ENVIRONMENTAL SERVICES COMPANY License Number 445403 R.E.A. Number 04072

# MODIFIED PHASE I AND LIMTIED PHASE II ENVIRONMENTAL ASSESSMENT

For

Proposed Theater Property Building Parcel Site "Railroad Avenue Property"

Livermore, California

June 28, 2003

Requested by:

Mr. David Corkill Cinema West P. O. Box 750595 Petaluma, California 94925

Prepared by:

LIGHT, AIR AND SPACE CONSTRUCTION AND ENVIRONMENTAL SERVICES
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Project Number 0346

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### 1.0 EXECUTIVE SUMMARY

#### **Background**

LA&S conducted a Modified Phase I and Limited Phase II study for the portion of the 5.2-acre property proposed for the theater-building parcel. The previous Phase I and II work had identified site history and land use, an underground storage tank and its removal, and proposed sampling and chemical analysis for areas of potential concern on the 5.2-acre property. One underground tank had been removed from the Fabtronics portion of the 5.2-acre property (roughly 100 feet south of the proposed theater-building parcel) by Woodward Clyde in 1989. LA&S did not observe any surface indications underground tanks or hazardous materials presence on the proposed theater-building parcel. LA&S reviewed the material and additional aerial photographs and conducted a site reconnaissance. The site appeared vacant in 1940 but had been developed as reported by Woodward Clyde and Terrasearch by about 1950-1958. The neighboring Arrow Rentals property at 187 Railroad Avenue has ongoing contaminated groundwater monitoring for underground tank leakage and groundwater was flowing from Arrow Rentals toward the 5.2-acre property in 2002. Two surface soil "debris" piles together with remnant pavements occurred within the proposed theater parcel-no surface evidence of other underground tanks was observed.

#### **Observations and Conclusions**

The surface soil "debris" piles within the proposed theater-building parcel were sampled with composite soil samples and analyzed for selected petroleum, PCB, pesticides and metal contaminants. Dieldrin, Arsenic and Chromium appear to exceed the RBSL thresholds for surficial soils at commercial sites. LA&S recommends that the "debris" soil piles should be removed and properly disposed off-site by a licensed contractor. Soil samples should be collected under the pile areas to check for contaminant presence following pile removal.

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#### 2.0 LIMITATIONS

The Modified Phase I and Limited Phase II Site Assessment was conducted on behalf of and for the exclusive use of Cinema West, solely for use in an environmental evaluation of the Site. This report and findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party, in whole or in part without prior written consent of LA&S Construction. However, LA&S acknowledges and agrees that the report may be conveyed to and relied upon by Cinema West, successors and assigns, rating agencies and bond investors.

LA&S Construction, its principal, and its employees have no present or contemplated interest in the property. Our employment and compensation for preparing this report are not contingent upon our observations or conclusions.

The investigation has been performed in a professional manner using the degree of care and skill ordinarily exercised by and consistent with the standards of competent consultants practicing in the same or similar locality as the Project. The reported observations and conclusions are limited only by the stated and reported assumptions of work scope and limiting conditions and represent our unbiased and professional analysis, opinions, and conclusions. The interpretations, conclusions and recommendations made herein are based on the reports, data and analysis for the soil samples collected on-site and should be reviewed in the context of this report and other site reports. Please note that reports of contamination must be submitted to the agencies in a timely manner. The information in this report is from sources deemed to be reliable; Light, Air and Space is not responsible for errors in other consultant reports, laboratory analysis and reporting, or for information not available during the course of the study, and no warranty or guarantee is expressed or implied therein.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. The work is limited to the previous consultant reports reviewed and the samples collected and analyzed for the specific property parcel. This study is designed to reduce but not eliminate uncertainty regarding the existence of such conditions in a manner that recognizes reasonable limits of time and cost.

LA&S Construction and Environmental Services

Christopher M. Palmer

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CESTIFIED

ENGINEERING

GEOLOGIST

OF CALIFORNIA

CONTROL

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#### 3.0 INTRODUCTION

Site Name:

Proposed Theater Building Property Parcel Site

Site Address:

Railroad Avenue Property Livermore, California

Assessor's Parcel No.

98-405-5

LA&S Project No.:

0346

#### 3.1 Background

Light, Air and Space Construction and Environmental Services (LA&S) was retained by Cinema West to conduct a Modified Phase I and Limited Phase II Environmental Site Assessment at the above referenced property. The purpose of the assessment was to provide to a preliminary degree, an objective, independent, professional opinion of the potential environmental risks, if any, associated with the specific subject property for the proposed theater-building parcel.

This Assessment included a visual reconnaissance of the proposed theater property and immediate vicinity, and a review of previously prepared Phase I and II reports, a brief review of additional historic aerial photographs and collection of two composite soil samples. Photographs of the subject property were taken as a tool in preparing this report and are included in this report as Appendix B. Copies of photographs taken are maintained in LA&S's files.

Christopher Palmer of LA&S conducted an on-site visit on June 17, 2003. Mr. Michael Farrell, of Dillett and Farrell (who are working on this project site) accompanied Mr. Palmer, during the site reconnaissance. At the time of the site reconnaissance, the weather conditions were sunny with the temperatures in the 70's.

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#### 3.2 Scope of Work

The purpose of this modified environmental assessment was to identify the immediate and most recognizable environmental concerns at the subject property parcel. The assessment was performed in accordance with the guidance and recommendations presented in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: E1527-00, and accepted industry standards or practices. The modification of the ASTM ESA process was to use previously prepared Phase I and II reports for the property, perform additional limited aerial photograph review, and a limited Phase II assessment in collecting and analyzing two composite soil samples from the area identified as a possible area of concern ("debris" soil piles) in the previous Terrasearch report for the specific proposed theater property parcel only. The rationale for sample locations and chemical analyses were selected following the review and site walk.

The specific scope of work included the following:

- Previous Site Phase I and II Reports and Additional Aerial Photograph Review
- Visual Site Reconnaissance
- Soil Sample Collection and Chemical Analysis

#### 3.3 Site Description

LA&S conducted a Modified Phase I and Limited Phase II Environmental Site Assessment of the proposed theater building parcel property located within and on the northeastern portion the "Railroad Avenue Property" in Livermore, California on June 17, 2003. The "Railroad Avenue Property" consists of a rectangular-shaped parcel of land of approximately 5.2 acres that is currently vacant. The proposed theater-building property parcel comprises about 30,500 square feet within the 5.2-acre parcel. The subject property is located in an area of mixed residential and commercial land use in the City of Livermore, California (see also Woodward Clyde and Terrasearch Phase I reports).

The subject property parcel is located just west of the intersection of North "L" Street and Railroad Avenue in Livermore, Alameda County, and is bordered as follows:

- North Railroad tracks.
- East- Arrow Rentals on a separate neighboring property.
- South-Open land.
- West-Open Land.

The subject property is currently vacant and not connected to utilities.

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#### 4.0 ENVIRONMENTAL SETTING

#### 4.1 Topography

The subject property is located at an elevation of approximately 14 feet above mean sea level, based on the United States Geologic Survey Topographic Livermore California 7.5 minute Quadrangle. According to the topographic map, there is a very low slope to the west-northwest.

#### 4.2 Surface Water Characteristics

LA&S did not observe any water bodies or vegetation indicative of wetlands on the subject property. "Wetlands" is a general term used to describe a variety of ecosystems, which may include prairie potholes, marshes, fens, bogs, wet meadows, and swamps. The vast majority of the subject property is covered with buildings, asphalt, and concrete. It is highly unlikely that portions of the subject property would be classified as wetlands.

According to the EDR report in the Terrasearch Phase I ESA, the subject property is reportedly in a Flood Zone (an area subject to 100-year flood hazard) according to the EDR Radius Map Report (cited FEMA flood plain panel 060080005A).

#### 4.3 Geologic Characteristics

The subject site is located in central Alameda County. Stream alluvium sediments deposited by regional creeks and rivers underlie the site region. Large regionally active faults are nearby (the San Andreas fault lies about 25 miles west of the site and Calaveras fault lies about 5 miles to the east. The site lies within the Alameda Groundwater Basin that contains shallow unconfined and deeper confined aquifers. Regional geology consists of clayey, sandy and silty soils and sediments that have formed from the alluvium eroded from the surrounding mountains. Regional deep aquifers are very large in this area and produce large quantities of groundwater.

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### 5.0 PREVIOUS REPORT REVIEW SUMMARIES

Consistent with the ASTM guidance, LA&S reviewed the prior use history of the subject property using the previously prepared reports (see References). LA&S did not attempt to recreate this Phase I work, but performed a review these previous Phase I and II sources that were both reasonably ascertainable and likely to be useful as required by the ASTM standard practice. The previous consultants work attempted to identify the prior usage back to or earlier of the property's first developed use or 1940 (see References and Woodward Clyde and Terrasearch Phase I reports).

