

92 FEB 19 PM 1:44

41674 Christy Street
Fremont, CA 94538
Phone: (510) 659-0404
Fax: (510) 651-4677



CLARIFIER SUMP CLOSURE PLAN
FOR
ICI THORO SYSTEMS PRODUCTS
38403 CHERRY STREET
NEWARK, CALIFORNIA

Project No. 3-30112-31
February 1992

RESNA

Environmental Solutions
Through Applied Science,
Engineering & Construction

41674 Christy Street
Fremont, CA 94538
Phone: (510) 659-0404
Fax: (510) 651-4677

February 13, 1992
Project No. 3-30112-31

City of Newark
37101 Newark Boulevard
Newark, CA 94560-3790

Attention: Ms. Jackie Bretschneider
Subject: Clarifier Sump Closure Plan
ICI Thoro Systems Products
38403 Cherry Street, Newark, California

Dear Ms. Bretschneider:

RESNA Industries Inc. is pleased to provide this plan for closing the clarifier sump and piping at the subject site in Newark, California. The plan addresses the removal and disposal of liquids and solids from the sump; the demolition of the sump and piping; and the disposal of the sump-related materials.

If you have any questions, please call me at (510) 440-3348.

Sincerely,
RESNA Industries Inc.

Britt Von Thaden
Britt Von Thaden
Project Geologist



Christopher M. Palmer
Christopher M. Palmer, C.E.G. 1262
Senior Program Geologist

BVT/CMP/da
Enclosure

cc: Mr. Ravi Arulanantham, Alameda County Health Care Services Agency
Mr. Steven Inn, Alameda County Water District
Mr. Jim Piazza, ICI Thoro Systems Products, Newark, California
Mr. Gary Lopez, ICI Thoro Systems Products, Miami, Florida
Ms. Carol Dickerson, ICI Americas, Richmond, California

Table of Contents

Section	Page
1.0 Introduction	1
2.0 Background	1
2.1 Clarifier Sump and Piping	1
2.2 Liquid Waste Removal	2
2.3 Solid Waste Removal	2
3.0 Purpose	3
4.0 Scope of Work	3
4.1 Final Cleaning of Sump	4
4.2 Removal of Sump and Piping	4
4.3 Sample Collection	4
4.4 Laboratory Analysis	5
4.5 Disposal of Sludge and Wastewater	6
4.6 Site Restoration	6
4.7 Sump Closure Report	6
4.8 Additional Investigation	6
Figures	
1 Site Location Map	
2 Site Plan	
3 Detail of Clarifier Sump	
Appendices	
A Site Safety and Health Plan	
B Liquid Waste Profile Sheets Uniform Hazardous Waste Manifests	
C Sludge Profiling Laboratory Results Chain-of-Custody Documents	

CLARIFIER SUMP CLOSURE PLAN
FOR
ICI THORO SYSTEMS PRODUCTS
38403 CHERRY STREET
NEWARK, CALIFORNIA

1.0 INTRODUCTION

RESNA Industries Inc. (RESNA), has prepared this closure plan for ICI Thoro Systems Products' (Thoro) facility located in the City of Newark, Alameda County, California (Figure 1). This plan addresses the tasks and procedures associated with decommissioning the clarifier sump and piping located on the western side of the Thoro building (Figure 2). The sump closure activities will be conducted in accordance with the Site Safety and Health Plan attached in Appendix A.

2.0 BACKGROUND

The subject site is located in an area of light commercial and residential development. It consists of a warehouse/office building constructed on nearly level ground. The building is surrounded by asphalt with an open field to the west of the facility. The western and northern sides of the property are bounded by an Alameda County Flood Control District drainage canal. The depth to groundwater at the site is approximately 7 to 9 feet below grade.

2.1 Clarifier Sump and Piping

The clarifier sump was previously an intermediate point in a wastewater discharge system that started in the building. The sump was used in conjunction with a settling pond located in the southwest portion of the property. Wastewater from the Thoro plant traveled through clay piping to the clarifier sump and eventually to the settling pond. The clarifier and piping were removed from service in 1988. Soil samples were collected from the pond area and submitted for laboratory analysis. The samples, as reported by the State of California Department of Health Services (DHS), were deemed "not hazardous" as indicated in the DHS letter dated October 20, 1988.

The clarifier sump is constructed of concrete and its dimensions are shown in Figure 3. It is essentially comprised of two main chambers each of which is divided into two smaller cells. The cells and chambers are connected by means of a 4-inch diameter

pipng set into the concrete dividing walls. The entire sump is coated on the inside with a tar-like substance to prohibit water from penetrating through the concrete.

2.2 Liquid Waste Removal

The majority of the liquid waste remaining in the sump was pumped out on August 8, 1991 by Haz/Control, Inc. from Gilroy, California. According to the Haz/Control waste profile sheet and the DHS Uniform Hazardous Waste Manifest, approximately 1,420 gallons of liquid were removed. A profile of the waste indicated that the waste was predominantly water but contained minor amounts of oil, latex paint, and sediment. Haz/Control conducted a laboratory analysis on the waste to determine if metal concentrations were present. The analysis, using Environmental Protection Agency (EPA) Method 7000 series, revealed that only copper and zinc were present at concentrations of 0.82 and 45 parts per million (ppm), respectively. Copies of the waste profile sheets and hazardous waste manifest are included in Appendix B.

Additional samples from the remaining liquid were collected on February 11, 1992 and submitted for laboratory analysis. The samples were submitted to the RESNA Industries Laboratory located in Fremont, California for analysis using EPA Method 8240 for volatile organic compounds (VOCs). The samples were submitted on a turnaround time of 10-working days.

2.3 Solid Waste Removal

The sludge waste material and some residual liquid remaining in the sump was removed during the week of January 22, 1992. A pump was used to transfer the liquid from the sump to Department of Transportation (DOT) approved 55-gallon drums. A total of 21 drums of liquid have been removed. Sludge was removed from the sump by a team of field service professionals using confined space entry procedures. A total of 34 drums of sludge waste were removed. The sludge waste was placed into DOT-approved containers. Samples of the sludge were collected prior to its removal on December 19, 1991 and January 7, 1992 and submitted, within the appropriate holding time, to Sequoia Analytical located in Redwood City, California for analysis. Sequoia analyzed the samples for the presence of semi-volatile organic compounds using EPA Method 8270 plus an "open scan," VOCs using EPA 8240 plus an "open scan," and metals.

The sludge sample profile revealed the presence of the following compounds. The highest concentration is reported where the same analysis was conducted more than once and only those that were detected are listed.

<u>Compound</u>	<u>Concentration</u>
<u>Semi-volatile organics: Method 8270</u>	<u>micrograms per kilogram</u>
Butyl benzyl phthalate	160,000
Decane	250,000
Octane,2,4,6-trimethyl	860,000
3-methyl undecane, 3-methyl	630,000
High boiling point hydrocarbon matrix	160,000,000
<u>Volatile organics: Method 8240</u>	<u>none detected</u>
<u>Metals</u>	<u>milligrams per kilogram</u>
Arsenic	0.70
Barium	33
Cadmium	0.61
Chromium - total	21
Cobalt	7.1
Copper	35
Nickel	18
Lead - total	6.7
Vanadium	17
Zinc	920

Copies of the laboratory report from Sequoia and chain-of-custody documents are attached in Appendix C.

3.0 PURPOSE

The purpose of the sump closure project is to remove the sump and piping, thus eliminating any future use. Closure of the sump will be conducted by completely removing the sump and its associated piping that is present between the sump and the Thoro building.

4.0 SCOPE OF WORK

The tasks associated with the sump and piping closure will consist of the following:

- Obtain required permits from Alameda County Water District and the City of Newark
- Final cleaning of the sump
- Removal of sump and piping
- Sample collection for laboratory analysis from sump and piping locations

-
- Disposal of residual liquid, sludge, and sump cleaning wastewater
 - Restoration of the site
 - Preparation of sump closure report

4.1 Final Cleaning of Sump

A final cleaning of the residual material remaining in the sump will be necessary before removing the sump. Before the final cleaning begins, the ends of the inlet and outlet piping will be capped or plugged. RESNA will then use a high-pressure washer equipped with a special multi-orifice nozzle. The nozzle provides effective cleaning with low volumes of water, thereby reducing the amount of additional waste. Pressure washing of each cell of the sump will be conducted from the top of the sump to the bottom.

The rinseate generated from the pressure washing will be disposed of along with the residual liquids in 55-gallon drums. The waste will be manifested and removed by a licensed waste hauler as bulk or drummed waste.

4.2 Removal of Sump and Piping

The sump is constructed entirely of reinforced concrete. Because of its extreme weight, the sump cannot be removed intact but will need to be broken into sections and then, each section removed. RESNA will utilize a backhoe with a breaker attachment to break the sump into sections for removal. The concrete sections will be placed on and covered by plastic sheeting after removal. Small sections of concrete material that were obtained from the bottom of the sump will be retained and preserved for laboratory analysis. The analytical results will be used to ascertain if contaminants migrated through the concrete and an appropriate disposal method for the concrete.

The length of the piping run between the Thoro building and the sump is approximately 85 feet. The entire length of the pipe is located beneath an asphalt surface. The asphalt will be pre-cut and removed to be disposed of at the CBX asphalt recycling facility located in Hayward, California. The piping will then be exposed and removed. The piping materials, as well as the solidified sludge remaining, will be placed into DOT-approved 55-gallon drums. The entire length of the piping between the Thoro building and the sump will be removed.

4.3 Sample Collection

Groundwater will be encountered during the removal of the sump, thus both soil and groundwater samples will be collected.

