

STATUS REPORT FOR THE BUILDING 61 OIL CLEANUP  
AND LANDFARM PROJECT

GE ARMAMENT SYSTEMS DEPARTMENT  
LAKESIDE AVENUE, BURLINGTON, VERMONT

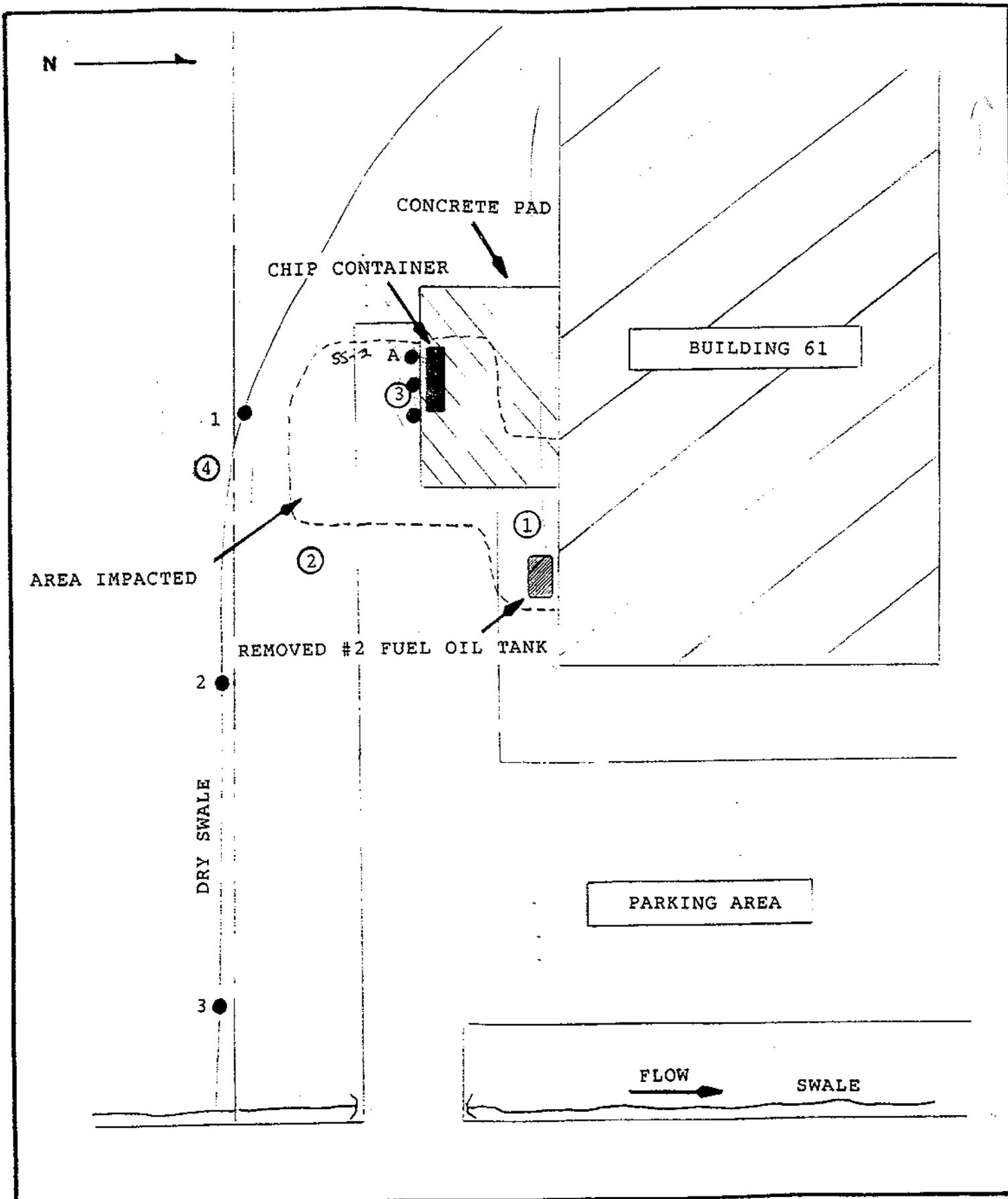
AUGUST, 1990

## 1.0 INTRODUCTION

Building 61 is a manufacturing facility located on the west side of Industrial Parkway in Burlington, Vermont. This GE facility is a machine shop that drills and turns gun barrels. In order for the tools to operate properly the point where the tool meets the gun barrel steel must be lubricated and cooled. Both water soluble coolant oils and non-soluble cutting oils are used for this purpose. As the steel turnings or "chips" are removed from the stock, some of the coolant or oil is carried with them. In one particularly oily process the chips are fed into a shredder and then to a centrifuge where the oil is spun out. For other processes the chips are loaded into hand trucks where the oil is drained from a valve in the bottom. There are also areas where the hand trucks have no provision for oil drainage. These require diligence on the part of the maintenance crew to segregate the oil or coolant which may accumulate at the bottom of the container.

