	BDL	7
Endrin aldehyde BDL 7 Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Endosulfan sulfate	BDL	7
Heptachlor BDL 4 Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Endrin	BDL	4
Heptachlor Epoxide BDL 4 PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Endrin aldehyde	BDL	7
PCB-1242 (Arochlor 1242) BDL 40 PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Heptachlor	BDL	4
PCB-1254 (Arochlor 1254) BDL 40 PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	Heptachlor Epoxide	BDL	4
PCB-1221 (Arochlor 1221) BDL 40 PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	PCB-1242 (Arachlor 1242)	BDL	40
PCB-1232 (Arochlor 1232) BDL 40 PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	PCB-1254 (Arochlor 1254)	BDL	40
PCB-1248 (Arochlor 1248) BDL 40 PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	PCB-1221 (Arochlor 1221)	BDL	40
PCB-1260 (Arochlor 1260) BDL 40 PCB-1016 (Arochlor 1016) BDL 40	PCB-1232 (Arochlor 1232)	BDL	40
PCB-1016 (Arochlor 1016) BDL 40	PCB-1248 (Arochlor 1248)	BDL	40
145 2416 (415 416 416 416 416 416 416 416 416 416 416	PCB-1260 (Arochlor 1260)	BDL	40
Toxaphene BDL 100	PCB-1016 (Arochlor 1016)	BDL	40
	Toxaphene	BDL	100
Endrin Ketone BDL 7	Endrin Ketone	BDL	7
Methoxychlor BDL 40	Methoxychlor	BDL	4 0 (

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit



Sample Designation: CLJ62-A4S-001-CSD

Date Extracted: 06/09/95
Date Analyzed: 06/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 10 %, elevating the reporting limits by a factor of 1.11.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	4
alpha-BHC	BDL	4
beta-BHC	BDL	4
gamma-BHC (Lindane)	BDL	4 5
delta-BHC	BDL	4
alpha-Chlordane	BDL	4
gamma-Chlordane	BDL	4
4,4'-DDT	33	7
4,4'-DDE	48	4
4,4'-DDD	BDL	7
Dieldrin	BDL	4
Endosulfan I	BDL	4
Endosulfan II	BDL	7
Endosulfan sulfate	BDL	7
Endrin	BDL	4
Endrin aldehyde	BDL	7
Heptachlor	BDL	4 ·
Heptachlor Epoxide	BDL	4
PCB-1242 (Arochlor 1242)	BDL	40
PCB-1254 (Arochlor 1254)	BDL	40
PCB-1221 (Arochlor 1221)	BDL	40
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BDL

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BDL

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40

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METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

PCB-1232 (Arochlor 1232)

PCB-1248 (Arochlor 1248)

PCB-1260 (Arochlor 1260)

PCB-1016 (Arochlor 1016)

BDL = Below reporting limit

Toxaphene

Endrin Ketone

Methoxychlor



Sample Designation: CLJ62-A3S-011-CS

Date Extracted: 06/09/95
Date Analyzed: 06/09/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 %, elevating the reporting limits by a factor of 1.12.

PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlor 12	242) BDL	40
PCB-1254 (Arochlor 13	254) BDL	40
PCB-1221 (Arochlor 12	221) BDL	40
PCB-1232 (Arochlor 13	232) BDL	40
PCB-1248 (Arochlor 1:	248) BDL	40
PCB-1260 (Arochlor 1:	260) BDL	40
PCB-1016 (Arochlor 1	016) BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-004DL Sample Designation: CLJ62-A3S-011-CS

Date Extracted: 06/09/95
Date Analyzed: 06/12/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 % , elevating the reporting limits by a factor of 1.12 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	70
alpha-BHC	BDL	70
beta-BHC	BDL	70
gamma-BHC (Lindane)	BDL	70
delta-BHC	BDL	70
alpha-Chlordane	BDL	70
gamma-Chlordane	BDL	70
4,4'-DDT	920	100
4,4'-DDE	36 J	70
4,4'-DDD	390	100
Dieldrin	BDL	70
Endosulfan I	BDL	70
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	70
Endrin aldehyde	BDL	100
Heptachlor	BDL	70
Heptachlor Epoxide	BDL	70
Toxaphene	BDL	3000
Endrin Ketone	BDL	100
Methoxychlor	BDL	700

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

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Sample Designation: CLJ62-A2S-002-CS

Date Extracted: 06/09/95
Date Analyzed: 06/14/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 % , elevating the reporting limits by a factor of 1.12 .

PCB'S			CONCENT (t	ration 1g/Kg)	REPORTING (ug/K	
PCB-1242	(Arochlor	1242)		BDL	40	
PCB-1254	(Arochlor	1254)		BDL	40	
PCB-1221	(Arochlor	1221)		BDL	40	
PCB-1232	(Arochlor	1232)		BDL	40	
PCB-1248	(Arochlor	1248)		BDL	40	
PCB-1260	(Arochlor	1260)	510		40	
PCB-1016	(Arochlor	1016)		BDL	40	

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-005RE Sample Designation: CLJ62-A2S-002-CS

Date Extracted: 06/14/95
Date Analyzed: 06/16/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

Moisture content was 11 %, elevating the reporting limits by a factor of 1.12.

PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlor 1242)	BDL	40
PCB-1254 (Arochlor 1254)	BDL	40
PCB-1221 (Arochlor 1221)	BDL	40
PCB-1232 (Arochlor 1232)	BDL	40
PCB-1248 (Arochlor 1248)	BDL	40
PCB-1260 (Arochlor 1260)	400	40
PCB-1016 (Arochlor 1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

9/22/95 H



Laboratory number: 44328-005DL Sample Designation: CLJ62-A2S-002-CS

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 \$, elevating the reporting limits by a factor of 1.12 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	400
alpha-BHC	BDL	400
beta-BHC	BDL	400
	BDL	400
gamma-BHC (Lindane)	BDL	400
delta-BHC		
alpha-Chlordane	260 J	
gamma-Chlordane	220 J	400
4,4'-DDT	1600	700
4,4'-DDE	450	400
4,4'-DDD	6000	700
Dieldrin	BDL	400
Endosulfan I	BDL	400
Endosulfan II	BDL	700
Endosulfan sulfate	BDL	700
Endrin	BDL	400 J -
Endrin aldehyde	BDL	700
Heptachlor	BDL	400
Heptachlor Epoxide	BDL	400
Toxaphene	BDL	10000
Endrin Ketone	BDL	700
Methoxychlor	BDL	4000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

9/22/95 H



Laboratory number: 44328-005RDL Sample Designation: CLJ62-A2S-002-CS

Date Extracted: 06/14/95
Date Analyzed: 06/15/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 % , elevating the reporting limits by a factor of 1.12 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	400
		400
alpha-BHC	BDL	400
beta-BHC	BDL	400
gamma-BHC (Lindane)	BDL	400
delta-BHC	BDL	400
alpha-Chlordane	280 J	400
gamma-Chlordane	240 J	400
4,4'-DDT	3000	700
4,4'-DDE	520	400
4,4'-DDD	4300	700
Dieldrin	BDL	400
Endosulfan I	BDL	400
Endosulfan II	BDL	700
Endosulfan sulfate	BDL.	700
Endrin	BDL	400
Endrin aldehyde	BDL	700
Heptachlor	BDL	400
Heptachlor Epoxide	BDL	400
Toxaphene	BDL	10000
Endrin Ketone	BDL	700
Methoxychlor	BDL	4000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A2S-002-CSD

Date Extracted: 06/09/95
Date Analyzed: 06/14/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits by a factor of \$1.13 .

PCB'S			CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor	1242)	BDL	40
PCB-1254	(Arochlor	1254)	BDL	40
PCB-1221	(Arochlor	1221)	BDL	40
PCB-1232	(Arochlor	1232)	BDL	40
PCB-1248	(Arochlor	1248)	BDL	40
PCB-1260	(Arochlor	1260)	1200	40
PCB-1016	(Arochlor	1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A2S-002-CSD

Date Extracted: 06/14/95
Date Analyzed: 06/16/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits by a factor of 1.13 .

PCB'S	(CONCENTRATION (UJ/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Aroch	lor 1242)	BDL	200
PCB-1254 (Aroch	lor 1254)	BDL	200
PCB-1221 (Aroch	lor 1221)	BDL	200.
PCB-1232 (Aroch	lor 1232)	BDL	200
PCB-1248 (Aroch	lor 1248)	BDL	200
PCB-1260 (Aroch	lor 1260)	3200	200
PCB-1016 (Aroch	lor 1016)	BDL	200

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

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Sample Designation: CLJ62-A2S-002-CSD

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits by a factor of 1.13 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	4000
alpha-BHC	BDL	4000
beta-BHC	BDL	4000
gamma-BHC (Lindane)	BDL	4000
delta-BHC	BDL	4000
alpha-Chlordane	BDL	4000
gamma-Chlordane	BDL	4000
4,4'-DDT	61000	7000
4,4'-DDE	2600 J	4000
4,4'-DDD	13000	7000
Dieldrin	BDL	4000
Endosulfan I	BDL	4000
Endosulfan II	BDL	7000
Endosulfan sulfate	BDL	7000
Endrin	BDL	4000 J -
Endrin aldehyde	BDL	7000
Heptachlor	BDL	4000
Heptachlor Epoxide	BDL	4000
Toxaphene	BDL	100000
Endrin Ketone	BDL	7000
Methoxychlor	BDL	40000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-006RDL Sample Designation: CLJ62-A2S-002-CSD

Date Extracted: 06/14/95
Date Analyzed: 06/15/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

Moisture content was 12 %, elevating the reporting limits by a factor of 1.13.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	9000
alpha-BHC	BDL	9000
beta-BHC	BDL	9000
gamma-BHC (Lindane)	BDL	9000
delta-BHC	BDL	9000
alpha-Chlordane	BDL	9000
gamma-Chlordane	BDL	9000
4,4'-DDT	170000	20000
4,4'-DDE	5600 J	9000
4,4'-DDD	21000	20000
Dieldrin	BDL	9000
Endosulfan I	BDL	9000
Endosulfan II	BDL	20000
Endosulfan sulfate	BDL	20000
Endrin	BDL	9000
Endrin aldehyde	BDL	20000
Heptachlor	BDL	9000
Heptachlor Epoxide	BDL	9000
Toxaphene	BDL	400000
Endrin Ketone	BDL	20000
Methoxychlor	BDL	90000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

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Sample Designation: CLJ62-A3S-015-CS

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 10 %, elevating the reporting limits by a factor of 1.11 .

PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlor 12	42) BDL	40
PCB-1254 (Arochlor 12	54) BDL	40
PCB-1221 (Arochlor 12	21) BDL	40
PCB-1232 (Arochlor 12	32) BDL	40
PCB-1248 (Arochlor 12	(48) BDL	40
PCB-1260 (Arochlor 12	(60) BDL	40
PCB-1016 (Arochlor 10	BDL BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-007DL Sample Designation: CLJ62-A3S-015-CS

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 10 %, elevating the reporting limits by a factor of 1.11 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	90
alpha-BHC	BDL	90
beta-BHC	BDL	90
gamma-BHC (Lindane)	BDL	90
delta-BHC	BDL	90
alpha-Chlordane	BDL	90
gamma-Chlordane	BDL	90
4,4'-DDT	98 J	200
4,4'-DDE	110	90
4,4'-DDD	1500	200
Dieldrin	BDL	90
Endosulfan I	BDL	90
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	90 J-
Endrin aldehyde	BDL	200
Heptachlor	BDL	90
Heptachlor Epoxide	BDL	90
Toxaphene	BDL	4000
Endrin Ketone	BDL	200
Methoxychlor	BDL	900

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-014-BC

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 \$, elevating the reporting limits by a factor of 1.17 .

PCB'S			CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor	1242)	BDL	40
PCB-1254	(Arochlor	1254)	BDL	40
PCB-1221	(Arochlor	1221)	BDL	40
PCB-1232	(Arochlor	1232)	BDL	40
PCB-1248	(Arochlor	1248)	BDL	40
PCB-1260	(Arochlor	1260)	BDL	40
PCB-1016	(Arochlor	1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-008DL Sample Designation: CLJ62-A3S-014-BC

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 %, elevating the reporting limits by a factor of 1.17.

PESTICIDES/PCB'S	CONCENTRAT		REPORTING (ug/K	
	(43) 11	J'	(-5/	•
Aldrin	BDL		40	
alpha-BHC	BDL		40	
beta-BHC	BDL		40	
gamma-BHC (Lindane)	BDL		40	
delta-BHC	BDL		40	
alpha-Chlordane	25	J	40	
gamma-Chlordane	27	J	40	
4,4'-DDT	350		80	
4,4'-DDE	49		40	
4,4'-DDD	380		80	
Dieldrin	BDL	•	40	
Endosulfan I	BDL	ı	40	
Endosulfan II	BDL	i	80	
Endosulfan sulfate	, BDL	1	80	
Endrin	BDL	1	40	
Endrin aldehyde	BDL		80	
Heptachlor	BDL		40	
Heptachlor Epoxide	BDL		40	
Toxaphene	BDI	,	2000	
Endrin Ketone	BDI		80	
Methoxychlor	BDI	,	400	

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-014-CS

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 \$, elevating the reporting limits by a factor of 1.16 .

PCB'S		CONCENTRATION (ug/Kg)	N REPORTIN (ug/	
PCB-1242	(Arochlor 124	2) BDL	40	
PCB-1254	(Arochlor 125	4) BDL	40	
PCB-1221	(Arochlor 122	1) BDL	40	
PCB-1232	(Arochlor 123	2) BDL	40	
PCB-1248	(Arochlor 124	8) BDL	40	
PCB-1260	(Arochlor 126	O) BDL	40	
PCB-1016	(Arochlor 101	6) BDL	40	

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-009DL Sample Designation: CLJ62-A3S-014-CS

Date Extracted: 06/09/95
Date Analyzed: 06/13/95

Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 %, elevating the reporting limits by a factor of 1.16 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	800
alpha-BHC	BDL	800
beta-BHC	BDL	800
gamma-BHC (Lindane)	BDL	800
delta-BHC	BDL	800
alpha-Chlordane	BDL	800
gamma-Chlordane	BDL	800
4,4'-DDT	11000	2000
4,4'-DDE	1200	800
4,4'-DDD	2500	2000
Dieldrin	BDL	800
Endosulfan I	BDL	800
Endosulfan II	BDL	2000
Endosulfan sulfate	BDL	2000
Endrin	BDL	800 J /
Endrin aldehyde	BDL	2000
Heptachlor	BDL	800
Heptachlor Epoxide	BDL	800
Toxaphene	BDL	30000
Endrin Ketone	BDL	2000
Methoxychlor	BDL	8000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

qta hr



Laboratory number: 44328-009RE Sample Designation: CLJ62-A3S-014-CS

Date Extracted: 06/14/95
Date Analyzed: 06/16/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 % , elevating the reporting limits by a factor of 1.16 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	800
alpha-BHC	BDL	800
beta-BHC	BDL	800
gamma-BHC (Lindane)	BDL	800
delta-BHC	BDL	800
alpha-Chlordane	BDL	800
gamma-Chlordane	BDL	800
4,4'-DDT	15000	2000
4,4'-DDE	1600	800
4,4'-DDD	2900	2000
Dieldrin	BDL	800
Endosulfan I	BDL	800
Endosulfan II	BDL	2000
Endosulfan sulfate	BDL	2000
Endrin	BDL	800
Endrin aldehyde	BDL	2000
Heptachlor	BDL	800
Heptachlor Epoxide	BDL	800
PCB-1242 (Arochlor 1242)	BDL	8000
PCB-1254 (Arochlor 1254)	BDL	8000
PCB-1221 (Arochlor 1221)	BDL	8000
PCB-1232 (Arochlor 1232)	BDL	8000
PCB-1248 (Arochlor 1248)	BDL	8000
PCB-1260 (Arochlor 1260)	BDL	8000
PCB-1016 (Arochlor 1016)	BDL	8000
Toxaphene	BDL	30000
Endrin Ketone	BDL	2000
Methoxychlor	BDL	8000 .

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-015-BC

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 13 \$, elevating the reporting limits by a factor of 1.14 .

PCB'S	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlor 12	(42) BDL	40
PCB-1254 (Arochlor 12	254) BDL	40
PCB-1221 (Arochlor 12	221) BDL	40
PCB-1232 (Arochlor 12	232) BDL	40
PCB-1248 (Arochlor 13	248) BDL	40
PCB-1260 (Arochlor 12	260) BDL	40
PCB-1016 (Arochlor 10)16) BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-010DL Sample Designation: CLJ62-A3S-015-BC

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 13 \$, elevating the reporting limits by a factor of 1.14 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT (ug/Kg)
	(ug/Kg)	(49/149)
Aldrin	BDL	80
alpha-BHC	BDL	80
beta-BHC	BDL	80
gamma-BHC (Lindane)	BDL	80
delta-BHC	BDL	80
alpha-Chlordane	BDL	80
gamma-Chlordane	BDL	80
4,4'-DDT	1000	200
4,4'-DDE	BDL	80
4,4'-DDD	950	200
Dieldrin	BDL	80
Endosulfan I	BDL	80
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	80
Endrin aldehyde	BDL	200
Heptachlor	BDL	80
Heptachlor Epoxide	BDL	80
Toxaphene	BDL	3000
Endrin Ketone	BDL	200
Methoxychlor	BDL	800

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-015-BCD

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.
Moisture content was 11 %, elevating the reporting limits by a factor of 1.12.

PCB'S		CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor 1242)	BDL	40
PCB-1254	(Arochlor 1254)	BDL	40
PCB-1221	(Arochlor 1221)	BDL	40
PCB-1232	(Arochlor 1232)	BDL	40
PCB-1248	(Arochlor 1248)	BDL	40
PCB-1260	(Arochlor 1260)	BDL	40
PCB-1016	(Arochlor 1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

9(12)45



Sample Designation: CLJ62-A3S-015-BCD

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 %, elevating the reporting limits by a factor of 1.12.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	70
alpha-BHC	BDL	70
beta-BHC	BDL	70
gamma-BHC (Lindane)	BDL	70
delta-BHC	BDL	70
alpha-Chlordane	BDL	70
gamma-Chlordane	BDL	70
4,4'-DDT	390	100
4,4'-DDE	45 J	70
4,4'-DDD	690	100
Dieldrin	BDL	70
Endosulfan I	BDL	70
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	70
Endrin aldehyde	BDL	100
Heptachlor	BDL	70
Heptachlor Epoxide	BDL	70
Toxaphene	BDL	3000
Endrin Ketone	BDL	100
Methoxychlor	BDL	700

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-013-BCD

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

Moisture content was 12 %, elevating the reporting limits by a factor of 1.14.

PCB'S		CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor 1242)	BDL	40
PCB-1254	(Arochlor 1254)	BDL	40
PCB-1221	(Arochlor 1221)	BDL	40
PCB-1232	(Arochlor 1232)	BDL	40
PCB-1248	(Arochlor 1248)	BDL	40
	(Arochlor 1260)	BDL	40
	(Arochlor 1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-013-BCD

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 12 % , elevating the reporting limits by a factor of 1.14 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	40
alpha-BHC	BDL	40
beta-BHC	BDL	40
gamma-BHC (Lindane)	BDL	40
delta-BHC	BDL	40
alpha-Chlordane	BDL	40
gamma-Chlordane	BDL	40
4,4'-DDT	420	80
4,4'-DDE	20 J	40
4,4'-DDD	590	80
Dieldrin	BDL	40
Endosulfan I	BDL	40
Endosulfan II	BDL	80
Endosulfan sulfate	BDL	80
Endrin	BDL	40
Endrin aldehyde	BDL	80
Heptachlor	BDL	; 4 0
Heptachlor Epoxide	BDL	. 40
Toxaphene	BDL	2000
Endrin Ketone	BDL	80
Methoxychlor	BDL	400

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Sample Designation: CLJ62-A3S-012-CS

Date Extracted: 06/09/95
Date Analyzed: 06/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 \$, elevating the reporting limits by a factor of 1.18 .

PCB'S			CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor	1242)	BDL	40
PCB-1254	(Arochlor	1254)	BDL	40
PCB-1221	(Arochlor	1221)	BDL	40
PCB-1232	(Arochlor	1232)	BDL	40
PCB-1248	(Arochlor	1248)	BDL	40
PCB-1260	(Arochlor	1260)	BDL	40
PCB-1016	(Arochlor	1016)	BDL	40

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44328-013DL Sample Designation: CLJ62-A3S-012-CS

Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 15 %, elevating the reporting limits by a factor of 1.18.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	200
alpha-BHC	BDL	200
beta-BHC	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	BDL	200
alpha-Chlordane	BDL	200
gamma-Chlordane	BDL	200
4,4'-DDT	3100	400
4,4'-DDE	200	200
4,4'-DDD	2400	400
Dieldrin	BDL	200
Endosulfan I	BDL	200
Endosulfan II	BDL	400
Endosulfan sulfate	BDL	400
Endrin	BDL	200 J -
Endrin aldehyde	BDL	400
Heptachlor	BDL	200 J -
Heptachlor Epoxide	BDL	200
Toxaphene	BDL	8000
Endrin Ketone	BDL	400
Methoxychlor	BDL	2000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

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Laboratory number: 44328-014
Sample Designation: CLJ62-A3-RB
Date Extracted: 06/09/95
Date Analyzed: 06/12/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4.4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05 5 -
Heptachlor Epoxide	_ BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: EPA SW 846, 3rd Edition

METHOD 8080

BDL = Below reporting limit



Laboratory number: 44328-015
Sample Designation: CLJ62-A4-RB
Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05 3 -
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: EPA SW 846, 3rd Edition METHOD 8080

BDL = Below reporting limit



Laboratory number: 44328-016
Sample Designation: CLJ62-A2-RB
Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL,	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05 J /
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: EPA SW 846, 3rd Edition

METHOD 8080

BDL = Below reporting limit





Laboratory number: 44328-017
Sample Designation: CLJ62-FB
Date Extracted: 06/09/95
Date Analyzed: 06/13/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: EPA SW 846, 3rd Edition METHOD 8080

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BDL = Below reporting limit

9/2/95



LDC #: 1579B3 VALIDATION COMPLETENESS WORKSHEET

Page: /_of /
Reviewer: 67

2nd Reviewer: 67

.METHOD: GC Organochlorine Pesticides/PCBs (EPA SW 846 Method 8080)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: 6-7-95
II.	GC/ECD Instrument Performance Check	A	
111.	Initial calibration	A	17,0.995
IV.	Continuing calibration	5 W	30
V.	Blanks	A	
VI.	Surrogate spikes	SWAR)~ <i>K</i> 15
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	·
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	5W	0,=2,3, 02=5,8 03=15,16, 09=7.10 05:6,9
XV.	Field blanks	NO	R = 19-21, FB = 22

Note:

A = Acceptable

ND = No compounds detected

D = Duplicate

N = Not provided/applicable

R = Rinsate

TB = Trip blank

SW = See worksheet

FB = Field blank

EB = Equipment blank

Validated Samples:

1	CLJ62-A4S-001-BC 501L	11	CLJ62-A3S-015-CS	SOIL	21 R	CLJ62-A2-RB	AU
2 Pi	CLJ62-A4S-001-CS	12	CLJ62-A3S-014-BC		22 FB	CLJ62-FB	
3 / 1	CLJ62-A4S-001-CSD	13	CLJ62-A3S-014-CS		23	CLJ62-A2S-002-CSDMS	SOIL
4	CLJ62-A3S-011-CS	14	CLJ62-A3S-014-CSRE**		24	CLJ62-A2S-002-CSDMSD	
5 0 z	CLJ62-A2S-002-CS	15 0	CLJ62-A3S-015-BC		2501	CLJ62-A25-002-CSRE	DL "A
6 P5	CLJ62-A2S-002-CSRE*	16 0	CLJ62-A3S-015-BCD		2606	CW 62-A25-002-CSD1	REOL
7 P4	CLJ62-A2S-002-CSNDL**	17	CLJ62-A3S-013-BCD		27	B-P4324 SCC BIK	30/6
8 Q _u	CLJ62-A2S-002-CSD **	18	CLJ62-A3S-012-CS	V	28	B-P4327 BIK	
·PS	CLJ62-A2S-002-CSDRE*	19 R	CLJ62-A3-RB	AQ	29	BP4325 BIK	AQ
?	CLJ62-A2S-002-CSDRDL**	20 R	CLJ62-A4-RB	7	30		

³CBs only, ^{**} = Pesticides only

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LDC #: 15/ SDG #: 44)

VALIDATION FINE S WORKSHEET Continuing Calibration

Reviewer: (6)

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? _____ %D or ____ RF

Were Evaluation mix standards run before initial calibration and before samples?

YN N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (<20.0% for individual breakdowns)?

Y) N N/A Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

Y) N N/A Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

Y(N)N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of <15.0%?

Level IV/D Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

Y N N/A Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.)

Y N N/A Were the (%D) recalculated results within 10.0% of the reported results?

	<u> 19/A</u>	,			% of the reported i			
#	Date	Standard ID	Column	Compound	%D / RPD (Limit ≤ 15.0)	AT (Limits)	Associated Samples	Qualifications
1	6-9-95	INDZAB 18600	112/110	D	16.4	()	2, 3, -+,4	J/P (only 2, 3)
ļ						()	PER ONLY	
			h .			()		
Ļ	1-1)-96	INO LAB 18675	1127	E	15.4	. ()	18-22	
2	0-12 17	THE THE LASTS	11-7/10	C	/5. /		18-22	
						()		
3	6-13-95	IND LAB P8115	112/110	K	20.4	()	7, 10,11,13,18, 23,2	9
	<u> </u>					(.)		
						()		
4	6-13-95	END ZAB P8115	11/110	K	20.7	()	7. 80,11, 13, 18, 23,24	
<u> </u>						()		
<u> </u>	1 11 21		112/		2.2.		A 0	44- 0
5.	6-14-45	IND ZAB PRITS	11 /110	K	2 3. 2		5,8 PLB UNLY	No Qual
6	1 14.95	IND 241 18175	112/10	K	23. 3		5. 8 PLBONLY	No Qual
L.	7-11-11	THE THIS IGES	/ /10			()	7, 0 75- 54-7	
				17,00		()		
						()		
						()		
						()		

Α	Alpha BHC
B	Bala BHC
C	Deta BHC
D	Garrina-BHC

E. Heptachlor
F. Aldrin
G. Heptachlor epoxide

H Endosullan I

t Dietdrin J. 4,4'-DDE K Endrin

L. Endosulfan II

M. 4,4'-DDD N. Endosullan sulfate

O. 4.4' DDT

P. Methoxychlor

Q. Endrin ketone R. Endrin aldehyde S. Alpha-chlordane

T. Gamma-chilordane

U. Toxaphene V. Arodor-1016 W. Arodor-1221

X. Arodor-1232

Y. Arodor-1242 Z. Arodor-1248 AA. Arodor-1254 BB. Arodor-1260 CC. DB 608 DD. DB 1701

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VALIDATION FIN GS WORKSHEET Surrogate Spikes

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	Reviewer:	m
2nd	Reviewer:	(\mathcal{Z})

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A". Were surrogates spiked into all samples, standards and blanks?