Soil

The closure process will include the collection of soil and groundwater samples in addition to the concrete sample. Soil samples will be collected at each end of the resulting pit, from just above the soil/groundwater interface and any areas of obvious contamination. Beneath the piping, soil samples will be collected from the entire length of the piping at 20-foot intervals and areas of obvious contamination.

The samples will be collected using a slide hammer and a steel core sampler that contains a 2-inch-diameter, 6-inch long stainless steel liner. The sampler will be driven into the relatively undisturbed soil at each sampling location. After collection, each sample will be preserved for laboratory analysis. Sample preservation will include sealing both ends of the liner with aluminum foil and plastic caps, labeling each sample with a unique sample number, and packing the samples in an ice chest containing dry ice. Chain-of-custody documentation will accompany all samples to the laboratory.

Groundwater

Groundwater is anticipated to be present within the sump excavation. Groundwater samples will be collected following sump material removal. The water present in the pit, after the sump has been removed, will be pumped from the pit at least once and placed in DOT-approved 55-gallon drums. Samples will be collected by completely submerging a laboratory-supplied bottle containing no preservatives and subsequently, decanting the sample water into the appropriate laboratory-supplied bottles. After collection, each sample will be distinctly labeled, logged onto the chain-of-custody form, and placed in a chilled ice chest.

4.4 Laboratory Analysis

Concrete, soil, and groundwater samples collected at the site will be transported to an analytical laboratory certified by DHS. The samples will be analyzed for the presence of semi-volatile organic compounds using EPA Method 8270, non-polar oil and grease, mineral spirits, and priority metals.

Analysis of samples for VOCs using EPA Method 8240 will be dependent on the analytical results of the "source" liquid samples that were submitted to the laboratory on February 11, 1991. If the laboratory results reveal that no VOCs are present in the liquid samples, then analytical procedures conducted on both "source" liquid and sludge samples will have revealed that no VOCs are present and in RESNA's opinion, further analysis for VOCs on future samples is not warranted. However, if VOCs are detected in the liquid samples then, dependent on the type of compound(s) detected, the appropriate analytical procedures will be determined and conducted on all applicable samples collected during the remainder of this project.

RESNA will notify your office immediately upon receipt of the liquid sample analytical results and will issue an addendum to this closure plan addressing the need for VOC analysis. The laboratory results will be included with the addendum.

4.5 Disposal of Sludge and Wastewater

Solid and liquid waste generated during the sump closure will be disposed of according to applicable state and federal laws. Solid waste, where deemed hazardous, will be transported to the Envirosafe Services of Idaho (ESI) facility, a Class I landfill, located in Grandview, Idaho. Liquid waste will be pumped out and removed by Haz/Control, Inc. and transported to their facility located in Gilroy, California for treatment.

4.6 Site Restoration

Upon completion of the sump and piping removal, the site will be restored to its original physical and aesthetic condition. Restoration will include backfilling the excavated areas to an engineered compaction rate and resurfacing those areas with hot asphalt.

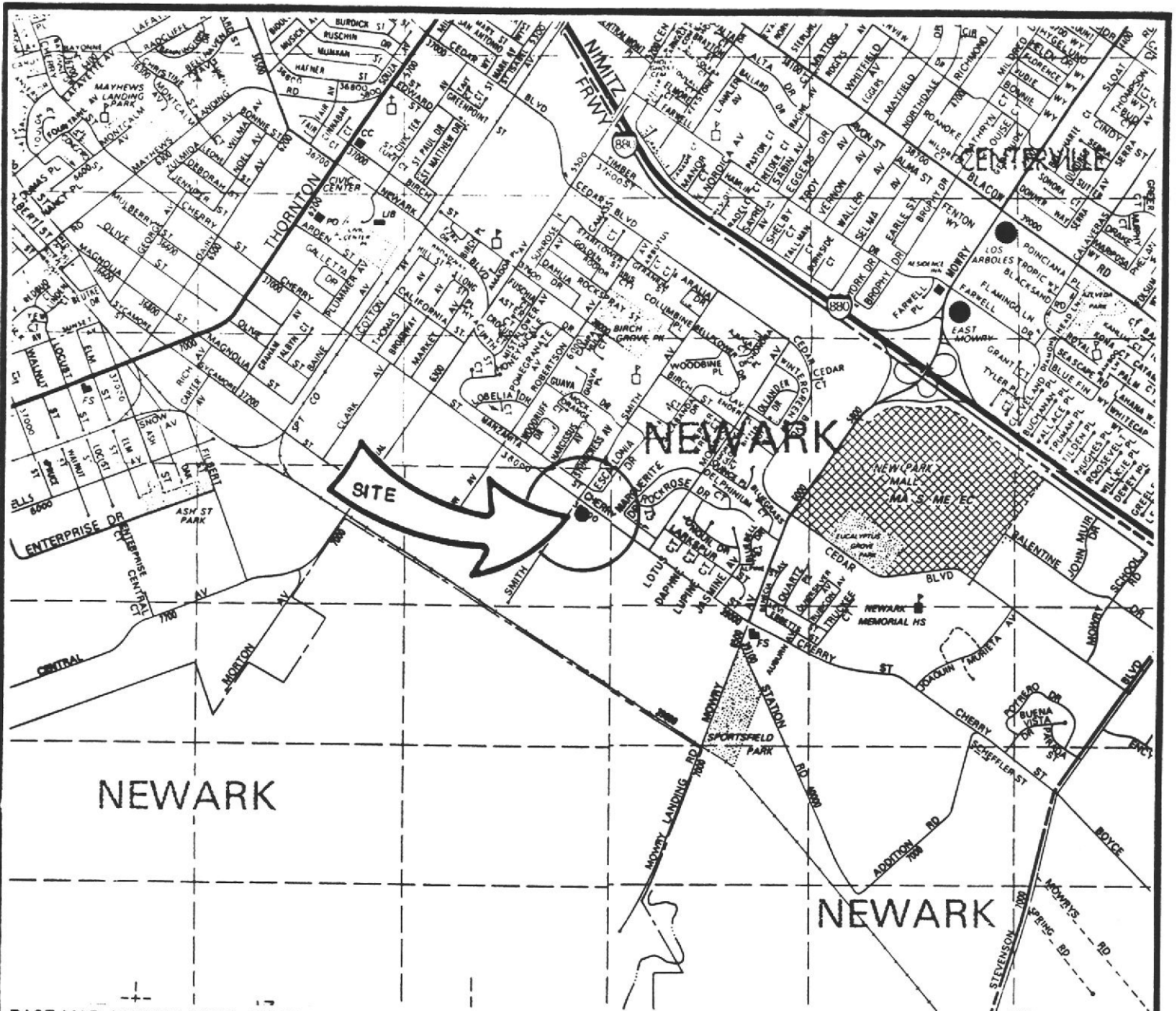
4.7 Sump Closure Report

RESNA will prepare a clarifier sump closure report presenting the field and laboratory methods used, the data obtained, conclusions, and recommendations based on our findings. The report will contain:

- Details of sump and piping removal, and site restoration methods
- Results of all laboratory testing
- Site maps showing features relevant to the closure project

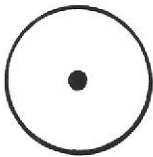
4.8 Additional Investigation

The clarifier sump closure plan addresses the activities associated with the removal of the sump and associated piping. If contaminants are detected, additional investigation and/or remedial activities may be required. These may include over-excavating, drilling of exploratory borings, or installing groundwater monitoring wells. The extent and need for additional sump closure activities will be determined upon receipt and assessment of the analytical results from the initial sample collection. At that time, appropriate addenda or modifications to the closure plan and/or report will be added.

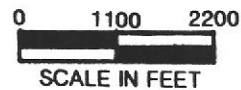


BASE MAP: THOMAS BROS. GUIDE ALAMEDA CO. 1991

LEGEND



SITE LOCATON



SITE LOCATION MAP

ICI THORO SYSTEM PRODUCTS

34803 CHERRY STREET

NEWARK, CALIFORNIA

REVIEWED BY:

BVS

JOB #:

3-30112-31

DATE:

2/13/92

APPROVED BY:

[Signature]