#### 5.1 Previous ESA Reports Review

#### Woodward Clyde

Woodward Clyde conducted a Phase I assessment in 1988 for the City of Livermore Redevelopment Agency. This report summarized the previous site uses and structures present at that time. They identified potential problems at Arrow Rentals at 187 North "L" Street related to underground storage tanks. Several commercial buildings used various small quantities of potentially hazardous materials although none of these buildings uses appeared serious. A small retail nursery was there also reportedly also seasonally selling cut Christmas trees. The remains of a small residential area known as "Tubbsville" also existed on the property. Fabtronics at 1940 (address also reported as 1934) Railroad Avenue made specialty electronic equipment and used small quantities of paints, solvents and lacquers. Woodward also reported a heavy oil contaminant in the vicinity of railroad tracks south of Railroad Avenue across the street from the subject parcel.

Woodward Clyde conducted a Phase II assessment for the City of Arrow Rentals and the Railroad Avenue Property in 1989 due to reported underground fuel tank presence. Soil samples were collected at Arrow Rentals and 1934 Railroad Avenue and analyzed for petroleum contaminants. Woodward Clyde recommended removing the tank at 1934 Railroad Avenue. The separate Arrow Rentals property displayed soil contamination and ultimately moved into compliance monitoring currently supervised by Alameda County.

Woodward Clyde removed the tank from Fabtronics 1934 Railroad Avenue in 1989. On the basis of data collected at that time, further work was not recommended by Woodward Clyde.

#### Terrasearch

Terrasearch conducted a Phase I assessment on the 5.2-acre parcel in 2003. Terrasearch essentially confirmed most of the site history, and observed that structures were removed and that several "debris" piles were present in their study. They apparently missed the 1989 Woodward Clyde underground tank removal report, which was forwarded to them for review by Dillett and Farrell.

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Terrasearch updated the regulatory database review and reported the groundwater monitoring well on the property that was installed by Arrow Rentals in their groundwater monitoring work. Terrasearch did not mention the Aquifer Science 2002 semi-annual groundwater monitoring report for Arrow Rentals.

Terraserach recommended site-wide surficial soil sampling, sampling of "debris" piles, near the railroad lines, a 5.2-acre property-wide geophysical search for underground storage tanks and sampling of the Arrow Rental groundwater monitoring well. Additional recommendations related to removing old foundations and pavements, chasing old pipelines if found and proper abandonment of any wells, if found.

Aguifer Science, Inc.

Aquifer Science performs groundwater monitoring for Arrow Rentals on a semi-annual basis, and currently monitors four on-site wells. Depth to groundwater was about 37 feet in April 2002 and groundwater flowed southwesterly toward the 5.2-acre parcel. Floating product has periodically been observed on the site. The groundwater report shows petroleum fuel contaminants including MTBE in wells, as well as discussing a risk-assessment for the site. This site is under Alameda County oversight at this time.

### 6.0 LA&S ENVIRONMENTAL REVIEW

### 5.1 Interview

LA&S interviewed Mr. Michael Farrell of Dillett and Farrell, whose office in immediately next door to the subject parcel and 5.2-acre site regarding the building current and prior use. The buildings had been demolished about 1990 through 1994 and the site is owned by the City of Livermore. A private party owns the Arrow Rentals property. The prior occupants and residences listed by address have been summarized in the Woodward Clyde and Terrasearch reports. Mr. Ferrall had three additional aerial photographs for review to add to site history that is summarized below.

#### 5.3 Aerial Photographs

LA&S reviewed three aerial photographs from 1940(?) through 1958 from a County of Alameda source available from Dillett and Farrell. These photographs listed below predate the photographs discussed in the Terrasearch report.

### BO1-341-41 dated 8-40(?) scale about 1:9,000 single photograph

The 5.2-acre property appears vacant and fallow with no crops with the exception of some buildings in the southeastern corner. The proposed theater building parcel appears vacant.

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### BUT-3G-75 dated 3-12-50 scale about 1:9,000, single photograph

The 5.2-acre property appears developed in residential houses with a larger building in the northeastern corner. The proposed theater-building parcel is partially undeveloped, with some of the residences to the west appearing to be partially present on the parcel.

### CAN-3 COC-11 EX-20 dated 3-1-58 scale about 1:9,000 single photograph

The property appears similar to the previous photograph with what appears to be a path across the proposed theater site. A building has been constructed on at least a portion of the eastern side of proposed theater parcel.

#### 5.4 Discussion

The site history of the 5.2-acre parcel appears documented through the Woodward Clyde and Terrasearch reports and review. This area occurs within the City of Livermore and has been either vacant or in various development for some time. The additional 1940 through 1958 photographs show that the entire property was mostly vacant in 1940 but had been developed primarily as residential by 1950 (assumed to be the "Tubbsville" area) referred to by Terrasearch. There does not appear to be any orchard use of the site on the basis of the previous work, although there was a reference to some use as a retail nursery and/or to sell cut Christmas trees.

The proposed theater-building parcel appears undeveloped in 1940 with some lateral encroachment by residential buildings from the west and another building from the east. A path appeared to cross a portion of the proposed parcel but apparently no building covered the entire proposed theater-building parcel on the basis of this review.

### 6.0 SITE RECONNAISSANCE AND LIMITED PHASE II SAMPLING

#### 6.1 Site Activities

LA&S conducted a site reconnaissance on June 17, 2003 for the proposed theater-building parcel (see Figure 1 and Site Photographs). The subject proposed theater parcel is vacant with two small "debris" soil piles (referred to as "debris piles") in the Terrasearch report. An additional "debris" soil pile occurs just west of and beyond the proposed theater-building footprint. The site is essentially flat and is bordered to the north by a chain link fence. The railroad tracks occur about 10-15 feet north of the site beyond the cyclone fence and across a one to two-foot deep ditch. No stains or distressed vegetation was observed either on the parcel or along the fence line.

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The "debris" piles are primarily soil with some concrete fragments, burned and scorched trees and pea gravel mixed into the soil with some minor paper and plastic rubbish (see Photographs). What appears to be a storm drain inlet occurs near the larger soil pile. The piles are thoroughly burrowed and insects and small animals were observed entering and leaving burrows during our visit. Remnants of asphalt pavements, concrete pads or foundations and curbs and sidewalks were present on portions of the proposed theater-building site and adjacent areas. No stains or distressed vegetation was observed over the site or on the piles.

#### 7.2 Soil Pile Sampling Rationale

The proposed theater-building parcel appeared to have had some at least partial development occur from previous activities. An additional aerial photograph review did not reveal orchard or crop use of the area. A surface reconnaissance did not reveal evidence of possible underground storage tanks, stains or possible hazardous materials. The two "debris" soil piles that occur within the proposed building area did not show evidence of contaminants. These piles source is unknown, and it is surmised that these piles may have been the remnants of grading when the entire 5.2-acre property area was razed in 1990-1994, or may have been brought on-site. Woodward Clyde (Phase II and tank removal letter reports, 1988, 1989) had removed the only underground tank identified in the previous work, and no evidence of an underground tank had been reported or observed in the theater-building parcel area. The Arrow Rentals Site is separate from this property, and another consultant currently monitors their underground tank leak problem. Terrasearch recommended a Their rationale was not 5.2-acre property wide geophysical survey for underground tanks. elaborated upon as to performing this survey especially in light of the Woodward Clyde removal of the only identified tank in 1989. No surface evidence indicative of any underground tanks was observed during LA&S reconnaissance of the theater-building parcel.

LA&S opinion is that only the soil "debris" pile sampling recommended by Terrasearch was appropriate for the proposed theater-building parcel. That sampling was performed by collecting two composite soil samples discussed below. The sampling is a limited study related to the proposed theater-building parcel on the basis of the presence of the two surface soil "debris" piles.

#### 7.3 Soil Pile Sampling

Two composite soil samples were collected, one four-point composite from each soil pile. All sampling equipment and tools were cleaned prior to arriving, between driving samples and before leaving the site. The sample points were hand excavated and a brass liner was driven into the soil about six-inches below the surface of the pile (see Figure 1). The precleaned brass liner was retrieved, and was sealed with Teflon® paper or foil and plastic end caps. Each sample was labeled, logged onto chain-of-custody forms and placed in a chilled ice chest on crushed ice.

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The soil piles were primarily a sandy clay or clayey sand, with some pea gravel and concrete fragments mixed into the piles. A partially burned tree occurred in the larger pile and the smaller soil pile lay adjacent to some concrete and asphalt pavements. Both piles were well burrowed by animals and animals and insects that were observed to enter and leave the piles.

#### 7.4 Chemical Analysis

The two four-point soil samples were chemically analyzed at STL Laboratories in Pleasanton, CA. Each sample was analyzed for the following: Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX); Fuel Oxygenates Methyl-tert-butyl-ether (MTBE), Tert-Butyl Alcohol (TBA), Di-Isopropyl Ether (DIPE), Ethyl tert-Butyl-Ether (ETBE) and Tert-Amyl-Methyl-Ether (TAME); Polychlorinated Byphenols (PCBs); Organochlorine Pesticides and CAM 17 Metals by EPA Methods 8015/8021, 8260B, 8081, 6010B. The analytical reports are attached in Appendix C and summarized in Tables 1, 2, 3, and 4).