N N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
1		DIBUTTL CHLORENDO	TE SPECIFI	<u>ا</u>) ()	Nava/p
		AS SURROBATE IN	CMAP.		(pok snampais)	
		TETRACHLOROMETM X	1	O NOMO AUDEN	PENG (+ BLANKS)	
		WED AS SMAROGAS) ()	
					()	
					(
					(
					()	
					()	
					()	
					()	
					()	
					()	
					()	
					()	
					()	
			•		()	
					()	
			9		()	
					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soli)	Recovery QC Limits (Water)	Comments
A				
В				

LDC #: 1519 83 SDG #: 4

VALIDATION FIT NGS WORKSHEET Matrix Spike/ML & Spike Duplicates

age: __ot__ r.__lewer: __*bn*__ 2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y(N)N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N) N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

#	Date	MS/MSD ID	Compound	MS %R (Limita)	MSD %R (Limita)	APD (Limit=)	Associated Samples	Qualifications
	6-13-95	23/24	ALL	XR (RPD)	ALL (OUT OF)	()	ALL Soil Samples	HO ONAL
				QC (CIMIT)	DUE 1 TO SAMALO	()		
				DILUTION AND	SOME (COMPOUNT	S ()		
				CONL (>2x)	SPILLE (AMOUNT)	()		
2	6-8-95	No AQ MI/MSP	ALL	()	()	()	ALL AR Samples	4/34041
				()	(·)	()	•	
				()	(()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		

		Soil QC Limits		Water	QC Limite
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127	<i>\$50</i>	56-123	<i><15</i>
В	Heptachlor	35 -/30	£31	40-131	₹20
С	Aldrin	34-132	{ 4 3	40-120	522
D	Dieldrin	31-134	€ 38	5 2 - 12 6	€ 1 P
E	Endrin	42-139	£ 45	56-121	₹21 .
F	4,4,'-DDT	2 3-134	€ 50	38-127	€ 27
G					
Н					
1					
J					

LDC #: 157983 SDG #: 44328

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	of_	2
Reviewer:	m	
2nd reviewer:		

THOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

YN N/A

Were field duplicate pairs identified in this SDG? Were target compounds detected in thie field duplicate pairs?

	Concentration	Concentration (Mg/Kg)		
Compound	2	3	RPD	
4.4'-00T 4.4'-00E	//	33	100	
4,4'-DDE	18	48	91	
•	1			

	Concentration (Mg/Kg)					
Compound	5	8	RPD			
PCB 1260	5/0	1200	81			

	Concentration (my/kg)		
Compound	7	10	RPD
a - Chlordans	260	ND	NC
9- Chlor dane	220	NO	NC
4.4'- 001	1600	61000	190
4.4'- DOE	450	2600	-741
44'-000	6000	/3000	74

	Concentration (mg/kg)			
Compound	6	9	RPD	
PCB 1260	400	3 200	156	

LDC #: (579 B3 SDG #: 44328

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	2	_of_	2	_
Reviewer:_		ps		_
2nd reviewer:	6	<u>a)</u>		_

/ THOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

YN N/A

Were field duplicate pairs identified in this SDG? Were target compounds detected in thie field duplicate pairs?

	Concentration (wylks)		
Compound	25	26	RPD
a-Chlor dane	280	NP	NC
a-chlordane	240	NP	NC
4.4'- DDT	3000	170000	193
4 4'- DDE	\$20	5600	166
4,4'- 700	4300	21000	132

	Concentration (my/kg)		·	
Compound	15	16	RPD	
4,4'-001	1000	390	88	
4 4'- 00E	ND	45	NC	
4 4'- DDE 4,4'-DDD	950	690	3 2	

	Concentration ()	
Compound		RPD
·		
	-	
,		

	Concentration ()	
Compound		RPD

Laboratory Data Consultants, Inc. **Data Validation Report**

Project/Site Name:

Camp Lejeune

Collection Date:

June 8, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44360

Sample Identification

CLJ62-A3-FB CLJ62-A3-RB CLJ62-A3S-016-BC

CLJ62-A3S-016-BCMS CLJ62-A3S-016-BCMSD

Introduction

This data review covers 3 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44360.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	Р

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG 44360.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	P

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

Sample CLJ62-A3-RB was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in the rinsate.

Sample CLJ62-A3-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44360

SDG	Sample	Compound	Flag	A or P	Reason
44360	CLJ62-A3-FB CLJ62-A3-RB CLJ62-A3S-016-BC	All TCL compounds	None	Р	Surrogate spikes
44360	CLJ62-A3-FB CLJ62-A3-RB	All TCL compounds	None	p	Matrix spike/Matrix spike duplicates

Camp Lejeune

Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary - SDG 44360

No Laboratory Blank Data Qualified in this SDG.

Laboratory number: 44360-001
Sample Designation: CLJ62-A3-FB
Date Extracted: 06/14/95
Date Analyzed: 06/15/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin alpha-BHC beta-BHC gamma-BHC (Lindane) delta-BHC alpha-Chlordane gamma-Chlordane 4,4'-DDT 4,4'-DDE 4,4'-DDD Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor Epoxide PCB-1242 (Arochlor 13 PCB-1254 (Arochlor 13 PCB-1232 (Arochlor 13	(ug/L) BDL BDL BDL BDL BDL BDL BDL B	
PCB-1248 (Arochlor 1: PCB-1260 (Arochlor 1: PCB-1016 (Arochlor 1: Toxaphene Endrin Ketone Methoxychlor	260) BDL	0.5 0.5 2 0.1

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/27/95 pt



Laboratory number: 44360-002
Sample Designation: CLJ62-A3-RB
Date Extracted: 06/14/95
Date Analyzed: 06/15/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit



Sample Designation: CLJ62-A3S-016-BC

Date Extracted: 06/14/95
Date Analyzed: 06/16/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 7 %, elevating the reporting limits by a factor of 1.08.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	40
alpha-BHC	BDL	40
beta-BHC	BDL	40
gamma-BHC (Lindane)	BDL	40
delta-BHC	BDL	40
alpha-Chlordane	21 J	40
gamma-Chlordane	19 J	40
4,4'-DDT	510	70
4,4'-DDE	43	40
4,4'-DDD	320	70
Dieldrin	BDL	40
Endosulfan I	BDL	40
Endosulfan II	BDL	70
Endosulfan sulfate	BDL	70
Endrin	BDL	40
Endrin aldehyde	BDL	70
Heptachlor	BDL	40
Heptachlor Epoxide	BDL	40
PCB-1242 (Arochlor 1242)	BDL	400
PCB-1254 (Arochlor 1254)	BDL	400
PCB-1221 (Arochlor 1221)	BDL	400
PCB-1232 (Arochlor 1232)	BDL	400
PCB-1248 (Arochlor 1248)	•	400
PCB-1260 (Arochlor 1260)		400
PCB-1016 (Arochlor 1016)	BDL	400
Toxaphene	BDL	1000
Endrin Ketone	BDL	70
Methoxychlor .	BDL	40Q

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit.





LDC #: 1579C3	VALIDATION COMPLETENESS WORKSHEET	Date: 9-13-95
SDG #: 44360	EPA Level III X NEESA Level C	Page: / of /
Laboratory: Pace, Inc.	<u></u> ~	Reviewer:m
		2nd Reviewer:

.METHOD: GC Organochlorine Pesticides/PCBs (EPA SW 846 Method 8080)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
1.	Technical holding times	A	Sampling dates: 6-8-75
II.	GC/ECD Instrument Performance Check	Α	
III.	Initial calibration	A	Y > 0.995
īV.	Continuing calibration	A	XO
V.	Blanks	A	
٧١.	Surrogete spikes	SWAGE	भार्ष
VII.	Matrix spike/Matrix spike duplicates	5W	
VIII.	Laboratory control samples 4-25 15	SIAA	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
хı.	Terget compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	NP	FB=1 , R=2

Note:

A = Acceptable

ND = No compounds detected

D = Duplicate

N = Not provided/applicable

R = Rinsate

TB = Trip blank

SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

1FB	CLJ62-A3-FB	AU	11		21	
2 R	CLJ62-A3-RB	V	12		22	
3	CLJ62-A3S-016-BC	OIL	13	,	23	
4	CLJ62-A3S-016-BCMS		14		24	
5	CLJ62-A3S-016-BCMSD		15		25	
6	B-P4327 BIK	1	16		26	
7	B-P4328 BIK ,	4Q	17		27	
8			18	·	28	
9			19		29	
			20		30	/

LDC #: 1/2 3 SDG #: 47 60

VALIDATION FIN GS WORKSHEET Surrogaic Spikes

	Pi	11	of	1
	Reviewer:	<i>'</i>	n	
2nd	Reviewer:	(E	<u>)</u>	

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Were surrogates spiked into all samples, standards and blanks?

(Y) N N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound		%R (Limits)	Qualifications
		DIDUTTE CHLORENDA	~ SACIA	E-12 1/25		()	Nova/P
		SURREGATE IN C	Boarge			ALL (SUMPLOS)	
						AND (ELANIES)	•
<u> </u>	<u></u>	TE FRACTICAD METAXY	لعدام عدي	DICHGO RI GIENZ	WC3	()	
		LIGER AS SUBLOBAR	ب کئے			()	
					,	()	
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Letter Designation	Surrogate Compound	Recovery QC Limits (Soll)	Recovery QC Limits (Water)	Comments
Α				
В				

YGS WORKSHEET VALIDATION FIN Spike Duplicates Matrix Spike/Ma.

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Y (N) N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

*	Date	MS/MSD ID	Compound	MS %R (Limita)	MSD %R (Limita)	RPD (Limits)	Associated Samples	Qualifications
L	6-16-45	5	ALL	KR (2 KPD)	ALL (OUT OF)	()	ALL Soil Samples	NO QUAL.
		(MSD)		QC (UMIT)	DUE 1 TO SAMPLE	()		
				DILUCTION AND	SOME (COMPOUNT	s ()		
				CONL (72x)	SPILLE (AMOUNT)	()		
2	6-16-95	No AQ MilMSP	ALL	()	()	()	ALL AR Samples	NoneA
				()	(·)	()		
				(23434)	()	(
				(32.8 -111.17)	()	()		
3	6-16-95	4	F	NC1 23-134)	()	()	ALL SOIL SAMPLES	NO OWAL.
		(MS)	4	NC (19.59-111.17)	()	()		
-		SAMPLE CONC. 72X	Н	NC (30.36-99.07)	()	()		
		SPIKE AMOINT		()	()	()		

		Soll QC Limits		Water	QC Limite
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
Α	Gamma-BHC	46-127	<i>\$50</i>	56-/23	<i>{15</i>
В	Heptachlor	35 -/30	£ 31	40-131	£20
С	Aldrin	34-132	{4 }	40-120	£ 2 2
D	Dieldrin	31-134 33.19-9239	€ 3 D	5 2-126	£18
E	Endrin Page 1	42-139	8 95	56-121	<u> </u>
٤	4.4.'-DDT	23-154 32.81-111.17	€30	38-127	€ 27
G	44'-006	29.59-111.17	£ 30		
Н	+4'- PPO	30.36 - 9207	£ 30		
(
J					

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

June 15, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44393

Sample Identification

CLJ62-A3S-11.6-BC

CLJ62-A3S-12.6-BC

CLJ62-A3S-13.6-CS

CLJ62-A3S-16.6-CS

CLJ62-A3S-16.6-CSD

CLJ62-A3S-17.6-BC

CLJ62-A3S-17.6-CS

CLJ62-A2S-001-ZBC

CLJ62-A2S-002-ZCS

CLJ62-A2S-003-ZCS

CLJ62-A3S-RB

CLJ62-A2S-RB

CLJ62-FB

CLJ62-A3S-11.6-BCMS

CLJ62-A3S-11.6-BCMSD

Introduction

This data review covers 12 soil samples and 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Standard ID	Column	Compound	%0	Associated Samples	Flag	A or P
IND2AB P8675	112/110	Heptachior	22.4	CLJ62-A3S-17.6-BC CLJ62-A3S-17.6-CS CLJ62-A2S-001-ZBC CLJ62-A2S-002-ZCS CLJ62-A2S-003-ZCS) , ji	P
IND2AB P8675 ,	112/110	4,4'-DDD Endrin ketone ,	28.5 21.1	CLJ62-A3S-11.6-BC CLJ62-A3S-12.6-BC CLJ62-A3S-13.6-CS CLJ62-A3S-16.6-CS CLJ62-A3S-16.6-CSD		P
IND2AB P8675	112/110	Endrin	17.8	CLJ62-A3S-11.6-BC CLJ62-A3S-12.6-BC CLJ62-A3S-13.6-CS CLJ62-A3S-16.6-CS CLJ62-A3S-16.6-CSD	j	P
IND2AB P8675	112/110	Gamma-chlordane Endosulfan II 4,4'-DDT Endrin aldehyde Endrin ketone	15.9 19.0 17.2 24.4 32.0	СШ62-А3S-RB СШ62-А2S-RB СШ62-FB	1 1 1 1	Р

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8675	112/110	4,4'-DDT Endrin aldehyde Endrin ketone	17.6 23.5 26.4	CLI62-A3S-RB CLI62-A2S-RB CLI62-FB	J J	ρ
AR1254 0.5PPM P8668	112/110	Arocior-1254	16.3	CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	J	Р
IND2AB P8675	112/110	Endrin ketone	18.3	CLJ62-A3S-11.6-BCMS CLJ62-A3S-11.6-BCMSD	J	Р

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44393.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	P

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG 44393.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Р

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A3S-16.6-CS and CLJ62-A3S-16.6-CSD were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

	Concentration (ug/Kg)		:
Compound	CLJ62-A3S-16.6-CS	CLJ62-A3S-16.6-CSD	RPO
4,4'-DDD	1100	1400	24

XV. Field Blanks

Samples CLJ62-A3S-RB and CLJ62-A2S-RB were identified as rinsates. No chlorinated pesticide or PCB contaminants were found in the rinsates.

Sample CLJ62-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44393

SDG	Sample	Compound	Flag	A or P	Reason
44393	СШ62-A3S-17.6-BC СШ62-A3S-17.6-CS СШ62-A2S-001-ZBC СШ62-A2S-002-ZCS СШ62-A2S-003-ZCS	Heptachlor	J	Р	Continuing calibration (%D)
44393	CLJ62-A3S-11.6-BC CLJ62-A3S-12.6-BC CLJ62-A3S-13.6-CS CLJ62-A3S-16.6-CS CLJ62-A3S-16.6-CSD	4,4'-DDD Endrin ketone	j I	Р	Continuing calibration (%D)
44393	CLJ62-A3S-11.6-BC CLJ62-A3S-12.6-BC CLJ62-A3S-13.6-CS CLJ62-A3S-16.6-CS CLJ62-A3S-16.6-CSD	Endrin	J	Р	Continuing calibration (%D)
44393	CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	Gamma-chlordane Endosulfan II 4,4'-DDT Endrin aldehyde Endrin ketone	1 1 1	P	Continuing calibration (%D)
44393	CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	4,4'-DDT Endrin aldehyde Endrin ketone))	Р	Continuing calibration (%D)
44393	CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	Aroctor-1254	J	Р	Continuing calibration (%D)
44393	CLJ62-A3S-11.6-BC CLJ62-A3S-12.6-BC CLJ62-A3S-13.6-CS CLJ62-A3S-16.6-CS CLJ62-A3S-16.6-CSD CLJ62-A3S-17.6-CS CLJ62-A3S-17.6-CS CLJ62-A2S-001-ZBC CLJ62-A2S-002-ZCS CLJ62-A2S-003-ZCS CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	All TCL compounds	None	Р	Surrogate spikes
44393	CLJ62-A3S-RB CLJ62-A2S-RB CLJ62-FB	All TCL compounds	None	Р	Matrix spike/Matrix spike duplicates

Camp Lejeune Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary -SDG 44393

No Laboratory Blank Data Qualified in this SDG.

Sample Designation: CLJ62-A3S-11.6BC

Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

Moisture content was 7 %, elevating the reporting limits

'by a factor of 1.07.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
57 July	BDL	200
Aldrin	BDL	200
alpha-BHC beta-BHC	BDL	200
	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	530	200
alpha-Chlordane	480	200
gamma-Chlordane	240 J	400
4,4'-DDT	330	200
4,4'-DDE	2100	400 J
4,4'-DDD	BDL	200
Dieldrin	BDL	200
Endosulfan I		400
Endosulfan II	BDL	
Endosulfan sulfate	BDL	400
Endrin	BDL	200 5 400
Endrin aldehyde	BDL	200
Heptachlor	BDL	
Heptachlor Epoxide	BDL	200
PCB-1242 (Arochlor 1242)		2000 2000
PCB-1254 (Arochlor 1254)		2000
PCB-1221 (Arochlor 1221)		
PCB-1232 (Arochlor 1232)		2000
PCB-1248 (Arochlor 1248)		2000
PCB-1260 (Arochlor 1260)		2000
PCB-1016 (Arochlor 1016)	BDL	2000
Toxaphene	BDL	9000
Endrin Ketone	BDL	400 J
Methoxychlor	BDL	2000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit





Sample Designation: CLJ62-A3S-12.6-BC

Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was $6 \$, elevating the reporting limits

by a factor of 1.07.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	100
alpha-BHC	BDL	100
beta-BHC	BDL	100
gamma-BHC (Lindane)	BDL	100
delta-BHC	BDL	100
alpha-Chlordane	330	100
gamma-Chlordane	370	100
4,4'-DDT	190 J	200
4,4'-DDE	170	100
4,4'-DDD	300	200 5
Dieldrin	BDL	100
Endosulfan I	BDL	100
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	100 J
Endrin aldehyde	BDL	200
Heptachlor	BDL	100
Heptachlor Epoxide	BDL	100
PCB-1242 (Arochlor 1242)	BDL	1000
PCB-1254 (Arochlor 1254)	BDL	1000
PCB-1221 (Arochlor 1221)	BDL	1000
PCB-1232 (Arochlor 1232)	BDL	1000
PCB-1248 (Arochlor 1248)	BDL	1000
PCB-1260 (Arochlor 1260)	BDL	1000
PCB-1016 (Arochlor 1016)	BDL	1000
Toxaphene	BDL	4000
Endrin Ketone	BDL	200 J
Methoxychlor	BDL	1000
***		*

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.

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Sample Designation: CLJ62-A3S-13.6CS

Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was $9 \ \$, elevating the reporting limits

by a factor of 1.1 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	200
alpha-BHC	BDL	200
beta-BHC	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	BDL	200
alpha-Chlordane	BDL	200
gamma-Chlordane	BDL	200
4,4'-DDT	240 J	400
4,4'-DDE	280	200
4,4'-DDD	1800	400 J
Dieldrin	BDL	200
Endosulfan I	BDL	200
Endosulfan II	BDL	400
Endosulfan sulfate	BDL	400
Endrin	BDL	200 J
Endrin aldehyde	BDL	400
Heptachlor	BDL	200
Heptachlor Epoxide	BDL	200
PCB-1242 (Arochlor 1242)	BDL	2000
PCB-1254 (Arochlor 1254)	BDL	2000
PCB-1221 (Arochlor 1221)	BDL	2000
PCB-1232 (Arochlor 1232)	BDL	2000
PCB-1248 (Arochlor 1248)	BDL	2000
PCB-1260 (Arochlor 1260)	BDL	2000
PCB-1016 (Arochlor 1016)	BDL	2000 .
Toxaphene	BDL	9000
Endrin Ketone	BDL	400 J
Methoxychlor	BDL	2000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit





Sample Designation: CLJ62-A3S-16.6CS

Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 13 $\mbox{\ensuremath{\$}}$, elevating the reporting limits

by a factor of 1.16.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	100
alpha-BHC	BDL	100
beta-BHC	BDL	100
gamma-BHC (Lindane)	BDL	100
delta-BHC	BDL	100
alpha-Chlordane	BDL	100
gamma-Chlordane	BDL	100
4,4'-DDT	BDL	200
4,4'-DDE	BDL	100
4,4'-DDD	1100	200 J
Dieldrin	BDL	100
Endosulfan I	BDL	100
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	100 5
Endrin aldehyde	BDL	200
Heptachlor	BDL	100
Heptachlor Epoxide	BDL	100
PCB-1242 (Arochlor 1242)	BDL	1000
PCB-1254 (Arochlor 1254)	BDL	1000
PCB-1221 (Arochlor 1221)	BDL	1000
PCB-1232 (Arochlor 1232)	BDL	1000
PCB-1248 (Arochlor 1248)	BDL	1000
PCB-1260 (Arochlor 1260)	BDL	1000
PCB-1016 (Arochlor 1016)	BDL	1000
Toxaphene :	BDL	5000
Endrin Ketone	BDL	200 J
Methoxychlor	BDL	1000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL - Below reporting limit





Sample Designation: CLJ62-A3S-16.6CSD

Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 \$, elevating the reporting limits

by a factor of 1.16.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	100
alpha-BHC	BDL	100
beta-BHC	BDL	100
gamma-BHC (Lindane)	BDL	100
delta-BHC	BDL	100
alpha-Chlordane	BDL	100
gamma-Chlordane	BDL	100
4,4'-DDT	BDL	200
4,4'-DDE	BDL	100
4,4'-DDD	1400	200 J
Dieldrin	BDL	100
Endosulfan I	BDL	100
Endosulfan II	BDL	200
Endosulfan sulfate	BDL	200
Endrin	BDL	100 J
Endrin aldehyde	BDL	200
Heptachlor	BDL	100
Heptachlor Epoxide	BDL	100
PCB-1242 (Arochlor 1242)	BDL	1000
PCB-1254 (Arochlor 1254)	BDL	1000
PCB-1221 (Arochlor 1221)	BDL	1000
PCB-1232 (Arochlor 1232)	BDL	1000
PCB-1248 (Arochlor 1248)	BDL	1000
PCB-1260 (Arochlor 1260)	BDL	1000
PCB-1016 (Arochlor 1016)	BDL	1000
Toxaphene	BDL	5000
Endrin Ketone	BDL	200 5
Methoxychlor	BDL	1000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit





Sample Designation: CLJ62-A3S-17.6BC

Date Extracted: 06/16/95
Date Analyzed: 06/16/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 13 \$, elevating the reporting limits

by a factor of 1.15.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	BDL	10
gamma-Chlordane	BDL	10
4,4'-DDT	BDL	20
4,4'-DDE	BDL	10
4,4'-DDD	BDL	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10
Endrin aldehyde	BDL	20
Heptachlor	BDL	10 5
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)		100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)		100
PCB-1260 (Arochlor 1260)		100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	500
Endrin Ketone	BDL	20
Methoxychlor	BDL	τάο

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit



Sample Designation: CLJ62-A3S-17.6CS

Date Extracted: 06/16/95
Date Analyzed: 06/17/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 9 % , elevating the reporting limits

' by a factor of 1.1 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	BDL	10
gamma-Chlordane	BDL	10
4,4'-DDT	BDL	20
4,4'-DDE	BDL	10
4,4'-DDD	BDL	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10
Endrin aldehyde	BDL	20
Heptachlor	BDL	10 5
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)	BDL	100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	BDL	100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	400
Endrin Ketone	BDL	20
Methoxychlor	BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

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BDL = Below reporting limit



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Sample Designation: CLJ62-A2S-001ZBC

Date Extracted: 06/16/95
Date Analyzed: 06/17/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 17 \$, elevating the reporting limits

by a factor of 1.2.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	BDL	10
gamma-Chlordane	BDL	10
4,4'-DDT	BDL	20
4,4'-DDE	BDL	10
4,4'-DDD	BDL	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10
Endrin aldehyde	BDL	20
Heptachlor	BDL	10 J
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)	BDL	100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	BDL	100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	500
Endrin Ketone	BDL	20
Methoxychlor	BDL	100
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METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit



Sample Designation: CLJ62-A2S-002ZCS

Date Extracted: 06/16/95
Date Analyzed: 06/17/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 16 \$, elevating the reporting limits by a factor of 1.18 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
	~~	
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	BDL	10
gamma-Chlordane	BDL	10
4,4'-DDT	BDL	20
4,4'-DDE	BDL	10
4,4'-DDD	BDL	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10
Endrin aldehyde	BDL	20
Heptachlor	BDL	10 J
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)	BDL	100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	BDL	100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	500
Endrin Ketone	BDL	20
Methoxychlor	BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

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Sample Designation: CLJ62-A2S-003ZCS

Date Extracted: 06/16/95
Date Analyzed: 06/17/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 18 \$, elevating the reporting limits

by a factor of 1.22.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	BDL	10
gamma-Chlordane	BDL	10
4,4'-DDT	BDL	20
4,4'-DDE	BDL	10
4,4'-DDD	BDL	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10
Endrin aldehyde	BDL	²⁰ —
Heptachlor	BDL	10 5
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)		100
PCB-1254 (Arochlor 1254)		100
PCB-1221 (Arochlor 1221)		100
PCB-1232 (Arochlor 1232)		100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	BDL	100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	500
Endrin Ketone	BDL	20
Methoxychlor	BDL	100
		3

METHOD REFERENCE: EPA SW 846, 3rd Edition

METHODS 3550 AND 8080

BDL = Below reporting limit



Laboratory number: 44393-011
Sample Designation: CLJ62-A3S-RB
Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT
Aldrin alpha-BHC	BDL BDL	0.06
beta-BHC	BDL	0.06
gamma-BHC (Lindane)	BDL	0.06
delta-BHC	BDL	0.06
alpha-Chlordane	BDL	0.06
gamma-Chlordane	BDL	0.06 J
4,4'-DDT	BDL	0.1 丁
4,4'-DDE	BDL	0.06
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.06
Endosulfan I	BDL	0.06
Endosulfan II	BDL	0.1 丁
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.06
Endrin aldehyde	BDL	0.15
Heptachlor	BDL	0.06
Heptachlor Epoxide	BDL	0.06
PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1254 (Arochlor 1254)	BDL	0.6 J
PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1248 (Arochlor 1248)	BDL	0.6
PCB-1260 (Arochlor 1260)	BDL	0.6
PCB-1016 (Arochlor 1016)	BDL	0.6
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1 5
Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22/95



Laboratory number: 44393-012
Sample Designation: CLJ62-A2S-RB
Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.06
alpha-BHC	BDL	0.06
beta-BHC	BDL	0.06
gamma-BHC (Lindane)	BDL	0.06 丁
delta-BHC	BDL	0.06
alpha-Chlordane	BDL	0.06
gamma-Chlordane	BDL	0.06
4,4'-DDT	BDL	0.1 J
4,4'-DDE	BDL	0.06
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.06
Endosulfan I	BDL	0.06
Endosulfan II	BDL	0.1 ブ
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.06
Endrin aldehyde	BDL	0.1 ت
Heptachlor	BDL	0.06
Heptachlor Epoxide	_ BDL	0.06
PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1254 (Arochlor 1254)	BDL	0.6 5
PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1248 (Arochlor 1248)	BDL	0.6
PCB-1260 (Arochlor 1260)	BDL	0.6
PCB-1016 (Arochlor 1016)	BDL	0.6
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1 5
Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22/97



Laboratory number: 44393-013
Sample Designation: CLJ62-FB
Date Extracted: 06/16/95
Date Analyzed: 06/19/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.06
alpha-BHC	BDL	0.06
beta-BHC	BDL	0.06
gamma-BHC (Lindane)	BDL	0.06 J
delta-BHC	BDL	0.06
alpha-Chlordane	BDL	0.06
gamma-Chlordane	BDL	0.06
4,4'-DDT	BDL	0.1 J
4,4'-DDE	BDL	0.06
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.06
Endosulfan I	BDL	0.06
Endosulfan II	BDL	0.1 ブ
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.06
Endrin aldehyde	BDL	0.1 5
Heptachlor	BDL	0.06
Heptachlor Epoxide	BDL	0.06
PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1254 (Arochlor 1254)	BDL	0.6 5
PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1248 (Arochlor 1248)	BDL	0.6
PCB-1260 (Arochlor 1260)	BDL	0.6
PCB-1016 (Arochlor 1016)	BDL	0.6
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1 5
Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

3/22 /95



LDC #: 1579D3	VALIDATION COMPLETENESS WORKSHEET	Date: 9-/3-79
SDG #: 44393	EPA Level IIINEESA Level C	Page: / of /
Laboratory: Pace, Inc.		Reviewer: pn
METHOD: GC Organochlorine	e Pesticides/PCBs (EPA SW 846 Method 8080)	2nd Reviewer:

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: 6-15-95
11.	GC/ECD Instrument Performance Check	A	
111.	Initial calibration	A	y 7, 0.995
IV.	Continuing calibration	SW	20
V.	Blanks	A	
VI.	Surrogate spikes	SW A CO	राजार
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	·
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	5W	0, = 4,5
XV.	Field blanks	NO	R= 11,12 FB=13

Nate:

A = Acceptable

N = Not provided/applicable

SW = See worksheet

ND = No compounds detected

R = Rinsate

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

Validated Samples:

1	CLJ62-A3S-11.6-BC	SOIL	11 R	CLJ62-A3S-RB	AQ	21	- N. X.
2	CLJ62-A3S-12.6-BC		12 <i>K</i>	CLJ62-A2S-RB		22	
3	CLJ62-A3S-13.6-CS		13 <i>LB</i>	CLJ62-FB		23	
4 P,	CLJ62-A3S-16.6-CS		14	CLJ62-A3S-11.6-BCMS	SOIL	24	
5 <i>O</i> ,	CLJ62-A3S-16.6-CSD		15	CLJ62-A3S-11.6-BCMSD		25	
6	CLJ62-A3S-17.6-BC		16	B-P4331		26	
7	CLJ62-A3S-17.6-CS		17	B-P4330	AQ	27	
8	CLJ62-A2S-001-ZBC		18			28	
وا	CLJ62-A2S-002-ZCS		19			29	
,10	CLJ62-A2S-003-ZCS	V	20			30	

DC #: 15790)

VALIDATION FINDIN WORKSHEET Continuing C ration

Par 1 of 3
Revie
2nd Reviewer:

IETHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

lease see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? ______ %D or ____ RPD

N N/A Were Evaluation mix standards run before initial calibration and before samples?