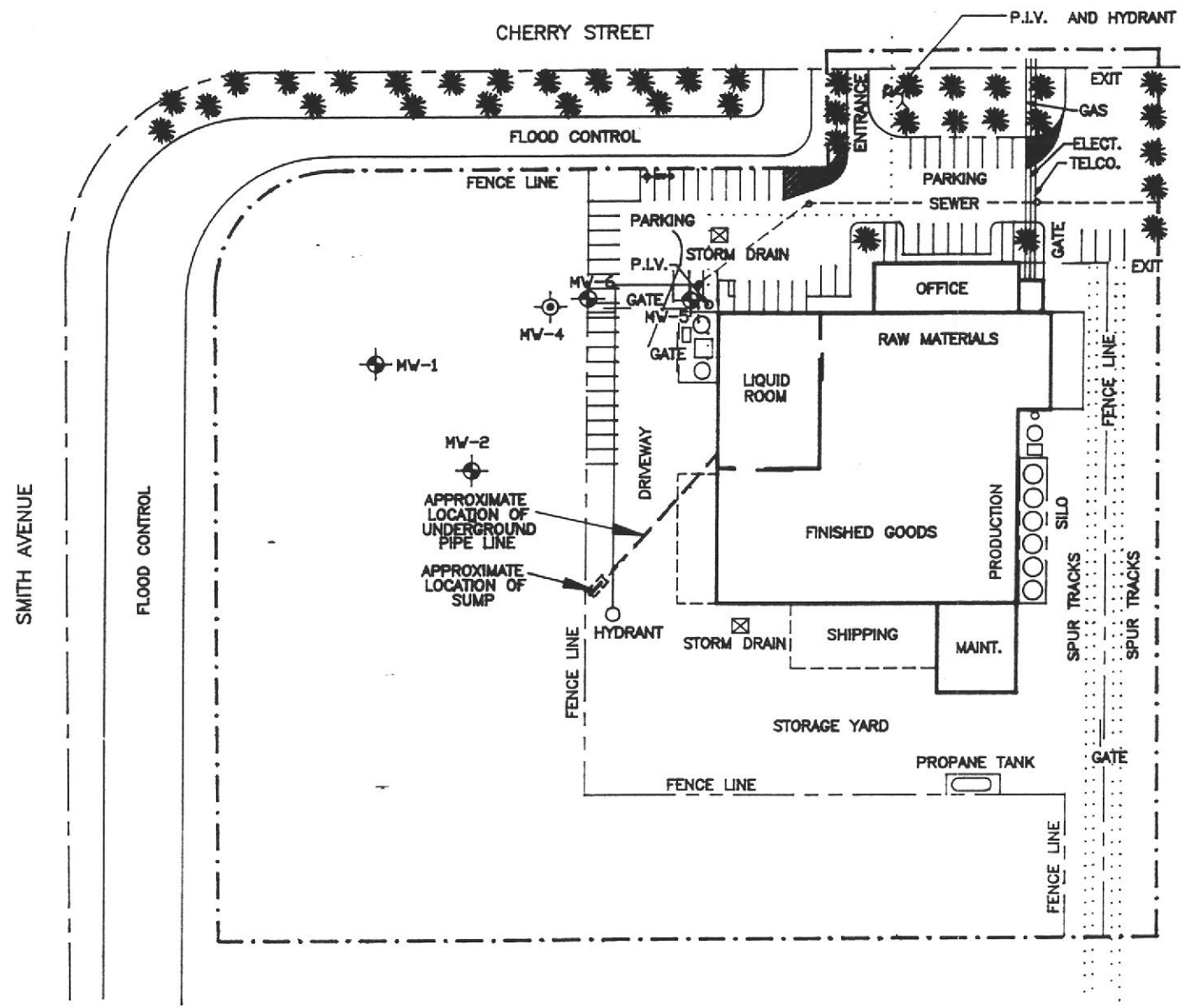
DRAWN BY:

E.C.

DRAWING #:

FIG. 1

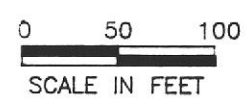
RESNA



LEGEND

- MW-6 GROUNDWATER MONITORING WELL
- MW-4 DESTROYED MONITORING WELL

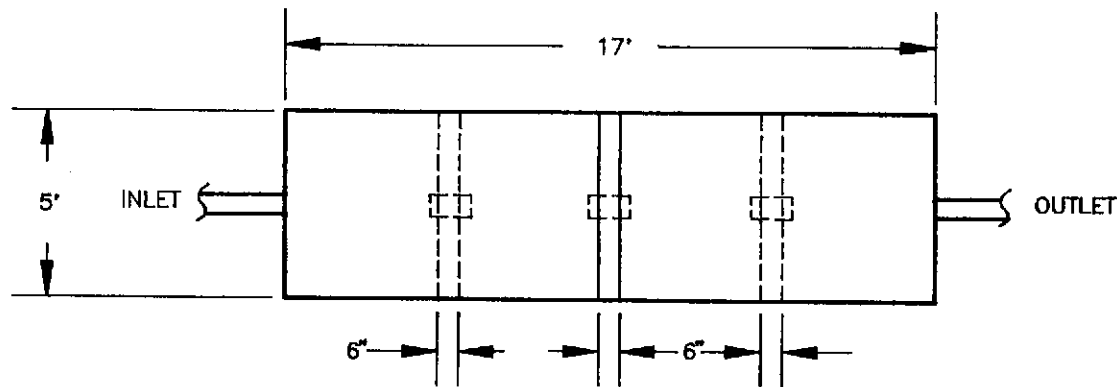
- BUILDING
- SITE BOUNDARY



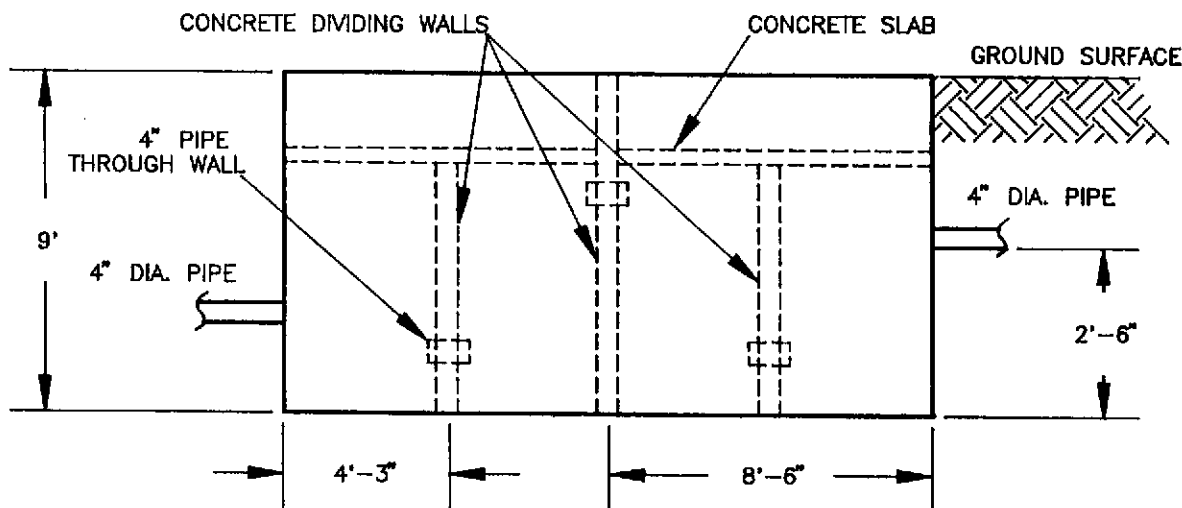
BASE MAP BY: LAWRENCE DRAFTING, FREMONT, CA.

REVIEWED BY: BVT	SITE PLAN THORO SYSTEM PRODUCTS 38403 CHERRY STREET NEWARK, CALIFORNIA	RESNA	
APPROVED BY: <i>[Signature]</i>		JOB #: 3-30112-31	DRAWN BY: E.C.
		DATE: 2/13/92	DRAWING #: FIG. 2

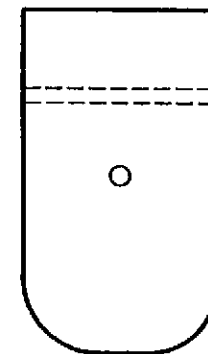
1004318P



TOP VIEW



SIDE VIEW



END VIEW

SCALE: 1" = 5'

REVIEWED BY: BVT	DETAIL OF CLAIRIFIER SUMP	RESNA	
	THORO SYSTEMS PRODUCTS		
APPROVED BY: [Signature]	34803 CHERRY STREET	JOB #: 3-30112-31	DRAWN BY: J.D.S.
	NEWARK, CALIFORNIA	DATE: 2/13/92	DRAWING #: FIG. 3

APPENDIX A

SITE SAFETY AND HEALTH PLAN

RESNA

SITE SAFETY AND HEALTH PLAN

FOR

**ICI THORO SYSTEMS PRODUCTS
38403 CHERRY
NEWARK, CALIFORNIA**

**Project No. 3-30112-11
February 1992**

Table of Contents

Section	Page
Facility Background	1
Work Plan	2
Job Hazard Analysis and Summary	2
Chemical Hazards	2
Physical Hazards	3
Fire and Explosion Hazards	3
Other Hazards	4
Exposure Monitoring	6
Personal Protective Equipment	7
Site Control and Communications	7
Sanitation and Decontamination	8
Emergency Response	8
Emergency Medical Treatment	9
Training and Medical Surveillance	10
Key Safety Personnel and Responsibilities	11
Tailgate Meeting	12
Visitor Clearance	12
Sign-Off Page	13

RESNA

Site Safety Plan

Job Name: Clarifier Sump Closure

Job Location: 38403 Cherry, Newark, California

Client Name: ICI Thoro

Project Number: 3-30112-11 Date: January 24, 1992

Revised: February 6, 1992

SSP Prepared by: Scott Adams Revised by: Britt Von Thaden

Site Safety Officer: Scott Adams

This site safety and health plan (SSP) must be kept on-site and accessible to all on-site employees during all phases of site operations. The SSP must be reviewed and signed by all on-site employees, subcontractors, and visitors prior to entering the site. General safe work practices are identified in the RESNA Injury and Illness Prevention Manual and apply to all RESNA work sites.

The provisions set-forth in this SSP shall apply to RESNA Industries Inc. (RESNA) employees and any subcontractors working for RESNA at the job site. All personnel working for RESNA at the job site must read this SSP, and sign the attached Compliance Agreement before entering the work area. Field personnel may deviate from the safety provisions set-forth in this SSP, but only to upgrade or increase the safety requirements. RESNA personnel may suspend work if unauthorized modifications to the safety provisions set-forth in this SSP are made. If changes in site or working conditions require changes in safety procedures, appropriate amendments to this SSP will be provided by the RESNA project manager or supervisor, with the written approval of a RESNA branch safety officer or the RESNA Health and Safety Director.

FACILITY BACKGROUND

Discontinued use of clarifier, paint mixing facility.

WORK PLAN

- Task One:** Expose clarifier by cutting top segment of concrete away and pumping H₂O from rain.
- Task Two:** Clean top section by scraping and shoving debris into drums to expose second area.
- Task Three:** Remove second ceiling fan exposure to lower cells to be scraped and removed to 55-gallon drums
- Task Four:** Pressure wash walls and floors; pump residue to drums.
- Task Five:** Remove sump and piping.
- Task Six:** Collect soil and groundwater samples.