#### 7.5 Discussion of Results

The soil samples revealed low levels of pesticides and metals in the samples. TPHG, BTEX, MTBE, fuel oxygenates and PCBs were not detected in any sample.

The levels of the potential contaminants were compared to the USEPA Preliminary Remediation Goals and the Regional Water quality Control Board (RWQCB) Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater (RBSLs) and USEPA Preliminary Remediation Goals. These documents and levels are not cleanup levels but allow a preliminary lookup format to ascertain whether levels of potential contaminants exceed threshold levels that may require additional work. While the theater use is assumed to be commercial, both residential and commercial levels are presented per the recommendations of RBSL use text (see Tables 1, 2, 3, and 4).

On the basis of the chemical data, levels of pesticide Dieldrin, and metals Arsenic and Chromium in the surface soil piles exceed the commercial RBSLs to where additional action might be warranted. The source of these pesticide and metals is unknown but might be related to the previous development of residential or previous buildings occupant use, or in soil brought onto the site. The metals presence exceeds the working RBSL thresholds however these concentrations are within levels that can be attributed to the regional geologic sources (UC, 1996; Shacklette and Boeregen, 1984).

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#### 8.0 CONCLUSIONS AND RECOMMENDATIONS

LA&S conducted a Modified Phase I and Limited Phase II study for the portion of the 5.2-acre property proposed for the theater-building parcel. The previous Phase I and II work had identified site history and land use, underground storage tank and tank removal, and proposed sampling and chemical analysis for areas of potential concern on the 5.2-acre property. One underground tank had been removed from the Fabtronics portion of the 5.2-acre property roughly 100 feet south of the proposed theater-building parcel by Woodward Clyde in 1989. LA&S did not observe any surface indications of underground tanks or hazardous materials presence on the proposed theater parcel. LA&S reviewed the material and additional aerial photographs and conducted a site reconnaissance. The site appeared vacant in 1940 but had been developed as reported by Woodward Clyde and Terrasearch by about 1950-1958. The neighboring Arrow Rentals property at 187 Railroad Avenue has ongoing contaminated groundwater monitoring for underground tank leakage and groundwater was flowing from Arrow Rentals toward the 5.2-acre property in 2002. Two surface soil "debris" piles together with remnant pavements occurred within the proposed theater parcel-no surface evidence of underground tanks was observed by LA&S.

The soil "debris" piles within the proposed theater-building parcel were sampled with composite soil samples and analyzed for selected petroleum, PCB, pesticides and metal contaminants. Dieldrin, Arsenic and Chromium appear to exceed the RBSL thresholds for surficial soils at commercial sites. LA&S recommends that the "debris" soil piles should be removed and properly disposed off-site. Soil samples should be collected under the pile areas to check for contaminant presence following pile removal.

It is our understanding that the proposed theater building will cover the entire parcel. LA&S agrees with Terrasearch the once surface pavements and concrete foundations or pads are removed for theater construction, those areas should be checked for presence of pipes, wells and stains. If at that time surface indications warrant soil sampling, soil samples should be collected from suspect areas for chemical analysis.

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#### 9.0 REFERENCES

Aquifer Science, Inc., report dated May 29, 2002 971275 to Rita Sullins Don-Sul, Inc. 187 North L Street Livermore, CA 94550 Subject: Semiannual Groundwater Monitoring April 2002 187 North L Street, Livermore, California.

County of Alameda aerial photographs, CAN-3 COC-11 EX-20 dated 3-1-58 scale 1"=500"; BO1-341-41 dated 8-40(?) scale about 1:1,000; BUT-3G-75 dated 3-12-50 scale about 1:1,000.

Mr. Michael Farrell, Dillett and Farrell, oral communication, June 2003.

Shacklette, H. T. and Boeregen, J. G., 1984, Element concentrations in soils and other surficial materials of the conterminous United States: U. S. Geological Survey Professional Paper 1270, USGPO.

Terrasearch, Inc., report dated March 12, 2003 entitled Phase I Environmental Site Assessment on Proposed Movie Theater 5.2-acre Parcel (APN 98-405-5) 1950 Railroad Avenue Livermore, California for Dillet and Farrell LLC, Project No. 9775.E.

Regional Water Quality Control Board, Interim Final December 2001, Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater, Vol. 1: Summary Tier 1 Lookup Tables, and updates.

U. S. Environmental Protection Agency, 12/4/02, Region 9: Superfund, Preliminary Remediation Goals.

University of California, March 1996, Background concentrations of trace and major elements in California soils: Kearney Foundations of Soil Science, Division of Agriculture and Natural Sciences.

Woodward Clyde Consultants, report dated December 27, 1988 #8810220A to City of Livermore Redevelopment Agency 1052 South Livermore Avenue, Livermore, CA 94550, Attention: Ms. Karen Majors, Redevelopment Coordinator Subject: Phase I Site Environmental Assessment Railroad Avenue Property, Livermore, California.

Woodward Clyde Consultants, report dated April 7, 1989 #8810220A to City of Livermore Redevelopment Agency 1052 South Livermore Avenue, Livermore, CA 94550, Attention: Ms. Karen Majors, Redevelopment Coordinator Subject: Phase II Site Exploration Railroad Avenue Property, Livermore, California.

Woodward Clyde Consultants, report dated October 10, 1989 #8810220A to City of Livermore Redevelopment Agency 1052 South Livermore Avenue, Livermore, CA 94550, Attention: Ms. Karen Majors, Redevelopment Coordinator Subject: Observations and Laboratory Analyses Results Underground Tank Removal Fabtronics Site, 1934 Railroad Avenue, Livermore, California.

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Table 1. Soil Petroleum Fuel Chemical Results

TPHG	Ben	Tol	Ethyl	Xyi	MTBE	TBA	DIPE	ETBE	TAME
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	mg/kg ND	mg/kg mg/kg ND ND	mg/kg mg/kg mg/kg  ND ND ND	mg/kg mg/kg mg/kg mg/kg  ND ND ND ND ND	mg/kg mg/kg mg/kg mg/kg  ND ND ND ND ND ND	mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         ug/kg           ND         ND         ND         ND         ND         ND	mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         ug/kg         ug/kg         ug/kg         ug/kg           ND         <	mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         ug/kg         ug/kg <th< td=""><td>mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         ug/kg         ug/kg         ug/kg         ug/kg         ug/kg           ND         ND</td></th<>	mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         mg/kg         ug/kg         ug/kg         ug/kg         ug/kg         ug/kg           ND         ND

SP-1 collected from the 'larger pile. SP-2 collected from the "smaller" pile.

ND - None Detected. See Laboratory reports. mg/kg - Milligrams per kilogram. ug/kg - Micrograms per kilogram.

**Table 2. PCB Soil Chemical Results** 

Sample	Arocior 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Arocior 1248	Aroclor 1254	Aroclor 1260
	ug/kg						
SP-1 1,2,3,4	ND						
SP-2 1,2,3,4	МD	ND	ND	ND	ND	ND	ND

SP-1 collected from the 'larger pile. SP-2 collected from the "smaller" pile.

ND - None Detected. See Laboratory reports. ug/kg - Micrograms per kilogram.

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Table 3. Organochlorine Pesticides Soil Chemical Results

Compound	SP-1	SP-2	EPA	EPA	RWQCB	RWQCB
Onipania.	1,2,3,4	1,2,3,4	PRG	PRG	Region 2	Region 2
			Res.#	Indus.#	RBSL%	RBSL%
Units	ug/kg	ug/kg (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg
	(mg/kg)	(mg/kg)				
Aldrin	ND	ND	0.029	0.1	0.029	0.15
Dieldrin	32	70	0.03	0.11	0.002	0.002
Dieldilli	(0.032)	(0.070)	•···-		<u> </u>	
Endrin aldehyde	ND	ND	NA NA	NA	NA_	NA_
Endrin adenyde Endrin	ND	ND	18	180	0.0006	0.0006
Endrin ketone	ND	ND	NA	NA	NA	NA
Heptachlor	ND	ND	0.11	0.38	0.013	0.013
Heptachlor epoxide	ND	ND	0.053	0.19	0.014	0.014
4,4-DDT	130	130	2.4	11	2.4	17
4,4-001	(0,130)	(0.130)				
4,4-DDE	70	49	1.7	7.0	1.7	4.0
7,7.002	(0.070)	(0.049)		<u> </u>		<u> </u>
4,4-DDD	ND	ND	1,7	7.0	1.7	4.0
Endosulfan I	ND	ND	370	370	0.005	0.005
Endosulfan II	ND	ND	NA	NA_	NA	NA.
alpha-BHC	ND	ND	NA	NA	NA	NA
beta-BHC	ND	ND	NA	NA_	NA	NA.
gamma-BHC (Lindane)	ND	ND	NA.	NA.	NA	N.A
delta-BHC	ND	ND	NA	NA_	NA_	NA
4,4-Methoxychlor	ND	ND	310	3100	19	19
Toxaphene	ND	ND	0.44	1.6	NA NA	NA_
Chlordane (Technical)*	750	1000	1.6	6.5	0.44	2.9
	(0.750)	(1.0)				<del></del>
alpha-Chlordane	30	40	NA	NA.	NA.	NA.
	(0.030)	(0.040)				<del> </del>
gamma-Chlordane	37	44	NA	NA.	NA NA	NA
<del>-</del>	(0.037)	(0.044)				

SP-1 collected from the 'larger pile. SP-2 collected from the "smaller" pile.