The chips were taken from the hand trucks to a 22 foot roll-off container previously located on a concrete pad on the north side of the building. The chips are segregated from the solid waste stream for recycling. The roll-off container is constructed of steel and is perforated along the bottom to allow for drainage of rainwater. The perforation also had allowed any residual coolant or oil to drain onto the concrete pad that the roll-off rested on. The natural slope of the pad was such that any liquids flowed to the north onto a grassed area. Prior to excavation there was visual evidence of oil staining on the concrete pad as well as some low areas in the crushed stone driveway to the south of the pad. The crushed stone covered the area between the concrete pad and a small, dry, drainage swale. There was no direct visual evidence of oil in the swale prior to excavation.

The metal chips are now handled at the Lakeside Avenue facility. The roll-off containers are now located within a steel



NOT TO SCALE

KEY: Open circles are monitoring wells and darkened circles are soils sample points

Figure 1. Sketch map showing monitoring wells and sample points.

containment pan and are under the cover of a roof. This has eliminated the potential for further releases.

Evidence for a release, as noted above, was observed by Gary Kjelleren, Environmental Specialist, on the afternoon of April 24th, 1990. The State of Vermont was notified of the spill on April 25, 1990. They were apprised of GE's proposed effort to remove any soils that appeared to be oil impacted. The soil removal began on April 26th and continued through May 4th.

During the first day of the removal it became apparent that the impacted area was more extensive than had been indicated by the initial observations. Wehran Engineering was called in to provide technical support and the State contacted to inform them of the findings. GE requested that the State send a representative to the site to confirm the proposed program for excavation and remediation of the soils. Chuck Schwere and Patric Coyne of Hazardous Materials visited the site on April 28th and reviewed what was under way and what GE was planning to do. Both inspectors concurred with GE's approach and indicated that it exceeded what the State's normal requirements. Mr. Schwere offered to send GE a copy of the draft landfarming guidelines. These were used as a basis for the landfarm designed by GE. As noted below GE has gone beyond the guidelines to create a more secure landfarm than the guidelines recommend.

Landfarming was selected as the most environmentally responsible method for addressing the oil contaminated soils. Oils are relatively easy to bioremediate. It should be emphasized that the cutting oils and coolant oils used in Building 61 are nonhazardous and do not contain hazardous constituents (MSDS sheets for all oils used are in Attachment 1, this includes past use). The oil was not a waste product, but was a residue accidentally released during the course of recycling metal chips.

## 2.0 METHODS

Soils to be removed were identified by the discoloration produced by the oils. GE chose to be very conservative in the

removal process, going so far as to remove any soils that did not look completely natural. A calibrated HNU was used to measure volatile organic compounds. The HNU was in good condition and had a span setting of 9.8.

Soils were segregated into two waste streams. The soils found to be oil saturated were drummed and treated as a regulated substance. Soils that were discolored but not saturated were removed to a specially prepared area for land farming.

The landfarming area is on an adjacent GE property. Prior to spreading the soils a containment area was prepared. This consists of a 6 inch layer of sand covered with plastic with another 6 inch layer of sand also covered with 4.5 mil plastic. The plastic extends approximately 5 to 15 feet past the edges of the sand layer so that it can be folded up onto the pile to prevent any runoff from the pile. The sides of the sand base were bermed to contain any leachate produced by precipitation percolating through the impacted soils. During the excavation process the entire soil pile was covered by a sheet of 4.5 mil plastic. Approximately 450 yards of soils were removed for landfarming.

Four 55 gallon drums of oil saturated soil were removed and disposed of as hazardous waste. The saturated material came from the area where the edge of the concrete pad met the soils.

The oil impacted soils were spread on the landfarm at a depth of approximately 1 foot. A four inch layer of cattle manure was spread over the entire pile and tilled in using a large mechanical tiller. The manure provides nutrients to promote the bacterial action necessary for breaking down the oil. A weekly tilling schedule was initiated after the baseline sampling was completed.