JOB HAZARD ANALYSIS AND SUMMARY

Chemical Health Hazards

Task(s)	Chemical	PEL/Ceiling/ IDLH	Soil, Water, Air, Etc. Known Concentration	Signs/Symptoms
2, 3, 4, 5, 6	High boiling point hydrocarbons		Sludge 16%	Irritation to eyes, nose, and skin
2, 3, 4, 5, 6	Butyl benzyl phthalate	LD ₅₀ = 13,500 ppm	160 ppm in soil	Irritation to eyes and skin

Physical Hazards

Task(s)	Hazard	Mitigation Measure
1	Air hammer	Wear hearing protection
3	Confined space	Take breaks when needed
4	Backhoe	Be aware of surroundings

Fire and Explosion Hazards

List Flammable or Combustible materials on-site. Keep sources of ignition away from these materials.

Flammable (Flash Point <100 °F)	Combustible (Flash Point <200 °F)
None	

List oxidizers on-site. Keep away from flammable or combustible materials.

Type and Location of Fire Extinguishers (*Show on map for large projects*)

ABC fire extinguishers available in field support trucks

Other Hazards (Check if applicable)

<input checked="" type="checkbox"/> Noise

Activities likely to generate noise exceeding 85 dB: Air Hammer
Wear hearing protection during these activities.

<input type="checkbox"/> Heat Stress

Symptoms: Heat Cramps: Muscular pains and spasms.
 Heat Exhaustion: Cool, pale, moist skin; heavy sweating; dilated pupils, headache nausea, dizziness, vomiting, near normal body temperature
 Heat Stroke: Hot, red skin; very small pupils; high body temp., reduced sweating

Mitigation: Cool place for breaks: _____
Whenever ambient temperatures exceed 80°F, or whenever semi-permeable or impermeable protective clothing is worn and ambient temperatures exceed 70°, monitoring the worker:

- *Heart rate. Count the radial pulse during a 30-second period as early as possible in the rest period.*
If the heart rate exceeds 110 beats per minute at the beginning of the rest period, shorten the next work cycle by 1/3 and keep the rest period the same. If the heart rate still exceeds 110 beats per minute at the next rest period, shorten the following work cycle by 1/3 (12).
- *Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking).*
If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by 1/3 without changing the rest period. If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following work cycle by 1/3 (12). Do NOT permit a worker to wear a semi-permeable or impermeable garment when his/her oral temperature exceeds 100.6°F (38.1°C) (12).

Take frequent breaks in shaded area. Unzip or remove PPE during breaks. Provide drinking water and/or electrolyte replacement drink. Record the time and duration of all breaks. Heat stroke victims must receive emergency medical care.

Hypothermia/Frostbite

Symptoms: Hypothermia: Shivering, apathy, loss of consciousness, decreasing pulse and breathing rate.
Frostbite: white, then grayish yellow progressing to grayish blue skin. cold, numb part.

Mitigation: Wear multilayer cold weather outfits covered by a wind resistant fabric. Take frequent breaks in a warm, sheltered area. Provide warm non-alcoholic drinks. For frostbite victims warm injured part gradually, do not rub! Warm hypothermia victims and transport to emergency medical care.

Underground/Overhead Utilities — *show location of utilities on site map*

How were underground utilities identified? Product pipe

Describe mitigation measures _____

Confined Space Entry — *follow RESNA's Confined Space Entry Procedures*

Other — *explain hazard and mitigation*

EXPOSURE MONITORING

All sample results will be recorded in the RESNA exposure log. Log copies are filed in the job file, and in all site personnel's medical file. and maintained in the job file. All sampling instruments will be calibrated per the manufacturers instructions on a daily basis.

- * Note calibration gas and any unusual calibration settings in the "monitoring equipment" column.
- ** Include monitoring for health hazards, explosion hazards, etc.

Monitoring Equipment	Hazard Monitored	Sample Location	Sample Frequency	Action Level	Action
OVM	TPH	Work area	Every hour or as needed	200 ppm	Field personnel will enter site in Level D. If action level is exceeded, then safety level will be upgraded to modified Level C (see next section).

Identify sample locations on site map

PERSONAL PROTECTIVE EQUIPMENT

As a *minimum* Level D protection is required on all RESNA worksites. *Level D includes: steel toed boots, safety glasses and a hard hat.* For each task on this project, identify additional protective garments as required, include the conditions (exposure levels ,etc.) under which the level of PPE would be modified for each task.

Task(s)	Condition	Personnel	Garment(s)
1, 2, 3	Excess noise	All field personnel	Level D with hearing protection
3, 4	Contact with sludge material	Individual cleaning sump	Level C tyvek, nitrile gloves, respirator, goggles, with organic vapor cartridges
5,6	Possible contact with contaminated soil or water		Level D with nitrile gloves

SITE CONTROL AND COMMUNICATIONS

The buddy system is encouraged on all RESNA hazardous waste sites.

Site will be secured as follows: Barricades

Work Zones will be marked as follows: _____

Mark Work Zones on site map Check when done

On-site communications: Radio Verbal Hand Signals
 Other _____

Off-site communications: Radio Telephone
 Other _____

The specific signal for an emergency is: _____

The specific signal for an evacuation is: _____

Evacuation assembly point is: _____

Mark Evacuation route(s) on site map Check when done

SANITATION AND DECONTAMINATION

Personnel Decontamination Procedure: Hands and face will be washed before smoking, eating or drinking

Location of Wash Water: Thoro facility

Location of Toilet: Thoro facility

Location of Drinking Water: Support area

Mark Location of Eyewash and Shower drench on site map Check when done

Attach Decontamination Line chart if applicable Check when done

Equipment Decontamination Procedure: _____

Decontamination Equipment/Supplies needed: _____

Materials to be Disposed of as Hazardous Waste: _____

EMERGENCY RESPONSE

In case of an emergency the site safety officer must be notified. The site safety officer or his/her alternate will notify outside emergency response agencies (ER) as needed, the branch safety officer, and the project supervisor/manager. The branch safety officer will make any required reports to local, state, and federal agencies. Other emergency notifications will include: _____

ER Agency: _____ Phone _____

ER Agency: _____ Phone _____

Site Safety Officer: Foreman On-site Phone _____
Pager # _____

Site Safety Alternate: Scott Adams On-site Phone _____
Pager # _____

Branch Safety Officer: Dan Nechkash Office Phone (510) 659-0404
Pager # _____

Project Manager: John Lynch Office Phone (510) 659-0404
Pager # _____

_____ : _____ Office Phone _____
 _____ : _____ Pager # _____

_____ : _____ Office Phone _____
 _____ : _____ Pager # _____

Employees may only fight small fires which have not spread beyond the original source. Spills should be cleaned up as outlined in the RESNA spill response procedure. Spills may be cleaned up by properly prepared personnel as follows.

Spilled Material	Neutralizer	PPE	Monitoring

Emergency Medical Treatment

All RESNA field personnel must be CPR and first aid trained. At a minimum personnel who inhale hazardous materials must be removed to fresh air. Personnel who are contaminated with hazardous materials by contact should rinse the area of contact for a minimum of 15 minutes. The site safety officer or his/her alternate will determine if injured personnel require further emergency medical attention.

Unusual first aid procedures: 911

Location of first aid kit: _____

Nearest emergency medical facility: Fremont Urgent Care

Directions from work site: _____

Attach a map which shows the route from the work site to the nearest emergency medical facility.

Check when done.

*****SPECIAL EMERGENCY DIRECTIONS*****

KEY SAFETY PERSONNEL AND RESPONSIBILITIES

All personnel working for RESNA at the job site are responsible for project safety. The operational and health and safety responsibilities of pertinent RESNA personnel are identified below.

Corporate Safety Director: Marilyn Moots

The Corporate Safety Director is responsible for establishing and directing the RESNA Health and Safety program. In this capability she sets policies with respect to SSPs and ensures that the requirements are implemented company-wide. The Corporate Health and Safety Director reports to the company president, Mr. George Barsom. Ms. Moots can be reached at (602) 961-0777.

Branch Safety Officer: Dan Nechkash

The Branch Safety Officer is responsible for disseminating requirements with respect to SSPs, for monitoring training related to SSPs, and for submitting specified SSPs to the Corporate Safety Director for approval. The Branch Safety Officer report to the Corporate Safety Director.

Project Manager: John Lynch

The Project Manager is responsible for the provisions and submittal of this SSP to the Site Safety Officer (SSO) and for advising the SSO on health and safety matters. She/He has the authority to provide for the auditing of compliance with the provisions of this SSP, suspend or modify work practices, and to recommend disciplinary action for individuals whose conduct does not meet the provisions presented in this SSP. The Project Manager is also responsible for ensuring that Medical Surveillance Exams and Training Programs are current for all personnel working on-site. The Project Manager reports to the Branch Safety Officer.

Site Safety Officer: Scott Adams

The SSO is responsible for the dissemination of the information contained in this SSP to all RESNA personnel working at the job site, and to the responsible representative(s) of each subcontractor firm working for RESNA at the job site. The SSO is responsible for ensuring the following items are adequately addressed: Safety Supplies and Equipment Inventory; Accident/Incident Reporting Procedures; Decontamination/Contamination Reduction Procedures; General Safe Work Practices. Perform air monitoring as required, direct emergency response activities as described in the SSP.

The SSO has the authority to suspend work anytime he/she determines the safety provisions set-forth in this SSP are inadequate to ensure worker safety. The SSO shall also inform the Project Manager of individuals whose conduct does not meet the safety provisions of this SSP. The Site Safety Officer reports to the Project Manager. A SSO or the alternate must be present during the field work operations.