<sup>\*</sup> Technical Chlordane reported does not match the pattern of lab standard.

ND - None Detected. See Laboratory reports. mg/kg - Milligrams per kilogram. ug/kg - Micrograms per kilogram-mg/kg equivalents in italics. Res. - Residential. Indus. - Industrial.

<sup># -</sup> US EPA Preliminary Remediation Goals. Direct contact exposure pathways.

<sup>% -</sup> Regional Water Quality Control Board Risk Based Screening Levels. Surface soil less than or equal to 3 meters deepgroundwater is a current or potential source of drinking water.

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Table 4. CAM 17 Metals Soil Results

Metal	SP-1	SP-2	EPA	EPA	RWQCB	RWQCE
	1,2,3,4	1,2,3,4	PRG	PRG	Region 2	Region 2
	i	Ì	Res.#	Indus.#	RBSL	RBSL
	1				Res.%	Indus.%
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						ļ <u>.</u>
Antimony	8.9	5.9	31	410	6.3	40
Arsenic	6.7	5.4	22	260	0.39	2.7
Barium	150	160	5400	67000	750	1500
Beryllium	ND	ND	150	1900	4.0	8.0
Cadmium	2.6	2.4	37	450	1.7	12
Chromium	53	30	210	450	13	13
		ļ	total	total		ļ. ——
Cobalt	9.3	8.1	900	1900	40	80
Соррег	29	28	3100	41000	225	225
Lead	83	190	150	7500	200	750
Molybdenum	1.2	1.1	390	5100	40	40
Nickel	80	63	1600	20000	150	150
Selenium	ND	ND	390	5100	10	10
Silver	ND	ND	390	5100		40
Thailium	ND	ND	5.2	67	1.0	27
Vanadium	18	17	55	720	110	200
Zinc	140	170	23000	100000	600	600
Mercury	0.13	0.13	0.0	0.0	4.7	10

SP-1 collected from the 'larger pile. SP-2 collected from the "smaller" pile.

ND - None Detected. See Laboratory reports. mg/kg - Milligrams per kilogram.

Res. - Residential. Indus. - Industrial.

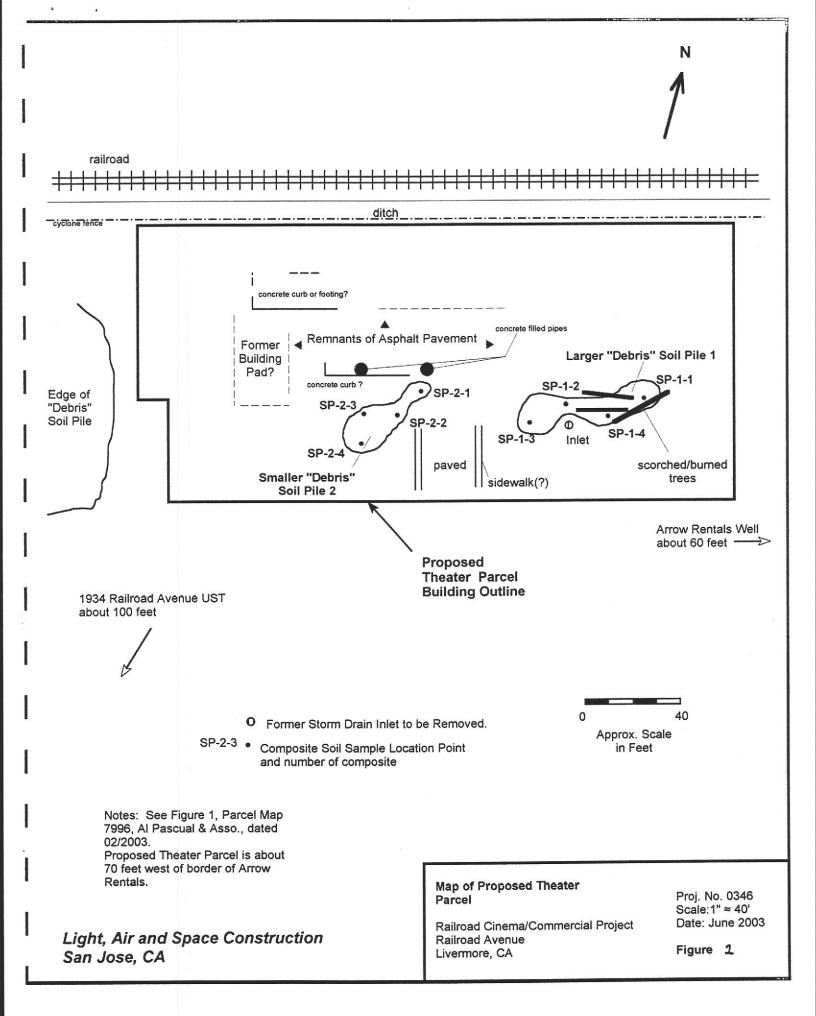
<sup># -</sup> US EPA Preliminary Remediation Goals. Direct contact exposure pathways.

<sup>% -</sup> Regional Water Quality Control Board Risk Based Screening Levels. Surface soil less than or equal to 3 meters deep-groundwater is a current or potential source of drinking water.

ENVIRONMENTAL SERVICES COMPANY License Number 445403 R.E.A. Number 04072

#### APPENDIX A

Map of Proposed Theater Parcel Proposed Theater Building Parcel Livermore, California



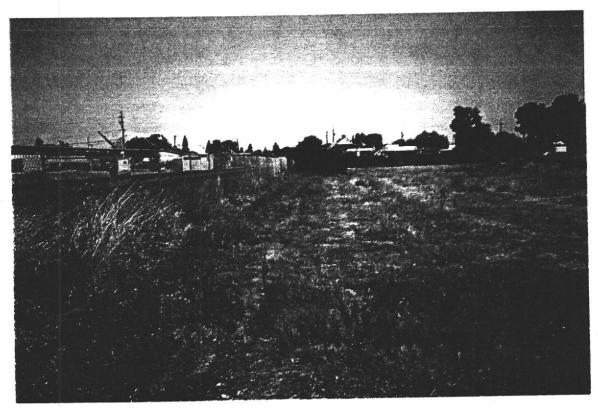
ENVIRONMENTAL SERVICES COMPANY License Number 445403 R.E.A. Number 04072

#### APPENDIX B

Site Photographs
Proposed Theater Building Parcel
Livermore, California



Photograph 1. View looking east toward Arrow Rentals across proposed theater site.



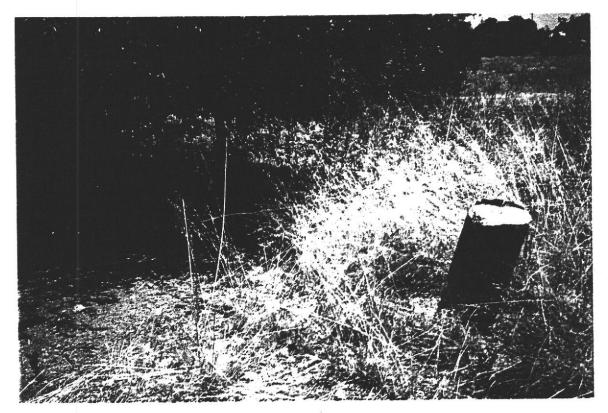
Photograph 2. View of east along fencline of rear of proposed theater site.



Photograph 3. View looking toward two "debris" soil piles, with burned tree in foreground.



Photograph 4. View of smaller grass covered "debris" soil pile.



Photograph 5. View of concrete filled steel post or pipe and asphalt pavement near smaller "debris" soil pile.



Photograph 6. View of concrete pavements and sidewalk(?) near smaller "debris" soil pile.



Photograph 7. View of southern edge of proposed theater site near "debris" soil pile with burned tree and concrete chunks.



Photograph 6. View of looking north along western edge of proposed theater site near edge of "debris" soil pile just to west and off the proposed site.

ENVIRONMENTAL SERVICES COMPANY License Number 445403 R.E.A. Number 04072

#### APPENDIX C

Chemical Analytical Reports and Chain-of-Custody Proposed Theater Building Parcel Livermore, California



Submission#: 2003-06-0523

**Light Air & Space** 

June 27, 2003

4340 Almaden Expressway, Suite 222 San Jose, CA 95158-6303

Attn.:

Chris Palmer

Project#: 0346

Dear Mr. Palmer,

Attached is our report for your samples received on 06/17/2003 15:40 This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 08/01/2003 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil **Project Manager** 

# Light, Air & Space Construction and **Environmental Services Company**

P.O. Box 16303 San Just, CA 95158 6503

40a-919-0661 office

408 979 0021 Tax

4540 Almaden Expressivay, Suite 2.12.

San Jose, CA 95118.