Soil samples were collected by Wehran Engineering and analyzed by Aquatec. Samples were taken at both the landfarm and the location where the oils had leaked. Those samples taken at the landfarm were each composites of ten locations. Six composite sets were collected at the landfarm. Numerous surface grab samples were collected in the spill area (Figure 1). In addition,

samples were collected from soil borings in the spill area.

All tools used in the soil collection were decontaminated between samples. Decontamination consisted of a water wash, detergent wash, a methanol rinse, and a DI rinse. In the case of split spoon samples taken with a drilling rig (Adams Engineering) the sampler was steam cleaned between samples.

Borings were advanced in order to assess whether oils had migrated to depth and to install monitors to evaluate groundwater flow direction if soil contaminants were detected.

### 3.0 FINDINGS

The visual evidence of soil impact on the surface of the ground consisted of oily stains on the crushed stone immediately adjacent to the concrete pad. These stains were not extensive due to the fact that the oils seeped below the surface of the stone before they traveled more than 2 to 3 feet. The soil under the 1 to 2 foot thick crushed stone layer is composed of a very dense clayey silt. Some small pockets of fine sand were noted on the silt surface. These were found to extend 1 to 2 feet deep in several areas. The crushed stone was in an excavated depression in the silt surface. To a certain extent this depression contained the oil leakage as well as surface water runoff.

Soils were removed using a large excavator with a wide ditching bucket. This allowed for removal of thin layers of soil. The excavation was initiated at the source area and extended laterally as required. A removal depth of 1.5 to 3 feet was found to be sufficient for removal of visually identifiable impacted soils. The excavation dimensions ended up being approximately 100 by 45 feet.

Table 1 OVA, volatile organic, and oil and grease data for samples collected from the four soil borings.

Loc.	Depth	Ova (ppm)	VOC (ug/kg)	Oil/Grease (ppm)	
SB01A	0-5'	1.	methylene chloride	15	1560
			toluene	26	
			xylenes	7.6	
SB01B	4-9'	12	chloroform	10	
			methylene chloride	15	
SB02A	0-2'	4	ND	ND	
SB02B	2-4'	90	ND		
SB02C	4-9'	100	ND		
SB03A	4-5'	20	ND		
SB04A	8"	ND	ND		

ND= not detected

As the excavation progressed it became apparent that oily soils were probably located under the concrete pad. Upon discussion with some long-time employees, it was discovered that a portion of the pad had been poured in the last 6 to 7 years. Prior to the new pad, the chip container had been located on a gravel bed where the newer pad was located. An excavator with a special hydraulic hammer was brought in to break up a section of the pad in order to allow for inspection. Oily soils were identified beneath the pad. The pad and soils beneath it were removed. The concrete was taken to the landfill (as per Mr. Schwere's direction) and the soils managed as previously noted.

The soils in the spill area were found to increase in clay content and density to the maximum boring depth of 10 feet. The moisture content in the soils was difficult to positively assess due to the high density. OVA readings were taken off of each soil sample by placing a portion of the sample in a zip lock plastic bag and allowing it to reach ambient temperature (70 degrees).

The corner of the bag was opened to insert an OVA probe and a reading taken. An OVA response above ambient air concentrations was noted in several of the samples (Table 1). The samples were not evaluated for methane, so it is possible that the readings were either volatiles, methane, or a combination of both. Samples were collected from depths where elevated OVA levels were noted and submitted to Aquatec to be run for volatile organics and oil and grease analysis.

Monitoring wells were installed in the three borings in order to take advantage of the open boreholes in case there were future requirements for groundwater monitoring or hydrogeologic evaluation. Sampling of the wells was to be performed if the soil results indicated elevated concentrations of oil and grease or volatile organics. The monitoring well installations consist of a 5 foot long screen section that is sand packed and sealed with a 1 foot layer of benonite pellets. At the time of installation the wells were essentially dry. This is a function of the very low permeability soils and not due to placement above the water table. The monitoring wells now contain water.

The results of the soil sampling (Attachment 2, Table 1) indicate that the oils were contained by the low permeability soils and have not extended below the visibly impacted upper horizon.

A survey for potential receptors was performed. No known wells or surface waters are in the area. The nearest location of a drainage ditch that was carrying water was approximately 150 feet east of the easternmost identified margin of impacted soil.

The materials placed in the landfarm have been mixed with approximately 50 cubic yards of cattle manure. The material is on a weekly tilling schedule.