TAILGATE MEETING

All field personnel from RESNA and the subcontractors must attend a safety orientation meeting before commencing the field work. The meeting will be scheduled and conducted by the Site Safety Officer and is to include an overview of the site history, the potentially hazardous compounds, their potential mode of ingress into the body, protective equipment requirements, and emergency response equipment. All individuals who do not have respirators and who may be required to wear them, will not be allowed on the site until they are provided with and fit tested for respirators by their respective employers.

A tailgate meeting will be held every morning before the start of work and is to be attended by all personnel on-site. The purpose of the meeting is to discuss the days work, potential hazards, and specific health and safety procedures to be utilized during the day. The minutes of the meeting will be prepared by the Site Safety Officer.

VISITOR CLEARANCE

Visitors to the site must inform the Site Safety Officer or the Project Manager upon their arrival on the site and must be informed of the contents of this report and fully equipped before entry is permitted. Visitors will be required to be escorted in the exclusion zone and must comply with escort directions at all times. Non-compliance with escort directions will not be tolerated, and violators will be required to leave the restricted access zones immediately.

CONFINED SPACE ENTRY

I. Purpose

To provide a procedure for the safe entry of confined spaces to effect repairs, maintenance, inspection, or testing.

II. Scope

This procedure applies to all RESNA Industries Inc. operations.

III. Procedure

- A. For the purposes of this procedure, a confined space is defined as any space, open or closed, in which poisonous gases or flammable vapors were present or might accumulate or where a deficiency of oxygen levels might occur. These spaces include, but are not limited to, tanks, tank trucks, vats, tubs, receivers, hoppers, bins, boilers, kilns, or similar vessels; also included are stacks, chimneys, sewers, trenches, pits, sumps, manholes, etc. that are 5 feet or more in depth from which egress is or may become restricted.
- B. Section IV of this instruction establishes the rules which must be followed in entering a confined space. Each jobsite must be surveyed for enclosed spaces to ascertain whether or not the minimum requirements can be met. Where these general safety rules cannot be met, site specific written procedures must be defined to ensure the safety of entering employees, and they must be submitted for management approval. Variations requested must be fully explained in an accompanying letter.
- C. No employee shall enter a confined space without reviewing the confined space entry procedures with the operations supervisor/foreman. Management must approve entry into confined spaces. Each employee assigned to confined space entry work, along with the standby observer, must be thoroughly briefed on the procedures for entry, the work to be performed, and the emergency procedures to be followed in the event of an accident or incident.
- D. Confined space entry at any time other than the normal day shift shall be avoided as much as possible. Under extreme conditions, if entry during evening hours is absolutely necessary, additional prior authorization of management is required before entering enclosed spaces. Before any such authorization is given, management shall be satisfied that there will be adequate, competent assistance available on site in the event of an emergency. The on-site presence of the initiating supervisor/foreman is mandatory for the duration of the work.

- E. The supervisor or foreman shall be fully responsible for ensuring that all safety conditions and practices continue to be met for the duration of the work.
- F. Every attempt has been made to make the rules established by this procedure as foolproof as possible. However, there is no substitute for intelligent planning and constant alertness in every confined space entry situation. In addition to rigid enforcement of this procedure it is essential that all persons involved in each confined space entry job recognize the extreme hazard involved and act accordingly. Enforcement of these minimum safeguards will, under no circumstances, be considered as relieving those involved from responsibility for any unplanned development or circumstance.

IV. Rules

The following rules apply to all confined spaces unless specific variations have been received, in writing, from the office.

A. General Rules

1. All sources of ignition shall be removed from confined spaces where flammable vapors may be present (e.g., lighters, torches, strikers, etc.).
2. All provisions of the lock out procedure must be satisfied, where applicable (See Procedure III - G, Line Breaking Procedures).
3. Tanks, including jackets and other interconnecting equipment, are to be cleaned by washing, neutralizing and purging as much as possible to eliminate all noxious, poisonous, or flammable materials.
4. All pipes directly connected to the confined space, such as chemical, steam, purge, treating agent, and exit lines must be blanked or removed. Where this is not possible, double block valves with a bleed between is acceptable.
5. Confined spaces must be tested for flammable vapors, toxic gases, and oxygen deficiency prior to entry. In addition, the monitoring devices must continually monitor the confined space atmosphere for the duration of the entry. An audible alarm must sound on the test unit when either the oxygen content falls below 19.5% or the flammable vapor rises above 10% of the L.E.L. (Lower Explosive Limit).
6. No confined space will be entered where the oxygen content is less than 19.5% unless positive pressure air-supplied respiratory protection is used.

7. No welding, cutting or use of spark producing tools is permitted in any confined space where the flammable vapor concentration is or rises above zero on the test unit.
8. Where the formation of hydrogen is a possibility as in acid service, wash water must be checked for neutrality.
9. A constant source of fresh air, introduced in such a manner as to ensure a complete air exchange (introduced near the bottom of the vessel), must be provided for all enclosed vessels.
10. Employees working in the confined space must be under the constant observation of a competent employee stationed outside the confined space.
11. Every person entering an enclosed space (tank, etc.) must wear a rescue harness with life line attached.
12. When a ladder is required to enter a vessel, the ladder must be secured at the top and must not be removed while anyone is inside.
13. Adequate illumination must be provided. Approved low voltage (24 volts or less) protected type must be employed.
14. All electrical equipment to be used inside a vessel must be in perfect condition and properly grounded (exception is double insulated electrical tools).
15. The following rules apply to welding and burning equipment.
 - a. Welding and burning equipment other than torches, hoses, cables and electrodes will not be taken into any vessel. Gas cylinders and/or welding machines will be left outside the vessel.
 - b. Welding and burning elements used inside a vessel must be provided with quick shut-offs simultaneously controlled by the operator and the stand-by observer.
 - c. When gas welding or burning is suspended for an indefinite period of time, the gas supply is to be shut off at the cylinders and the torch removed from the vessel.
16. Additional equipment at the job site must include extra rope, harnesses, air supplied respiratory protective equipment and air operated alarm horn.

B. Standby Observer Rules

1. Employees working inside a confined space must be under constant observation of a fully instructed observer. The observer should be trained in first aid procedures in the event rescue becomes necessary.
2. Before anyone enters the confined space the standby observer will be instructed by the supervisor/foreman in charge of the entry to:
 - a. Review all work and emergency procedures, and confirm that written approvals have been obtained.
 - b. Ensure that rescue harness and life lines are available and used.
 - c. Confirm the location of the nearest:
 - (1) Telephone or two-way radio
 - (2) Safety shower
 - (3) Fire extinguisher
 - d. The observer must be able to describe the location where the entry is taking place.
 - e. Review shut down procedures.
 - f. Remain in continuous contact with the workers as long as someone is inside the vessel. HE IS NOT TO LEAVE THE OBSERVATION POINT, EXCEPT TO REPORT AN EMERGENCY, after first sounding the alarm horn.
 - g. Remain outside the confined vessel. UNDER NO CIRCUMSTANCES SHOULD THE OBSERVER ENTER THE VESSEL. If the injured workers in the vessel become ill or injured, he will sound the alarm and proceed to the nearest telephone or two-way radio. He should speak clearly and give the details about what has happened and where the emergency is. He is to be sure the message is repeated back correctly before leaving the phone or radio.
 - h. Returns to the vessel and directs the rescue team. The observer still DOES NOT ENTER THE VESSEL.
3. In the event a mechanical man-lift cannot be used there must be sufficient additional employees immediately available to effect a rescue if required to remove a worker from a vessel. There also must be a separate source of air (SCBA) available.
4. Every person entering any vessel for rescue purposes must wear a harness with life line attached and a positive pressure air supplied respirator or self contained breathing apparatus (SCBA).
5. If an event occurs in the area of the confined space entry operation, such as a fire, spill, or earthquake the observer must order the employees in the vessel to exit

immediately until it has been determined by the company safety officer that it is safe to re-enter.

V. Special Instructions

A confined space entry action becomes void if any of the following events occur:

- A. The job is interrupted for more than 60 minutes, for any reason.
- B. An employee working in the vessel becomes ill or injured.
- C. A power failure occurs which renders the lighting, telephone, or two-way radio inoperative.
- D. Severe weather conditions occur or are imminent.
- E. If an earthquake occurs.



DAILY CONFINED SPACE ENTRY CHECKLIST

Date: _____

Job No.: _____

No tank or confined space may be entered until this form has been completed, checked, and signed. All personnel must review this form before entry.

- 1. Fill out job safety report (foreman).
- 2. Confined space entry procedure review.
- 3. Hazards of job and methods to safely perform work has been thoroughly explained.
- 4. Confirm all lines disconnected or blinded.
- 5. Check LEL and O₂ level before entering. LEL _____ O₂ _____ Time _____
- 6. Understands operation of blower or other fresh-air source.
- 7. Fresh-air blower setup and in good working condition. (Optional, dependent upon tank or type of confined space.)
- 8. Review work to be completed and what each person will be doing for the day.
- 9. Location of telephone or two-way radio.
- 10. Understanding of how to report an emergency.
- 11. Understanding of location of jobsite.
- 12. Understanding that observer will not leave the jobsite when employees are inside, except to report an emergency.
- 13. Understanding that the observer will not enter the confined space for any reason.
- 14. Knows the location of water.
- 15. Knows the location of fire extinguisher and how to use it.
- 16. Has all necessary equipment including air horn.
- 17. Knows how to shut off welding/burning equipment.

This form may not be signed unless all pre-entry requirements are checked or explained.