Contractor's Freene # 445405, A/B Hazkia, Well Dailing

REAPORTS

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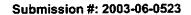
6346

LA&S Project Domber

# Chain of Custody

Date 6/17/03 Page 1 of 1

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Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222 San Jose, CA 95158-6303

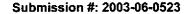
Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
SP-1-1,2,3,4	06/17/2003 14:05	Sail	1
SP-2-1,2,3,4	06/17/2003 14:20	Sail	2





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s):

5035 5035

Test(s):

8015M

8021B

Sample ID: SP-1-1,2,3,4

Lab ID:

2003-06-0523 - 1

Sampled: 06/17/2003 14:05

6/18/2003 13:35

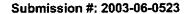
Matrix:

Soil

Extracted:

QC Batch#: 2003/06/18-01.02

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	06/18/2003 13:35	
Benzene	ND	0.0050	mg/Kg	1.00	06/18/2003 13:35	
Toluene	ND	0.0050	mg/Kg	1.00	06/18/2003 13:35	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	06/18/2003 13:35	
Xylene(s)	ND	0.0050	mg/Kg	1.00	06/18/2003 13:35	
Surrogates(s)		i				
Trifluorotoluene	67.9	53-125	%	1.00	06/18/2003 13:35	
4-Bromofluorobenzene-FID	68.8	58-124	%	1.00	06/18/2003 13:35	





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s):

5035 5035 Test(s):

8015M

8021B

Sample ID: SP-2-1,2,3,4

Lab ID:

2003-06-0523 - 2

Sampled:

06/17/2003 14:20

Extracted:

6/18/2003 11:34

Matrix: Soil

QC Batch#: 2003/06/18-01.02

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	06/18/2003 11:34	
Benzene	ND	0.0050	mg/Kg	1.00	06/18/2003 11:34	
Toluene	ND	0.0050	mg/Kg	1.00	06/18/2003 11:34	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	06/18/2003 11:34	
Xylene(s)	ND	0.0050	mg/Kg	1.00	06/18/2003 11:34	
Surrogates(s)		İ				
Trifluorotoluene	71.5	53-125	%	1.00	06/18/2003 11:34	
4-Bromofluorobenzene-FID	73.0	58-124	%	1.00	06/18/2003 11:34	





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 5035

MB: 2003/06/18-01.02-003

Soil

Test(s): 8015M

Method Blank

QC Batch # 2003/06/18-01.02

Date Extracted: 06/18/2003 08:03

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	06/18/2003 08:03	·
Benzene	ND	0.0050	mg/Kg	06/18/2003 08:03	
Toluene	l ND	0.0050	mg/Kg	06/18/2003 08:03	
Ethyl benzene	ND	0.0050	mg/Kg	06/18/2003 08:03	
Xylene(s)	ND	0.0050	mg/Kg	06/18/2003 08:03	
Surrogates(s)					
Trifluorotoluene	87.9	53-125	%	06/18/2003 08:03	
4-Bromofluorobenzene-FID	92.3	58-124	%	06/18/2003 08:03	





Light Air & Space
Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 5035

Test(s): 8021B

#### **Laboratory Control Spike**

Soil

QC Batch # 2003/06/18-01.02

LCS

2003/06/18-01.02-004

Extracted: 06/18/2003

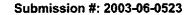
Analyzed: 06/18/2003 08:31

LCSD 2003/06/18-01.02-005

Extracted: 06/18/2003

Analyzed: 06/18/2003 09:00

Compound	Conc.	mg/Kg	Exp.Conc.	Rec	очегу %	RPD	Ctrl.Lin	nits %	Fla	ags
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	0.0950	0.0945	0.1000	95.0	94.5	0.5	77-123	35		
Toluene	0.0952	0.0937	0.1000	95.2	93.7	1.6	78-122	35		
Ethyl benzene	0.0969	0.0970	0.1000	96.9	97.0	0.1	70-130	35		
Xylene(s)	0.296	0.292	0.300	98.7	97.3	1.4	75-125	35		
Surrogates(s)										
Trifluorotoluene	437	432	500	87.4	86.4		53-125			l





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 5035

Test(s): 8015M

**Laboratory Control Spike** 

Soil

QC Batch # 2003/06/18-01.02

LCS LCSD 2003/06/18-01.02-006 2003/06/18-01.02-007 Extracted: 06/18/2003 Extracted: 06/18/2003 Analyzed: 06/18/2003 09:28 Analyzed: 06/18/2003 09:57

Compound	Conc.	mg/Kg	Exp.Conc.	Reco	very %	RPD	Ctrl.Lin	nits %	Fla	ags
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	0.479	0.472	0.500	95.8	94.4	1.5	75-125	35		
Surrogates(s) 4-Bromofluorobenzene-FID	480	465	500	96.0	93.0		58-124			

Submission #: 2003-06-0523



### Fuel Oxygenates by 8260B

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222 San Jose, CA 95158-6303

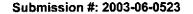
Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
SP-1-1,2,3,4	06/17/2003 14:05	Soil	1
SP-2-1,2,3,4	06/17/2003 14:20	Soil	2





#### Fuel Oxygenates by 8260B

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s): 5030B

Sample ID: SP-1-1,2,3,4

06/17/2003 14:05

Matrix: Soil

Sampled:

8260B Test(s):

Lab ID:

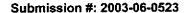
2003-06-0523 - 1

Extracted:

6/23/2003 11:15

QC Batch#: 2003/06/23-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
tert-Butyl alcohol (TBA)	ND	5.0	ug/Kg	1.00	06/23/2003 11:15	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/Kg	1.00	06/23/2003 11:15	
Di-isopropyl Ether (DIPE)	ND	10	ug/Kg	1.00	06/23/2003 11:15	
Ethyl tert-butyl ether (ETBE)	ND	5.0	ug/Kg	1.00	06/23/2003 11:15	
tert-Amyl methyl ether (TAME)	ND	5.0	ug/Kg	1.00	06/23/2003 11:15	
Surrogates(s)	-					
1,2-Dichloroethane-d4	105.8	70-121	%	1.00	06/23/2003 11:15	
Toluene-d8	98.5	81-117	%	1.00	06/23/2003 11:15	





### Fuel Oxygenates by 8260B

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s):

5030B

Test(s):

8260B

Sample ID: SP-2-1,2,3,4

Lab ID:

2003-06-0523 - 2

Sampled:

06/17/2003 14:20

Extracted:

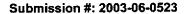
6/23/2003 11:37

Matrix:

Soil

QC Batch#: 2003/06/23-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
tert-Butyl alcohol (TBA)	ND	5.0	ug/Kg	1.00	06/23/2003 11:37	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/Kg	1.00	06/23/2003 11:37	
Di-isopropyl Ether (DIPE)	ND	10	ug/Kg	1.00	06/23/2003 11:37	
Ethyl tert-butyl ether (ETBE)	ND	5.0	ug/Kg	1.00	06/23/2003 11:37	
tert-Amyl methyl ether (TAME)	ND	5.0	ug/Kg	1.00	06/23/2003 11:37	
Surrogates(s)		İ				
1,2-Dichloroethane-d4	108.2	70-121	%	1.00	06/23/2003 11:37	
Toluene-d8	99.9	81-117	%	1.00	06/23/2003 11:37	





#### Fuel Oxygenates by 8260B

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 5030B Method Blank

Soil

Test(s): 8260B

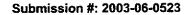
Blank

QC Batch # 2003/06/23-01.62

MB: 2003/06/23-01.62-053

Date Extracted: 06/23/2003 10:53

Compound	Conc.	RL	Unit	Analyzed	Flag
tert-Butyl alcohol (TBA)	ND	5.0	ug/Kg	06/23/2003 10:53	
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/Kg	06/23/2003 10:53	
Di-isopropyl Ether (DIPE)	ND	10.0	ug/Kg	06/23/2003 10:53	
Ethyl tert-butyl ether (ETBE)	ND	5.0	ug/Kg	06/23/2003 10:53	
tert-Amyl methyl ether (TAME)	ND	5.0	ug/Kg	06/23/2003 10:53	
Surrogates(s)					
1,2-Dichloroethane-d4	92.7	70-121	%	06/23/2003 10:53	
Toluene-d8	101.0	81-117	%	06/23/2003 10:53	





# Fuel Oxygenates by 8260B

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

# **Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Laboratory Control Spike** 

Soil

QC Batch # 2003/06/23-01.62

LCS

2003/06/23-01.62-008

Extracted: 06/23/2003

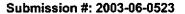
Analyzed: 06/23/2003 10:08 Analyzed: 06/23/2003 10:31