The baseline sampling has been performed on the landfarm area, in accordance with the draft landfarm guidance. This included methods 418.1 and 8240 for 6 samples. The samples were collected at depths of 4 inches to 1 foot, and were each a composite of 10 locations. The total petroleum hydrocarbon results ranged from 436 to 1620 mg/kg with an average of 1112

mg/kg (Attachment 3). Future sampling of the manure source will identify if a portion of the total petroleum hydrocarbons comes from cattle manure. No volatile organic compounds were detected.

CONCLUSIONS

The leakage of oil from the metal chip container at Building 61 has been an ongoing process. The oil impacted soils in the immediate area of the chip storage. These soils have been removed.

No receptors have been identified in the area. This same conclusion was drawn during the evaluation of the adjacent Building 41 property.

Analysis of soil samples taken from the area of the spill confirm the release of oil and coolant. These samples indicate that the depth of the soil removal is adequate. Samples taken from the dry drainage swale show the presence of oil in the shallow subsoils. Additional samples taken during the soil boring process have shown no impact at depth in the area of the oil spillage. However, samples taken next to the previous location of a number 2 fuel oil tank have shown some low levels of volatiles. This tank was pulled in 1987 and was observed by the DEC. The tank was not considered to have leaked at that time. Soils from the area of the tank were also removed as they were contiguous with the soils being removed due to the chip oil spillage.

#### RECOMMENDATIONS

The area where oils were accidentally released from the metal chip recycling process has been satisfactorily cleaned up. The soils that were removed are being landfarmed. These soils should be tilled on a weekly basis in order to provide adequate oxygen to maintain aerobic decomposition. The soils should be sampled in the middle of August to determine the rate of biodegradation. A sample set should also be collected in October to determine the concentrations of oils at the end of the growing season.

In October, a determination should be made with regard to the need for further bioremediation. If the soils exhibit the 90% oil reduction stipulated in the draft landfarming protocols, then

final disposition of the soils can be considered. If the soils need additional bioremediation then the tilling should be curtailed and the soil pile polyencapsulated for the winter months. The polyencapsulation should be removed at the end of April and the soils once again sampled. This would be the baseline for the growing season. In May the weekly tilling schedule should be resumed. Samples should be collected every 2 months during the growing season.

Progress reports on the landfarming project should be submitted to the State as required. A minimum frequency of quarterly reporting is recommended.

The ultimate disposition of the soils should be a written agreement between GE and the State.

ATTACHMENT 1 MSDS SHEETS FOR OIL AND COOLANTS

## MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

Oilers  
Machining  
R+D  
Barrel Shop

## \*\*\*\*\* I. PRODUCT IDENTIFICATION \*\*\*\*\*

MOBIL VACTRA OIL NO. 2

## SUPPLIER:

MOBIL OIL CORP.

## HEALTH EMERGENCY TELEPHONE:

(212) 883-4411

## CHEMICAL NAMES AND SYNONYMS:

PET. HYDROCARBONS AND ADDITIVES

## TRANSPORT EMERGENCY TELEPHONE:

(800) 424-9300 (CHEMTREC)

## USE OR DESCRIPTION:

WAY LUBRICANT

## \*\*\*\*\* II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES \*\*\*\*\*

APPEARANCE: ASTM 7.0 LIQUID

ODOR: MILD

PH: NA

VISCOSITY AT 100 F, SUS: 335.0

AT 40 C, CS: 64.6

VISCOSITY AT 210 F, SUS: 55.0

AT 100 C, CS: 8.6

FLASH POINT F(C): 330(166) (ASTM D-92)

MELTING POINT F(C): NA

POUR POINT F(C): 20(-7)

BOILING POINT F(C): &gt; 600(316)

RELATIVE DENSITY, 15/4 C: 0.876

SOLUBILITY IN WATER: NEGLIGIBLE

VAPOR PRESSURE-MM HG 20C: &lt; .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

## \*\*\*\*\* III. INGREDIENTS \*\*\*\*\*

WT PCT	EXPOSURE LIMITS	SOURCES	
(APPROX)	MG/M3	PPM	(AND NOTES)

## HAZARDOUS INGREDIENTS:

NONE

## OTHER INGREDIENTS:

REFINED MINERAL OILS &gt;95

ADDITIVES AND/OR OTHER INGREDIENTS &lt; 5

KEY TO SOURCES: A=ACGIH-TLV, A\*=SUGGESTED-TLV, M=MOBIL, O=OSHA

NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

## \*\*\*\*\* IV. HEALTH HAZARD DATA \*\*\*\*\*

THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST

EFFECTS OF OVEREXPOSURE: MODERATE SKIN IRRITATION.