Signatures: 1. _____
2. _____
3. _____

APPENDIX B

**LIQUID WASTE PROFILE SHEETS
UNIFORM HAZARDOUS WASTE MANIFESTS**

HAZ CONTROL

P.O. Box 1626
Gilroy, California 95021-1626
(408) 848-1470
FAX (408) 848-1124

101485

Stewart

PROFILE NUMBER	G 8581
LAB APPROVAL	<i>[Signature]</i> 7-22-91
SITE APPROVAL	<i>[Signature]</i> 7-18-91
PRICING CODE	DOER Special
<input type="checkbox"/> LAND BAN FORM REQUIRED	

RUSH HAZ / CONTROL, INC. WASTE PROFILE SHEET

A. GENERAL INFORMATION

GENERATOR EPA # C1AD066572363

GENERATOR NAME ICT THORO SYSTEM PRODUCTS

CALIF. B.O.E. TAX I.D. HAHQ36039228

FACTORY ADDRESS 38403 CHERRY ST.

NEWARK, CA 94560

HAZ CONTROL USE ONLY REMARKS: LOW BTU

BILLING ADDRESS SAME

TECHNICAL CONTACT BRUCE MACPHERSON (EXCELTECH)

NAME OF WASTE LATEX SUMP WASTE

TITLE PLANT SUPER. PHONE (415) 659-0404

PROCESS GENERATING WASTE LATEX PAINT MANUFACTURE

B. PHYSICAL CHARACTERISTICS

COLOR BROWNISH PHYSICAL STATE @ 70°F SOLID SEMI SOLID LIQUID

ODOR MILD LAYERS MULTILAYERED SINGLE PHASED BI-LAYERED

FREE LIQUIDS YES NO VOLUME 95%+

FLASH POINT <70°F 70°F-100°F 101°F-139°F 140°F-200°F >200°F CLOSED CUP OPEN CUP EXACT BTU 110.00

PH <2.0 2.1-3.9 4.0-6.9 7.0 7.1-10.0 >12.5 EXACT 6.0 N/A NORMALITY N

SPECIFIC GRAVITY <0.8 0.8-1.0 1.1-1.2 1.3-1.4 1.5-1.7 >1.7 EXACT

C. CHEMICAL COMPOSITION (TOTALS MUST EQUAL OR EXCEED 100%)

WATER	90	98	%
OIL	1	5	%
LATEX PAINT	2	10	%
DIRT / SEDIMENT	1	2	%

D. METALS

TOTAL (PPM)	EPA EXTRACTION PROCEDURE (MG/L)
ARSENIC (As)	SELENIUM (Se)
BARIUM (Ba)	SILVER (Ag)
CADMIUM (Cd)	COPPER (Cu)
CHROMIUM (Cr)	NICKEL (Ni)
MERCURY (Hg)	ZINC (Zn)
LEAD (Pb)	THALLIUM (Tl)
CHROMIUM HEX (Cr#6)	OTHER

F. SHIPPING INFORMATION LAB PACK-DISREGARD THIS SECTION

PROPER SHIPPING NAME NON-RCRA HAZARDOUS WASTE LIQUID

HAZARD CLASS NONE ID# NONE R.O. NONE

METHOD OF SHIPMENT: BULK LIQUID DRUM (TYPE/SIZE) _____ GALLONS

ANTICIPATED VOLUME 1500 GALLONS

PER ONE TIME WEEK MONTH QUARTER YEAR

E. OTHER COMPONENTS

CYANIDES	TOTAL (PPM)	AMINES	NO	YES
SULFIDES		PCB'S		
		PHENOLICS		

7G. HAZARDOUS PROPERTIES

<input type="checkbox"/> WATER REACTIVE	<input type="checkbox"/> AIR REACTIVE	<input checked="" type="checkbox"/> NONE
<input type="checkbox"/> SHOCK SENSITIVE	<input type="checkbox"/> PYROPHORIC	<input type="checkbox"/> EXPLOSIVE
<input type="checkbox"/> RADIOACTIVE	<input type="checkbox"/> PESTICIDE RESIDUALS	<input type="checkbox"/> POLYMERIZED
<input type="checkbox"/> CORROSIVE	<input type="checkbox"/> TOXIC VAPOR	<input type="checkbox"/> IGNITABLE
<input type="checkbox"/> BIOLOGICAL	<input type="checkbox"/> ETIOLOGICAL	<input type="checkbox"/> PATHOGEN
<input type="checkbox"/> OTHER _____		

SPECIAL HANDLING INSTRUCTIONS: We are appropriate protective clothing.

USEPA HAZARDOUS WASTE? YES NO

USEPA HAZARDOUS CODE(S) NON-RCRA

STATE HAZARDOUS WASTE? YES NO CODE(S) 291/201

CALIF. E.H. WASTE? YES NO PERMIT # N/A

PLEASE ATTACH EH PERMIT EXP. DATE _____

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS COMPLETE AND ACCURATE AND THAT ALL KNOWN OR SUSPECTED HAZARDOUS WASTES HAVE BEEN DISCLOSED. I ALSO CERTIFY THAT THE OBTAINED SAMPLE IS REPRESENTATIVE OF THE WASTIC MATERIAL DESCRIBED ABOVE.

AUTHORIZED SIGNATURE: [Signature] TITLE: PLANT MANAGER DATE: 7/3/91

HAZ/CONTROL
Analytical Laboratory

- . Environmental Analysis
- . Industrial Analysis.
- . Hazardous Waste

Date Sampled : 7-10-91
Date Received : 7-10-91
Date Analyzed : 7-10-91
Method of Analysis: Fingerprint
Matrix : liquid
Concentration Units : N/A

Attention :
Thoro Systems Products
Manifest # : N/A
Profile # : N/A
Lab # : 07043

Results

Color	brown
Physical state	liquid
Odor	mild
Phases	bi-layered
Water reactive	insoluble
Specific gravity (Lb/gal)	7.94
Density (gm/cm ³)	N/A
Flashpoint (degree F)	>212
pH	6.0
Normality (N)	N/A
Oxidant	Negative
Free cyanide (ppm)	Negative
Flammable	Negative
Total Organic Halides	negative
Heat of combustion (BTU/Lb)	110.00
PCB's	N/A
Metals	see attached

N/D : Not Determined
N/A : Not Applicable

W. Johnson 7/12/91

Analyst Date

Analytical Laboratory
 Date Sampled : 7-10-91
 Date Received : 7-10-91
 Date Analyzed : 7-10-91
 Method of Analysis : EPA 7000
 Matrix : liquid
 Concentration Units : ppm

. Environmental Analysis
 . Industrial Analysis
 . Hazardous Waste
Attention
 Thoro Systems Products
 Manifest : N/A
 Profile # : N/A
 Lab # : 107043

Analysis Report

Elements	EPA #	Detc. Limit	Sample	Blank
Silver (Ag)	7760	0.05	ND	ND
Arsenic (As)	7060	0.005	ND	ND
Barium (Ba)	7080	0.1	ND	ND
Beryllium (Be)	7090	0.05	ND	ND
Cadmium (Cd)	7130	0.05	ND	ND
Cobalt (Co)	7200	0.05	ND	ND
Chromium (Cr)	7190	0.05	ND	ND
Copper (Cu)	7210	0.05	0.82	ND
Molybdenum (Mo)	7480	0.1	ND	ND
Nickel (Ni)	7520	0.10	ND	ND
Lead (Pb)	7420	0.10	ND	ND
Antimony (Sb)	7020	0.5	ND	ND
Selenium (Se)	7740	0.002	ND	ND
Thallium (Tl)	7840	0.1	ND	ND
Vanadium (V)	7910	0.2	ND	ND
Zinc (Zn)	7950	0.05	45	ND

ND = Not Detected
 NS = Not Spiked
 % MS = Percent recovery of the first spike
 % MSD = Percent recovery of the second spike

The sample was extracted on 07-10-91 by EPA method 3050.

W. L. Latham 7/17/91
 Analyst Date

Certified by State of California (number 1549)

California—Health and Welfare Agency
proved OMB No. 2060-0038 (Expires 9-30-91)
print or type. (Form designed for use on site (12-pitch typewriter).

See Instructions on Back of Page 6
and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C A D 0 0 6 6 5 7 2 3 6 3		Manifest Document No. 4 5 0 3 9	2. Page 1 of 1		Information in the shaded areas is not required by Federal law.		
3. Generator's Name and Mailing Address ICI THORO SYSTEM PRODUCTS 38403 CHERRY ST. NEWARK, CA. 94560					A. State Manifest Document Number 8 8 2 4 5 0 3 9				
4. Generator's Phone (415) 659-0404					B. State Generator's ID H A H Q 3 6 0 3 9 2 2 6				
5. Transporter 1 Company Name HAZ/CONTROL, INC.		6. US EPA ID Number C A D 0 0 0 6 2 8 1 4 9		C. State Transporter's ID 1 1 5 9 6 2		D. Transporter's Phone 408-848-1470			
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Phone			
9. Designated Facility Name and Site Address HAZ/CONTROL, INC. 731 RENZ LANE GILROY, CA. 95020		10. US EPA ID Number C A D 0 0 0 6 2 8 1 4 9		G. State Facility's ID C A D 0 0 0 6 2 8 1 4 9		H. Facility's Phone 408-848-1470			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) a. NON REHA HAZARDOUS WASTE LIQUID				12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol	L Waste No.
				2011 TT		01/420 G		State EPA/Other 1221 HA	
b.								State EPA/Other	
c.								State EPA/Other	
d.								State EPA/Other	
J. Additional Descriptions for Materials Listed Above WATER OIL LATEX PAINT DIRT					K. Handling Codes for Wastes Listed Above a. 14/01 b. — c. — d. —				
15. Special Handling Instructions and Additional Information EMERGENCY CONTACT: WEAR PROTECTIVE CLOTHING AND SAFETY GEAR.					DATE/TIME IN: 88-91 12:30 PM				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name JAMES TARZA				Signature <i>[Signature]</i>		Month Day Year 08 08 91			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name MORRIS A. LOPEZ				Signature <i>[Signature]</i>		Month Day Year 08 08 91			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature		Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name HAZ/CONTROL PERNAZ SIDDIGUI									
Signature <i>[Signature]</i>				Month Day Year 08 08 91					