LCSD

2003/06/23-01.62-031

Extracted: 06/23/2003

Compound	Conc.	ug/Kg	Exp.Conc.	Recovery % RPD CI		Ctrl.Lim	nits %	6 Flags		
Composite	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	56.3	52.8	50.0	112.6	105.6	6.4	65-165	20		
Surrogates(s) 1,2-Dichloroethane-d4 Toluene-d8	480 503	449 527	500 500	96,0 100.6	89.8 105.4		70-121 81-117			





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

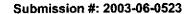
Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
SP-1-1,2,3,4	06/17/2003 14:05	Soil	1
SP-2-1,2,3,4	06/17/2003 14:20	Soil	2





Light Air & Space Attn.; Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s): 3550/8082

Sample ID: SP-1-1,2,3,4

06/17/2003 14:05

Matrix: Soil

Sampled:

Test(s): 8082

Lab ID: 20

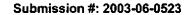
2003-06-0523 - 1

Extracted:

6/18/2003 11:14

QC Batch#: 2003/06/18-02.14

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Aroclor 1016	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1221	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1232	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1242	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1248	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1254	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Aroclor 1260	ND	50	ug/Kg	1.00	06/19/2003 22:37	
Surrogates(s)	j					
2,4,5,6-Tetrachloro-m-xylene	72.4	50-125	%	1.00	06/19/2003 22:37	
Decachlorobiphenyl (PCB/8082)	70.7	46-142	%	1.00	06/19/2003 22:37	





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s): 3550/8082

Test(s): Lab ID:

8082

Sample ID: SP-2-1,2,3,4

2003-06-0523 - 2

Sampled:

06/17/2003 14:20

Extracted:

6/18/2003 11:14

Matrix:

Soil

QC Batch#: 2003/06/18-02.14

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Aroclor 1016	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1221	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1232	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1242	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1248	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1254	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Aroclor 1260	ND	50	ug/Kg	1.00	06/19/2003 23:00	
Surrogates(s)						
2,4,5,6-Tetrachloro-m-xylene	74.8	50-125	%	1.00	06/19/2003 23:00	
Decachlorobiphenyl (PCB/8082)	73.8	46-142	%	1.00	06/19/2003 23:00	





Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

### Batch QC Report

Prep(s): 3550/8082

Test(s): 8082

Method Blank

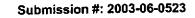
Soil

QC Batch # 2003/06/18-02.14

MB: 2003/06/18-02.14-001

Date Extracted: 06/18/2003 11:14

Compound	Conc.	RL	Unit	Analyzed	Flag
Aroclor 1016	ND	50	ug/Kg	06/19/2003 18:50	
Arocior 1221	ND	50	ug/Kg	06/19/2003 18:50	
Aroclor 1232	ND	50	ug/Kg	06/19/2003 18:50	
Aroclor 1242	ND	50	ug/Kg	06/19/2003 18:50	
Aroclor 1248	ND	50	ug/Kg	06/19/2003 18:50	
Arocior 1254	ND	50	ug/Kg	06/19/2003 18:50	
Aroclor 1260	ND	50	ug/Kg	06/19/2003 18:50	
Surrogates(s)					
2,4,5,6-Tetrachloro-m-xylene	81.6	50-125	%	06/19/2003 18:50	
Decachlorobiphenyl (PCB/8082)	89.9	46-142	%	06/19/2003 18:50	





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Received: 06/17/2003 15:40

# **Batch QC Report**

Prep(s): 3550/8082

Test(s): 8082

**Laboratory Control Spike** 

Soil

QC Batch # 2003/06/18-02.14

LCS

2003/06/18-02.14-002

Extracted: 06/18/2003

Analyzed: 06/19/2003 19:13

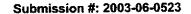
LCSD

2003/06/18-02.14-003

Extracted: 06/18/2003

Analyzed: 06/19/2003 19:35

	Conc.	ug/Kg	Exp.Conc.	Reco	very %	RPD	Ctrl.Lin	nits %	Fla	gs
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Aroclor 1016 Aroclor 1260	49.3 65.8	65.1 71.4	66.2 66.2	74.5 99.4	98.0 107.5	27.2 7.8	65-135 65-135	30 30		
Surrogates(s) 2,4,5,6-Tetrachloro-m-xylene Decachlorobiphenyl	31.3 44.2	42.0 46.2	50 50	62.7 88.5	84.0 92.3		50-125 46-142	1		





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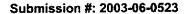
Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

# Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
SP-1-1,2,3,4	06/17/2003 14:05	Soil	1
SP-2-1,2,3,4	06/17/2003 14:20	Soil	2





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Received: 06/17/2003 15:40

8081

Prep(s): 3550/8081

Test(s):

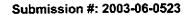
Sample ID: SP-1-1,2,3,4 Lab ID: 2003-06-0523 - 1

 Sampled:
 06/17/2003 14:05
 Extracted:
 6/18/2003 08:03

 Matrix:
 Soil
 QC Batch#:
 2003/06/18-01.13

Analysis Flag: sdo ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Aldrin	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Dieldrin	32	20	ug/Kg	10.00	06/20/2003 23:34	
Endrin aldehyde	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Endrin	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Endrin ketone	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Heptachlor	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Heptachlor epoxide	ND	20	ug/Kg	10.00	06/20/2003 23:34	
4,4`-DDT	130	20	ug/Kg	10.00	06/20/2003 23:34	
4,4'-DDE	70	20	ug/Kg	10.00	06/20/2003 23:34	
4,4'-DDD	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Endosulfan I	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Endosulfan II	ND	20	ug/Kg	10.00	06/20/2003 23:34	
alpha-BHC	ND	20	ug/Kg	10.00	06/20/2003 23:34	
beta-BHC	ND	20	ug/Kg	10.00	06/20/2003 23:34	
gamma-BHC (Lindane)	ND	20	ug/Kg	10.00	06/20/2003 23:34	
delta-BHC	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Endosulfan sulfate	ND	20	ug/Kg	10.00	06/20/2003 23:34	
4,4'-Methoxychlor	ND	20	ug/Kg	10.00	06/20/2003 23:34	
Toxaphene	ND	1000	ug/Kg	10.00	06/20/2003 23:34	
Chlordane (Technical)	750	500	ug/Kg	10.00	06/20/2003 23:34	ncp
alpha-Chlordane	33	20	ug/Kg	10.00	06/20/2003 23:34	
gamma-Chlordane	37	20	ug/Kg	10.00	06/20/2003 23:34	
Surrogates(s)		-				
2,4,5,6-Tetrachloro-m-xylene	NA	50-125	%	10.00	06/20/2003 23:34	
Decachlorobiphenyl (Pest/8081)	NA	46-142	%	10.00	06/20/2003 23:34	





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Project: 0346

Received: 06/17/2003 15:40

Test(s):

Prep(s): 3550/8081

. . . .

Lab ID: 2003-06-0523 - 2

Sample ID: **\$P-2-1,2,3,4** 

Extracted: 6/18/2003 08:03

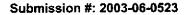
8081

Sampled: 06/17/2003 14:20 Matrix: Soil

QC Batch#: 2003/06/18-01.13

Analysis Flag: sdo (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Aldrin	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Dieldrin	70	20	ug/Kg	10.00	06/21/2003 00:05	
Endrin aldehyde	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Endrin	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Endrin ketone	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Heptachlor	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Heptachlor epoxide	ND	20	ug/Kg	10.00	06/21/2003 00:05	
4,4'-DDT	130	20	ug/Kg	10.00	06/21/2003 00:05	
4,4'-DDE	49	20	ug/Kg	10.00	06/21/2003 00:05	
4,4'-DDD	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Endosulfan I	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Endosulfan II	ND	20	ug/Kg	10.00	06/21/2003 00:05	
alpha-BHC	ND	20	ug/Kg	10.00	06/21/2003 00:05	
beta-BHC	ND	20	ug/Kg	10.00	06/21/2003 00:05	
gamma-BHC (Lindane)	ND	20	ug/Kg	10.00	06/21/2003 00:05	
delta-BHC	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Endosulfan sulfate	ND	20	ug/Kg	10.00	06/21/2003 00:05	
4,4'-Methoxychlor	ND	20	ug/Kg	10.00	06/21/2003 00:05	
Toxaphene	ND	1000	ug/Kg	10.00	06/21/2003 00:05	
Chlordane (Technical)	1000	500	ug/Kg	10.00	06/21/2003 00:05	пср
alpha-Chlordane	40	20	ug/Kg	10.00	06/21/2003 00:05	
gamma-Chlordane	44	20	ug/Kg	10.00	06/21/2003 00:05	
Surrogates(s)						
2,4,5,6-Tetrachloro-m-xylene	NA	50-125	%	10.00	<b>+-</b>	
Decachlorobiphenyl (Pest/8081)	NA	46-142	%	10.00	06/21/2003 00:05	