N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (≤20.0% for individual breakdowns)?

ON N/A Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

N N/A Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

/(N) N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of <15.0%?

evel IV/D Only

/ N_N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

(N N/A Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.)

/ N N/A Were the (%D) recalculated results within 10.0% of the reported results?

	Date	Standard ID	Column	Compound	%D / 9PD (Limit ≤ 15.0)	RT (Limits)		Associated Samples	Qualifications
	6-16-95	IND LAB PYITS	112/110	E	22.4	()	6-10	JP
						()		
			1.	-		()		
						()		
	6-19-95	INDZAB PY615	112/110	M	2 P . 5	()	1-5	
				Q	21.1	()		
						()		
1	6-19-95	IND 2AB P8675	1/2/1/0	K	17.8	()	1-5	
						(.)		
						()		
	6-19-45	INDZAR P8675	114/10	T	15.9	()	11-13	
				۲.	19.0	()		
				0	17.2	()		
1				R	24.4	()		
-				Q	32.0	()		
1						()		
1						()		
1	6-14-95	INDIAN MASONI	11440	0	17.6	()	11-13	
1				R	23.5	()		
1				Q	26.4	()		4/
†						(7		

D	Deta DHG
C	Data BHC
O	Garnina BHC

A Alfata BHC

E. Heptachlor
F. Aldrin
G. Heptachlor epoxido

H Endosullan I

t Diektrin J 4,41-DDE K Endrin

L Endosulfan II

M 4,4'-DDD N. Endosultan sulfate O. 4,4'-DDT

P. Methoxychlor

Q. Endrin ketone R. Endrin aldehyde S. Alpha chlordane

T. Gamma-chlordane

U. Toxaphene V. Aroclor-1016 W. Aroclor-1221

X. Aroclor-1232

Y. Arodor-1242 Z. Arodor-1248 AA. Arodor-1254 BB. Arodor-1260

CC, DB 608 DD, DB 1701 EE. GG._____ HH._____ II.____

C #:_	157903	1
DG #:	4 4 3 9 3)

VALIDATION FINDING WORKSHEET ation Continuing C

2nd Review

IETHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

lease see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? _____ %D or ____ RPD

Were Evaluation mix standards run before initial calibration and before samples? ON N/A

DN N/A Were Endrin & 4.4' DDT breakdowns acceptable in the Evaluation Mix standard (≤20.0% for individual breakdowns)?

DN N/A Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

ON N/A Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

/ (N) N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of ≤15.0%?

evel IV/D Only

Were the retention times for all calibrated compounds within their respective acceptance windows? ' N N/A

Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.) (N N/A

N Endosullan sullate

O. 4,4'-DDT

P. Methoxychlor

/ N N/A Were the (%D) recalculated results within 10.0% of the reported results?

K Endrin

J 4,4"-DDE

L. Endosultan II

#	Date	Standard ID	Column	Compound	%D / APD (Limit ≤ 15.0)	AT (Lin	nits)	Associated Samples	Qualifications	
7	6-19-95	AR1254 0.581M	112/110	AA	16. 3	()	11-13	J/P	
		18668				()			
						()			
			112/110			()			
7	6-21-95	INDIAB P8675		Q	18.3	()	14,15		
							· · ·			
]						(· · · · · · · ·			
						()			
-	·									
						(
						()			
						(
						()			
					1	()			
				V		()			
						()			
						()			
						()			
A Alu	tia UHC	E. Heptachlor	1 Dieldr	ın M. 4,4	·DDD	Q. Endrin ketone	U. Toxaphe	ane Y. Arodor-1242	CC. DB 608 GG.	

R. Endrin aldehyde

S. Alpha-chlordane

T. Gamma-chlordane

V. Arador-1016

W. Aroclor-1221

X. Aroclor-1232

Z. Arodor-1248

AA. Arodor-1254

BB. Arodor-1260

DD. DB 1701

CONCAL.3S

H Endosullan I

G. Heptachlor epoxida

F. Aldon

B. Beta BHC

C. Data BHC

D. Garrina BHC

LDC #: 15 3 SDG #: 47

VALIDATION FIN GS WORKSHEET Surroga Spikes

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Reviewer:	un	
2nd Reviewer:	(B)	

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Were surrogates spiked into all samples, standards and blanks?

N N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
/		DIBUTYL CHECKLENDATE	Specifica	ل		wwife
	<u> </u>	AS SURROGAME IN	DAPP.		(RC (SAYACS)	
		TETRACHLOROMENAXI	LENG AND	AKHLOKOBENZE	ux:) ADNES BLANKS.)	
		TETRACHLOROMENAXI USED AS SURPRO	19105.		<i>/</i> ()	
		ı. <u>.</u>			()	
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			,		()	
					()	
			<u> </u>		(
					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soll)	Recovery QC Limits (Water)	Comments
A				
В				

LDC	#.	11.63
SDG	#:	44)

VALIDATION FIN' NGS WORKSHEET Matrix Spike/Mi. Spike Duplicates

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2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 848 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y(N)N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N) N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

#	Date	MS/MSD ID	Compound	MS %R (Limite)	MSD %R (Limita)	RPD (Limits)	Associated Samples	Qualifications
	6-21-45	14,15	ALL	KRIL RPDI	ALL (OUT OF)	()	ALL Soil Samples	No ourc.
		· · · · · · · · · · · · · · · · · · ·		QC (UMIT)	DUE 1 TO SAMPLE	()		
				DILUCTION AND	SOME (COMPOUNT	s ()		
<u> </u>				CONL (>2x)	SPILLE (AMOUNT)	()		
2	6-19-95	No AQ MI/MIP	ALL	()	()	()	ALL AR Samples	NOWE P
				()	(,)	()		
				()	()	()		
I				()	()	()		
				()	()	()		
				. (()	()		·
				()	()	()		
				()	()	()		

		Soll C	IC Limits	Water	QC Limite
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127	<i>\$50</i>	56-/23	. 515
В	Heptachlor ;	35-/30	€ 31	40-131	€20
С	Aldrin	34-132	{4 }	40-120	522
O	Dieldrin \	31-134	<i>{}P</i>	52-126	£18
E	Endrin	42-139	£ 45	56-121	₹21 .
F	4,4,'-DDT	2 3-134	€ 50	38-127	€ 27
G					
Н					
1					
J					

LDC #: 1577 03 SDG #: 44393

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	1	_of_	/
Reviewer:		on	
2nd reviewer:	(<u>a)</u>	

M=HOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

(YIN	N/A
YN	N/A

Were field duplicate pairs identified in this SDG?

	Concentratio	on (ng/kg)	
Compound	4	5	RPD
4.4'-000	1100	1400	24
1, 1 000	7,700	1 / / 3 3	
	Concentration		
Company	Concentratio		770
Compound			RPD
		· ·	
		1	
	Concentration	on ()	
Compound			RPD
			2 2 2
		·	1 2
	Concentrati	on ()	-
Compound			RPD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

June 22, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44479

Sample Identification

CLJ62-A3S-014SCZ

CLJ62-A2S-002SCZ

CLJ62-A2S-002SCZD

CLJ62-A2-RB

CLJ62-A3-RB

CLJ62-FB

CLJ62-A3S-014SCZMS

CLJ62-A3S-014SCZMSD

Introduction

This data review covers 5 soil samples and 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R . Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44479.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	P

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	AorP
All water samples in SDG 44479.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Ъ

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Sample (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
CLJ62-A3S-014SCZMS/MSD (All soil samples in SDG 44479.)	Endrin aldehyde Heptachlor Methoxychlor	675 (4.55-91.83) - 101 (44.48-94.74)	460 (4.55-91.83) - 96 (44.48-94.74)	38 (<u><</u> 30) 32.7 (<u><</u> 31)	J J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A2S-002SCZ and CLJ62-A2S-002SCZD were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

	Concentra		
Compound	CLJ62-A2S-002SCZ	CLJ62-A2S-002SCZD	RPD
Alpha-chiordane	260	330	24
Gamma-chlordane	280	350	22
4,4'-DDT	660	590	11
4,4'-DDE	120	150	22
4.4'-DDD	180	180	o
Heptachlor	28	33	16
Araciar 1260	9600	11000	14

XV. Field Blanks

Samples CLJ62-A2-RB and CLJ62-A3-RB were identified as rinsates. No chlorinated pesticide or PCB contaminants were found in the rinsates.

Sample CLJ62-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Ξ

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44479

SDG	Sample	Compound	Flag	A or P	Reason
44479	CLJ62-A3S-014SCZ CLJ62-A2S-002SCZ CLJ62-A2S-002SCZD CLJ62-A2-RB CLJ62-A3-RB CLJ62-FB	All TCL compounds	None	P	Surrogate spikes
44479	CLJ62-A2-RB CLJ62-A3-RB CLJ62-FB	All TCL compounds	None	р	Matrix spike/Matrix spike duplicates
44479	CLJ62-A3S-014SCZ CLJ62-A2S-002SCZ CLJ62-A2S-002SCZD	Endrin aldehyde Heptachlor Methoxychlor	J J J (all detects)	Α .	Matrix spike/Matrix spike duplicates (%R) (RPD)

Camp Lejeune Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary -SDG 44479

No Laboratory Blank Data Qualified in this SDG.

Laboratory number: 44479-001

Sample Designation: CLJ62-A3S-014SCZ

Date Extracted: 06/26/95
Date Analyzed: 06/27/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 \$, elevating the reporting limits

by a factor of 1.16.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
• 7 3	BDL	60
Aldrin	BDL	60
alpha-BHC	BDL	60
beta-BHC	BDL	60
gamma-BHC (Lindane) delta-BHC	BDL	60
alpha-Chlordane	460	60
gamma-Chlordane	530	60
4,4'-DDT	810	100
4.4'-DDE	230	60
4.4'-DDD	400	100
Dieldrin	BDL	60
Endosulfan I	BDL	60
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	60
Endrin aldehyde	BDL	100 3
Heptachlor	45 J	60 J
Heptachlor Epoxide	BDL	60
PCB-1242 (Arochlor 1242)	BDL	600
PCB-1254 (Arochlor 1254)	BDL	600
PCB-1221 (Arochlor 1221)	BDL	600
PCB-1232 (Arochlor 1232)	BDL	600
PCB-1248 (Arochlor 1248)	BDL	600
PCB-1260 (Arochlor 1260)	17000	600
PCB-1016 (Arochlor 1016)	BDL	600
Toxaphene	BDL	2000
Endrin Ketone	BDL	τόο
Methoxychlor	BDL	600

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



Laboratory number: 44479-002

Sample Designation: CLJ62-A2S-002SCZ

Date Extracted: 06/26/95
Date Analyzed: 06/27/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 %, elevating the reporting limits

by a factor of 1.17.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	60
alpha-BHC	BDL	60
beta-BHC	BDL	60
gamma-BHC (Lindane)	BDL	60
delta-BHC	BDL	60
alpha-Chlordane	260	60
gamma-Chlordane	280	60
4,4'-DDT	660	100
4,4'-DDE	120	60
4,4'-DDD	180	100
Dieldrin	BDL	60
Endosulfan I	BDL	60
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	60
Endrin aldehyde	BDL	100 3
Heptachlor	28 J	60 2
Heptachlor Epoxide	BDL	60
PCB-1242 (Arochlor 1242)	BDL	600
PCB-1254 (Arochlor 1254)	BDL	600
PCB-1221 (Arochlor 1221)	BDL	600
PCB-1232 (Arochlor 1232)	BDL	600 (
PCB-1248 (Arochlor 1248)	BDL	600
PCB-1260 (Arochlor 1260)	9600	600
PCB-1016 (Arochlor 1016)	BDL	600
Toxaphene	BDL	2000
Endrin Ketone	BDL	100
Methoxychlor	BDL	600;

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.



000005

Laboratory number: 44479-003

Sample Designation: CLJ62-A2S-002SCZD

Date Extracted: 06/26/95
Date Analyzed: 06/27/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 13 % , elevating the reporting limits by a factor of 1.15 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
	(49/149)	(49/29/
Aldrin	BDL	60
alpha-BHC	BDL	60
beta-BHC	BDL	60
gamma-BHC (Lindane)	BDL	60
delta-BHC	BDL	60
alpha-Chlordane	330	60
gamma-Chlordane	350	60
4,4'-DDT	590	100
4,4'-DDE	150	60
4,4'-DDD	180	100
Dieldrin	BDL	60
Endosulfan I	, BDL	60
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	60 25
Endrin aldehyde	BDL	100 5
Heptachlor	33 J	60 J
Heptachlor Epoxide	BDL	60
PCB-1242 (Arochlor 1242)	BDL	600
PCB-1254 (Arochlor 1254)	BDL	600
PCB-1221 (Arochlor 1221)	BDL	600
PCB-1232 (Arochlor 1232)	BDL	600
PCB-1248 (Arochlor 1248)	BDL	600
PCB-1260 (Arochlor 1260)	11000	600
PCB-1016 (Arochlor 1016)	BDL	600
Toxaphene	BDL	2000
Endrin Ketone	BDL	10 <u>′</u> 0
Methoxychlor	BDL	600

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range.

Detection limits were elevated accordingly.





Laboratory number: 44479-004
Sample Designation: CLJ62-A2-RB
Date Extracted: 06/23/95
Date Analyzed: 06/27/95
Matrix: WATER

Aldrin alpha-BHC beta-BHC BDL 0.06 beta-BHC gamma-BHC (Lindane) delta-BHC BDL 0.06 delta-BHC D.1	PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
beta-BHC gamma-BHC (Lindane) delta-BHC BDL delta-BHC BDL alpha-Chlordane BDL gamma-Chlordane BDL gamma-Chlordane BDL d.0.06 4,4'-DDT BDL d.1 4,4'-DDE BDL Dieldrin BDL Dieldrin BDL Endosulfan II BDL Endosulfan sulfate BDL D.1 Endrin BDL D.1 Endrin BDL D.1 Endrin aldehyde BDL D.1 Endrin aldehyde BDL D.1 Endrin BDL D.06 Endrin aldehyde BDL D.1 Endrin BDL D.06 Endrin aldehyde BDL D.1 Endrin BDL D.06 Endrin aldehyde BDL D.06 Endrin aldehyde BDL D.06 ECB-1242 (Arochlor 1242) BDL D.6 ECB-1254 (Arochlor 1254) BDL D.6 ECB-1232 (Arochlor 1232) BDL D.6 ECB-1248 (Arochlor 1248) BDL D.6 ECB-1260 (Arochlor 1248) BDL D.6 ECB-1016 (Arochlor 1016) BDL D.6	Aldrin	BDL	0.06
beta-BHC BDL 0.06 gamma-BHC (Lindane) BDL 0.06 delta-BHC BDL 0.06 alpha-Chlordane BDL 0.06 gamma-Chlordane BDL 0.06 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.1 4,4'-DDD BDL 0.1 Dieldrin BDL 0.06 Endosulfan I BDL 0.06 Endosulfan sulfate BDL 0.1 Endrin aldehyde BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.06 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 PCB-1016 (Arochlo	alpha-BHC	BDL	0.06
delta-BHC BDL 0.06 alpha-Chlordane BDL 0.06 gamma-Chlordane BDL 0.06 4,4'-DDT BDL 0.1 4,4'-DDD BDL 0.06 4,4'-DDD BDL 0.06 Endosulfan I BDL 0.06 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 Heptachlor Epoxide BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1254 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 PCB-101	-	BDL	0.06
delta-BHC BDL 0.06 alpha-Chlordane BDL 0.06 gamma-Chlordane BDL 0.06 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.06 4,4'-DDD BDL 0.1 Dieldrin BDL 0.06 Endosulfan I BDL 0.06 Endosulfan Sulfate BDL 0.1 Endrin BDL 0.1 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 Heptachlor Epoxide BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1251 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 0.1	gamma-BHC (Lindane)	BDL	0.06
gamma-Chlordane 4,4'-DDT BDL 0.06 4,4'-DDE BDL 0.06 4,4'-DDD BDL 0.06 Endosulfan I Endosulfan II BDL Endosulfan Sulfate BDL Endrin BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor Heptachlor BDL D.06 PCB-1242 (Arochlor 1242) BDL D.6 PCB-1232 (Arochlor 1221) BDL D.6 PCB-1248 (Arochlor 1248) BDL D.6 PCB-1248 (Arochlor 1248) BDL D.6 PCB-1260 (Arochlor 1260) BDL D.6 PCB-1016 (Arochlor 1016) BDL D.6	_	BDL	0.06
4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.06 4,4'-DDD BDL 0.1 Dieldrin BDL 0.06 Endosulfan II BDL 0.06 Endosulfan Sulfate BDL 0.1 Endosulfan Sulfate BDL 0.1 Endrin BDL 0.06 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 0.6 Toxaphene BDL 0.6 Toxaphene BDL 0.6 Toxaphene BDL 0.6	alpha-Chlordane	BDL	0.06
### A 4 '- DDT ### A 4 '- DDE ### A 4 '- DDE ### A 4 '- DDD ### BDL ### O.06 ### O.06 ### O.06 ### DDL ### O.06 ### DDL ### O.06 ### DDL ### O.06 ### DDL ### D.06 ### DDL ### D.1 ### DDL ### D.1 ### DDL ### D.1 ### DDL ### D.1 ### D.1 ### DDL ### D.1 ### D.1 ### DDL ### D.1 ### D.1 ### D.1 ### DDL ### D.6 ### DDL ### D.6 ### DDL ### D.6 ### DDL ### D.6 ### DDL ### D.6 ### D.6 ### D.6 ### DDL ### D.6 ###	gamma-Chlordane	BDL	0.06
4,4'-DDD BDL 0.1 Dieldrin BDL 0.06 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.06 Endrin aldehyde BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 0.1 Endrin Ketone BDL 0.1	_	BDL	0.1
Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin Endrin Endrin aldehyde Endrin aldehyde Heptachlor Heptachlor Epoxide PCB-1242 (Arochlor 1242) PCB-1254 (Arochlor 1254) PCB-1252 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1248 (Arochlor 1248) PCB-1260 (Arochlor 1260) PCB-1016 (Arochlor 1016) EDL D.6 EDL D.6 EDL D.6 EDL D.6 EDCB-1016 (Arochlor 1016) EDL D.6 EDL D.6 EDCB-1016 (Arochlor 1016) EDL D.6 EDL	4,4'-DDE	BDL	0.06
Endosulfan I BDL 0.06 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	4,4'-DDD	BDL	0.1
Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.06 Endrin BDL 0.06 Endrin aldehyde BDL 0.06 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Dieldrin	BDL	0.06
Endosulfan sulfate BDL 0.1 Endrin BDL 0.06 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Endosulfan I	BDL	0.06
Endrin BDL 0.06 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.06 Heptachlor Epoxide BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Endosulfan II	BDL	0.1
Endrin aldehyde	Endosulfan sulfate	BDL	0.1
Heptachlor BDL 0.06 Heptachlor Epoxide BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Endrin	BDL	0.06
Heptachlor Epoxide BDL 0.06 PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Endrin aldehyde	BDL	0.1
PCB-1242 (Arochlor 1242) BDL 0.6 PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Heptachlor	BDL	0.06
PCB-1254 (Arochlor 1254) BDL 0.6 PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	Heptachlor Epoxide	BDL	0.06
PCB-1221 (Arochlor 1221) BDL 0.6 PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1232 (Arochlor 1232) BDL 0.6 PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1254 (Arochlor 1254)	BDL	0.6
PCB-1248 (Arochlor 1248) BDL 0.6 PCB-1260 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1240 (Arochlor 1260) BDL 0.6 PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1016 (Arochlor 1016) BDL 0.6 Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1248 (Arochlor 1248)	BDL	0.6
Toxaphene BDL 2 Endrin Ketone BDL 0.1	PCB-1260 (Arochlor 1260)	BDL	0.6
Endrin Ketone BDL 0.1	PCB-1016 (Arochlor 1016)	BDL	
	Toxaphene	BDL	_
Methoxychlor BDL 0.6	Endrin Ketone	BDL	
	Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22/45



Laboratory number: 44479-005
Sample Designation: CLJ62-A3-RB
Date Extracted: 06/23/95
Date Analyzed: 06/27/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.06
alpha-BHC	BDL	0.06
beta-BHC	BDL	0.06
gamma-BHC (Lindane)	BDL	0.06
delta-BHC	BDL	0.06
alpha-Chlordane	BDL	0.06
gamma-Chlordane	BDL	0.06
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.06
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.06
Endosulfan I	BDL	0.06
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.06
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.06
Heptachlor Epoxide	BDL	0.06
PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1254 (Arochlor 1254)	BDL	0.6
PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1248 (Arochlor 1248)	BDL	0.6
PCB-1260 (Arochlor 1260)	BDL	0.6
PCB-1016 (Arochlor 1016)	BDL	0.6
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984

METHOD 608

BDL = Below reporting limit





Laboratory number: 44479-006
Sample Designation: CLJ62-FB
Date Extracted: 06/23/95
Date Analyzed: 06/28/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.06
alpha-BHC	BDL	0.06
beta-BHC	BDL	0.06
gamma-BHC (Lindane)	BDL	0.06
delta-BHC	BDL	0.06
alpha-Chlordane	BDL	0.06
gamma-Chlordane	BDL	0.06
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.06
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.06
Endosulfan I	BDL	0.06
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.06
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.06
Heptachlor Epoxide	BDL	0.06
PCB-1242 (Arochlor 1242)	BDL	0.6
PCB-1254 (Arochlor 1254)	BDL .	0.6
PCB-1221 (Arochlor 1221)	BDL	0.6
PCB-1232 (Arochlor 1232)	BDL	0.6
PCB-1248 (Arochlor 1248)	BDL	0.6
PCB-1260 (Arochlor 1260)	BDL	0.6
PCB-1016 (Arochlor 1016)	BDL	0.6
Toxaphene	BDL	2 .
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.6

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22/98



LDC #: 1579E3	VALIDATION COMPLETENESS WORKSHEET	Date: 9-13-95
SDG #: 44479	EPA Level III XNEESA Level C	Page: / of /
Laboratory: Pace, Inc.	-	Reviewer: M
		2nd Reviewer:
METUOD, CO Organization	Destinides/DCDs (EDA CM/ 046 Method 0000)	

METHOD: GC Organochlorine Pesticides/PCBs (EPA SW 846 Method 8080)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
1.	Technical holding times	A	Sampling dates: 6-22-95
11.	GC/ECD Instrument Performance Check	A	
181.	Initial calibration	A	r70.995
IV.	Continuing calibration	A	20
V.	Blanks	A	
V1.	Surrogete spikes	SWACO	्रायान
VII.	Matrix spike/Matrix spike duplicates	5W	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Хъ.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	P, = 2, 3
XV.	Field blanks	NO	R= 4.5 EB=6

Note:

A = Acceptable

N = Not provided/applicable

SW = See worksheet

ND = No compounds detected

R = Rinsete

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

Validated Samples:

1	CLJ62-A3S-014SCZ	SOIL	11	21	1
2 D ,	CLJ62-A2S-002SCZ		12	22	2
3 17	CLJ62-A2S-002SCZD	1	13	. 23	3
4 R	CLJ62-A2-RB	AQ	14	24	4
5 R	CLJ62-A3-RB		15	25	5
6FB	CLJ62-FB	1	16	26	6
7	CLJ62-A3S-014SCZMS	SOIL	17	27	7
8	CLJ62-A3S-014SCZMSD		18	28	8
_ بها	B-P4339	J	19	29	9
, 0	B-P4338	AQ	20	30	0

LDC	#:_	11	753
SDG	#:	7)	. 19

VALIDATION FIN GS WORKSHEET Surrogase Spikes

Pí of	1
Reviewer: M	
2nd Reviewer: (3)	

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were surrogates spiked into all samples, standards and blanks?