## \*\*\*\*\* V. EMERGENCY AND FIRST AID PROCEDURES \*\*\*\*\*

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. LAUNDRY  
CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF  
UNCOMFORTABLE SEEK MEDICAL ASSISTANCE.

## \*\*\*\*\* VI. FIRE AND EXPLOSION HAZARD DATA \*\*\*\*\*

FLASH POINT F(C): 330(166) (ASTM D-92)  
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0  
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.  
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE  
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

## \*\*\*\*\* VII. REACTIVITY DATA \*\*\*\*\*

STABILITY (THERMAL, LIGHT, ETC.): STABLE  
CONDITIONS TO AVOID: EXTREME HEAT  
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS  
HAZARDOUS DECOMPOSITION PRODUCTS: PHOSPHORUS OXIDES, SULFUR OXIDES, CARBON MONOXIDE.  
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

## \*\*\*\*\* VIII. SPILL OR LEAK PROCEDURE \*\*\*\*\*

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.  
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.  
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

## \*\*\*\*\* IX. SPECIAL PROTECTION INFORMATION \*\*\*\*\*

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.  
SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.  
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.  
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

## \*\*\*\*\* X. SPECIAL PRECAUTIONS \*\*\*\*\*

HANDLING: AVOID CONTACT WITH SKIN.



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PREPARED BY: MOBIL OIL CORPORATION  
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ  
FOR FURTHER INFORMATION, CONTACT:  
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL  
5225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

\*\*\*\*\* APPENDIX \*\*\*\*\*

FOR MOBIL USE ONLY: (FILL NO: RL1116C201) MHC: 0\* 0\* NA 0\* 2\* PPEC:  
US83-224 APPROVE REVISED: 11/22/83

U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health Administration

Form Approved  
OMB No. 44-R1387

# MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

MANUFACTURER'S NAME Henry E. Sanson & Sons, Inc.		EMERGENCY TELEPHONE NO. (215) 443-5220
ADDRESS (Number, Street, City, State, and ZIP Code) 775 Louis Drive, Warminster, PA 18974-0357		
CHEMICAL NAME AND SYNONYMS Chlorinated paraffin		TRADE NAME AND SYNONYMS SYN KUT BASE EP-520
CHEMICAL FAMILY Organic	CAS#63449-39-8	FORMULA BS05360

## SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
This product does not contain any materials that are listed as hazardous in OSHA 29 CFR 1910.1200 Hazard Communication Standard.					

## SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	decomposes	SPECIFIC GRAVITY (H <sub>2</sub> O=1) 60/60°F	1.18
VAPOR PRESSURE (mm Hg.) @ 20°C	0	PERCENT. VOLATILE BY VOLUME (%) @ 25°C	0
VAPOR DENSITY (AIR=1)	not applicable	EVAPORATION RATE (H <sub>2</sub> O=1)	
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR	Clear, viscous yellow liquid, neutral odor		

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) (COC) greater than 400°F	FLAMMABLE LIMITS No data available	Lel	Uel
EXTINGUISHING MEDIA Dry chemical, foam, Carbon dioxide, sand/earth			
SPECIAL FIRE FIGHTING PROCEDURES In a fire, this material may build up pressure and break open a container.			
Spray with water to keep cool. Treat as a grease fire.			

### SECTION V - HEALTH HAZARD DATA

**THRESHOLD LIMIT VALUE**

TLV not established. Considered non-toxic.

**EFFECTS OF OVEREXPOSURE** Eye contact: mildly irritating effects. National Toxicology Program (NTP) Annual Reports have not listed chlorinated paraffins as carcinogens or potential carcinogens. Recent NTP programs have shown certain chlorinated paraffins to cause tumors in male mice when ingested in extremely large quantities with corn oil. Lack of tumors in rats and female mice is interpreted as demonstrating absence of carcinogenic potential in man. Recommend avoid swallowing of this product; practice good personal hygiene when handling; wash hands thoroughly before eating, smoking and when finished with work.

**EMERGENCY AND FIRST AID PROCEDURES**

Eye contact: flush with water. If irritation persists, seek medical attention. Skin contact: wash with soap and water. Inhalation of mists: if overcome, remove to fresh air. If breathing is difficult, give oxygen and call a physician. If swallowed, contact a physician immediately.