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Project: 0346

Received: 06/17/2003 15:40

# **Batch QC Report**

Prep(s): 3550/8081

Test(s): 8081

Method Blank

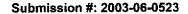
Soil

QC Batch # 2003/06/18-01.13

MB: 2003/06/18-01.13-001

Date Extracted: 06/18/2003 08:03

Compound	Conc.	RL	Unit	Analyzed	Flag
Aldrin	ND	2.0	ug/Kg	06/22/2003 11:10	
Dieldrin	ND	2.0	ug/Kg	06/22/2003 11:10	
Endrin aldehyde	ND	2.0	ug/Kg	06/22/2003 11:10	
Endrin	ND	2.0	ug/Kg	06/22/2003 11:10	
Endrin ketone	ND	2.0	ug/Kg	06/22/2003 11:10	
Heptachlor	ND	2.0	ug/Kg	06/22/2003 11:10	
Heptachlor epoxide	ND	2.0	ug/Kg	06/22/2003 11:10	
4,4°-DDT	ND	2.0	ug/Kg	06/22/2003 11:10	;
4,4`-DDE	ND	2.0	ug/Kg	06/22/2003 11:10	
4,4°-DDD	ND	2.0	ug/Kg	06/22/2003 11:10	
Endosulfan I	ND	2.0	ug/Kg	06/22/2003 11:10	
Endosulfan II	ND	2.0	ug/Kg	06/22/2003 11:10	
alpha-BHC	ND	2.0	ug/Kg	06/22/2003 11:10	
beta-BHC	ND	2.0	ug/Kg	06/22/2003 11:10	
gamma-BHC (Lindane)	ND	2.0	ug/Kg	06/22/2003 11:10	
delta-BHC	ND	2.0	ug/Kg	06/22/2003 11:10	
Endosulfan sulfate	ND	2.0	ug/Kg	06/22/2003 11:10	
4,4`-Methoxychlor	ND	2.0	ug/Kg	06/22/2003 11:10	
Toxaphene	ND	100	ug/Kg	06/22/2003 11:10	
Chlordane (Technical)	ND	50	ug/Kg	06/22/2003 11:10	
alpha-Chlordane	ND	2.0	ug/Kg	06/22/2003 11:10	
gamma-Chlordane	ND	2.0	ug/Kg	06/22/2003 11:10	
Surrogates(s)			-		
2,4,5,6-Tetrachloro-m-xylene	89.4	50-125	%	06/22/2003 11:10	
Decachlorobiphenyl (Pest/8081)	85.3	46-142	%	06/22/2003 11:10	





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Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 3550/8081

Test(s): 8081

#### **Laboratory Control Spike**

Soil

QC Batch # 2003/06/18-01.13

LCS

2003/06/18-01.13-002

Extracted: 06/18/2003

Analyzed: 06/22/2003 11:41

LCSD

2003/06/18-01.13-003

Extracted: 06/18/2003

Analyzed: 06/22/2003 12:12

Compound	Conc.	ug/Kg	Exp.Conc.	Reco	very %	RPD	Ctrl.Lin	nits %	Fla	ags
Compound	LÇŞ	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Aldrin	15.2	14.7	16.6	91.6	88.6	3.3	37-136	25		
Dieldrin	15.8	15.4	16.6	95.2	92.8	2.6	58-135	35		
Endrin	16.2	15.5	16.6	97.6	93.4	4.4	58-134	35		1
Heptachlor	15.4	15.6	16.6	92.8	94.0	1.3	40-136	20		
4.4°-DDT	15.3	15.3	16.6	92.2	92.2	0.0	55-132	35		
gamma-BHC (Lindane)	15.1	14.6	16.6	91.0	88.0	3.4	37-137	35		
Surrogates(s)		1			1					,
2,4,5,6-Tetrachloro-m-xylene	46.4	44.8	50	92.8	89.6		50-125	0		1
Decachlorobiphenyl	43.4	44.7	50	86.8	89.5		46-142	0		



Submission #: 2003-06-0523

# **Organochlorine Pesticides Analysis**

Light Air & Space Attn.: Chris Palmer

4340 Almaden Expressway, Suite 222

San Jose, CA 95158-6303

Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

#### Legend and Notes

# **Analysis Flag**

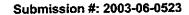
sdo

Surrogate(s) diluted out

# **Result Flag**

ncp

Technical Chlordane reported does not match the pattern of our Technical Chlordane standard





Light Air & Space
Attn.: Chris Palmer

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San Jose, CA 95158-6303

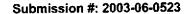
Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

# Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
SP-1-1,2,3,4	06/17/2003 14:05	Soil	1
SP-2-1,2,3,4	06/17/2003 14:20	Soil	2





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Phone: (408) 979-0661 Fax: (408) 979-0621

Project: 0346

Received: 06/17/2003 15:40

Prep(s):

3050B

Test(s):

6010B

7471A

7471A

Sample ID: SP-1-1,2,3,4

Lab ID:

2003-06-0523 - 1

Sampled: 06/17/2003 14:05

Extracted:

6/17/2003 12:51

6/17/2003 18:33 6/26/2003 06:55

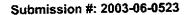
Matrix:

Soil

QC Batch#: 2003/06/17-02.16

2003/06/17-07.15 2003/06/26-06.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	8.9	2.0	mg/Kg	1.00	06/25/2003 21:31	
Arsenic	6.7	1.0	mg/Kg	1.00	06/25/2003 21:31	
Barium	150	1.0	mg/Kg	1.00	06/25/2003 21:31	
Beryllium	ND	0.50	mg/Kg	1.00	06/25/2003 21:31	
Cadmium	2.6	0.50	mg/Kg	1.00	06/25/2003 21:31	
Chromium	53	1.0	mg/Kg	1.00	06/25/2003 21:31	
Cobalt	9.3	1.0	mg/Kg	1.00	06/25/2003 21:31	
Copper	29	1.0	mg/Kg	1.00	06/25/2003 21:31	
Lead	83	1.0	mg/Kg	1.00	06/25/2003 21:31	:
Molybdenum	1.2	1.0	mg/Kg	1.00	06/25/2003 21:31	
Nickel	80	1.0	mg/Kg	1.00	06/25/2003 21:31	
Selenium	ND	2.0	mg/Kg	1.00	06/25/2003 21:31	
Silver	ND	1.0	mg/Kg	1.00	06/26/2003 22:50	
Thallium	ND	1.0	mg/Kg	1.00	06/25/2003 21:31	
Vanadium	18	1.0	mg/Kg	1.00	06/25/2003 21:31	[
Zinc	140	1.0	mg/Kg	1.00	06/25/2003 21:31	
Mercury	0.13	0.050	mg/Kg	1.00	06/23/2003 13:29	





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Project: 0346

Received: 06/17/2003 15:40

Prep(s):

3050B

7471A

Soil

Test(s):

6010B

7471A

Sample ID: SP-2-1,2,3,4

Lab ID:

2003-06-0523 - 2

Matrix:

Sampled: 06/17/2003 14:20

Extracted:

6/17/2003 18:33

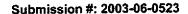
6/19/2003 06:15 6/26/2003 06:55

QC Batch#: 2003/06/17-07.15

2003/06/19-01.16

2003/06/26-06.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Antimony	5.9	2.0	mg/Kg	1.00	06/25/2003 21:34	
Arsenic	5.4	1.0	mg/Kg	1.00	06/25/2003 21:34	
Barium	160	1.0	mg/Kg	1.00	06/25/2003 21:34	
Bervilium	ND	0.50	mg/Kg	1.00	06/25/2003 21:34	
Cadmium	2.4	0.50	mg/Kg	1.00	06/25/2003 21:34	
Chromium	30	1.0	mg/Kg	1.00	06/25/2003 21:34	
••••	8.1	1.0	mg/Kg	1.00	06/25/2003 21:34	
Cobalt	28	1.0	mg/Kg	1.00	06/25/2003 21:34	
Copper	190	1.0	mg/Kg	1.00	06/25/2003 21:34	
Lead	1.1	1.0	mg/Kg	1.00	06/25/2003 21:34	
Molybdenum	63	1.0	mg/Kg	1.00	06/25/2003 21:34	
Nickel	ND	2.0	mg/Kg	1.00	06/25/2003 21:34	
Selenium	ND	1.0	mg/Kg	1.00	06/26/2003 22:53	
Silver		1.0	mg/Kg	1.00	06/25/2003 21:34	
Thallium	ND		mg/Kg	1.00	06/25/2003 21:34	
Vanadium	17	1.0		1.00	06/25/2003 21:34	İ
Zinc	170	1.0	mg/Kg	1.00	06/19/2003 13:03	!
Mercury	0.13	0.050	mg/Kg	1.00	00/19/2003 15:00	<u> </u>





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Project: 0346

Received: 06/17/2003 15:40

#### **Batch QC Report**

Prep(s): 7471A Method Blank Test(s): 7471A

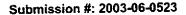
Soil

QC Batch # 2003/06/17-02.16

MB: 2003/06/17-02.16-052

Date Extracted: 06/17/2003 12:51

Compound	Conc.	RL	Unit	Analyzed	Flag
Mercury	ND	0.050	mg/Kg	06/23/2003 12:54	<u> </u>