N N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
/		DENTIL CHLORENDATE	SPEURD	5 145) ()	NONO
		SURROGATE IN QU	APP.		(ALL SHYPASS)	,
		TETRACHLORD METAX	leve and	DICHICHORENZE	MIL SAMPLES)	
		LUCE MS SMAROBANZ	۶.) ()	
		٠			()	
					()	
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			1		()	
					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soli)	Recovery QC Limits (Water)	Comments
Α				
В				

LDC #: 157963 SDG #: 7

VALIDATION FIN JGS WORKSHEET Matrix Spike/Man Spike Duplicates

Reviewer: 6

METHOD: GC Pesticides/PCBs (EPA SW 848 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y(N)N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N) N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

YNN/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

*	Date	MS/MSD ID	Compound	MS %R (Limita)	MSD %R (Limita)	APD (Limite)	Associated Samples	Qualifications
/_	6-28-95	7, 8	4	NC(10.36-94.07)	16 (30.36-9407)	NC(530)	All Soil Samples	NO OVAL.
		SAMPLE CONC. 72X	F	519(23-134)	310 (32.84-111.17)	50.41 S&O 501		
		SPIKE AMT.	I	12-13-11-1	17 (24.59-111.17)	122(\$30)		
				()	()	()		Ψ
7	6-24-95	7, 8	Н	675(255-9/13)	460 (4.55-11.73)	3P(£30)	All Soil Samples	A/T
			В	(31-134)	(31-134)	32.7(£ 3 p)		T
		m		(12(3349-19-39)	101 (33-9309)			JA DETAUTS
		1-26-45/	E	117 121.96-112.49		1		
3	6-28-95	No AR MS/MSD	ALL	(42-139)	()	()	All AU Samples	HONE P
				()	()	()		
				()	()	()		
				()	()	()		

	1	Soll QC Limits		Water QC Limits	
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127	<i>550</i>		
8	Heptachlor :	35-130	£31		
С	Aldrin	34-/32	{ 4 3		
D	Dieldrin	31-139 3319-93.19	£38		~ <u></u>
E	Endrin	12-139 32.96-10410	5 45		
F	4,4,'-DDT	23-134 31.81-111.17	530		
G	44'-000	30.36-94.07	€ 10		
Н	Endrin aldohyde	1.55 - 91.83	≤ 30		
1	4.4-00E	24.59 - 111.17	≤ 30		
J	Methoxychlor	44.48-44.74	€ 10		

NC = Not Calculable due to Pilation

LL	15	1
SDG	n	. 1

VALIDATION FINE S WORKSHEET Matrix Spike/Matrix Spike Duplicates

P	2012
Reviewer:	m
2nd Reviewer:	

METHOD: GC Pesticides/PCBs (EPA SW 848 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N) N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N)N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

#	Date	MS/MSD ID	Compound	MS %R (Limite)	MSD %R (Limite)	RPD (Limite)	Associated Samples	Qualifications
H	6-28.95	7, 8	J	101(49.41-99.74)	96(41.48-94.74)	()	All Soil Samples	JIA (Oct.)
2		(cont.)		()	()	()		
				()	()	()		
<u></u>			6 .	()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
<u>L</u>				()	()	()		
				()	(()		
				()	()	()		
				()	()	()		
					(()		

		Soil QC Limits		Water Q	C Limite
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC				
В	Heptachlor				
С	Aldrin				
D	Dieldrin	٧٠)٠			
E	Endrin	(_0			
F	4,4,'-DDT	Sec			
G	14.				
Н					
					•
J	Methoxychlor	44.48 - 94.14	530		

LDC #: 1579 & 1 SDG #: 444 79

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	<u>(</u> _of_	1
Reviewer:_	pn	
2nd reviewer:	(A)	

FITHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

ليد	Ν	N/A
(\mathbf{Y})	N(N/A

Were field duplicate pairs identified in this SDG?

Were target compounds detected in thie field duplicate pairs?

	Concentration	Concentration (my/kg)		
Compound	2	3	RPD	
a-Chlordane	260	330	24	
a - Chlordane	280	350	22	
4.4'-001	660	590	11	
4,4'-008	/20	150	2.2	
4,4'-000	180 -	180	0	

	Concentration	on (righty)	
Compound	2	3	RPD
Heptachlor	28	. 33	16
Heptachlor PCB-1260	9600	//000	14
]			

	Concentration ()	
Сотроилс		RPD
	-	4
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	Concentration ()	
Compound		RPD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

June 29, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44544

Sample Identification

CLJ62-A3S-005.1SC

CLJ62-A3S-010.1SC

CLJ62-A3S-005.1BC

CLJ62-A3S-005.1BCD

CLJ62-A3S-005.1BCDRE

CLJ62-A3S-003.1BC

CLJ62-A3S-003.1BCRDL

CLJ62-A3S-003.1BCRE*

CLJ62-A3S-008.1SC

CLJ62-A3S-008.1SCRDL

CLJ62-A3S-008.1SCRE*

CLJ62-A3S-FB

CLJ62-A3S-005.1BCDMS

CLJ62-A3S-005.1BCDMSD

Introduction

This data review covers 13 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8688	112/110	Endrin ketone	20.6	CLJ62-A3S-005.1SC CLJ62-A3S-003.1BC CLJ62-A3S-008.1SC B-P4346	J	ρ
IND2AB P8688	112/110	Endrin Endrin aldehyde	15.2 16.6	CLJ62-A3S-005.1SC CLJ62-A3S-003.1BC CLJ62-A3S-008.1SC B-P4346) (1)	Р
IND2AB P8688	112/110	Endrin ketone	18.5	CLJ62-A3S-010.1SC CLJ62-A3S-005.1BC CLJ62-A3S-005.1BCD CLJ62-A3S-003.1BC CLJ62-A3S-008.1SCRDL CLJ62-A3S-FB	J	Р
IND2AB P8688	112/110	Endrin ketone	15.3	CLJ62-A3S-010.1SC CLJ62-A3S-005.1BC CLJ62-A3S-005.1BCD CLJ62-A3S-003.1BC CLJ62-A3S-008.1SCRDL CLJ62-A3S-FB	J	P

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8688	112/110	Endosulfan II Endrin aldehyde Endrin ketone	15.6 15.9 23.4	CLI62-A3S-005.1BCDRE B-P4347	1 1	ρ
IND2AB P8688	112/110	Endrin aldehyde Endrin ketone	18.6 19.3	CLJ62-A3S-005.1BCDRE B-P4347) I	ρ
IND2AB P8688	112/110	4.4'-ODT	40.5	B-P4355	J	Р
IND2AB P8688	112/110	4.4'-DDD 4.4'-DDT Methoxychlor	15.1 39.5 30.0	CLJ62-A3S-003.1BCRE* CLJ62-A3S-008.1SCRE*	1 1	р
IND2AB P8688	112/110	4.4'-DDD 4.4'-DDT Methoxychlor/Endosulfan sulfate	23.7 35.6 20.0	CLJ62-A3S-003.1BCRE* CLJ62-A3S-008.1SCRE*	J J	р

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44544.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	Noñe	Р

All surrogate recoveries were within validation criteria with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A ar P
CLJ62-A35-FB	112/110	Decachlorobiphenyl	17 (20-150)	All TCL compounds	J	А
B-P4347	112/110	Decachlorobiphenyl	17 (20-150)	All TCL compounds	J	Α

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG 44544.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Р

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Sample (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
CLJ62-A3S-005.1BCDMS/MSD (All soil samples in SDG 44544).	Methoxychlor	43 (44.48-94.74)	•	-	J	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LSP4355	Endosulfan I	36 (37.15-91.67)	CLJ62-A3S-005.1BCDRE B-P4355	J	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A3S-005.1BC and CLJ62-A3S-005.1BCD were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

Concentration (ug/Kg)			
Compound	CLJ62-A3S-005.1BC	CLJ62-A3S-005.1BCD	RPD
4,4'-DOT	170	150	13
4,4'-DDE	140	92	41
4,4'-DDD	1500	890	51
Alpha-chlordane	ND	37	Not calculable
Ġamma-chlordane	ND	34	Not calculable

XV. Field Blanks

Sample CLJ62-A3S-FB was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44544

SDG	Sample	Compound	Flag	A or P	Reason
44544	CLJ62-A3S-005.1SC CLJ62-A3S-003.1BC CLJ62-A3S-008.1SC CLJ62-A3S-010.1SC CLJ62-A3S-005.1BC CLJ62-A3S-005.1BCD CLJ62-A3S-003.1BC CLJ62-A3S-008.1SCRDL CLJ62-A3S-FB	Endrin ketone	J	Р	Continuing calibration (%D)
44544	CLJ62-A3S-005.1SC CLJ62-A3S-003.1BC CLJ62-A3S-008.1SC	Endrin Endrin aldehyde	J	Р	Continuing calibration (%D)
44544	CLJ62-A3S-005.1BCDRE	Endosulfan II Endrin aldehyde Endrin ketone	. J	Р	Continuing calibration (%D)
44544	CLJ62-A3S-005.1BCDRE	Endrin aldehyde Endrin ketone	n n	Р	Continuing calibration (%D)
44544	CLJ62-A3S-003.18CRE* CLJ62-A3S-008.1SCRE*	4,4'-DDD 4,4'-DDT Methoxychlor) J	P	Continuing calibration (%D)
44544	CLJ62-A3S-003.1BCRE* CLJ62-A3S-008.1SCRE*	4,4'-DDD 4.4'-DDT Methoxychlor Endosulfan sulfate	1 1 1	Р	Continuing calibration (%D)
44544	CLJ62-A3S-005.1SC CLJ62-A3S-010.1SC CLJ62-A3S-005.1BC CLJ62-A3S-005.1BCDRE CLJ62-A3S-003.1BC CLJ62-A3S-003.1BCRDL CLJ62-A3S-003.1BCRDL CLJ62-A3S-008.1SC CLJ62-A3S-008.1SC CLJ62-A3S-008.1SCRDL CLJ62-A3S-008.1SCRE* CLJ62-A3S-FB	All TCL compounds	None	P	Surrogate spikes
44544	CLJ62-A3S-FB	All TCL compounds	J	А	Surrogate spikes (%R)
44544	CLJ62-A3S-FB	All TCL compounds	None	Р	Matrix spike/Matrix spike duplicates

SDG	Sample	Compound	Flag	A or P	Reason
44544	CLJ62-A3S-005.1SC CLJ62-A3S-010.1SC CLJ62-A3S-005.1BC CLJ62-A3S-005.1BCD CLJ62-A3S-005.1BCDRE CLJ62-A3S-003.1BC CLJ62-A3S-003.1BCRDL CLJ62-A3S-003.1BCRE* CLJ62-A3S-008.1SC CLJ62-A3S-008.1SCRDL CLJ62-A3S-008.1SCRDL	Methoxychlor	J	A	Matrix spike/Matrix spike duplicates (%R)
44544	CLJ62-A3S-005.1BCDRE	Endosulfan I	J	A	Laboratory control samples (%R)

Camp Lejeune Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary -SDG 44544

No Laboratory Blank Data Qualified in this SDG.

Laboratory number: 44544-001

Sample Designation: CLJ62-A3S-005.1SC

Date Extracted: 06/30/95
Date Analyzed: 06/30/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 9 %, elevating the reporting limits by a factor of 1.1 .

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	10
alpha-BHC	BDL	10
beta-BHC	BDL	10
gamma-BHC (Lindane)	BDL	10
delta-BHC	BDL	10
alpha-Chlordane	16	10
gamma-Chlordane	16	10
4,4'-DDT	42	20
4,4'-DDE	22	10
4,4'-DDD	160	20
Dieldrin	BDL	10
Endosulfan I	BDL	10
Endosulfan II	BDL	20
Endosulfan sulfate	BDL	20
Endrin	BDL	10 J
Endrin aldehyde	BDL	20 5
Heptachlor .	BDL	10
Heptachlor Epoxide	BDL	10
PCB-1242 (Arochlor 1242)	BDL	100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	BDL	100
PCB-1016 (Arochlor 1016)	BDL	100
Toxaphene	BDL	400
Endrin Ketone	BDL	20. J
Methoxychlor	BDL	100 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

9/22/45



Laboratory number: 44544-002

Sample Designation: CLJ62-A3S-010.1SC

06/30/95 Date Extracted: 07/05/95 Date Analyzed: SOLID Matrix:

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 % , elevating the reporting limits

by a factor of 1.12 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	20
alpha-BHC	BDL	20
beta-BHC	BDL	20
gamma-BHC (Lindane)	BDL	20
delta-BHC	BDL	20
alpha-Chlordane	170	20
gamma-Chlordane	170	20
4,4'-DDT	68	40
4,4'-DDE	94	20
4,4'-DDD	170	40
Dieldrin	BDL	20
Endosulfan I	BDL	20
Endosulfan II	BDL	40
Endosulfan sulfate	BDL	40
Endrin	BDL	20
Endrin aldehyde	BDL	40
Heptachlor	BDL	20
Heptachlor Epoxide	BDL	20
PCB-1242 (Arochlor 1242)	BDL	200
PCB-1254 (Arochlor 1254)	BDL	200
PCB-1221 (Arochlor 1221)		200
PCB-1232 (Arochlor 1232)	BDL	200
PCB-1248 (Arochlor 1248)	BDL	200
PCB-1260 (Arochlor 1260)	BDL	200
PCB-1016 (Arochlor 1016)	BDL	200
Toxaphene	BDL	900
Endrin Ketone	BDL	40 J
Methoxychlor	BDL	200 J
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METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

This sample required dilution to bring a high target analyte concentration into the calibration range. Detection limits were elevated accordingly.



Laboratory number: 44544-003

Sample Designation: CLJ62-A3S-005.1BC

Date Extracted: 06/30/95
Date Analyzed: 07/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 11 % , elevating the reporting limits by a factor of 1.13 .

Aldrin alpha-BHC beta-BHC gamma-BHC (Lindane) delta-BHC loo delta-BHC alpha-Chlordane gamma-Chlordane gamma-Chlordane gamma-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDE 4,4'-DDD beta-BHC BDL 100 1500 Dieldrin BDL 100 Endosulfan II BDL Endosulfan Sulfate BDL Endorin aldehyde BDL Endrin aldehyde BDL DO CB-1242 (Arochlor 1242) BDL DCB-1232 (Arochlor 1232) BDL DCB-1233 (Arochlor 1232) BDL DCB-1248 (Arochlor 1248) BDL DCB-1248 (Arochlor 1248) BDL DCB-1246 (Arochlor 1248) BDL DOO PCB-1260 (Arochlor 1260) BDL DOO PCB-1016 (Arochlor 1016) BDL DOO PCB-1016 (Arochlor 1016) BDL DOO DCB-1016 (BDL DOO DCB-1016 (Arochlor 1016) BDL DOO DCB-1016 (BDL DOO DCB-1016 (BDL DOO DCB-1016 (Arochlor 1016) BDL DOO DCB-1016 (BDL DOO DCB-1016 (BDL DOO DCB-1016 (Arochlor 1016) BDL DOO DCB-1016 (BDL DCB-1016 (BDL	PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
alpha-BHC		(ug/Kg)	(ug/Kg)
alpha-BHC	-11:		
beta-BHC BDL 100 gamma-BHC (Lindane) BDL 100 delta-BHC BDL 100 alpha-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDE 140 100 4,4'-DDD 1500 200 Dieldrin BDL 100			
gamma-BHC (Lindane) BDL 100 delta-BHC BDL 100 alpha-Chlordane BDL 100 gamma-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDD 1500 200 Dieldrin BDL 100 Endosulfan I BDL 100 Endosulfan Sulfate BDL 200 Endrin BDL 200 Endrin aldehyde BDL 100 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000	-		
delta-BHC BDL 100 alpha-Chlordane BDL 100 gamma-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDE 140 100 100 4,4'-DDD 1500 200 200 Dieldrin BDL 100 100 Endosulfan II BDL 200 200 Endosulfan sulfate BDL 200 200 Endrin BDL 100 200			
alpha-Chlordane BDL 100 gamma-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDE 140 100 4,4'-DDD 1500 200 Dieldrin BDL 100 Endosulfan I BDL 100 Endosulfan sulfate BDL 200 Endrin BDL 200 Endrin aldehyde BDL 100 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 FCB-1016 (Arochlor 1016) BDL 1000 FCB-1016 (Arochlor 1016) BDL 1000			
gamma-Chlordane BDL 100 4,4'-DDT 170 J 200 4,4'-DDE 140 100 100 4,4'-DDD 1500 200 D Dieldrin BDL 100 100 Endosulfan II BDL 200 100 Endosulfan sulfate BDL 200 100 Endrin BDL 100 100 Endrin aldehyde BDL 100 100 Heptachlor BDL 100 100 PCB-1242 (Arochlor 1242) BDL 1000 100 PCB-1254 (Arochlor 1254) BDL 1000 1000 PCB-1221 (Arochlor 1221) BDL 1000 1000 PCB-1248 (Arochlor 1248) BDL 1000 1000 PCB-1260 (Arochlor 1260) BDL 1000 1000 PCB-1016 (Arochlor 1016) BDL 1000 1000 PCB-1016 (Arochlor 1016) BDL 1000 1000 Endrin Ketone BDL 200 3			
4,4'-DDT	-		
4,4'-DDE	5		
4,4'-DDD 1500 200 Dieldrin BDL 100 Endosulfan II BDL 200 Endosulfan sulfate BDL 200 Endrin BDL 100 Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	•		
Dieldrin BDL 100 Endosulfan I BDL 100 Endosulfan II BDL 200 Endosulfan sulfate BDL 200 Endrin BDL 100 Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	4,4'-DDE	140	100
Endosulfan I BDL 200 Endosulfan II BDL 200 Endosulfan sulfate BDL 200 Endrin BDL 100 Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	4,4'-DDD	1500	200
Endosulfan II BDL 200 Endosulfan sulfate BDL 200 Endrin BDL 100 Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Dieldrin	BDL	100
Endosulfan sulfate BDL 200 Endrin BDL 100 Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Endosulfan I	BDL	100
Endrin	Endosulfan II	BDL	200
Endrin aldehyde BDL 200 Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Endosulfan sulfate	EDL	200
Heptachlor BDL 100 Heptachlor Epoxide BDL 100 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Endrin	BDL	100
Heptachlor Epoxide BDL 1000 PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Endrin aldehyde	BDL	200
PCB-1242 (Arochlor 1242) BDL 1000 PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Heptachlor	BDL	100
PCB-1254 (Arochlor 1254) BDL 1000 PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	Heptachlor Epoxide	BDL	100
PCB-1221 (Arochlor 1221) BDL 1000 PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	PCB-1242 (Arochlor 1242)	BDL	1000
PCB-1232 (Arochlor 1232) BDL 1000 PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	PCB-1254 (Arochlor 1254)	BDL	1000
PCB-1248 (Arochlor 1248) BDL 1000 PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	PCB-1221 (Arochlor 1221)	BDL	1000
PCB-1260 (Arochlor 1260) BDL 1000 PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	PCB-1232 (Arochlor 1232)	BDL	1000
PCB-1016 (Arochlor 1016) BDL 1000 Toxaphene BDL 4000 Endrin Ketone BDL 200	PCB-1248 (Arochlor 1248)	BDL	1000
Toxaphene BDL 4000 Endrin Ketone BDL 200 J	PCB-1260 (Arochlor 1260)	BDL	1000
Endrin Ketone BDL 200 J	PCB-1016 (Arochlor 1016)	BDL	1000
	Toxaphene	BDL	
	Endrin Ketone	BDL	200 J
Methoxychlor BDL 1000 J	Methoxychlor	BDL	1000 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Laboratory number: 44544-004

Sample Designation: CLJ62-A3S-005.1BCD

Date Extracted: 06/30/95
Date Analyzed: 07/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 10 % , elevating the reporting limits

by a factor of 1.11.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	60
alpha-BHC	BDL	60
beta-BHC	BDL	60
gamma-BHC (Lindane)	BDL	60
delta-BHC	BDL	60
alpha-Chlordane	37 J	60
gamma-Chlordane	34 J	60
4,4'-DDT	150	100
4,4'-DDE	92	60
4,4'-DDD	890	100
Dieldrin	BDL	60
Endosulfan I	BDL	60
Endosulfan II	BDL	100
Endosulfan sulfate	BDL	100
Endrin	BDL	60
Endrin aldehyde	BDL	100
Heptachlor	BDL	60
Heptachlor Epoxide	BDL	60
PCB-1242 (Arochlor 1242)		600
PCB-1254 (Arochlor 1254)		600
PCB-1221 (Arochlor 1221)	BDL	600
PCB-1232 (Arochlor 1232)	BDL	600
PCB-1248 (Arochlor 1248)		600
PCB-1260 (Arochlor 1260)		600
PCB-1016 (Arochlor 1016)	BDL	600
Toxaphene	BDL	2000
Endrin Ketone	BDL	100 5
Methoxychlor	BDL	600 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Laboratory number: 44544-004RE

Sample Designation: CLJ62-A3S-005.1BCD

Date Extracted: 07/06/95
Date Analyzed: 07/06/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 10 \$, elevating the reporting limits

by a factor of 1.11.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	60
alpha-BHC	BDL	60
beta-BHC	BDL	60
gamma-BHC (Lindane)	BDL	60
delta-BHC	BDL	60
alpha-Chlordane	54 J	60
gamma-Chlordane	55 J	60
4,4'-DDT	190	100
4,4'-DDE	91	60
4,4'-DDD	860	100
Dieldrin	BDL	60
Endosulfan I	BDL	60 J
Endosulfan II	BDL	100 J
Endosulfan sulfate	BDL	100
Endrin	BDL	60
Endrin aldehyde	BDL	100 J
Heptachlor	BDL	60
Heptachlor Epoxide	BDL	60
PCB-1242 (Arochlor 1242)	BDL	600
PCB-1254 (Arochlor 1254)	BDL	600
PCB-1221 (Arochlor 1221)	BDL	600
PCB-1232 (Arochlor 1232)	BDL	600
PCB-1248 (Arochlor 1248)	BDL	600
PCB-1260 (Arochlor 1260)	BDL	600
PCB-1016 (Arochlor 1016)	BDL	600
Toxaphene	BDL	2000
Endrin Ketone	BDL	100 J
Methoxychlor	BDL	600 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Laboratory number: 44544-005

Sample Designation: CLJ62-A3S-003.1BC

Date Extracted: 06/30/95
Date Analyzed: 06/30/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis.

Moisture content was 14 %, elevating the reporting limits
by a factor of 1.16.

PCB'S		CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlo	r 1242)	BDL	100
PCB-1254 (Arochlo	r 1254)	BDL	100
PCB-1221 (Arochlo	r 1221)	BDL	100
PCB-1232 (Arochlo		BDL	100
PCB-1248 (Arochlo		BDL	100
PCB-1260 (Arochlo		400	100
PCB-1016 (Arochlo		BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition

METHODS 3550 AND 8080

BDL = Below reporting limit

alzz las Pace. Laboratory number: 44544-005DL

Sample Designation: CLJ62-A3S-003.1BC

Date Extracted: 06/30/95
Date Analyzed: 07/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 %, elevating the reporting limits by a factor of 1.16.

PESTICIDES/PCB'S	CONCENTRATION (ug/kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	200
alpha-BHC	BDL	200
beta-BHC	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	BDL	200
alpha-Chlordane	1600	200
gamma-Chlordane	1600	200
4,4'-DDT	380 J	400
4,4'-DDE	380	200
4,4'-DDD	570	400
Dieldrin	BDL	200
Endosulfan I	BDL	200
Endosulfan II	BDL .	400
Endosulfan sulfate	BDL	400 _
Endrin	BDL	200 5
Endrin aldehyde	BDL	400 J
Heptachlor	BDL	200
Heptachlor Epoxide	BDL	200
Toxaphene	BDL	9000
Endrin Ketone	BDL	400 J
Methoxychlor	BDL	2000 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range. Detection limits were elevated accordingly.

9/22/6/5



Laboratory number: 44544-005RDL Sample Designation: CLJ62-A3S-003.1BC

Date Extracted: 07/07/95
Date Analyzed: 07/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 % , elevating the reporting limits

by a factor of 1.16.

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	200
alpha-BHC	BDL	. 200
beta-BHC	BDL	200
gamma-BHC (Lindane)	BDL	200
delta-BHC	BDL	200
alpha-Chlordane	1400	200
gamma-Chlordane	1400	200
4,4'-DDT	260 J	400 🗇
4,4'-DDE	410	, 200
4,4'-DDD	390 J	400 J
Dieldrin	BDL	200
Endosulfan I	BDL	200
Endosulfan II	BDL	400
Endosulfan sulfate	BDL	400 3
Endrin	BDL	200
Endrin aldehyde	BDL	400
Heptachlor	BDL	200
Heptachlor Epoxide	BDL	200
PCB-1242 (Arochlor 1242)	BDL	2000
PCB-1254 (Arochlor 1254)		2000
PCB-1221 (Arochlor 1221)	BDL	2000
PCB-1232 (Arochlor 1232)	BDL	2000
PCB-1248 (Arochlor 1248)	BDL	2000
PCB-1260 (Arochlor 1260)	BDL	2000
PCB-1016 (Arochlor 1016)	BDL	2000
Toxaphene	BDL	8000
Endrin Ketone	BDL	400 _
Methoxychlor	BDL	2000 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range. Detection limits were elevated accordingly.

7/22/95



Laboratory number: 44544-005RE

Sample Designation: CLJ62-A3S-003.1BC

Date Extracted: 07/07/95
Date Analyzed: 07/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 %, elevating the reporting limits

by a factor of 1.16.

PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242 (Arochlor 1242)	BDL	100
PCB-1254 (Arochlor 1254)	BDL	100
PCB-1221 (Arochlor 1221)	BDL	100
PCB-1232 (Arochlor 1232)	BDL	100
PCB-1248 (Arochlor 1248)	BDL	100
PCB-1260 (Arochlor 1260)	170	100
PCB-1016 (Arochlor 1016)	BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

9/22/95



Laboratory number: 44544-006

Sample Designation: CLJ62-A3S-008.1SC

Date Extracted: 06/30/95
Date Analyzed: 06/30/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 \$, elevating the reporting limits

by a factor of 1.24.

PCB'S		CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor 1242	BDL	100
PCB-1254	(Arochlor 1254	BDL	100
PCB-1221	(Arochlor 122)	L) BDL	100
PCB-1232	(Arochlor 1232	EDL	100
PCB-1248	(Arochlor 1248	BDL	100
PCB-1260	(Arochlor 1260	2300	100
PCB-1016	(Arochlor 101	5) BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

9122/95



Laboratory number: 44544-006DL

Sample Designation: CLJ62-A3S-008.1SC

Date Extracted: 06/30/95
Date Analyzed: 07/05/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 % , elevating the reporting limits by a factor of 1.24 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	600
alpha-BHC	BDL	600
beta-BHC	BDL	600
gamma-BHC (Lindane)	BDL	600
delta-BHC	BDL	600
alpha-Chlordane	2100	600
gamma-Chlordane	2600	600
4,4'-DDT	1300	1000
4,4'-DDE	1400	600
4,4'-DDD	750 J	1000
Dieldrin	BDL	600
Endosulfan I	BDL	600
Endosulfan II	BDL	1000
Endosulfan sulfate	BDL	1000
Endrin	BDL	600 J
Endrin aldehyde	BDL	1000 丁
Heptachlor	BDL	600
Heptachlor Epoxide	BDL	600
Toxaphene	BDL.	20000
Endrin Ketone	BDL	1000
Methoxychlor	BDL	6000 J

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit

This sample required dilution to bring a high target analyte concentration into the calibration range. Detection limits were elevated accordingly.