APPENDIX C

**SLUDGE PROFILING LABORATORY REPORTS
CHAIN-OF-CUSTODY DOCUMENTS**



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-10043-17, ICI America	Sampled: Dec 19, 1991
42501 Albrae Street, Suite 100	Sample Descript: Soil, 1 & 2	Received: Dec 19, 1991
Fremont, CA 94538	Analysis Method: EPA 8270	Extracted: Dec 19, 1991
Attention: Anthony Enerio	Lab Number: 112-3316	Analyzed: Dec 20, 1991
		Reported: Dec 20, 1991

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene.....	20,000	N.D.
Acenaphthylene.....	20,000	N.D.
Aniline.....	20,000	N.D.
Anthracene.....	20,000	N.D.
Benidine.....	500,000	N.D.
Benzoic Acid.....	100,000	N.D.
Benzo(a)anthracene.....	20,000	N.D.
Benzo(b)fluoranthene.....	20,000	N.D.
Benzo(k)fluoranthene.....	20,000	N.D.
Benzo(g,h,i)perylene.....	20,000	N.D.
Benzo(a)pyrene.....	20,000	N.D.
Benzyl alcohol.....	20,000	N.D.
Bis(2-chloroethoxy)methane.....	20,000	N.D.
Bis(2-chloroethyl)ether.....	20,000	N.D.
Bis(2-chloroisopropyl)ether.....	20,000	N.D.
Bis(2-ethylhexyl)phthalate.....	100,000	N.D.
4-Bromophenyl phenyl ether.....	20,000	N.D.
Butyl benzyl phthalate.....	20,000	72,000
4-Chloroaniline.....	20,000	N.D.
2-Chloronaphthalene.....	20,000	N.D.
4-Chloro-3-methylphenol.....	20,000	N.D.
2-Chlorophenol.....	20,000	N.D.
4-Chlorophenyl phenyl ether.....	20,000	N.D.
Chrysene.....	20,000	N.D.
Dibenz(a,h)anthracene.....	20,000	N.D.
Dibenzofuran.....	20,000	N.D.
Di-N-butyl phthalate.....	100,000	N.D.
1,3-Dichlorobenzene.....	20,000	N.D.
1,4-Dichlorobenzene.....	20,000	N.D.
1,2-Dichlorobenzene.....	20,000	N.D.
3,3-Dichlorobenzidine.....	100,000	N.D.
2,4-Dichlorophenol.....	20,000	N.D.
Diethyl phthalate.....	20,000	N.D.
2,4-Dimethylphenol.....	20,000	N.D.
Dimethyl phthalate.....	20,000	N.D.
4,6-Dinitro-2-methylphenol.....	100,000	N.D.
2,4-Dinitrophenol.....	100,000	N.D.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-10043-17, ICI America	Sampled: Dec 19, 1991
42501 Albrae Street, Suite 100	Sample Descript: Soil, 1 & 2	Received: Dec 19, 1991
Fremont, CA 94538	Analysis Method: EPA 8270	Extracted: Dec 19, 1991
Attention: Anthony Enerio	Lab Number: 112-3316	Analyzed: Dec 20, 1991
		Reported: Dec 20, 1991

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene.....	20,000	N.D.
2,6-Dinitrotoluene.....	20,000	N.D.
Di-N-octyl phthalate.....	20,000	N.D.
Fluoranthene.....	20,000	N.D.
Fluorene.....	20,000	N.D.
Hexachlorobenzene.....	20,000	N.D.
Hexachlorobutadiene.....	20,000	N.D.
Hexachlorocyclopentadiene.....	20,000	N.D.
Hexachloroethane.....	20,000	N.D.
Indeno(1,2,3-cd)pyrene.....	20,000	N.D.
Isophorone.....	20,000	N.D.
2-Methylnaphthalene.....	20,000	N.D.
2-Methylphenol.....	20,000	N.D.
4-Methylphenol.....	20,000	N.D.
Naphthalene.....	20,000	N.D.
2-Nitroaniline.....	100,000	N.D.
3-Nitroaniline.....	100,000	N.D.
4-Nitroaniline.....	100,000	N.D.
Nitrobenzene.....	20,000	N.D.
2-Nitrophenol.....	20,000	N.D.
4-Nitrophenol.....	100,000	N.D.
N-Nitrosodiphenylamine.....	20,000	N.D.
N-Nitroso-di-N-propylamine.....	20,000	N.D.
Pentachlorophenol.....	100,000	N.D.
Phenanthrene.....	20,000	N.D.
Phenol.....	20,000	N.D.
Pyrene.....	20,000	N.D.
1,2,4-Trichlorobenzene.....	20,000	N.D.
2,4,5-Trichlorophenol.....	100,000	N.D.
2,4,6-Trichlorophenol.....	20,000	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-10043-17, ICI America	Sampled: Dec 19, 1991
42501 Albrae Street, Suite 100	Sample Descript: Soil, 1 & 2	Received: Dec 19, 1991
Fremont, CA 94538	Analysis Method: EPA 8270 & "Open Scan"	Extracted: Dec 19, 1991
Attention: Anthony Enerio	Lab Number: 112-3316	Analyzed: Dec 20, 1991
		Reported: Dec 20, 1991

SEMI-VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Detection Limit $\mu\text{g}/\text{kg}$	Sample Results $\mu\text{g}/\text{kg}$
Decane, 3, 6-Dimethyl	40,000	88,000
Phenol, 4-(2, 2, 3, 3-Tetramethylbutyl)	40,000	210,000
Benzophenone	40,000	110,000
High Boiling Point Hydrocarbon	40,000	100,000,000

No additional peaks > 40,000 $\mu\text{g}/\text{kg}$ were identified by the Mass Spectral Library.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library. Positive identification or specification between isomers cannot be made without retention time standards.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-10043-17, ICI America	Sampled: Dec 19, 1991
42501 Albrae Street, Suite 100	Sample Descript: Soil, 1 & 2	Received: Dec 19, 1991
Fremont, CA 94538	Analysis Method: EPA 8240	Analyzed: Dec 19, 1991
Attention: Anthony Enerio	Lab Number: 112-3316	Reported: Dec 20, 1991

VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	5,000	N.D.
Benzene.....	1,000	N.D.
Bromodichloromethane.....	1,000	N.D.
Bromoform.....	1,000	N.D.
Bromomethane.....	1,000	N.D.
2-Butanone.....	5,000	N.D.
Carbon disulfide.....	1,000	N.D.
Carbon tetrachloride.....	1,000	N.D.
Chlorobenzene.....	1,000	N.D.
Chloroethane.....	1,000	N.D.
2-Chloroethyl vinyl ether.....	5,000	N.D.
Chloroform.....	1,000	N.D.
Chloromethane.....	1,000	N.D.
Dibromochloromethane.....	1,000	N.D.
1,1-Dichloroethane.....	1,000	N.D.
1,2-Dichloroethane.....	1,000	N.D.
1,1-Dichloroethene.....	1,000	N.D.
cis-1,2-Dichloroethene.....	1,000	N.D.
trans-1,2-Dichloroethene.....	1,000	N.D.
1,2-Dichloropropane.....	1,000	N.D.
cis-1,3-Dichloropropene.....	1,000	N.D.
trans-1,3-Dichloropropene.....	1,000	N.D.
Ethylbenzene.....	1,000	N.D.
2-Hexanone.....	5,000	N.D.
Methylene chloride.....	5,000	N.D.
4-Methyl-2-pentanone.....	5,000	N.D.
Styrene.....	1,000	N.D.
1,1,2,2-Tetrachloroethane.....	1,000	N.D.
Tetrachloroethene.....	1,000	N.D.
Toluene.....	1,000	N.D.
1,1,1-Trichloroethane.....	1,000	N.D.
1,1,2-Trichloroethane.....	1,000	N.D.
Trichloroethene.....	1,000	N.D.
Trichlorofluoromethane.....	1,000	N.D.
Vinyl acetate.....	1,000	N.D.
Vinyl chloride.....	1,000	N.D.
Total Xylenes.....	1,000	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-10043-17, ICI America	Sampled: Dec 19, 1991
42501 Albrae Street, Suite 100	Sample Descript: Soil, 1 & 2	Received: Dec 19, 1991
Fremont, CA 94538	Analysis Method: EPA 8240 & "Open Scan"	Analyzed: Dec 19, 1991
Attention: Anthony Enerio	Lab Number: 112-3316	Reported: Dec 20, 1991

VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Detection Limit $\mu\text{g}/\text{kg}$	Sample Results $\mu\text{g}/\text{kg}$
---------	--	---

No additional peaks > 50 $\mu\text{g}/\text{kg}$ were identified by the Mass Spectral Library.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library. Positive identification or specification between isomers cannot be made without retention time standards.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Anthony Enerio

Client Project ID: 3-10043-17, ICI America
Method (units): EPA 8240 (µg/L purged)
Analyst(s): G. Meyer
QC Sample #: BLK121991

Q.C. Sample Dates

Analyzed: Dec 19, 1991
Reported: Dec 20, 1991

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloroethene	N.D.	50	42	84	42	84	0.0
Trichloroethene	N.D.	50	51	102	47	94	8.2
Benzene	N.D.	50	50	100	46	92	8.3
Toluene	N.D.	50	53	106	49	98	7.8
Chlorobenzene	N.D.	50	53	106	49	98	7.8

SEQUOIA ANALYTICAL

Christine Middleton

Maria Lee
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Anthony Enerio

Client Project ID: 3-10043-17, ICI America
Method: EPA 8270
Analyst(s): E. Manuel
QC Sample #: SBLK121691