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Project: 0346

Received: 06/17/2003 15:40

# **Batch QC Report**

Soil

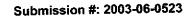
Prep(s): 3050B Method Blank

Test(s): 6010B QC Batch # 2003/06/17-07.15

MB: 2003/06/17-07.15-163

Date Extracted: 06/17/2003 18:33

Compound	Conc.	RL	Unit	Analyzed	Flag
Antimony	ND	2.0	mg/Kg	06/25/2003 20:07	
Arsenic	ND	1.0	mg/Kg	06/25/2003 20:07	
Barium	ND	1.0	mg/Kg	06/25/2003 20:07	
Beryllium	ND	0.50	mg/Kg	06/25/2003 20:07	
Cadmium	ND	0.50	mg/Kg	06/25/2003 20:07	
Chromium	ND	1.0	mg/Kg	06/25/2003 20:07	1
Cobalt	ND	1.0	mg/Kg	06/25/2003 20:07	
	ND	1.0	mg/Kg	06/25/2003 20:07	
Copper Lead	ND	1.0	mg/Kg	06/25/2003 20:07	
	ND	1.0	mg/Kg	06/25/2003 20:07	
Molybdenum	ND	1.0	mg/Kg	06/25/2003 20:07	
Nickel Selenium	ND	2.0	mg/Kg	06/25/2003 20:07	
	ND	1.0	mg/Kg	06/25/2003 20:07	
Thallium	ND	1.0	mg/Kg	06/25/2003 20:07	
Vanadium Zinc	ND	1.0	mg/Kg	06/25/2003 20:07	





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Project: 0346

Received: 06/17/2003 15:40

# **Batch QC Report**

Prep(s): 7471A **Method Blank** 

Test(s): 7471A

Soil

QC Batch # 2003/06/19-01.16

MB: 2003/06/19-01.16-044

Date Extracted: 06/19/2003 06:15

Compound	Conc.	RL	Unit	Analyzed	Flag
Compound Mercury	ND	0.050	mg/Kg	06/19/2003 12:47	





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#### Batch QC Report

Prep(s): 3050B Method Blank

Soil

Test(s): 6010B QC Batch # 2003/06/26-06.15

MB: 2003/06/26-06.15-163

Date Extracted: 06/26/2003 06:55

Compound	Conc.	RL	Unit	Analyzed	Flag
Antimony	ND	2.0	mg/Kg	06/26/2003 22:28	
Arsenic	ND	1.0	mg/Kg	06/26/2003 22:28	
Barium	ND	1.0	mg/Kg	06/26/2003 22:28	
Beryllium	ND	0.50	mg/Kg	06/26/2003 22:28	
Cadmium	ND	0.50	mg/Kg	06/26/2003 22:28	
Chromium	ND	1.0	mg/Kg	06/26/2003 22:28	
Cobalt	ND	1.0	mg/Kg	06/26/2003 22:28	ŀ
Copper	ND	1.0	mg/Kg	06/26/2003 22:28	
Lead	ND	1.0	mg/Kg	06/26/2003 22:28	1
Molybdenum	ND	1.0	mg/Kg	06/26/2003 22:28	
Nickel	ND	1.0	mg/Kg	06/26/2003 22:28	1
Selenium	ND	2.0	mg/Kg	06/26/2003 22:28	
Silver	ND	1.0	mg/Kg	06/26/2003 22:28	
Thallium	ND	1.0	mg/Kg	06/26/2003 22:28	
Vanadium	ND	1.0	mg/Kg	06/26/2003 22:28	1
Zinc	ND	1.0	mg/Kg	06/26/2003 22:28	<u> </u>





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#### **Batch QC Report**

Prep(s): 7471A

Test(s): 7471A

# **Laboratory Control Spike**

Soil

QC Batch # 2003/06/17-02.16

LCS

2003/06/17-02.16-053

Extracted: 06/17/2003

Analyzed: 06/23/2003 12:56 Analyzed: 06/23/2003 12:57

LCSD

2003/06/17-02.16-054

Extracted: 06/17/2003

DI Ctrt Limits % Flags

Compound	Conc.	mg/Kg	Exp.Conc.	Recovery %		RPD Ctrl.Limits		nits %	Flags	
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Mercury	0.450	0.443	0.500	90.0	88.6	1.6	85-115	20		





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#### **Batch QC Report**

Prep(s): 3050B

Test(s): 6010B

# **Laboratory Control Spike**

Soil

QC Batch # 2003/06/17-07.15

LCS

2003/06/17-07.15-164

Extracted: 06/17/2003

Analyzed: 06/25/2003 20:11 Analyzed: 06/25/2003 20:14

LCSD 2003/06/17-07.15-165

Extracted: 06/17/2003

RPD Ctrl.Limits % Flags Exp.Conc. Recovery % Conc. mg/Kg Compound LCSD RPD LCS Rec. LCS LCSD LCS **LCSD** % 3.7 80-120 20 97.3 97.3 100.0 101.0 101 Antimony 80-120 20 102.0 2.9 100.0 105.0 105 102 Arsenic 80-120 20 94.9 3.3 94.9 100.0 98.1 98.1 Barium 3.4 20 95.4 80-120 98.7 98.7 95.4 100.0 Beryllium 80-120 20 96.0 93.5 2.6 96.0 93.5 100.0 Cadmium 95.9 3.5 80-120 20 100.0 99.3 99.3 95.9 Chromium 80-120 20 98.0 94.6 3.5 98.0 94.6 100.0 Cobalt 80-120 20 100.0 96.9 3.1 100 96.9 100.0 Copper 80-120 20 98.4 95.3 3.2 100.0 98.4 95.3 Lead 2.7 80-120 20 100.0 99.1 96.5 96.5 Molybdenum 99.1 20 100.0 96.8 93.8 3.1 80-120 96.8 93.8 Nickel 20 91.3 3.0 80-120 100.0 94.1 94.1 91.3 Selenium 20 80-120 93.7 90.8 3.1 100.0 93.7 90.8 Thallium 20 99.8 96.5 3.4 80-120 100.0 96.5 Vanadium 99.8 20 2.8 80-120 100.0 96.7 94.0 94.0 96.7 Zinc





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#### **Batch QC Report**

Prep(s): 7471A

Test(s): 7471A

**Laboratory Control Spike** 

Soil

Exp.Conc.

0.500

LCSD

0.524

QC Batch # 2003/06/19-01.16

LÇS

Mercury

2003/06/19-01.16-045

Extracted: 06/19/2003

Analyzed: 06/19/2003 12:48 Analyzed: 06/19/2003 12:49

LCSD 2003/06/19-01.16-046 Conc. mg/Kg Compound

LCS

0.555

Severn Trent Laboratories, Inc.

Extracted: 06/19/2003

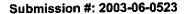
LCS

111.0

Recovery %

104.8

RPD Ctrl.Limits % Flags LCS LCSD Rec. RPD LCSD % 5.7 85-115 20





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#### Batch QC Report

Prep(s): 3050B

Test(s): 6010B

#### **Laboratory Control Spike**

Soil

QC Batch # 2003/06/26-06.15

LCS LCSD 2003/06/26-06.15-164 2003/06/26-06.15-167 Extracted: 06/26/2003 Extracted: 06/26/2003 Analyzed: 06/26/2003 22:32 Analyzed: 06/26/2003 22:47

Company	Conc.	mg/Kg	Exp.Conc.	Reco	very %	RPD Ctrl.Limits %		Fla	Flags	
Compound	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Antimony	97.7	95.8	100.0	97.7	95.8	2.0	80-120	20		
Arsenic	93.7	93.6	100.0	93.7	93.6	0.1	80-120	20		}
Barium	96.0	95.5	100.0	96.0	95.5	0.5	80-120	20		
Beryllium	97.8	97.7	100.0	97.8	97.7	0.1	80-120	20		
Cadmium	94.3	93.7	100.0	94.3	93.7	0.6	80-120	20		
Chromium	96.5	96.0	100.0	96.5	96.0	0.5	80-120	20		
Cobalt	95.6	95.0	100.0	95.6	95.0	0.6	80-120	20		
Copper	98.7	97.9	100.0	98.7	97.9	8.0	80-120	20		ţ
Lead	98.1	96.9	100.0	98.1	96.9	1.2	80-120	20		
Mołybdenum	99.5	98.5	100.0	99.5	98.5	1.0	80-120	20		
Nickel	96.3	95.6	100.0	96.3	95.6	0.7	80-120	20		
Selenium	90.7	90.6	100.0	90.7	90.6	0.1	80-120	20		
Silver	97.5	96.8	100.0	97.5	96.8	0.7	80-120	20		
Thallium	95.1	94.7	100.0	95.1	94.7	0.4	80-120	20		
Vanadium	98.3	97.7	100.0	98.3	97.7	0.6	80-120	20	1	
Zinc	95.3	94.1	100.0	95.3	94.1	1.3	80-120	20		