9122/98



Laboratory number: 44544-006RDL Sample Designation: CLJ62-A3S-008.1SC

Date Extracted: 07/07/95
Date Analyzed: 07/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 % , elevating the reporting limits by a factor of 1.24 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	600
alpha-BHC	BDL	600
beta-BHC	BDL.	600
gamma-BHC (Lindane)	BDL	600
delta-BHC	BDL	600
alpha-Chlordane	1400	600
gamma-Chlordane	1700	600
4,4'-DDT	1400	1000 J
4,4'-DDE	1000	600
4,4'-DDD	670 J	1000 🌫
Dieldrin	BDL	600
Endosulfan I	BDL	600
Endosulfan II	BDL	1000 _
Endosulfan sulfate	BDL	1000 J
Endrin	BDL	600
Endrin aldehyde	BDL	1000
Heptachlor	BDL	600
Heptachlor Epoxide	BDL	600
PCB-1242 (Arochlor 1242)	BDL	6000
PCB-1254 (Arochlor 1254)	BDL	6000
PCB-1221 (Arochlor 1221)	BDL	6000
PCB-1232 (Arochlor 1232)	BDL	6000
PCB-1248 (Arochlor 1248)	BDL	6000
PCB-1260 (Arochlor 1260)	BDL	6000
PCB-1016 (Arochlor 1016)	BDL	6000
Toxaphene	BDL	20000
Endrin Ketone	BDL	1000 J
Methoxychlor	BDL .	6000 J
	•	_ ·

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Laboratory number: 44544-006RE

Sample Designation: CLJ62-A3S-008.1SC

Date Extracted: 07/07/95
Date Analyzed: 07/10/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 19 $\mbox{\tt \$}$, elevating the reporting limits

by a factor of 1.24.

PC3'S			CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
PCB-1242	(Arochlor	1242)	BDL	100
PCB-1254	(Arochlor	1254)	BDL	100
PCB-1221	(Arochlor	1221)	BDL	100
PCB-1232	(Arochlor	1232)	BDL	100
PCB-1248	(Arochlor	1248)	BDL	100
PCB-1260	(Arochlor	1260)	1600	100
PCB-1016	(Arochlor	1016)	BDL	100

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

9122 | 95 H



Laboratory number: 44544-007
Sample Designation: CLJ62-A3S-FB
Date Extracted: 06/30/95
Date Analyzed: 07/05/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1248 (Arochlor 1248)	BDL	0.5
PCB-1260 (Arochlor 1260)	BDL	0.5
PCB-1016 (Arochlor 1016)	BDL	0.5
Toxaphene	BDL	2 _
Endrin Ketone	BDL	0.1 J
Methoxychlor	BDL	0.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22/95 H



LDC #: 1579F3	VALIDATION COMPLETENESS WORKSHEET	Date: 9-13-95
SDG #: 44544	X EPA Level III NEESA Level C	Page: / of /
Laboratory: <u>Pace, Inc.</u>		Reviewer: m
		2nd Reviewer: 🚓

. IETHOD: GC Organochlorine Pesticides/PCBs (EPA SW 846 Method 8080)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: 6-29-95
11.	GC/ECD Instrument Performance Check	A	
111.	Initial calibration	A	r >0.995
IV.	Continuing calibration	SW	20
V.	Blanks	A	·
۷ı.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SWA	LCS
ΙX	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	z	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	SW	D, = 3, 4
XV.	Field blanks	NO	FB-12

Note:

A = Acceptable

N = Not provided/applicable

SW = See worksheet

ND = No compounds detected

R = Rinsate

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

Validated Samples:

_							
1	CLJ62-A3S-005.1SC	Soil	11	CLJ62-A3S-008.1SCRE*	SOIL	21	
2	CLJ62-A3S-010.1SC		12F13	CLJ62-A3S-FB	AQ	22	
з D,	CLJ62-A3S-005.1BC		13	CLJ62-A3S-005.1BCDMS	SOIL	23	
4 D,	CLJ62-A3S-005.1BCD		14	CLJ62-A3S-005.1BCDMSD		24	
5	CLJ62-A3S-005.1BCDRE		15	B-P9346		25	
6	CLJ62-A3S-003.1BC		16	B-P4355	İ	26	
7	CLJ62-A3S-003.1BCRDL		17	B-P4356	\downarrow	27	
8	CLJ62-A3S-003.1BCRE*		18	B-P+347	AQ	28	
	CLJ62-A3S-008.1SC		19			29	
L ¹⁰	CLJ62-A3S-008.1SCRDL	\downarrow	20			30	4

⁼ PCBs only

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VALIDATION FINDIM WORKSHEET Continuing C. ration

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2nd Reviewer	: (P)

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed?

%D or ___ RPD

Were Evaluation mix standards run before initial calibration and before samples?

AN NG Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (<20.0% for individual breakdowns)?

Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

DN NA Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve? Y (N) N/A

Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of ≤15.0%?

evel IV/D Only

A/N N(Y

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.) Y N N/A

Were the (%D) recalculated results within 10.0% of the reported results? Y N N/A

#	Date	Standard ID	Column	Compound	%D / APD (Limit ≤ 15.0)	RT (Limits)	Associated Samples	Qualifications
1	6-30-45	IND LAB P8688	112/110	Q	20.6	()	1,69,15	J/P
						()		
2	6-30-45	INDIAN PROST	112/110 "	. K	/5.2	()	1, 6, 9, 15	
	1			R	16.6	()		
						()		
						(
3	7-5-95	IND ZAB P8688	112/110	Q.	18.5	()	2-4, 6, 10, 12	
						(
4	7-5-95	IND ZAR PYBY	(12/110	Q	/5.]	()	2-4, 6, 10,12	
5	7-6-95	IND ZAR 19199	/1L//10		15.6	()	5 18	
				R	15.9			
	<u> </u>	j	Ψ	<u>Q</u>	23.4	()		
						()	,	
6	76-95	IND ZAB P8618	112/110	R	18.6	()	5,18	· · · · · · · · · · · · · · · · · · ·
		J		Q	19.3	()		
						()		
7	7-13-95	IND ZAR PP688	112/110	0	40.5	()	/6	
						()		
						()		
						()		

ť	Beta BHC
C	Delta BHC
O	Garrana (94)

A Alpha BHC

F. Aldrin H Endosullan I

E. Heptachlor G. Heptachlor epoxidu

1 Dieldrin J 4.4'-DDE K Endrin

L Endosullan II

M. 4,4'-DDD N. Endosullan sullate O. 4,4'-DDT

P. Methoxychlor

Q. Endrin ketone R. Endrin aldehyde S. Alpha chlordane

T. Gamma chlordane

U. Toxaphene V. Aroclor-1016 W. Arodor-1221 X. Arodor-1232 Y. Arodor-1242 Z. Aroclor-1248 AA. Aroclor-1254 BB. Aroclor-1260

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CC. DB 608 00. 08 1701 EE.

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SDG #.	,	. 1

VALIDATION FIND WORKSHEET Continuing abration

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2nd Review	/er:_	1	A)	

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? _____ %D or ____ RPD

(V) N N/A Were Evaluation mix standards run before initial calibration and before samples?

Ŷ) N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (≤20.0% for individual breakdowns)?

Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

YN N/A Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

Y (N) N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of <15.0%?

Level IV/D Only

Y) N N/A

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

Y N N/A Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.)

Y N N/A Were the (%D) recalculated results within 10.0% of the reported results?

	N/A_	Were the (%D) reca				T			
#	Date	Standard ID	Column	Compound	%D / PAPO (Limit ≤ 15.0)	AT (Limits	s)	Associated Samples	Qualifications
8	7-10-95	IND ZAB P8688	112/110	M	/5.1	()	8, 11	J/P
				0	3 9. 5	()		, i
	J	<u> </u>	1 .	P	30.0	()		
						()		
						()		
9	7-10-45	INP ZAB 18688	112/110	M	23.7	()	8,11	
	1		1	0	35.6	()		/
	J	J	Ţ	PIN	20.0	(')		Y
						()		
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	La BUC	E Mantachlor	1 Dield		:.000	O Endrin ketone	U Toxanher	A Y Aroclor-1242	CC DB 608 GG

A Alpha BHC	E. Heptachlor	t Dieldrin	M. 4,4'-DDD	Q. Endrin ketone	U. Toxaphene	Y. Aroclor-1242	CC. DB 608	GG
B. Hela BHC	F. Aldrin	J 4,4'-DDE	N. Endosullan sullate	R. Endrin aldehyde	V. Aroctor-1016	Z. Arocior-1248	DD. DB 1701	HH
C. Data BHC	G Heptachlor epoxide	K Endrin	O. 4,4'-DDT	S. Alpha-chlordane	W. Aroclor-1221	AA. Arodor-1254	EE	11.
O. Garnina BHC	H Endosultan I	L Endosullan II	P. Methoxychlor	T. Gamma-chlordane	X. Arodor-1232	BB. Aroclor-1260	FF	JJ

LDC #: 1579 SDG #: 445.

VALIDATION FINDIN WORKSHEET Surrogate ikes

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y) N N/A Were surrogates spiked into all samples, standards and blanks?

Y(N) N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
I	7-5-95	12	112/110	β	17 (20-150)	J/A
					()	
2	7-6-95	18	112/110	ß	17 (20-150)	
					()	V
3		DIBLOTE CHIORENIDATE	SAICIFIC	W 195) ()	
L		SURKOBUSE IN BU	جهر.		(Ale saules)	NONE/P
		TESPACHACHOMETA.	MONE A	W MEHNARE	VEINE) AS BROKS	
		USED AS SURROLL	4/ZS.		()	
					()	
					()	
					()	
					()	
					()	
					()	
					()	
					()	
			,		()	
					()	
					()	
					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soil)	Recovery QC Limits (Water)	Comments
A	TCX		20-150	
В	pcB	·	20-150	

LDC #: 1579 F3 SDG #: 4

VALIDATION FIN GS WORKSHEET Matrix Spike/Max. Spike Duplicates

Reviewer: 6

METHOD: GC Pesticides/PCBs (EPA SW 848 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

Y(N)N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

YNA Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

#	Date	MS/MSD ID	Compound	MS 21-11 %R (Limits) ³²⁻⁸¹	### MSD ################################	パ 4 RPD (Limita)	Associated Samples	Qualifications
1	7-13-95	13,14	F	271221141	8.9.433 (22-+34-)	1031 570501	ALL SOIL SAMMES	HAND ON
		SAMPLE COM. 72X	9	NC (30.36-9809)	152 Att (30. 16 - 9 + 09	NC(£30)		
		SPIKED AMOUNT		()	()	()		
<u> </u>				()	()	()		
2	7-5-95	No AG MS/MSA	ALL	()	()	()	ALL AR SAMPLES	MINELA
				()	(·)	()		
				(()	()		
				. ()	()	()		
3	7-13-95	13, 14	Н	43(44.48-947)9	()	()	ALL Soil Samples	JA
				()	()	()	•	
				(('	()		
				()	()	()		

		Soil QC Limits		Water QC Limits	
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127	{\$0	56-123	\$ 5
8	Heptachlor :	35-130	₹31	40-131	\$20
С	Aldrin	34-132	£43	40-120	{22
D	Dieldrin	31-134	€ }}	52-126	\$ 18
E	Endrin	42-139	E45	56-121	521
F	4.4.*·DDT	23-134	\$50	38-127	\$27
G	4.4'-000	30. 26 - 94.07	570	38.55-95.12	510
Н	METHONY CHLOR	44.44- 99.74	€ 30	50.56-10471	530
1					
J					

SDG #: +4>+4

VALIDATION FIN. 3S WORKSHEET <u>Laboratory Control Samples</u>

Pa	<i>(</i> ند نخ ^د	1 of	1
Revie	wer:_	Pl)
nd Revie	wer:	(25y))

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

YNN/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	7-13-95	LSP +355	G	36 (37.15-11.67	()	()	5,16	J/A
				()	().	()		
				()	()	()		
L				()	()	()		
				()	()			
				()	()	()		
			t-	()	()	()		
				(· ·)	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		

		Soil QC Limits			QC Limits
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
А	Gamma-BHC	46-127	€ \$0		
В	Heptachlor	35-130	311		
С	Aldrin	34-132	543		
D	Dieldrin	31-134	€ 38		
E	Endrin	42-131	£ 45		
F	4,4'-DDT	23-134	₹ 50		
G	Endosulfan I	37.15 - 91.67	€30		
Н					
1					
J					

LDC #: 1574 F3 SDG #: 44544

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	1	_of_	1	
Reviewer:_		m		
and reviewer:	C	\$		

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

N N/A

Were field duplicate pairs identified in this SDG?

Were target compounds detected in thie field duplicate pairs?

	Concentrat	(وعالوسر) lon (
Compound	3	4	RPO
4,4'-007	/70	150	/3
4. 4'- DDE	140	92	41
44'-000	1500	840	51
a-Chlor dane	ND	37	NC
g-Chlordane	NO	39	NC

	Concentration ()	
Compound		RPD

	Concentration ()		
. Compound			RPD
			÷
		-	

		Concentration ()			
Сотр	ound			RPD	
<u></u>					
	·				

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Camp Lejeune

Collection Date:

July 12, 1995

LDC Report Date:

September 22, 1995

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides and PCBs

Laboratory:

Pace, Inc.

Sample Delivery Group (SDG): 44626

Sample Identification

CLJ62-A3S-003.2BCD

CLJ62-A3S-003.2BC

CLJ62-A3S-008.2SC

FB

RB

CLJ62-A3S-008.2SCMS

CLJ62-A3S-008.2SCMSD

Introduction

This data review covers 5 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not checked for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent analytes was performed for the primary (quantitation) column as required by EPA SW 846 Method 8080. Initial calibration of analytes requiring confirmation was performed for the confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Standard ID	Column	Compound	%D	Associated Samples	Flag	A or P
IND2AB P8688	112/110	4,4'-DDT	40.5	CLJ62-A3S-003.2BCD CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC FB RB	, L	Р
IND2AB P8688	112/110	Endrin aldehyde	16.8	B-P4360 B-P4359	, J	Р
IND2AB P8688	112/110	Gamma-BHC Heptachlor 4.4'-DDT Methoxychlor/Endosulfan sulfate	16.7 21.9 36.8 17.8	B-P4360 B-P4359)))	Р
IND2AB P8688	112/110	Gamma-BHC Beta-BHC 4,4'-DDD Endrin aldehyde	15.3 16.3 19.2 16.0	CLJ62-A3S-008.2SCMS CLJ62-A3S-008.2SCMSD)))	Р
IND2AB P8688	112/110	Aldrin 4,4'-DDT	15.1 37.7	CLJ62-A3S-008.2SCMS CLJ62-A3S-008.2SCMSD	Ĵ	Р

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 44626.	All TCL compounds	Tetrachlorometaxylene and dichlorobenzene were used as the surrogates.	Dibutyl chlorendate should be used as the surrogate as specified in the QAPP.	None	Р

All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG 44626.	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	Р

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Sample (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
CLJ62-A3S-008.2SC MS/MSD (All soil samples in SDG 44626).	Endosulfan II 4.4'-DDT Alpha-BHC Beta-BHC Endrin aldehyde	15 (19.32-103.23) 102 (26.18-91.93) 115 (22.27-111.81) 103 (4.55-91.83)	- 96 (26.18-91.93) 118 (22.27-111.81) 97 (4.55-91.83)	109 (≤30) 65 (≤50) - - -	J J (all detects) J (all detects) J (all detects)	А

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent

recoveries were within validation criteria with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Fiag	A or P
LSP4360	Alpha-BHC Endrin aldehyde	97 (26.18-91.93) 98 (4.55-91.83)	CLJ62-A3S-003.2BCD CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC B-P4360	J (all detects) J (all detects)	A
LS-P4359	Alpha-BHC	95 (42.18-93.35)	FB RB B-P4359	J (all detects)	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC clean-up was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not checked for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not checked for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples CLJ62-A3S-003.2BCD and CLJ62-A3S-003.2BC were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples with the following exceptions:

·	Concentra		
Compound	CLJ62-A3S-003.2BCD	CLJ62-A3S-003.2BC	RPD
Alpha-chlordane	430	250	53
Gamma-chlordane	420	250	51
4,4'-DDT	220	140	44
4,4'-DDE	140	82	52
4,4'-000	600	280	73
Endosulfan II	120	72	50

XV. Field Blanks

Sample "FB" was identified as a field blank. No chlorinated pesticide or PCB contaminants were found in the field blank.

Sample "RB" was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in the rinsate.

Camp Lejeune Chlorinated Pesticides and PCBs - Data Qualification Summary - SDG 44626

			T		
SDG	Sample	Compound	Flag	A or P	Reason
44626	CLJ62-A3S-003.2BCD CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC FB RB	4,4*-DDT	J	P	Continuing calibration (%D)
44626	CLJ62-A3S-003.2BC0 CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC FB RB	All TCL compounds	None	Р	Surrogate spikes
44626	FB RB	All TCL compounds	None	Р	Matrix spike/Matrix spike duplicates
44626	CLJ62-A3S-003.2BCD CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC	Endosulfan II 4,4'-DDT Alpha-BHC Beta-BHC Endrin aldehyde	J J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicates (%R) (RPD)
44626	CLJ62-A3S-003.2BCD CLJ62-A3S-003.2BC CLJ62-A3S-008.2SC	Alpha-BHC Endrin aldehyde	J (all detects) J (all detects)	A	Laboratory control samples (%R)
44626	FB RB	Alpha-BHC	J (all detects)	А	Laboratory control samples (%R)

Camp Lejeune

Chlorinated Pesticides and PCBs - Laboratory Blank Data Qualification Summary - SDG 44626

No Laboratory Blank Data Qualified in this SDG.

Sample Designation: CLJ62-A3S-003.2BCD

Date Extracted: 07/13/95
Date Analyzed: 07/14/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 16 % , elevating the reporting limits by a factor of \$1.2\$.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	100
alpha-BHC	BDL	100
beta-BHC	BDL	100 J
gamma-BHC (Lindane)	BDL	100
delta-BHC	BDL	100
alpha-Chlordane	430	100
gamma-Chlordane	420	100
4,4'-DDT	220	200 3
4,4'-DDE	140	100
4.4'-DDD	600	200
Dieldrin	BDL	100
Endosulfan I	BDL	100
Endosulfan II	120 J	200 J
Endosulfan sulfate	BDL	200
Endrin	BDL	100
Endrin aldehyde	BDL	200 J
Heptachlor	BDL	100
Heptachlor Epoxide	BDL	100
PCB-1242 (Arochlor 1242)	BDL	1000
PCB-1254 (Arochlor 1254)	BDL	1000
PCB-1221 (Arochlor 1221)	BDL	1000
PCB-1232 (Arochlor 1232)		1000
PCB-1248 (Arochlor 1248)	BDL	1000
PCB-1260 (Arochlor 1260)		1000
PCB-1016 (Arochlor 1016)		1000
Toxaphene	BDL	5000
Endrin Ketone	BDL	200
Methoxychlor	BDL	1000

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Sample Designation: CLJ62-A3S-003.2BC

Date Extracted: 07/13/95
Date Analyzed: 07/14/95
Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 14 \$, elevating the reporting limits by a factor of 1.16 .

PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
	(ug/Kg)	(ug/Kg)
Aldrin	BDL	70
alpha-BHC	BDL	70
beta-BHC	BDL	70 J
gamma-BHC (Lindane)	BDL	70
delta-BHC	BDL	70
alpha-Chlordane	250	70
gamma-Chlordane	250	70
4,4'-DDT	140	100 J
4,4'-DDE	82	70
4,4'-DDD	280	100
Dieldrin	BDL	70
Endosulfan I	BDL	70
Endosulfan II	72 J	100 5
Endosulfan sulfate	BDL	100
Endrin	BDL	70
Endrin aldehyde	BDL	·100 J
Heptachlor	BDL	70
Heptachlor Epoxide	BDL	70
PCB-1242 (Arochlor 1242)	BDL	700
PCB-1254 (Arochlor 1254)	BDL	700
PCB-1221 (Arochlor 1221)	BDL	700
PCB-1232 (Arochlor 1232)	BDL	700
PCB-1248 (Arochlor 1248)	BDL	700
PCB-1260 (Arochlor 1260)	BDL	700
PCB-1016 (Arochlor 1016)	BDL	700
Toxaphene	BDL	3000
Endrin Ketone	BDL	100
Methoxychlor	BDL	700

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit



Sample Designation: CLJ62-A3S-008.2SC

Date Extracted: 07/13/95 Date Analyzed: 07/14/95 Matrix: SOLID

Results are expressed on a dry (103 degrees C) basis. Moisture content was 17 % , elevating the reporting limits by a factor of 1.21.

PESTICIDES/PCB'S	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Aldrin	BDL	20
alpha-BHC	BDL	20
beta-BHC	BDL	20 丁
gamma-BHC (Lindane)	BDL	20
delta-BHC	BDL	20
alpha-Chlordane	120	20
gamma-Chlordane	130	20
4,4'-DDT	100	50 ブ
4,4'-DDE	38	20
4,4'-DDD	160	50
Dieldrin	BDL	20
Endosulfan I	BDL	20
Endosulfan II	34 J	50 丁
Endosulfan sulfate	BDL	50
Endrin	` BDL	20
Endrin aldehyde	BDL.	50 J
Heptachlor	BDL	20
Heptachlor Epoxide	BDL	20
PCB-1242 (Arochlor 1242)	BDL	200
PCB-1254 (Arochlor 1254)	BDL	200
PCB-1221 (Arochlor 1221)	BDL	200
PCB-1232 (Arochlor 1232)	BDL	200
PCB-1248 (Arochlor 1248)	BDL	200
PCB-1260 (Arochlor 1260)	BDL	200
PCB-1016 (Arochlor 1016)	BDL	200
Toxaphene	BDL	1000
Endrin Ketone	BDL	50
Methoxychlor	BDL	200

METHOD REFERENCE: EPA SW 846, 3rd Edition METHODS 3550 AND 8080

BDL = Below reporting limit

J = Probable presence below listed detection limit





Sample Designation: FB

Date Extracted: 07/13/95
Date Analyzed: 07/14/95
Matrix: WATER

PESTICIDES/PCB'S	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Aldrin	BDL	0.05
alpha-BHC	BDL	0.05
beta-BHC	BDL	0.05
gamma-BHC (Lindane)	BDL	0.05
delta-BHC	BDL	0.05
alpha-Chlordane	BDL	0.05
gamma-Chlordane	BDL	0.05
4,4'-DDT	BDL	0.1 J
4,4'-DDE	BDL	0.05
4,4'-DDD	BDL	0.1
Dieldrin	BDL	0.05
Endosulfan I	BDL	0.05
Endosulfan II	BDL	0.1
Endosulfan sulfate	BDL	0.1
Endrin	BDL	0.05
Endrin aldehyde	BDL	0.1
Heptachlor	BDL	0.05
Heptachlor Epoxide	BDL	0.05
PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1232 (Arochlor 1232)		0.5
PCB-1248 (Arochlor 1248)		0.5
PCB-1260 (Arochlor 1260)		0.5
PCB-1016 (Arochlor 1016)		0.5
Toxaphene	BDL	2
Endrin Ketone	BDL	0.1
Methoxychlor	BDL	0.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984

METHOD 608

BDL = Below reporting limit





Sample Designation: RB

Date Extracted: 07/13/95
Date Analyzed: 07/14/95
Matrix: WATER

Raddrin	PESTICIDES/PCB'S	CONCENTRATION	REPORTING LIMIT
alpha-BHC beta-BHC BDL 0.05 gamma-BHC (Lindane) BDL 0.05 delta-BHC BDL 0.05 alpha-Chlordane BDL 0.05 gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.05 4,4'-DDD BDL 0.05 Endosulfan I Endosulfan II BDL Endrin BDL Dieldrin BDL Di		(ug/L)	(ug/L)
alpha-BHC beta-BHC BDL 0.05 gamma-BHC (Lindane) BDL 0.05 delta-BHC BDL 0.05 alpha-Chlordane BDL 0.05 gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.05 4,4'-DDD BDL 0.05 Endosulfan I Endosulfan II BDL Endrin BDL Dieldrin BDL Di			
beta-BHC BDL 0.05 gamma-BHC (Lindane) BDL 0.05 delta-BHC BDL 0.05 alpha-Chlordane BDL 0.05 gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.05 4,4'-DDD BDL 0.1 Dieldrin BDL 0.05 Endosulfan I BDL 0.05 Endosulfan sulfate BDL 0.1 Endrin BDL 0.1 Endrin aldehyde BDL 0.05 Endrin aldehyde BDL 0.05 Heptachlor BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1242 (Arochlor 1254) BDL 0.5 PCB-1232 (Arochlor 1221) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5	Aldrin		•
gamma-BHC (Lindane) BDL 0.05 delta-BHC BDL 0.05 alpha-Chlordane BDL 0.05 gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.05 4,4'-DDD BDL 0.1 Dieldrin BDL 0.05 Endosulfan I BDL 0.05 Endosulfan Sulfate BDL 0.1 Endrin BDL 0.1 Endrin aldehyde BDL 0.05 Endrin aldehyde BDL 0.05 Heptachlor BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 0.5	alpha-BHC		
delta-BHC			
alpha-Chlordane BDL 0.05 gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.05 4,4'-DDD BDL 0.05 Endosulfan I BDL 0.05 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.05 Endrin aldehyde BDL 0.05 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 0.5	gamma-BHC (Lindane)		
gamma-Chlordane BDL 0.05 4,4'-DDT BDL 0.1 4,4'-DDE BDL 0.05 4,4'-DDD BDL 0.1 Dieldrin BDL 0.05 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.1 Endrin aldehyde BDL 0.05 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1232 (Arochlor 1221) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 0.5	delta-BHC		
### A4'-DDT	alpha-Chlordane	BDL	
### A	gamma-Chlordane	BDL	
### A	4,4'-DDT	BDL	0.1 5
Dieldrin BDL 0.05 Endosulfan II BDL 0.1 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.05 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	4,4'-DDE	BDL	0.05
Endosulfan I BDL 0.05 Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.05 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	4,4'-DDD	BDL	0.1
Endosulfan II BDL 0.1 Endosulfan sulfate BDL 0.1 Endrin BDL 0.05 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Dieldrin	BDL	0.05
Endosulfan sulfate BDL 0.1 Endrin BDL 0.05 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Endosulfan I	BDL	0.05
Endrin BDL 0.05 Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Endosulfan II	BDL	0.1
Endrin aldehyde BDL 0.1 Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Endosulfan sulfate	BDL	0.1
Heptachlor BDL 0.05 Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Endrin	BDL	0.05
Heptachlor Epoxide BDL 0.05 PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Endrin aldehyde	BDL	0.1
PCB-1242 (Arochlor 1242) BDL 0.5 PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Heptachlor	BDL	0.05
PCB-1254 (Arochlor 1254) BDL 0.5 PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	Heptachlor Epoxide	BDL	0.05
PCB-1221 (Arochlor 1221) BDL 0.5 PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	PCB-1242 (Arochlor 1242)	BDL	0.5
PCB-1232 (Arochlor 1232) BDL 0.5 PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	PCB-1254 (Arochlor 1254)	BDL	0.5
PCB-1248 (Arochlor 1248) BDL 0.5 PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	PCB-1221 (Arochlor 1221)	BDL	0.5
PCB-1260 (Arochlor 1260) BDL 0.5 PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	PCB-1232 (Arochlor 1232)	BDL	0.5
PCB-1016 (Arochlor 1016) BDL 0.5 Toxaphene BDL 2	PCB-1248 (Arochlor 1248)	BDL	0.5
Toxaphene BDL 2	PCB-1260 (Arochlor 1260)	BDL	0.5
Torapiicis	PCB-1016 (Arochlor 1016)	BDL	0.5
Endrin Ketone BDL 0.1	Toxaphene	BDL	2
	Endrin Ketone	BDL	0.1
Methoxychlor BDL 0.5	Methoxychlor	BDL	0.5

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 608

BDL = Below reporting limit

9/22 /75



LDC #: 1579G3	VALIDATION COMPLETENESS WORKSHEET	Date: 9-19-95
SDG #: 44626	EPA Level IIIX_NEESA Level C	Page: / of /
aboratory: Pace, Inc.		Reviewer: 01
		2nd Reviewer: 💫
METHOD: GC Organoch	lorine Pesticides/PCBs (EPA SW 846 Method 8080)	

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
ſ,	Technical holding times	A	Sampling dates: 7-12-95
11.	GC/ECD Instrument Performance Check	A	
181.	Initial calibration	A	r >0.995
IV.	Continuing calibration	SW	70
V.	Blanks	A	
VI.	Surrogete spikes	SWA	11.6/15
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples 4-15-15	SWA	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
<u>xı.</u>	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	5W	0, =1, 2 FB=4 R=5
XV.	Field blanks	NO	FB-4 R-5

Note: A = Acceptable

A = Acceptable

ND = No compounds detected

D = Duplicate

N = Not provided/applicable SW = See worksheet R = Rinsate FB = Field blank TB = Trip blank EB = Equipment blank

Validated Samples:

1 P,	CLJ62-A3S-003.2BCD	SOIL	11	21
2 P,	CLJ62-A3S-003.2BC		12	22
3	CLJ62-A3S-008.2SC	J	13	23
4 FB	FB	AQ	14	24
5 R	RB	1	15	25
6	CLJ62-A3S-008.25CMS	SOIL	16	26
7	CLJ62-A3S-008.2SCMSD	1	17	27
8	B-P4360	I	18	28
	B-P4359	AQ	19	29
10			20	30

)C #:	151195	1
OG #:_	14626	J

VALIDATION FINDING WORKSHEET Continuing C. ition

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ETHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

ease see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? ______ %D or _____ RPD

Were Evaluation mix standards run before initial calibration and before samples? AIN NC

AN NC Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (≤20.0% for individual breakdowns)? N N/A

Was at least one Individual Mix standards A and/or B run daily to verify the working curve?