Q.C. Sample Dates
Extracted: Dec 16, 1991
Analyzed: Dec 21, 1991
Reported: Dec 20, 1991

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
Phenol	N.D.	100	99	99	98	98	1.0
2-Chlorophenol	N.D.	100	95	95	100	100	5.1
1,4-Dichloro-benzene	N.D.	50	46	92	45	90	2.2
N-Nitroso-Di-N-propylamine	N.D.	50	47	94	48	96	2.1
1,2,4-Trichloro-benzene	N.D.	50	47	94	46	92	2.2
4-Chloro-3-Methylphenol	N.D.	100	102	102	99	99	3.0
Acenaphthene	N.D.	50	52	104	48	96	8.0
4-Nitrophenol	N.D.	100	109	109	106	106	2.8
2,4-Dinitro-toluene	N.D.	50	45	90	45	90	0.0
Pentachloro-phenol	N.D.	100	110	110	111	111	0.9
Pyrene	N.D.	50	51	102	52	104	1.9

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

42501 Albrae Street
Fremont, CA 94538
Phone: (510) 623-0775
(800) 247-5223
FAX: (510) 651-8754

ANALYSIS REPORT

1020lab.frm

Attention:	Mr. Gary Dellavecchia RESNA 42501 Albrae St., Ste 100 Fremont, CA 94538	Date Sampled:	12-09-91
		Date Received:	12-19-91
		Date Extracted:	12-19-91
		Date Reported:	12-20-91
Project:	AGS 19513L,3-10043-17 ICI America Client Sample ID: 1 & 2 Composite	Batch No.:	0033,0034,0035
		Matrix:	Soil
		Lab ID #:	S1112744

Element	Results (mg/kg)	Rpt. Limit (mg/kg)	Method
Ag (Silver)	ND	3.0	6010
As (Arsenic)	0.70	0.50	7060
Ba (Barium)	33	5.0	6010
Be (Beryllium)	ND	0.50	6010
Cd (Cadmium)	0.61	0.50	6010
Cr (Chromium - total)	21	5.0	6010
Co (Cobalt)	7.1	5.0	6010
Cu (Copper)	35	5.0	6010
Hg (Mercury)	ND	0.05	7470
Mo (Molybdenum)	ND	5.0	6010
Ni (Nickel)	18	5.0	6010
Pb (Lead)	6.7	5.0	6010
Sb (Antimony)	ND	20	6010
Se (Selenium)	ND	0.50	7740
Tl (Thallium)	ND	20	6010
V (Vanadium)	17	5.0	6010
Zn (Zinc)	920	5.0	6010

Analysis Report: CAM Metals, TTLC, EPA Method 6010/7000.
Rpt. Limit - Reporting Limit
ND - Not Detected at or above indicated Reporting Limit.
NR - Not Requested.

Kenneth Bowers
Laboratory Representative

February 5, 1992
Date Reported



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-30112-11, ICI America	Sampled: Jan 7, 1992
42501 Albrae Street, Suite 100	Sample Descript: Soil, Sump 1	Received: Jan 7, 1992
Fremont, CA 94538	Analysis Method: EPA 8270	Extracted: Jan 10, 1992
Attention: Anthony Enerio	Lab Number: 201-0532	Analyzed: Jan 14, 1992
		Reported: Jan 16, 1992

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene.....	100,000	N.D.
Acenaphthylene.....	100,000	N.D.
Aniline.....	100,000	N.D.
Anthracene.....	100,000	N.D.
Benzidine.....	2,500,000	N.D.
Benzoic Acid.....	500,000	N.D.
Benzo(a)anthracene.....	100,000	N.D.
Benzo(b)fluoranthene.....	100,000	N.D.
Benzo(k)fluoranthene.....	100,000	N.D.
Benzo(g,h,i)perylene.....	100,000	N.D.
Benzo(a)pyrene.....	100,000	N.D.
Benzyl alcohol.....	100,000	N.D.
Bis(2-chloroethoxy)methane.....	100,000	N.D.
Bis(2-chloroethyl)ether.....	100,000	N.D.
Bis(2-chloroisopropyl)ether.....	100,000	N.D.
Bis(2-ethylhexyl)phthalate.....	500,000	N.D.
4-Bromophenyl phenyl ether.....	100,000	N.D.
Butyl benzyl phthalate.....	100,000	100,000
4-Chloroaniline.....	100,000	N.D.
2-Chloronaphthalene.....	100,000	N.D.
4-Chloro-3-methylphenol.....	100,000	N.D.
2-Chlorophenol.....	100,000	N.D.
4-Chlorophenyl phenyl ether.....	100,000	N.D.
Chrysene.....	100,000	N.D.
Dibenz(a,h)anthracene.....	100,000	N.D.
Dibenzofuran.....	100,000	N.D.
Di-N-butyl phthalate.....	500,000	N.D.
1,3-Dichlorobenzene.....	100,000	N.D.
1,4-Dichlorobenzene.....	100,000	N.D.
1,2-Dichlorobenzene.....	100,000	N.D.
3,3-Dichlorobenzidine.....	500,000	N.D.
2,4-Dichlorophenol.....	100,000	N.D.
Diethyl phthalate.....	100,000	N.D.
2,4-Dimethylphenol.....	100,000	N.D.
Dimethyl phthalate.....	100,000	N.D.
4,6-Dinitro-2-methylphenol.....	500,000	N.D.
2,4-Dinitrophenol.....	500,000	N.D.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-30112-11, ICI America	Sampled: Jan 7, 1992
42501 Albrae Street, Suite 100	Sample Descript: Soil, Sump 1	Received: Jan 7, 1992
Fremont, CA 94538	Analysis Method: EPA 8270	Extracted: Jan 10, 1992
Attention: Anthony Enerio	Lab Number: 201-0532	Analyzed: Jan 14, 1992
		Reported: Jan 16, 1992

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene.....	100,000	N.D.
2,6-Dinitrotoluene.....	100,000	N.D.
Di-N-octyl phthalate.....	100,000	N.D.
Fluoranthene.....	100,000	N.D.
Fluorene.....	100,000	N.D.
Hexachlorobenzene.....	100,000	N.D.
Hexachlorobutadiene.....	100,000	N.D.
Hexachlorocyclopentadiene.....	100,000	N.D.
Hexachloroethane.....	100,000	N.D.
Indeno(1,2,3-cd)pyrene.....	100,000	N.D.
Isophorone.....	100,000	N.D.
2-Methylnaphthalene.....	100,000	N.D.
2-Methylphenol.....	100,000	N.D.
4-Methylphenol.....	100,000	N.D.
Naphthalene.....	100,000	N.D.
2-Nitroaniline.....	500,000	N.D.
3-Nitroaniline.....	500,000	N.D.
4-Nitroaniline.....	500,000	N.D.
Nitrobenzene.....	100,000	N.D.
2-Nitrophenol.....	100,000	N.D.
4-Nitrophenol.....	500,000	N.D.
N-Nitrosodiphenylamine.....	100,000	N.D.
N-Nitroso-di-N-propylamine.....	100,000	N.D.
Pentachlorophenol.....	500,000	N.D.
Phenanthrene.....	100,000	N.D.
Phenol.....	100,000	N.D.
Pyrene.....	100,000	N.D.
1,2,4-Trichlorobenzene.....	100,000	N.D.
2,4,5-Trichlorophenol.....	500,000	N.D.
2,4,6-Trichlorophenol.....	100,000	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA
42501 Albrae Street, Suite 100
Fremont, CA 94538
Attention: Anthony Enerio

Client Project ID: 3-30112-11, ICI America
Method: EPA 8270
Analyst(s): G. Meyer
QC Sample #: SBLK010392

Q.C. Sample Dates
Extracted: Jan 3, 1992
Analyzed: Jan 3, 1992
Reported: Jan 16, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike % Recovery	Relative % Difference
Phenol	N.D.	100	88	88	85	85	3.5
2-Chlorophenol	N.D.	100	98	98	100	100	2.0
1,4-Dichlorobenzene	N.D.	50	46	92	45	90	2.2
N-Nitroso-Di-N-propylamine	N.D.	50	43	86	43	86	0.0
1,2,4-Trichlorobenzene	N.D.	50	52	104	51	102	1.9
4-Chloro-3-Methylphenol	N.D.	100	109	109	110	110	0.90
Acenaphthene	N.D.	50	50	100	49	98	2.0
4-Nitrophenol	N.D.	100	76	76	76	76	0.0
2,4-Dinitrotoluene	N.D.	50	45	90	42	84	6.9
Pentachlorophenol	N.D.	100	60	60	55	55	3.5
Pyrene	N.D.	50	50	100	48	96	4.1

SEQUOIA ANALYTICAL

Maria Lee
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RESNA	Client Project ID: 3-30112-11, ICI America	Sampled: Jan 7, 1992
42501 Albrae Street, Suite 100	Sample Descript: Soil, Sump 1	Received: Jan 7, 1992
Fremont, CA 94538	Analysis Method: EPA 8270 & "Open Scan"	Extracted: Jan 10, 1992
Attention: Anthony Enerio	Lab Number: 201-0532	Analyzed: Jan 14, 1992
		Reported: Jan 17, 1992

SEMI-VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Detection Limit $\mu\text{g}/\text{kg}$	Sample Results $\mu\text{g}/\text{kg}$
Decane.....	200,000	250,000
Octane, 2, 4, 6-Trimethyl.....	200,000	550,000
3-Methyl Undecane, 3-Methyl.....	200,000	630,000
High Boiling Point Hydrocarbon Matrix.....	200,000	180,000,000

No additional peaks > 200,000 $\mu\text{g}/\text{kg}$ were identified by the Mass Spectral Library.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library. Positive identification or specification between isomers cannot be made without retention time standards.