DN N/A Were continuing standards analyzed at a frequency of every 10 samples to verify the working curve?

(N)N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of <15.0%?

evel IV/D Only

Were the retention times for all calibrated compounds within their respective acceptance windows? ' N N/A

/ N N/A Were the percent difference (%D) results recalculated? (Please see Calibration verification results verification worksheet.)

/ N N/A Were the (%D) recalculated results within 10.0% of the reported results?

	14 147. Were the (AB) recalculated results within 10.0% of the reported results?								
#	Date	Standard ID	Column	Compound	%D / BPD (Limit ≤ 15.0)	RT (Limits)	Associated Samples	Qualifications
	7-13-45	INDIAN P8118	112/110	0	40.5	()	1-5	
						()		
					·	()		
2	7-14-45	IND ZAB PP688	112/110	R	16.8	()	8.9	
						()		
3	7-14-95	INO ZAN P8688	112/110	0	16.7	()	8, 9	
				E	21.9	() [
					31.8	(
	Ψ	Ψ	<u> </u>	PIN	17.1	()		
						()		
4	7-17-45	IND 24B/8688	112/110	P	15.3	()	6, 7	
				B	16. 3	()		
				M	19.2	()		
	Ψ	J/	J	R	16.0	()		
						()		
[·		<u> </u>)		
5	7-17-95	IND ZAN PROPE	114/110	F	/5.1	()	6, 7	
			1	0	37.7	()		V
						()		
						()		
						()		
A Alı	ha BHC	E. Heptachlor	1 Dieldr	in M 4,4	.000	Q. Endrin ketone	U. Toxaphen	e Y. Arodor-1242	CC, DB 608 GG.

Ħ	Beta-BHC
С	Detta BHC
O	Garrana BHC

F Aldrin G. Heptachlor epoxide

H Endosullan I

J. 4,4'-DDE K Endrin

L Endosullan II

N Endosullan sulfate O. 4.4'-DOT P. Methoxychlor

A. Endrin aldehyda S. Alpha-chlordane T. Gamma-chlordane V. Aroclor-1016 W. Arodor-1221 X. Arodor-1232

Z. Arodor-1248 AA. Aroclor-1254 BB. Arodor-1260

DD. DB 1701

LDC #: 15 \$3 SDG # 446-6

VALIDATION FINE S WORKSHEET Surrogate Spikes

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Were surrogates spiked into all samples, standards and blanks?

② N N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%A (Limits)	Qualifications
/		DIBUTYL CHI ORONINA	TE BALLI	150 193) ()	NONO/P
		SURROBATIO IN QU	APP.		(ALL SAMPLES)	,,,
		TEPRAINLOROMETA.	YHENE AN	S DICHLOROPE	IZENE MUNI ELANKS)	
		WED AS SWARDED	9/24S) ()	
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					()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soll)	Recovery QC Limits (Water)	Comments
Α				
В				

5 4. 40

VALIDATION FINDINGS WORKSHEET Matrix Spike/Mat ipike Duplicates

Rev. : // 01 / 2nd Reviewer: (37)

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below fro all questions answered "N". Not applicable questions are identified as "N/A".

YNNA Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y(N) N/A Was a MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y(N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Were the percent recoveries (%R) and the relative percent differences (RPD) recalculated?

Y N N/A Were the %R and RPD reported results within 10.0% of the recalculated results?

*	Date	MS/MSD ID	Compound	MS %R (Limite)	MSD %R (Limita)	APD (Limits)	Associated Samples	Qualifications
1	7-17-95	6/7	9	15 (1932-103.23)	()	109 (\$30)	All Soil Samples	J/A
 			F	()	()	651550 1		T
			Н	102(26.18-9193)	96 (26.19-91.93)	()		JA LETELTS
<u> </u>		nh /	A	TOZ (10.93, 1217)	99110.47-87.79			V
2	7-14-45	No AU MSIMSP	ALL	()	()	()	All AQ Samples	NOVE / P
				()	(·)	()		
				()	()	(
				()	()	()		
3	7-17-95	6/7	I	115 (22.27 - 111.81)	(18 (12.27-14.8))	()	All Soil Samples	T/A (terrens)
		m·	γ	99 (33.19-93.39)	101423-19-43.39))		1
		7	E	111 (32.16-1044)	1	/ ()		
			J	103 (455- 9).83)	97 (455 - 91.13)	()		The state of the s

		Soll QC Lim	nits	Water	QC Limits
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	46-127 30 43- 27.75	₹50 .	56-123	<i>{ 5</i>
В	Heptachlor	35-130	€31	40-131	€ 20
С	Aldrin .	34-132	343	40-120	£12
D	Dieldrin	31=134 33.19-93.39	{}}	5-2-126	€ 18
E	Endrin	42-139 3296-1144	£ 45	56-121	€ 21
F	4,4,1-DDT	23-134	\$50	38-127	\$ 27
G	Endosulfon II	19.32 - 103.23	€ 10		
Н	Alpha-BHC	26.13-41.93	230		
l	Beta-Bitc	22.27-111.81	€ 30		
J	Endrin aldehyde	4.55 - 91.83	€ 30		

SDG 44066

VALIDATION FINI S WORKSHEET Laboratory Control Samples

Ph. 1/0	of_/
Reviewer: Dr	7
2nd Reviewer: 🚄	>

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

Y(N) N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits stated below?

Level IV/D Only

Y N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	Date	LCS/LCSB1D	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
1	7-14-95	LSP 4360	14	97(26.18-41.93)	()	()	1-3,8	J/M (DETECTS)
		(sul)	A	702130.72-22.75%	()	()		
			J	98 (4.55 - 9/.83)	()	()		
				()	()	()		
				()	()	()		
2	7-14-45	LS-P4359	H	95 (42.18-93.35)	()	()	4,5,9	J/A (Largers)
		(AQ)	-A	96-1286-96)	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		
				()	()	()		

		Soil QC	Limits	Water QC Limits	
Letter Designation	Compound	% Recovery	RPD	% Recovery	RPD
A	Gamma-BHC	30.43-87.75			
В	Heptachlor	35-130			
С	Aldrin	34-132			
D	Dieldrin	33.19-93.39			
E	Endrin	37.46-104.4			
F	4,4'-DDT	23-134			
G	Endusvifun I	19.32 - 101.23			
Н	Alpha - BHC	26.18 - 91.93			
. 1	Reta - BILC	22.27 - 111.81			
J	Endnh aldehyde	4.55 - 91.83			

LDC #: 1579 43 SDG #: 44 626

VALIDATION FINDINGS WORKSHEET Field Duplicates

Page:_	1	_of_	1
Reviewer:		pr	
2nd reviewer:	Z	\mathfrak{I}	

THOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

(Y) N N/A (Y) N N/A

Were field duplicate pairs identified in this SDG? Were target compounds detected in thie field duplicate pairs?

	Concentrati	Concentration (My / kg)				
Compound	/	2	RPD			
a-Chlordan+	430	250	53			
g - Chlordane	420	250	51			
4,4'-007	220	140	44			
4.4'-006	140	82	51			
· 4. 4'- DDD	600	280	73			

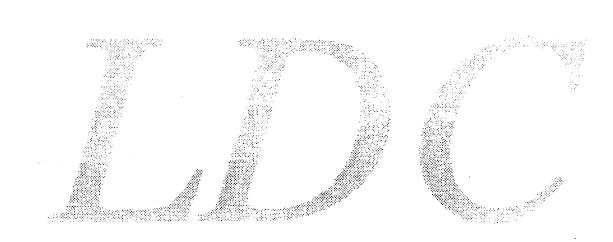
	Concentra	tion (yy/kg)	·
Compound	1	2	RPD
Endosulfan I	120	72	50
<u> </u>	•		
я.			

	Concentration ()	
Compound		RPD
	-	
		- · · ·

	Concentration ()	
Compound		RPD

Camp Lejeune Data Validation Reports LDC# 1729

Polychlorinated Biphenyls





LABORATORY DATA CONSULTANTS, INC.

7750 El Camino Real, Suite 2C, Carlsbad, CA 92009 Phone: 619/634-0437 Fax: 619/634-0439

OHM Remediation Services Corp. 5335 Triangle Parkway, Suite 450 Norcross, GA 30092 ATTN: Ms. Missy Art

January 11, 1996

SUBJECT: Camp Lejeune, Data Validation

Dear Ms. Art,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on January 5, 1996.

LDC Project # 1729:

SDG #

Fraction

CLJ62S-001

Polychlorinated Biphenyls

The data validation was performed under NEESA Level C guidelines. The analyses were validated using the following documents, as applicable to each method:

- NEESA document 20.2-047B, Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program, June 1988.
- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, February 1994
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, November 1986; Revision 1, July 1992; Revision 2, November 1992; and update 1, August 1993

Please feel free to contact us if you have any questions.

Richard M. Amano

President/Principal Chemist

Attachment 1

										L	DC	#17	729	(ОН	M/C	amı) Le	ejet	ıne))										*****					
LDC	SDG#	DATE REC'D	DATE DUE	PC	CBs																														
Matrix:	Water/Soil			W	s	W	s	W	s	W	S	W	s	W	s	W	s	w	s	W	S	w	s	w	S	v s	w	s	w s	s w	s	w s	w	s	N S
Α	CLJ62S-001	1-5-96	1-12-96	4	15																			П	\exists		1		\top		1		\prod		\top
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Total				4	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (0 0	0	0	0 0	0 0	0	0	0 0		0 0	0

Laboratory Data Consultants, Inc. **Data Validation Report**

Project/Site Name:

Camp Lejeune

Collection Date:

November 21, 1995

LDC Report Date:

January 8, 1996

Matrix:

Soil/Water

Parameters:

Polychlorinated Biphenyls

Laboratory:

OHM Remediation Services Corp.

Sample Delivery Group (SDG): CLJ62-001

Sample Identification

CLJ62S-001

CLJ62S-002

CLJ62S-003

CLJ62S-004

CLJ62S-005

CLJ62S-006

CLJ62S-007

CLJ62S-008

CLJ62S-009

CLJ62S-010 CLJ62S-10D

CLJ62S-011

CLJ62S-012

CLJ62-FB

CLJ62-RB

CLJ62S-001MS

CLJ62S-001MSD

CLJ62-FBMS

CLJ62-FBMSD

Introduction

This data review covers 15 soil samples and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8080 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for EPA SW 846 Method 8080. The modifications were based on EPA SW 846 Method 8080.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or element was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent analytes was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within validation criteria.

3

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

Sample CLJ62-FB was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample CLJ62-RB was identified as a rinsate blank. No polychlorinated biphenyl contaminants were found in this blank.

Camp Lejeune Polychlorinated Biphenyls - Data Qualification Summary - SDG CLJ62-001

No Sample Data Qualified in this SDG

Camp Lejeune Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG CLJ62-001

No Sample Data Qualified in this SDG

1729A3

lD PESTICIDE ORGANICS ANALYSIS DATA SHEET

GPC Cleanup: (Y/N) N pH:

11096-82-5----Aroclor-1260

Sulfur Cleanup: (Y/N) N

190 U

0012 EPA SAMPLE NO.

ab Name: OHM ANALYTICAL DIVISION	CLJ62S-001 Contract: NFESC
Lab Code: N/A Case No.: 16 X 66 N	SAS NO.: N/A SDG NO.:CLJ62S-00
Matrix: (soil/water) <u>SOIL</u>	Lab Sample ID: JP0710P
Sample wt/vol: 30.1 (g/mL) <u>G</u>	Lab File ID: <u>UR2327</u>
% Moisture: 13 decanted: (Y/N)_	N Date Received: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	Date Extracted: 11/22/95
Concentrated Extract Volume: 5000	(uL) Date Analyzed: 11/27/95
Injection Volume: 1.0 (uL)	Dilution Factor: 10.0

CONCENTRATION UNITS: CAS NO. (ug/L or ug/Kg) UG/KG COMPOUND 12674-11-2----Aroclor-1016 190 U 11104-28-2----Aroclor-1221 190 U 11141-16-5----Aroclor-1232 190 U 53469-21-9-----Aroclor-1242 190 U 12672-29-6----Aroclor-1248 190 U 11097-69-1-----Aroclor-1254 190 U

FORM I PEST

0017 EPA SAMPLE NO.

ab N	ame: OHM ANALY	FICAL DIVISION	Contract: NFESC	CLJ6	25-002
Lab C	ode: <u>N/A</u>	Case No.: 16866A	sas no.: N/A	SDG No.:	<u> CLJ62S-0</u> 01
	x: (soil/water			imple ID: JP07	
Sample	e wt/vol:	30.3 (g/mL) <u>G</u>	_ Lab Fi	le ID: <u>UR23</u>	23
۶ Moi	sture: <u>15</u>	decanted: (Y/N)	Date F	Received: 11/2	2/95
Extra	ction: (SepF/	Cont/Sonc) 354	O Date 5	Extracted: <u>11/</u>	22/95
Conce	ntrated Extrac	t Volume: <u>5000</u>	(uL) Date A	Analyzed: 11/2	7/95
Injec	tion Volume:	1.0 (uL)	Diluti	ion Factor: 10).0
GPC C	leanup: (Y/N) <u>N</u> pH:	Sulfu	Cleanup: (Y,	/N) <u>N</u>
	CAS NO.	COMPOUND	CONCENTRATIO (ug/L or ug/		Q 2
	11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1	Aroclor-1016_ Aroclor-1221_ Aroclor-1232_ Aroclor-1248_ Aroclor-1254_ Aroclor-1260_		190 190 190 190 190 130	n
<u></u>					

PESTICIDE ORGANICS ANALYSIS DATA SHEET 0022 EPA SAMPLE NO.

		CLJ62S-003
Lab Name: OHM ANALYTICAL DIVISION Contract	: NFESC	
Lab Code: N/A Case No.: 16866 SAS No.	.: <u>N/A</u> sDG	No.: <u>CLJ62S-0</u> 01
Matrix: (soil/water) SOIL	Lab Sample ID	: <u>JP0712P</u>
Sample wt/vol: 31.1 (g/mL) G	Lab File ID:	UR2329
% Moisture: 11 decanted: (Y/N) N	Date Received	: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	Date Extracted	d: <u>11/22/95</u>
Concentrated Extract Volume: 5000 (uL)	Date Analyzed	: 11/27/95
Injection Volume: 1.0 (uL)	Dilution Facto	or: 20.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanu	p: (Y/N) <u>N</u>
	ENTRATION UNITS: L or ug/kg) <u>UG/kC</u>	
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-32-5Aroclor-1260		360 U

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

The Manager and American		CLJ62	S-004
ab Name: OHM ANALYTICAL DIVISION Contract: NF			
Lab Code: N/A Case No.: 16866N SAS No.:_	N/A SDG	No.: <u>CI</u>	<u> J625-0</u> 0
Matrix: (soil/water) SOIL La	ab Sample ID	: <u>JP071</u>	3 <u>P</u>
Sample wt/vol: $31.0 (g/mL)G$	ab File ID:	<u>UR233</u>	0
% Moisture: 10 decanted: $(Y/N) N$	ate Received	11/22	/95
Extraction: (SepF/Cont/Sonc) 3540 Da	ate Extracted	i: <u>11/2</u>	2/95
Concentrated Extract Volume: 5000 (uL) Da	ate Analyzed	: 11/27	/95
Injection Volume: 1.0 (uL)	ilution Facto	or: 20.	0
GPC Cleanup: (Y/N) N pH: Si	ulfur Cleanup	p: (Y/1	N) <u>N</u>
CONCENTR CAS NO. COMPOUND (ug/L or	ATION UNITS: ug/Kg) <u>UG/K</u> G	<u>; </u>	Q
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260		360 360 360	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLJ62S-005 ab Name: OHM ANALYTICAL DIVISION Contract: NFESC Lab Code: N/A Case No.: 16866N SAS No.: N/A SDG No.: CLJ62S-001 Matrix: (soil/water)SOIL Lab Sample ID: JP0714P Sample wt/vol: 31.1 (g/mL) G Lab File ID: <u>UR2331</u> % Moisture: __9 decanted: (Y/N) $\sqrt{}$ Date Received: 11/22/95 Extraction: (SepF/Cont/Sonc) 3540 Date Extracted: 11/22/95 Concentrated Extract Volume: 5000 (uL) Date Analyzed: <u>11/27/95</u> Injection Volume: 1.0 (uL) Dilution Factor: 10.0 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG 12674-11-2----Aroclor-1016 180 U 11104-28-2----Aroclor-1221 180 U 11141-16-5-----Aroclor-1232 · 180 U 53469-21-9-----Aroclor-1242 180 12672-29-6-----Aroclor-1248 180 11097-69-1-----Aroclor-1254 180 11096-82-5----Aroclor-1260 2700

ab Name: OHM ANALYTICAL DIVISION Contr	ract: NFESC
Lab Code: N/A Case No.: 16866N SAS	No.: 1/A SDG No.: CLJ62S-001
Matrix: (soil/water) SOIL	Lab Sample ID: JP0715P
Sample wt/vol: 30.8 (g/mL) G	Lab File ID: UR2332
% Moisture: 11 decanted: (Y/N) N	Date Received: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	Date Extracted: 11/22/95
Concentrated Extract Volume: 5000 (uL)	Date Analyzed: 11/27/95
Injection Volume: 1.0 (uL)	Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N
	ONCENTRATION UNITS: ug/L or ug/kg) UG/kG Q
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1254 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	180 U U U U U U U U U U U U U U U U U U U

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

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0042 EPA SAMPLE NO.

ab Na	ame: OHM ANALYT	CICAL DIVISION	Contract: NFESC	CLJ62S-007
	,			SDG No.: CLJ62S-001
Matri	x: (soil/water)SOIL	Lab Sampl	e ID: <u>JP0716P</u>
elgma2	e wt/vol:	30.7 (g/mL) G	Lab File	ID: <u>UR2335</u>
% Mois	sture:6	decanted: (Y/N)_A	<u>√</u> Date Rece	ived: <u>11/22/95</u>
Extra	ction: (SepF/	Cont/Sonc) 3540	Date Extr	acted: <u>11/22/95</u>
Conce	ntrated Extrac	t Volume: <u>5000</u> (u	ıL) Date Anal	yzed: <u>11/27/95</u>
Injec	tion Volume:	1.0 (uL)	Dilution	Factor: 10.0
GPC C	leanup: (Y/N) <u>N</u> pH:	_ Sulfur Cl	eanup: (Y/N) N
	CAS NO.	COMPOUND	CONCENTRATION UN (ug/L or ug/Kg)	
	11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1	Aroclor-1016Aroclor-1221Aroclor-1232Aroclor-1242Aroclor-1248Aroclor-1254Aroclor-1260		170 U U U U U U U U U U U U U U U U U U U

pesticide organics analysis data sheet 0047 epa sample no.

ab Name: OHM ANALYTICAL DIVISION Contract:	CLJ62S-008
Lab Code: 1/A Case No.: 16366N SAS No.:	
Matrix: (soil/water) SOIL	Lab Sample ID: JP0717P
Sample wc/vol: 30.8 (g/mL) G	Lab File ID: UR2336
% Moisture: 10 decanted: (Y/N) 📈	Date Received: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	Date Extracted: 11/22/95
Concentrated Extract Volume: 5000 (uL)	Date Analyzed: 11/27/95
Injection Volume: 1.0 (uL)	Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N
	OTRATION UNITS: $\frac{Q'}{l}$ or ug/Kg) UG/KG Q
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	180 U U U U U U U U U U U U U U U U U U U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

0052 EPA SAMPLE NO.

CLJ62S-009 Lab Name: OHM ANALYTICAL DIVISION Contract: NFESC Lab Code: N/A Case No.: 16866N SAS No.: N/A SDG No.: CLJ62S-001 Matrix: (soil/water) SOIL Lab Sample ID: JP0718P Sample wt/vol: 31.1 (g/mL) GLab File ID: <u>UR2352</u> % Moisture: 9 decanted: (Y/N) √ Date Received: 11/22/95 Extraction: (SepF/Cont/Sonc) 3540 Date Extracted: 11/22/95 Concentrated Extract Volume: 5000 (uL) Date Analyzed: 11/28/95 Injection Volume: 1.0 (uL) Dilution Factor: 20.0 GPC Cleanup: (Y/N) N pH:____ Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG 12674-11-2-----Aroclor-1016 350 U 11104-28-2----Aroclor-1221 ั350 | บั 11141-16-5-----Aroclor-1232 350 U 53469-21-9-----Aroclor-1242 350 l U 12672-29-6----Aroclor-1248 350 U 11097-69-1----Aroclor-1254 350 U 11096-82-5----Aroclor-1260 4600

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

0057 EPA SAMPLE NO.

ab Name: OHM ANALYTICAL DIVISION Contract	: NFESC	CD0625-010
Lab Code: N/A Case No.: 16866N SAS No.	: <u>N/A</u> SDG	No.: <u>CLJ62S-0</u> 01
Matrix: (soil/water) SOIL	Lab Sample ID	: <u>JP0719P</u>
Sample wt/vol: 30.1 (g/mL) G	Lab File ID:	UR2353
% Moisture: 10 decanted: (Y/N) N	Date Received	: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	Date Extracted	d: <u>11/22/95</u>
Concentrated Extract Volume: 5000 (uL)	Date Analyzed	: 11/28/95
Injection Volume: 1.0 (uL)	Dilution Facto	or: 50.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanu	p: (Y/N) N
	NTRATION UNITS: or ug/Kg) <u>UG/K</u> 0	
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260		920 U U U U U U U U U U U U U U U U U U U

ab Name: OHM ANALYTICAL DIVISION	Contract: NFESC
Lab Code: N/A Case No.: 16866N	SAS NO.: N/A SDG NO.: CLJ62S-00
Matrix: (soil/water) SOIL	Lab Sample ID: JP0720P
Sample wc/vol: 31.0 (g/mL) G	Lab File ID: UR2354
% Moisture: 9 decanted: (Y/N) N	Date Received: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540	
Concentrated Extract Volume: 5000 (u	
Injection Volume: 1.0 (uL)	Dilution Factor: 50.0
GPC Cleanup: (Y/N) N pH:	
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	890 U U U U U U U U U U U U U U U U U U U

PESTICIDE ORGANICS ANALYSIS DATA SHEET 0067

ab Name: OHM ANALYTICAL DIVISION Contract: NFESC	CLJ62S-011
Lab Code: N/A Case No.: 16366N SAS No.: N/	
Matrix: (soil/water) SOIL Lab S	Sample ID: JP0721P
Sample wt/vol: 30.5 (g/mL) G Lab 1	File ID: <u>UR2355</u>
% Moisture: 12 decanted: $(Y/N) N$ Date	Received: 11/22/95
Extraction: (SepF/Cont/Sonc) 3540 Date	Extracted: <u>11/22/95</u>
Concentrated Extract Volume: 5000 (uL) Date	Analyzed: 11/28/95
Injection Volume: 1.0 (uL) Dilu	tion Factor: 50.0
GPC Cleanup: (Y/N) N pH: Sulfi	ur Cleanup: (Y/N) N
CONCENTRATI CAS NO. COMPOUND (ug/L or ug	
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	930 U

ab N	Jame: OHM ANALY	TICAL DIVISION	Contract:N	FESC	CLJ6	2S-012	
		Case No.: 16866			No.: <u>C</u>	LJ62S-00	1
	x: (soil/wate:			Lab Sample ID			
Sampl	e wc/vol:	30.4 (g/mL) <u>G</u>		lab File ID:	UR23	56	
के Woi	.sture: <u>11</u>	_ decanted: (Y/N)	<u> </u>	Date Received	: 11/2	2/95	
Extra	action: (SepF	/Cont/Sonc) <u>35</u>	<u>40</u>	Date Extracte	d: <u>11/2</u>	22/95_	
Conce	entrated Extra	ct Volume: 5000	_(uL) [Date Analyzed	: 11/2	8/95	
Injec	ction Volume:	1.0 (uL)		Dilution Fact	or: <u>50</u>	. 0	
GPC C	Cleanup: (Y/	N) <u>N</u> pH:		Sulfur Cleanu	Y) : q.	N) N	
	CAS NO.	COMPOUND	CONCENT (ug/L o	RATION UNITS r ug/kg) <u>UG/k</u>	: G	Q	٤ \ ا
	11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1	Aroclor-1016Aroclor-1221Aroclor-1232Aroclor-1242Aroclor-1248Aroclor-1254Aroclor-1260			930 930 930 930 930 930 6000	บ บ บ	

0077

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CLJ62-FB

ab Name: OHM ANALYTICAL DIVISION Contra	act · NFESC
Lab Code: A/A Case No.: 16866N SAS	<u></u>
Matrix: (soil/water) WATER_	Lab Sample ID: JP0723P
Sample wt/vol: 950 (g/mL) ML	Lab File ID: <u>UF1301</u>
% Moisture: N/A decanted: (Y/N)	Date Received: 11/22/95
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>	Date Extracted: 11/24/95
Concentrated Extract Volume: 1000 (uL)	Date Analyzed: 11/25/95
Injection Volume: 1.0 (uL)	Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N
	NCENTRATION UNITS: Q^{ij} g/L or ug/Kg) UG/L Q
12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	1.1 U U U U U U U U U U U U U U U U U U

PESTICIDE ORGANICS ANALYSIS DATA SHEET 0080 EPA SAMPLE NO.

Tab Nat	ame: OHM ANALY]	CICAL DIVISION	Contract:	: NFESC	CLJ62	-RB
		Case No.: 16866N			No.: <u>CI</u>	<u>J62S-0</u> 0:
) <u>WATER</u>		Lab Sample ID		
Sampl	e wt/vol:	980 (g/mL) <u>ML</u>	_	Lab File ID:	UF130	2
% Moi	sture: <u>N/A</u>	decanted: (Y/N)		Date Received	: 11/22	/95
Extra	ction: (SepF/	Cont/Sonc) <u>SEP</u>	<u> </u>	Date Extracte	d: <u>11/2</u>	<u>4/95</u>
Conce	ntrated Extrac	t Volume: <u>1000</u>	(uL)	Date Analyzed	: 11/25	/95
Injec	tion Volume:	1.0 (uL)		Dilution Fact	or: <u>10.</u>	0
	•	.) <u>N</u> pH:				
	CAS NO.	COMPOUND	CONCEN (ug/L	NTRATION UNITS or ug/Kg) <u>UG/L</u>		2 Q \
	11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1248 Aroclor-1254 Aroclor-1260			1.0 1.0 1.0 1.0 1.0 1.0	n n n n
`. [<u> </u>					

LDC #: 1729A3 VALIDATION COMPLETENESS WORKSHEET	Date: /-5-95
SDG #: CLJ62-001 - For EPA Level III X NEESA Level C	Page: / of /
aboratory: OHM Remedial Services Corp.	Reviewer: m
METHOD: CO Deliveblesineted Binhamide (EDA CW) 840 Method 90000	2nd Reviewer:

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8080)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
l.	Technical holding times	A	Sampling dates: /1-21-95
11.	GC/ECD Instrument Performance Check	-B	Sampling dates: 11-21-95 Not Required
111.	Initial calibration	A	18 RSP
IV.	Continuing calibration	A	20
V.	Blanks	Α	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB=19, RB=15

Note: A = Acceptable

N = Not provided/applicable

SW = See worksheet

ND = No compounds detected

R = Rinsate

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

RB = Rinsate blank

Validated Samples:

1	CLJ62S-001	SOIL	11	CLJ62S-10D	SOIL	21	PBIKOI	11/>4	5014
2	CLJ62S-002		12	CLJ62S-011		22	fB1K0+		4
3	CLJ62S-003		13	CLJ62S-012		23			
4	CLJ62S-004		14FB	CLJ62-FB	AQ	24			
5	CLJ62S-005		15 R B	CLJ62-RB		25			
6	CLJ62S-006		16	CLJ62S-001MS	SOIL	26			
7	CLJ62S-007		17	CLJ62S-001MSD	\downarrow	27			
8	CLJ62S-008		18	CLJ62-FBMS	AQ	28			
Э	CLJ62S-009		19	CLJ62-FBMSD		29			
10	CLJ62S-010	V	20	PBIK 01 1127		30			

LDC #: 1729 .
SDG #: ((1)()-00]

VALIDATION FINDI) WORKSHEET Surrogate pikes

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8080)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were surrogates spiked into all samples, standards and blanks?

Y (N) N/A Did all surrogate percent recoveries (%R) meet the QC limits stated below?

#	Date	Sample ID	Column	Surrogate Compound	%R (Limits)	Qualifications
I	11-28-95	10	1	A	0 (30-150)	No quals
		Pilnted sox	1	ß	0 (
2		11	1	A	0 (
		Pilnted 50x	1	В	0 ()	
3		12		A	0 ()	
		Pilnted 50x	X	B	()	
4		/ 3		A	0 (')	
	V	Pilnted sux	11	ß	0()	Υ
5		All Samples	BOTH	TCX & DCA		No goal C.
			instend	of dibutyl c	hlorendam (specified)b	y contract U
					()	
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					()	
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					()	
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					()	
<u>[</u>					· ()	

Letter Designation	Surrogate Compound	Recovery QC Limits (Soli)	Recovery QC Limits (Water)	Comments
A	TCX	30-150		
В	pcB	30-150		

COLUMN 1: DB-5

COLUMN 2: PR-608

Appendix F Chain-of-Custody



CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
A A 1 0 A Rev. 08/89

im C	orporation																							14	412	4	ev. 06/6:
О.Н.	MATERIALS	S CORP	'. •	•	P.C	о. вох	551	• F	FINDL	AY, OH	l 45839-0551	•	<u> </u>	419	-423-	-352(8										
OJECT NAME AMP Lejeune OJ NO. PROJECT CONTACT LOBLO GNEG DYTAKE JOHN COHON SAMPLE NUMBER DATE TIME 8 8 8						C PA		PROJECT PROJECT AGERVSUPE	ERVISOR R	auda 1 180		NUMBER	- 1,	(INDI	LYSIS CATE RATE TAINER	AS)		didi		NET							
	NUMBER			8	<u>ਵਿੱ</u>			SAMPLE DINCLUDE POINT O		···			_	4		*/	4	4	4	/				REMAI	RKS		M
6/-	<u> </u>	3/4/25	lua	X		6	GCAL	<u>s Samo</u>	ales.	Anda	ne comp.	3-32	107	_		_	\dashv	_	_		_‡						
ردر	001 1901-1902 1001	3/5/45	1400	X		6	Grabs	SAM	رعام	100-7 100-7	ene como	3-32	207					_		\perp	_						
CL)	201 2041-19063 201	3/8/45	1400	X		6	Gash	1 tron	M F	70C-	s necomp	2 22	09								\perp						
CL	201 501-Ах4 001	3/8/1/25	3/45 1400 🗴 -				6 Geals Samples Anderseco				4	- 2-37	203								$\overline{}$						
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TRANSFER	ITEM NUMBER	3	TRANSFER								DATE	TIM		REMA	 ARKS		14	1	⊥ `AC	 Y	TAT						
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3																				_		910 45	51 18	309			,
4														- 5	SAMPL	ER'S S	HIGHAT	TURE	R	(X)	K	2	01:	 M1 1	8743		



CHAIN-OF-CUSTODY RECORD

Form 0019
Field Technical Services
144132
Rev. 08/89

O.H. MATERIALS CORP. P.O. BOX 551 FINDLAY, OH 45839-0551 419-423-3526 PROJECT NAME PROJECT LOCATION **ANALYSIS DESIRED** Camp Lejeune D.O. 62 Camp Lejeune, NC PROJECT TELEPHONE NO. (INDICATE NUMBER SEPARATE RANdy Smith (910) 451-1809 CONTAINERS) PROJECT MANAGER/SUPERVISOR Jim DUNN/ Roudy Smith SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE) SAMPLE NUMBER DATE TIME REMARKS Sidewall of EXCAUNTION 1 CLS62-A35-01450 6/22 808 Soil from ADC3 (15/2-125-002502 Sidewall of Excavation 6/22 1140 802 Soil from ADGZ CLS62-AZ5-Duplicate of Sidewall Eccavation 6/22/1140 802. ODZSCZD Soil from AOLZ CLS62-AZ-RB 6/22 Pinsate water 1145 L 3202 from AOCZ insate Water 2 3203 CL562-A3-RB 6/22 1130 CL562-FB 1422 1150 2 3203 9 10 REMARKS **TRANSFERS** ITEM **TRANSFERS** NUMBER **RELINQUISHED BY** ACCEPTED BY DATE | TIME 6/22 1700 locon K. Henry FED-EX 1 2 3 SAMPLER'S SIGNATURE



)Field Techn. 135239

(D.H. MATERIALS	OH 45839-0551	•	4	19-4	1-423-3526																
PRO	Camp Les OJ NO. PROJE S866 ENT'S REPRESENTATIV	Jim Dunn									s (NDICA EPARA ONTA	ATE ATE INERS)	PESIRE	and a							
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB			DESCRIPTION MATRIX AND DF SAMPLE)))	9		/	40				//	//		F	EMARKS	
1		5/30	1435	-	X	Base 0	Pex	countin		1		X						F				
2	CLT62-A3S	5/30	1448		X	Base	of ex	callati	m	1	7	(•									
3	CLJ62-A3S -006-BC dy	5/30	1448		X	Base	of as	ccavati	<u>ev</u>]	7	<										
	CLJ62 FB					Field Blank				3		<										
5	CLJ62-RB					Rinsale	Blan	k		3	>	(
6																						
7								·														
8																				- <u> </u>		
9																						
10																						
4	TEM NUMBER	ı	F		ANSF QUIS	ERS HED BY		TRANSFI ACCEPTE		DATE	TIMI	- 1	EMARK	s q	18	pr	~ .	T	AT			
	1 1-3		Tel	1	M	the .				9/1	13:	2										
	2	1																				
	3								W-side-code code								10				. ,	
	4									34	MPLEH	Andia 8	TUHE		•							



CHAIN-OF-CUSTODY RECORD

Form 6019
Field Technical Services

135238
Ref. 08/89

																		TOC	1230	•
i	H. MATERIALS	3 COR	P. •	•	P.	.O. BOX 551		OH 45839-0551	•	41	19-42	3-3520	6							
Can PROJ. 1	NO PROJECTION PROJECTI	ect cont	TACT Sn	my	<u> </u>	PROJECT MAI	PROJECT TELEPHONE (910) 451- ANAGER SUPERVISOR Dunn SAMPLE DESCRIPTION	. 1809 N	NUMBER	(IN SE CO	IDICATE PARATE ONTAINE	E	14 ×			7///			,	
	NUMBER	DATE	-	0	GRAB	-	POINT OF SAMPLE)	D	ļ	_/	/2	" /		//	/	\angle		REMARKS	j	
-	162-A3S		9,20		X	Side Wo	, v	•	1	<u> </u> X	1	\coprod	_							
2 -0	162-A3S	5/30	4:25	<u> </u>	X	Side wa			1	X	<u> </u>									
3 -0	J62-135	5/30	1007	<u> '</u>	X	Sde wa		valim	1	_\x	,									
4 - 0	DD4-CS		1018	<u> </u>	X		(water	1	X										
9 -0		2/30	1049		χ	 		cauntin]	X										
0-0		5/30	1108		X	Side w	soll of exca	watim		X										
<u>را - را</u>	762-135			1						1			干	#	H	T				
	_T62-A3S	5/30	1/25		χ	side wa	Il of exco	watim	-1	1/2	1		1	+		_				
<u> </u>		5/30	1402		X	SIDOBASE	of each	avalim	,	X	\Box					1				
10 CL	.T62-A35 x02-BC	5/30	1408		X	S. J. Base	ill of apora	nation	1	X	$ \uparrow \uparrow $			+		+				
TRANSFER	ITEM NUMBER		A		ANSFI QUISH	FERS SHED BY	TRANSFE ACCEPTED		DATE	TIME	REM	ARKS	_ _	18	h	L	TAT			
1	1-10		tale	7	M	1			6/1	13:30										
2							1.7		•							~	,			
3					-										1		/ .			
4					•						SAMPL	LER'S SIG	GNATUF	iE.	<u> </u>	m				
						,	1			,	4 .									



CHAIN-OF-CUS. JDY RECORD

Form 0019
Field Technical Services

135265

	135265
O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551	• 419-423-3526
PROJECT NAME Camp Lejeune D. D. 62 Camp Lejeune, NC PROJECT CONTACT PROJECT TELEPHONE NO. [910] 451-1809 CLIENT'S REPRESENTATIVE PROJECT MANAGER/SUPERVISOR JIM DUM SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)
CIJ62-A45	REMARKS
-001-BC 9/ 10137 /1 Confirm Som 010	
1 -001-CS 19 / 10 / 1	
-007-25) 0// 107/ X	
4 CIJ62-A35 6/7 1112 X Confirmation Sample	
5 CLT62-A25 6/7 1222 X Confirmation Sample	
6 CL J62-A25 6/7 1225 X Confirmation Sample	
7 -015-C5 6/7 1258 X Confirmation Sample	
8 -014-BC 6/7 1251 X Confirmation Sample	
CLT62-135 1/2 1245 1/ Confirmation Some	
1/1767-172	
1 - 0/3 - BC 0/ / 1 1 1 1 1 1 1 1 1	
TRANSFERS NUMBER RELINQUISHED BY ACCEPTED BY	DATE TIME REMARKS 48 M. TAT
1 1-10 toll all	6/8 1340
2 Xalsa pusit	70 1070
3	1 201/11
4	SAMPLER'S SIGNATURE



CHAIN-OF-CUS I ODY RECORD

O.H.	O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 4583									419	-423	3-3526						
PROJ. NO	T NAME D. PROJE C. R REPRESENTATIV	ele ct cont and E	une ACT	- d	20. Hn	62 Camp	PROJECT TELE (910) 4 IAGER/SUPERVISO DUMI	ME, NC PHONE NO. 151-1809 PR	NUMBER OF CONTAINERS	(IND SEP/ CON	ANALYSIS DESIRED INDICATE SEPARATE CONTAINERS)							
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB		SAMPLE DESCR (INCLUDE MATE POINT OF SAM	RIX AND	ō		95		//	/	//		REMARKS	
1 -015-BED 10// 1290 11						Confirma	tin_≤	Sample	1	X								
CL.	2 C1762-A3S 6/7 1228 X Confirmation So							Sample_	1	X						This san	nple is not BC	BCD
3 CL	T62-A35	6/7	1215		X	Confirm	natura	Sample	1	X								
4 CLJ	162-13-RB	6/7	/300	X		Rinsate	Blank f	am A043	3	×								
5 CLI						Rinsati	Blank fo	m Accy	3	X								
6 265	162-A2-RB	6/7	1221	X		Rinsate	Blank fr	m AOC 2	3	X					,			
7 CL						Field		3	X									
8																		
9																		
10																		
TRANSFER	TRAM STAND NUMBER RELINQUE						TRANSFERS CCEPTED BY	DATE	TIME	REM	IARKS	48	m	7	AT			
1					The flat													
2													7					
3	3											LER'S SI	Tol		/	Uh		
4										SAMI	TERS S	GNATUR						



CHAIN-OF-CUS. JDY RECORD

Field Connical Services

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Rev. 08/89

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1	MATERIALS	CORF). •)	P.C	D. BOX 551	• FINDLAY, OH 45839-0551	•	41	9-42	3-352	6				
Camp Lejeune D.O.62 Camp Lejeune NC PROJECT CONTACT 16866 Randy Smith CLIENT'S REPRESENTATIVE PROJECT LOCATION PROJEC										ALYS DICATE ARATE	E	SIRED				
ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB		SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS		4	MY/		//	//		REMARKS
1 CLI	162-113-FB	6/8	1500			Field	Blank	3	X							
	CLJ62-A3-RB 6/8 1540 Rinson						Blank	3	X							
3 -0	162-A35 16-BC	6/8	1515		X	Base	Sample	- 1	X							
4																
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ġ.																
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TRANSFER	ITEM NUMBER						TRANSFERS ACCEPTED BY	DATE	TIME	REM	IARKS	18	hr.	7	TA	17
1	1 1-3 Tett Who					le fran		6/13	1415		٠					
2															7/	/
3									SAMP	LER'S	IGNATI	JRE	A	Lha		
4																



CHAIN-OF-CUSTODY RECORD

Field Technidal Service 144106

O.H. MATERIALS CORP. P.O. BOX 551 FINDLAY, OH 45839-0551 419-423-3526 PROJECT NAME PROJECT LOCATION **ANALYSIS DESIRED** Camp Legeure, NC PROJECT TELEPHONE NO. (INDICATE NUMBER SEPARATE Randy 16866 (9/0) 451 - 1809 PROJECT MANAGER/SUPERVISOR CONTAINERS) CLIENT'S REPRESENTATIVE Marsh burn Vann Dunn Jim COMP SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE) SAMPLE NUMBER DATE TIME REMARKS CLJ62-135-1119 11.6 BC CLT62-A35 -1118 12.6-BC CLT62-A35-415 1125 13.605 CLTG2-A3S-C/15/1138 16.655 CLTLZ-A3S-6/15 1138 166 CS D CLT62-A35-1150 6/15 17.6 BC CLJ62-A35-1156 17.6 CS CLT61-A2-5-1511 - OOIZBL CLJ62-A25-1528 002265 CLT62-A25-6/15 1523 0032CS REMARKS ITEM **TRANSFERS TRANSFERS** NUMBER **RELINQUISHED BY ACCEPTED BY** DATE TIME 1600 1-10 2 3 SAMPLER'S SIGNATURE

CHAIN-OF-CUSTODY RECORD

144105

)11(vi da	ation									419-42	2.352	26					1		
	.H. MAT	EDIALS (CORP.	•	١	P.O.	BOX 551 •	FIN	DLAY, OH 45839-0551						77	/	7//			
PRO PRO CLI	JECT NAME JUNE J	Leje PROJEC	T CONTAC	dy	06 Sm	2	PROJECT LOCAT	PROJECT TO PROJECT TO (9/0) AGER/SUPERV	nr		ANALY	TE	p.111							
ITEM NO.			DATE	TIME	COMP	GRAB			SCRIPTION ATRIX AND SAMPLE)	3	M	<u> </u>			H	3	compe	REMARI	goin	- }-
1	CLT62 - R1	- A35	0/15	1201	X		Rinsati			3	X	\dashv	+	-		7	5	PA	CE	
2	ICLJ6	2-1920	6/15	1525	X		Rinsali	Bla		3	X	+	-		11					-
3	CLIE	2- FB	6/15	1534	X		Field	1519			1~+	+			1-1					_
1					1_	_					+-1	1	1							
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	6				\perp	-														_
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	8					-									_	-				_
	9		_		\perp	-														_
	10						_	\neg	TRANSFERS	DATE	TIME	1	ARKS	4	8 h	Y .	TA	7		
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	2	11-12									-	-				1	M			
:	3										-	2 9/0	TPLEA'S S	IGNATUR	E					
	4											!_								



CHAIN-OF-CUSTODY RECORD

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[), H.C	MATERIALS	COR	Ρ. (•	P.(O. BOX 551	• FINDLAY, OH 45839-055	1	•	41	9-42	3-35	26						-				
PRK J QJ	N NO. 186 ENTS R	MP Le	jew cronn RA	e dy			74 PROJECT MA	MAGERISHERWSON MAGERISHERWSON MAGERISHERWSON MAGERISHERWSON		NUMBER CONTAINERS	(IM) SEP	DICAT PARAT NTAIN	E E GRS)	SPEC	//						448	544		
ITEM NO.	9	SAMPLE JUMBER	DATE	TIME	COMP	GRAB		SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		ŏ		4	390	/	_	<u>/</u>	//			A	EMARKS			
1	લાગુ	2-435- 05.15C	9/29	10/8		X		of Excavation confo	1	8.5	. Χ	1-1						-						}
Z	010	2-A35-	6/z9	1022		X		Screle	-[1	8.7.	X	_1	4]
3	00 CTZ(2-A35- 5.1 BC		1028		X		of Excavation Conf		9.z	X	_3												-
4		(Z-A3S- SA BCD	429	1028		X	Base	of Excavation Conf.	-1	802]X	1-4]
5	CITE 00	2-135- 3.1 BC	6/29	1407		X	Bace	of Excavation Copf	-1	808	X	_5		,] :
6 I	4	2-A35- 8:15C	4/29	1463		X	Sillew	sell of Excavation Conf.	\exists_{1}	¥e€,	X													}
7	CLT	2-A35- R S	6/29	1410		X	Ria	sate Black	- 2	2 920	X													1
8	C176:	-435-FB	429	1413		X	F.	eld Blank	72	32.0	JX	[-7			1									1
9									-															-
10										• •								F						
Theoretic	NVMBER	M371 R38MUN		A		AN SF QUIS	ERS HED BY	TRANSFERS ACCEPTED BY	D	ATE 1	ME	AEA	MAKE		3 }	ا ر د		T,A	T,	•			landron, and a state of the land of	
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	3																							[
,	4											شتبه	LENS	hare	UAE	·	2	the						



CHAIN-OF-CUS'I ODY RECORD

Field Technical Services
144135 Rev. 05 89

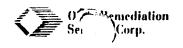
	H. MATERIALS	CORI	P. (•	P.	O. BOX 551	•	FINDLAY, O	H 45839-0551	•	4	19-42	3-3526	·						
TROJ CLIEN	AMPLE SAMPLE NUMBER	grely Sh l	Sini	26 /1 /1	Shab	CA.	MANAGER Du	PICHE PHONE N 10) 45/~2 VSUPERVISOR		NUMBER	(IN SE CC	NALYS IDICATI PARAT INTAIN	E	RED						
		1	13'40		X	Dangle		Base in /	ret	1 0	22 X	1		7	7	/	/	REMA	ARKS	
2 C	03.2.60	1/12	13:00	1	X	Sample	aplica a F	BACE IN			22 / 22 X	\								
3 6	108.256	7/12	13:05		X	Sample	ot	Sidant 11 in	v Area	18	22									
4	FB	7/12,	245		$\langle \rangle$	F;	d	Blank		332	1.			_		_		 		
5	R B	7/12	220		X	<i>\\</i> .:	uste	- Blank		3 32	X									The second state of the se
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TRANSFER	ITEM NUMBER		R		ANSF	ERS HED BY		TRANSFER ACCEPTED		DATE	TIME	REM	Sh	~	TA	T	.			
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4												SAMP	LER'S SIG	NATHE	IE L	#\$	ಬ			



CHAIN-OF-CUS. DY RECORD

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Field Connical Services
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Rev 08/89

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C	Н. І	MATERIALS	CORF	P.	•	P.	O. BOX 5	51	• FINDLAY, OH	l 45839-0551	•	41	9-423	-3526	3		-						
(50)	1, 81 1, 81 1, 10 1, 10	ANN M	Ala	2~	رم س	<i>ان</i> ا	Y PROJ	in Z	PROJECT TELEPHONE NO (910) 457- AGER/SUPERVISOR DVNN / A law	2599	NUMBER OF CONTAINERS	- I an	IALYSI DICATE PARATE NTAINE	RS)	IRED								
ITEM NO	ı	SAMPLE NUMBER	DATE	TIME	COMP	GRAB		Ì	SAMPLE DESCRIPTION INCLUDE MATRIX AND POINT OF SAMPLE)				139		//		//	/		F	EMARKS		
1,	CU	12-5-001	1/21	0952		X	/	Za	se		1-40	7 >				1.							
2	يك	62-5-002	1/21	0755		X		5	dewall		1-40	ž)										•	
3	ر د ر (62-5-003	11/21	601		X			Base	•	1-40												
4	245	62-5-604	11/21	1003		X			de wall		1-40												
5 (121	62-5-005	11/21	1005		X		ς	idewall		1-40	- 1.											
6	W	62-5-006	11/21	1020		X		Bas	6 <u>e</u>		1-40	νε X					•				•		
7 (للا	62-5-007	11/21	1022		X		Ba	5 <u>C</u>		1-40	2 X											
8	CLI	62-s-00g	11/21	1025		X			ide wall		1-40	zX											
9 K	山丁	62-5-009	11/21	1030		X			idewall		1-40	ΣΧ											
10 (ध्य(32-5-010	1/21	1035		X			Sidenall		1-40	· X											
TRANSFER	NUMBER	ITEM NJMBER		f			FERS SHED BY		TRANSFER ACCEPTED		DATE	TIME	REM	ARKS			•				•		
	I	1-10		Cho	Con	J	R. A	Em	FED EX # 6921	490985	1/21	1708							•				
:	2																						
)														=::==				-				
	1										-		SAMPL	.ER'8 \$1	GNATU	Pu	row		?. A	ran	/		



Field ()

0.1	H. MATERIALS	CORF	P. ()	P.0	D. BC	OX 551	•	FINDLAY, O	H 45839-0551	•	4	19-4	23-35	26					<u>.</u>			
16	TS REPRESENTATIVE SAMPLE NUMBER	Ala M	2 V	<u>vh :</u>	11	2	PROJECT MAN JIM [NAGERA NAGERA	Lejeule, Diect telephone n 110) 451 -2	15. 1599 Whitt	NUMBER	(II SI CO	NDICA EPARA ONTA		QL.	/							
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Appendix G Field Screening Summary Report

FIELD SCREENING SUMMARY REPORT

On-Site Delineation of Pesticides Contaminated Soils Delivery Order No. 62 Camp Lejeune, NC

The objectives of this phase of the Camp Lejeune project are as follows:

- 1) Determine extent of pesticide/PCB-contaminated soil before excavation
- 2) Confirm contaminated soil removal

In order to meet these objectives, OHM mobilized personnel and analytical equipment to the site. Three hundred and sixty-one soil samples were collected and analyzed by the on-site laboratory on this phase of the Camp Lejeune project.

The samples for the on site screening were collected by utilizing a 10x10 ft. grid system. Grab samples were collected at each point 6 inches below the ground surface and analyzed by the on-site laboratory. Grab samples were analyzed on the grid system in all directions until results indicated that the soil did not contain any of the Contaminants of Concern at levels above the remediation goals. The soil was then excavated and grab samples were then taken at 6 inches below the surface to ensure that all contaminated material had been removed. The analytical activities on-site should be considered only as a screening process. Once the samples were determined by the on-site lab to be below the action limits, confirmation samples were sent to the off-site lab.

On-site samples were prepped for analysis using a simplified sample extraction and cleanup procedure. They were subsequently analyzed for the target analytes using a Hewlett-Packard 5890 GC equipped with an Electron Capture Detector (ECD) per SW-846 method 8080.

The sample prep method consisted of a two stage liquid/liquid extraction from hydrated methanol to hexane followed by a mini-column liquid chromatographic cleanup step. This method is cited from Volume II of the "Fifth Annual Waste Testing and Quality Assurance Symposium Proceedings", July 24-28, 1989 publication.

In order to check the performance of this method, a standard reference material containing 4,4 -DDD (Pesticides in Soil, Lot No. 332) from Environmental Resource Associates was extracted on 5/10/95 and 5/23/95, put through the cleanup process, and analyzed on the GC-ECD system. The recovery results are shown in Table 1.

Table 1 Standard Reference Material Recovery Results

Date Analyzed	Contaminant of Concern	Conc. Found (ug/kg)	True Conc. (ug/kg)	Acceptable Range (ug/kg)	% Recovery
5/10/95	4,4'-DDD	413	408	(196-490)	101.2 %
5/23/95	4,4'-DDD	515.2	408	(196-490)	126.2 %

Initial calibration curves were run on 5/2/95 and 5/15/95. The second initial calibration curve, run on 5/15/95, was due to a power outage. All calibration curves produced correlation coefficients >0.995. Continuing calibration checks (CCC) were analyzed daily prior to analyzing samples. The CCC consists of analyzing the midpoint standard (250 ng/ml). Acceptable range of deviation from the true value were set at 80-165 %. This range was set on the conservatively high side in order to ensure that no results would be deceptively below the action levels on this project. All CCC were within the field laboratory criteria.

Method blanks were analyzed daily following the CCC and prior to analyzing samples. Analytes of interest were non-detected in all method blanks analyzed. Matrix spikes and matrix spike duplicates (MS/MSD) of DDT and DDD were analyzed to check the percent recovery of these compounds. Also a blank method spike was preformed with DDT to evaluate the method.

Appendix H QC Documentation



QC MEETING MINUTE NAVY LANTDIV CONTRACT N62470-93-D-3032 DELIVERY ORDER 0015

Attendees:

Jim Dunn

OHM Project Manager

JANUARY 24,1994

Randy Smith

OHM Site Supervisor

Michael Haugen

OHM Project Accountant

Vann Marshbern

ROICC

John Cotton

ROICC

Thomas Morris

IRD/EMD

Brent Rowse

IRD/EMD

- * No written confirmation received from NESSA on Landfarming proposal for soils. OHM received North Carolina Landfarming Guidelines from Tom Morris.
- * OHM recommended testing one composite sample of soils from the newly discovered disposal area in Lot 203, with the same protocol as AOC 2 soils. Estimated cost \$2500 dollars for 14 day turn around time. Tom Morris and Vann Marshbern agreed. OHM will proceed with sample collection and analysis.
- * Ground Water Treatment Plant start up procedures need further review from the Base and EPA Region IV (Charles Osborne).
- * Telephone and Water connections to the treatment plant may be delayed. OHM will look at treated effluent use for latrine, waste basin and general plant waste water.
- * Randy Smith gave a brief progress report of current site activities. Treatment plant site clearing and grubbing should be completed by 1/27/95.
- * Vann Marshbern asked if LANTDIV would sign off on OHM drawings. Jim Dunn to pursue answer.
- * Building redesign was presented by Jim Dunn. Comments were: Plain not split face block; Single ply or modified bitumen roofing; Exterior color to be Currier Creme 40YY83/107 as manufactured by Glidden or equal.
- * Unit heaters required not to prevent freezing but to prevent moisture buildup during winter months. Removal of ducting is encouraged.
- * Items to check based upon recent start up of treatment plant at Hadnot Point include: Instrument interconnections, siphoning of backwash, uncontrolled well pumping, pressure regulators, roof access for exhaust, maintenance access to all tank manholes, OSHA compliance

on all walkways, platforms and ladders. Transformers should have five stator hookup with meter base, light ballast to be zero degrees. Recheck analytical results from deep wells (Iron content is suspect). Experience says excess iron in all wells.

- * Upon receipt, send hard copies of analytical results to John Cotten.
- * O U 2 has several washouts which need to be repaired in Spring when additional equipment is onsite.
- * Base has not awarded Tank Farm Demolition contract due to lack of funds.
- * Jim Dunn presented overview of RAC proposal for D.O.62, O U 1 pesticide and PCB contaminated soil removal.

CC: LANTDIV (Linda Saksvig, Code 18231)
LANTDIV (Jerry Haste, Code 0524)
OHM Norcross, GA (Jim Dunn)
IRD/EMD (Neal Paul)
QA/QC (Chuck Lawrence)

Sincerely,

Randy Smith



Attendees :

Jim Dunn

OHM Project Manager

Randy Smith

OHM Site Supervisor OHM Project Accountant

Michael Haugen Vann Marshbern

ROICC

John Cotton

ROICC

Thomas Morris

IRD/EMD IRD/EMD

Brent Rowse

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Krod

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on all walkways, platforms and ladders. Transformers should have five stator hookup with meter base, light ballast to be zero degrees. Recheck analytical results from deep wells (from content is suspect). Experience says excess iron in all wells.

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- Jim Dunn presented overview of RAC proposal for D.O.62, O U 1 pesticide and PCB contaminated soil removal.

CC: LANTDIV (Linda Saksvig, Code 18231) LANTDIV (Jerry Haste, Code 0524) OHM Norcross, GA (Jim Dunn) IRD/EMD (Next Paul) QA/QC (Chuck Lawrence)

Sincerely,

Randy Smith

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 **DELIVERY ORDER 0015**

Attendees:

Randy Smith

OHM Site Supervisor

April 11,1995

Michael Haugen

OHM Project Accountant

Jim Dunn

OHM Sr. Project Manager ROICC

Vann Marshburn

Neal Paul

IRD/EMD

WORK IN PROGRESS:

Fencing for WWTP connection to Piney Green Road will be in place by mid day Thursday, April 13,1995. Safety fencing has been placed while permanent poles are being set in concrete. Drive thru gate will be included. Work to begin on effluent line construction from out fall to Manhole #4 on 4/17/95.

Injection air broke through bentonite surrounding the slotted portion of the horizontal well on Thursday 4/6/95 and adjustments were made to well vacuum and injection pressure. No other problems noted. SVE system running smoothly. Randy reviewed data with Vann and Neal on SVE comparisons of UG/L to UG/kg. Sampling calculation are being prepared by Andrew Collins which compare soil levels to vapor levels. Jim Dunn will provide information from the sampling in his monthly report. Included in the report will be pounds of containments removed, anticipated, and remaining levels.

Jim and Vann reviewed different sections of WWTP schedule. Discussions were held concerning operation of plant through September 1995 and impact on base budgeting for D.O. 15.

Vann Marshburn would like OHM to handle the operations of the plant until the end of September 1995 so the base personnel can start with a fresh budget year. Jim Dunn assured him it would be no problem extending the time period.

* Vann Marshburn asked OHM to remember the erosion control around Wallace Creek when

work gets close to that area. Vann would like to review the area when the control methods are in

place. Randy will work that through John Cotten and Vann. State representative likes check dams.

Based on analytical results, approval granted for placing material from roll-off (well drilling

and mud) on top of SVE site. Jim Dunn suggested the material be placed between the extraction

piping.

* NEESA received the formal bid for Job 15526 land farming of soils on Lot 203. Approval

to go ahead was given. OHM will prepare all paper work with intent to permit in North Carolina for

submittal. Included with the information will be a letter explaining that we do not need the permit

because of the Superfund status of the project site. Jim Dunn will include Neal and Vann in the

preparation of the letter and package prior to sending it to North Carolina.

* Jim Dunn is prepared to turn over Manifest and supporting data for approval to EMD for

Delivery Order 0062, OU1. Neal suggest the AOC 4 (approx. 50 cubic yards) could be placed on

base. Analytical data supports this recommendation. OHM took six grab samples, composite and

sent one sample to be tested. The cost savings could be 4 to 1 if onsite placement can be permitted.

CC:

LANTDIV (Linda Saksvig, Code 18231)

LANTDIV (Jerry Haste, Code 0524)

OHM Norcross, GA (Jim Dunn)

IRD/EMD (Neal Paul)

QA/QC (Chuck Lawrence)

Sincerely,

Randy Smith

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 **DELIVERY ORDER 0015**

Attendees:

Randy Smith

OHM Site Supervisor

April 18,1995

Alan Primeaux

OHM Project Accountant

Vann Marshburn

ROICC

John Cotton

ROICC

Neal Paul

IRD/EMD

OPERATIONS IN PROGRESS:

Neal wants to explore possibility of buying a Gas Chromatograph.

- · Van stated that the statements made last week by Jim Dunn were incorrect in that multicontaminated soils could not be incinerated.
- Van stated that OHM proceed in cleaning (OU-1) AOC-4. Van directed OHM to grid out each AOC in 5 foot grids, then run analysis.
- Van stated that OHM is to delineate the other AOC areas by the same method.

Randy stated that the SVE system is running 24 hours per day with out any problems.

Van requested OHM to provide Neal Paul with data from the SVE system by at the next OC meeting on 4/25/95.

Neal directed OHM not to talk to the federal or state regulatory agencies without first going through himself, Van or Linda in Norfolk, VA.

Randy stated that OHM is working on effluent discharge line an also setting outfall structure and piping to manhole #4. NE Construction is bringing up borrow material in 12" lifts under the WWTP.

Van stated that any overtime on weekends or excessive overtime needs to be approved, by himself, before the actual work is performed.

Van directed OHM to sample the NEESA soils again to determine whether or not it needs to be bioremediated for treatment.

Sincerely,

Randy Smith

CC: LANTDIV (Linda Saksvig, Code 18231)
LANTDIV (Jerry Haste, Code 0524)
OHM Norcross, GA (Jim Dunn)
IRD/EMD (Neal Paul)
QA/QC (Chuck Lawrence)

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 DELIVERY ORDER 0015

Attendees:

Randy Smith

OHM Site Supervisor

May 2,1995

Jim Dunn

John Cotton

OHM Project Manager ROICC

Vann Marshburn

ROICC

Neal Paul

RD/EMD

- Randy opened meeting with a status report for O.U.1. Today we will be sampling AOC-1; yesterday we sampled AOC-2. The gas chromatograph will run samples tonight. Analysis rate will be +/- 25 samples per day. OHM & EMD will meet with forestry at 8:30 5/3/95 to get equipment and material moved out of AOC-3.
- After analytical data is available and plotted, OHM is to recommend a course of action to the ROICC.

SVE running well - Serviced generator on 4/28/95 and 2000 lbs of carbon was added to filter.

Northeast Construction awaiting delivery of reinforcing steel. Subgrade prepared, forms being constructed.

OHM was asked to look at a means of providing a pumping station at the new groundwater treatment plant to offload drums, tanks, or tankers which would be loaded with contaminated water to be treated by the plant.

Vann asked that the tank demolition contractor had not started work at Camp Geiger.

Plan to meet Thursday morning 5/11/95 to discuss the biocell. Attendees will include base operating personnel, EMD, ROICC, and OHM.

Next year two old wastewater plants will be demolished. Neal and Vann will look into the possibility of using drying beds for the additional soil treatment facilities.

The Technical Review Committee meeting has been changed to 5/10/95 from 13:00 to 15:00 hrs.

An admiral will be onsite 5/9/95 between 08:00 and 08:30 to review the SVE installation.

Vann will look into additional phone service.

CC: LANTDIV (Linda Saksvig, Code 18231)
LANTDIV (Jerry Haste, Code 0524)
OHM Norcross, GA (Jim Dunn)
IRD/EMD (Neal Paul)
QA/QC (Chuck Lawrence)

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 DELIVERY ORDER 0015

Attendees:

Jim Dunn

OHM Sr. Project Manager

May 9, 1995

Michael Haugen

OHM Project Accountant ROICC

Vann Marshburn John Cotton

ROICC

Neal Paul

IRD/EMD

Gena Townsend

EPA Region IV

Kate Landman

LANTDIV

Jerry Haste

COTAR (By Telephone)

• Status of O.U.1 sampling and analyses - AOC 2 has pesticides in excess of the action levels in all but one sample. Levels are such that "clean" is anticipated at a depth of 1 foot. Further sampling and analysis will be conducted to verify prior to excavation.

AOCs 1 & 4 indicated positive for PCBs but data is suspect since all samples tested positive. Sr. Project Chemist Terry Whitt will be onsite tomorrow to assist in trouble shooting AOC 4 also tested positive for pesticides in 8 of 18 samples AOC 3 is currently on the gas chromatograph and results should be available Thursday afternoon

* Northeast Construction is to test the current fill material to ascertain whether it can be substituted for the underslab material specified

Northeast Construction has proposed to drill the Detail B anchor bolts into the base slab and pour them in the raised portion of the pad. This proposal would be at no cost and is found acceptable.

Northeast Construction has requested permission to pour footings under the interior masonry walls rather than a thickened slab. This construction method would permit wall construction prior to pouring the slab and would be performed at no additional cost. This proposal was found acceptable.

OHM discussed adding an additional office trailer to the site to facilitate engineering and as-built activities. This unit would be installed parallel to the existing office trailer and connected with a wooden walkway. Final approval will be granted after meetings between Vann, Jerry and Jim on May 22 and 23.

The ROICC office would like to meet with Northeast and their Mason price to the start of construction activities. Tentative meeting date is during the week of May 22

The ROICC office would like to attend a pre-construction meeting with electrical subcontractor Southerland Electric and Donnie Guy prior to the commencement of construction activities.

Transformer testing will occur at the General Electric facility in Shreveport, La.on May 22, 1995. LANTDIV representative Peyton Glenn and OHM representative Rob Keskonis will witness the testing program.

The ROICC office would like to meet with Northeast's roofing subcontractor approximately two weeks prior to commencement of construction activities. Subjects will include penetration flashing and samples of proposed roofing materials.

OHM is to plan on supplying plant training including an instructional video for the groundwater treatment plant.

Telephone service - OHM will have three lines available to its offices by May 18, 1995. Service to the new treatment plant building should be available from Piney Green Rd. Final routing will be available at a later date.

The ROICC office will bring plans for future water and sewer service to the treatment plant building to OHM's office tomorrow for incorporation into OHM's planning and construction

Jerry Haste and Linda Saksvig will be at MCB Camp Lejeune on the afternoon of May 22 and all day on May 23 for meetings and updates on the progress of all ongoing delivery orders.

Kate Landman will be taking on the additional duties of Linda Saksvig's delivery orders. Linda has received a well deserved promotion to supervisor.

CC: LANTDIV (Linda Saksvig, Code 18231)
LANTDIV (Jerry Haste, Code 0524)
OHM Norcross, GA (Jim Dunn)
IRD/EMD (Neal Paul)
QA/QC (Chuck Lawrence)

Sincerely,

Jim Dunn

PRODUCTION ACTIVITIES REPORT CAMP LEJEUNE LAMPDIV Contract N62470-93-D-3032

May 23, 1995

Attendees:

Jerry Haste, COTR Vann Marshburn, ROICC John Cotton, ROICC Neal Paul, IRD/EMD

Jim Dunn, OHM Project Manager

Chuck Lawrence, SWEC QC

• Delivery Order 62:

Jim Dunn reviewed the status of AOC's 1-4. He also discussed transportation and disposal costs for PCB and pesticide contaminated soils. Cleanup of AOC's 2-4 can be accomplished with present funding.

Neal Paul will verify whether or not a less stringent action limit than .37 micrograms/kilogram can be applied to AOC 1 for PCB's. Excavation and loadouts from AOC 1 have been halted, pending an answer to this question.

Jim Dunn will provide justification for a Gas Chromatograph (GC) to be purchased by Camp Lejeune.

Delivery Order 15:

Jim Dunn presented data on SVE operations to date. Data presented was based on samples taken from wells, not from probes.

Vann requested OHM pull soil samples after three months of operation and run on the on site GC.

Neal Paul plans to examine SVE data on an as submitted basis.

Vann noted that he does not think that the Groundwater Treatment Plant will be operational by October. He also mentioned concerns for the quality of masonry work and recommended strongly that we monitor the masonry contractor very closely.

Delivery Order 44:

OHM expects to begin work at Camp Geiger at the end of June.

Jim Dunn stated that this job involved only TPH-contaminated soils.

Delivery Order 23:

Jerry Haste asked about the Closeout Report for this delivery order. Jim Dunn stated that this report was submitted in January 1995. Jerry asked Vann to prepare a final inspection letter and CCASS evaluation.

DELIVERY ORDER 62

- 1) The CQ Engineer will prepare and submit a Contractor Quality Control Report, in accordance with the format established in contract N62470-93-D-3032, upon completion of each site visit.
- 2) The QC Engineer will prepare and submit QC Meeting Minutes in accordance with the format established in contract N62470-93-D-3032 Whenever a meeting is conducted with the ROICC concerning quality issues related to this delivery order.
- 3) Due to the limited nature of the quality activities and meetings associated with this delivery order, the Site Supervisor will not be expected to submit CQC Reports or QC Meeting Minutes when the QC Engineer is not present at the site.
- 4) As-built drawings will be maintained at the OHM Norcross office.

PRODUCTION MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

June 6, 1995

Attendees:

Jim Dunn

Project Manager

Van Marshburn

ROICC

John Cotton

ROICC

Neal Paul

IRD/EMD

Chuck Lawrence

SWEC

Mike Haugen

OHM

DO 62:

Vann stated that Linda Saksvig informed him that soil from AOC 1 could go to a Subtitle D (nonhazardous) landfill. Jim asked to confirm this with Linda. When called, Linda stated that she would check and verify if a Subtitle C or a Subtitle D landfill was to be used.

An Explanation of Significant Differences is pending for the action level change for AOC 1 from .37 mg/kg to 10 mg/kg.

Jim Dunn estimates there are 54 tons still to be excavated from AOC 3. The overall tonnage removed from all the AOC's will be 552 tons vs. the 365 tons originally estimated. The yardage estimates remain accurate, but the amount of stone in the soil at AOC 3 contributed to the greater weight.

Jim Dunn stated that the overall total for the delivery order will be very close to the budgeted total of \$737,000. T&D costs will be \$25K to 40K less if AOC 1 soils are not incinerated.

General:

Still waiting on a delivery order for DO78, Bldg 25, TCE tanks. Work plan preparation will commence upon receipt of delivery order and should require approximately one month to perform.

CC: Vann Marshburn, ROICC
Jerry Haste, COTR
Jim Dunn, Senior Project Manager
Mike Gilman, QA Manager
Chuck Lawrence, QC Engineer

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

July 18, 1995

Attendees:

Van Marshburn

ROICC

Randy Smith

OHM

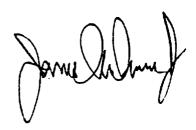
Mike Haugen

OHM

Ed Baker

SWEC

A QC Meeting was conducted in conjuction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.









CC: LANTDIV (Jerry Haste, Code 0524)

LANTDIV (Katherine Landman, Code 18232)

OHM Norcross, GA (Jim Dunn)
OC Manager (Mike Gilman)

1. Randy stated that OU1 backfill should be complete by the end of the day for AOCs 2,3, and 4. Van asked if all information regarding analytical results will be in the final report. Randy stated that all confirmation results will be submitted in final report form in accordance with the work plan. Van stated that he will review backfill operations early next week.

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

August 1, 1995

Attendees:

Vann Marshburn

ROICC

John Cotton

ROICC

Neal Paul

IRD/EMD

Jim Dunn

OHM Project Manager

Randy Smith

OHM Superintendent

Mike Haugen

OHM Project Accountant

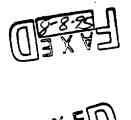
Dave Mueller

OHM Project Accountant

Ed Baker

SWEC QC

A OC Meeting was conducted at 1300 hours in conjuction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.





CC: LANTDIV (Jerry Haste, Code 0524)

LANTDIV (Katherine Landman, Code 18232)

LANTDIV (Lance Laughmiller) QC Manager (Mike Gilman)

D.O. 62

1. Vann inquired about status of AOC1. Neal stated that it was being held up until it is presented with other RODs for the general's signature. If this is a problem, please inform Neal and he will present the ESD for AOC1 alone.

WEEKLY PROGRESS MEETING

NAVY LANTIV CONTRACT N 62470-93-D-3032

AUGUST 15, 1995

Artendees:

الزازين المسمارسين وسؤوس

Vann Marshburn

AROICC

Iim Dunn

OHM Project Manager

Alan Whitt

OHM Construction Manager

Randy Smith

OHM Site Supervisor

Mike Haugen

OHM Project Accountant

Todd Stamm

OHM Project Accountant

Ed Baker

Stone & Webster QC Engineer

Submitted By:

James A. Dunn, Jr., P.E.

General:

MCB Camp Lejeune is currently in Condition 3 due to the approach of hurricane Felix. Vann Marshburn advised that the conditions at the base are as follows:

Condition 3

Pick up what will blow - be prepared to tie down materials and

equipment - basically be alert to the possibility

Condition 2

Tie everything down - board windows - stay in contact with

emergency coordinator

Condition 1

Base closure

Delivery Order 15 - Job 16032 - Groundwater Treatment Plant

- 1. Clean up building construction site debris is getting out of hand. Another contractor was shut down last Friday for improper housekeeping.
- 2. Building status installing masonry units between the joists plan to grout Thursday Plan to commence roof deck installation Monday 8/21/95
- 3. The ROICC Office needs copies of all Northeast change orders to date and advance notice of any future change requests for any subcontractors prior to approval by OHM.

- 1. The Modification request has not been received as of 1 p.m. this date
- 2. Lt. Cheryl Hansen will not be officially available late September. Vann will try to free her schedule to attend these Tuesday Progress Meetings.



WEEKLY PROGRESS MEETINGNAVY LANTIV CONTRACT N 62470-93-D-3032

SEPTEMBER 6, 1995

Attendees:

Vann Marshburn

AROICC

Jim Dunn

OHM Project Manager

Alan Whitt Neal Paul OHM Site Supervisor EMD/IRD

Kate Landman

LANTDIV RPM

Junior Johnson

AROICC

Bill Ward

AROICE

General:

Initial discussion centered around problems with North and South Treatment Plants built by O'Brien and Gere for contaminated groundwater. Current persisting problems include sand entering the treatment train from the wells and calcium content of the influent. Don Joiner of Baker Environmental together with Ron Crowson and Jerome Hall of OB & G will jointly investigate the problems today and provide recommendations in the morning. Ron will be inserting a camera into the well to determine slot sizing and to look through the slots at the formation to try to determine the cause of sand particles flowing into the wells.

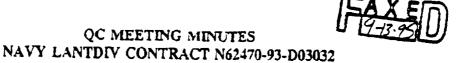
Lt. Cheryl Hansen was unable to attend today's meeting due to a scheduling conflict. Vann is handing off all RAC Contract work to Lt. Hansen and her availability will be vastly improved in the near future.

Neal Paul will be out for the rest of the week.

Vann led a discussion regarding preparation of future modification requests. OHM is to provide a summary estimate that includes labor, equipment, third party services and materials and include supervision and overhead items in a format that is user friendly such that the construction office can verify/check that the request meets their expectations. The formal complete estimate in the WBS system will be used to track the expenditure and should be an inclusion or attachment to the above described summary.

* Delivery Order 62 - Job 16866 - PCB and Pesticide Contaminated Soils

1. The Explanation of Significant Differences(ESD) is on the Base Commander's desk for signature. The news release has been prepared and is at the printers awaiting instructions.



September 12, 1995

Attendees:

Vann Marshburn

ROICC

MCB CAMP LEJEUNE

Capt. Cheryi Hanson

ROICC

John Cotton

ROICC

Neal Paul

Alan Whitt

IRD/EMD OHM Site Superintendent

Mike Haugen

OHM Project Accountant

Dave Mueller

OHM Project Accountant

Chuck Lawrence

SWEC QC

A QC Meeting was conducted at 1300 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.

CC: LANTDIV (Jerry Haste, Code 0524)

LANTDIV (Katherine Landman, Code 18232)

LANTDIV (Lance Laughmiller) Jim Dunn (OHM Proj Mngr) Mike Gilman (Mike Gilman)

• D.O. 62 - Job 16866 - PCB and Pesticide Soils

1. Final cleanup at AOC 1 is waiting on a signature from the Commanding General on the revised Action Level.

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MICB CAMP LEJEUNE

October 3, 1995

Attendees: Vann Marshburn

ROICC ROICC John Cotton

Lt. Cheryl Hansen

ROICC

Neal Paul

IRD/EMD

Alan Whitt

OHM Superintendent



A QC Meeting was conducted at 1300 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.

CC: LANTDIV (Jerry Haste, Code 0524) LANTDIV (Katherine Landman, Code 18232) LANTDIV (Lance Laughmiller) QC Manager (Mike Gilman)

1. Vann asked when OHM plans to start on AOC-1. Alan said when OHM finishes at Camp Geiger.

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

October 10, 1995

Attendees: Vann Marshburn

Vann Marshburn ROICC
John Cotton ROICC
Tom Morris IRD/EMD
Alan Whitt OHM

Randy Smith OHM



A QC Meeting was conducted at 1300 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.

CC: LANTDIV (Jerry Haste, Code 0524)
LANTDIV (Katherine Landman, Code 18232)
LANTDIV (Lance Laughmiller)
QC Manager (Mike Gilman)

• 1. A. Whitt states that OHM needs a letter identifying the source of the PCB's for disposal. T. Morris asks what needs to be included in the letter. A. Whitt says that it needs to be like the one generated for the Carbon disposal.

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D03032 MCB CAMP LEJEUNE

October 24, 1995

Attendees:

Vann Marshburn

ROICC

Lt. Cheryl Hanson

ROICC

John Cotton

ROICC

Alan Whitt

OHM Site Superintendent

Randy Smith

OHM Supervisor

Chuck Lawrence

SWEC QC

A QC Meeting was conducted at 1300 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.





CC: LANTDIV (Jerry Haste, Code 0524)

LANTDIV (Katherine Landman, Code 18232)

LANTDIV (Lance Laughmiller)
Jim Dunn (OHM Proj Mngr)
Chuck Lawrence (SWEC QC)

Mike Gilman (SWEC QC Manager)

D.O. 62 - Job 16866 - PCB and Pesticide Soils

- The Commanding General has signed the ROD letter, but another letter is needed concerning the source of the PCB's. (The cause is known to be PCB Transformers).
- 2. Vann stated that he wants to complete AOC 1 as soon as possible.

QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

November 21, 1995

Attendees: John Townsend

John Cotton Neal Paul Lt. Cheryl Hansen

Alan Whitt

EMD ROICC EMD

> ROICC OHM

A QC Meeting was conducted at 1300 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.

CC: LANTDIV (Jerry Haste, Code 0524)
LANTDIV (Katherine Landman, Code 18232)
LANTDIV (Lance Laughmiller)
QC Manager (Mike Gilman)



A. Whitt said that OHM loaded three trucks this morning and sent to BFI Sampson County Landfill. OHM is shipping confirmation samples to ASC and also running onsite.

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QC MEETING MINUTES NAVY LANTDIV CONTRACT N62470-93-D-3032 MCB CAMP LEJEUNE

December 12, 1995

Attendees:

Vann Marshburn

ROICC

Lt. Cheryl Hanson

ROICC

John Cotton

ROICC

Neal Paul

经报告 医水平分别 医二氯甲基二氯酚磺胺

EMD

Jim Dunn Alan Whitt OHM Project Manager

Chuck Lawrence

OHM Site Superintendent SWEC QC

A QC Meeting was conducted at 1330 hours in conjunction with a review of Camp Lejeune Delivery Order production activities. The following are the minutes from this meeting for each delivery order.

Chuck Lawrence

CC:

LANTDIV (Jerry Haste, Code 0524)

LANTDIV (Lance Laughmiller)

Mike Gilman (SWEC QC Manager)

Jim Dunn (OHM Proj Mngr) Chuck Lawrence (SWEC QC)

D.O. 62

 Backfilling and reseeding are complete. OHM, QC, and John Cotton will perform final walkdown after meeting today (12/12).