### SECTION VI - REACTIVITY DATA

<b>STABILITY</b>	UNSTABLE		CONDITIONS TO AVOID
	STABLE	XX	0.4% loss of HCl at 175°F in 4 hours.

**INCOMPATIBILITY (Materials to avoid)**

Avoid moisture contamination during storage. Avoid strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Supported combustion produces oxides of carbon and chlorine or hydrochloric acid.

<b>HAZARDOUS POLYMERIZATION</b>	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	XX	

### SECTION VII - SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Dike and recover spillage. Absorb residues with sand, fullers earth or other suitable inert absorbent. Dispose in accordance with local, state and federal laws.

**WASTE DISPOSAL METHOD**

Water-insoluble, not biodegradable, organic. Dispose in accordance with local, state and federal regulations. Not classified a hazardous waste under 40 CFR 261 Hazardous Waste Regulations.

### SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION (Specify type)**

Not normally required. Use OSHA/NIOSH approved respirator when working in aerosol mist.

<b>VENTILATION</b>	LOCAL EXHAUST Normal shop ventilation except as noted above.	SPECIAL
	MECHANICAL (General) Acceptable	OTHER

**PROTECTIVE GLOVES**

Neoprene or similar

**EYE PROTECTION** Safety glasses or goggles in accordance with standard safe shop practice.

**OTHER PROTECTIVE EQUIPMENT**

If desired, Neoprene or other oil resistant apron or protective clothing.

### SECTION IX - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Store in a closed container away from extreme heat. Protect from moisture contamination during storage. Maximum storage temperature 130°F.

**OTHER PRECAUTIONS**

Practice good personal hygiene. Wash hands and other exposed areas after handling. Launder contaminated clothing before reuse.

#109

Oilers  
Barrel Shop

THE LUBRIZOL CORPORATION  
29400 Lakeland Boulevard  
Wickliffe, Ohio 44092  
216/943-4200

MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME: Lubrizol 5345  
REVISION DATE: 04/15/86  
TRANSPORTATION EMERGENCY PH NO (CHEMTREC): (800) 424-9300  
CHEMICAL NAME: CONFIDENTIAL  
NFPA CODE: Health: 3 Fire: 1 Reactivity: 0

SECTION 1 - HAZARDOUS INGREDIENTS

This material does not contain any chemical listed as a carcinogen or potential carcinogen by OSHA, IARC Monographs or National Toxicology Program.

- Product may contain hydrogen sulfide in the vapor space: TLV, 10 ppm.

SECTION 2 - FIRE AND EXPLOSION HAZARDS

FLASH POINT: 140°C (PMCC)  
UPPER FLAMMABLE LIMIT: Not Determined  
LOWER FLAMMABLE LIMIT: Not Determined  
EXTINGUISHING MEDIA: CO<sub>2</sub>, dry chemical, foam  
SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus with full face piece.  
UNUSUAL FIRE & EXPLOSION HAZARDS: Toxic fumes may be evolved on burning or exposure to heat.

SECTION 3 - HEALTH HAZARD DATA

ORAL TOXICITY: Greater than 5000 mg./Kg. in rats. Based on data from components.  
EYE IRRITATION: Not expected to cause eye irritation. Based on data from components.  
SKIN IRRITATION: Not expected to cause skin irritation. Based on data from components.  
OTHER: Unknown  
TLV: None established

Emergency First Aid Procedures

SKIN: Wash with soap and water.  
EYE: Flush with water for 15 minutes.  
INHALATION: Remove to fresh air. If unconscious, call physician and apply artificial respiration.  
ORAL: None  
ADDITIONAL: None

SECTION 4 - SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE: Mechanical ventilation recommended  
GLOVES PROTECTION: Neoprene or nitrile rubber gloves recommended  
EYE PROTECTION: Safety Glasses  
OTHER PROTECTION: None

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## SECTION 5 - PHYSICAL DATA

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VAPOR PRESSURE: Not Determined      pH: Not Determined  
SPECIFIC GRAVITY: 1.11 @ 15.6°C  
WATER SOLUBILITY: Insoluble  
PERCENT VOLATILE: Not Determined  
VAPOR DENSITY: Not Determined  
EVAPORATION RATE: Not Determined  
ODOR: Pungent  
APPEARANCE: Light Colored Liquid

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## SECTION 6 - STABILITY

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STABILITY: Stable  
INCOMPATIBILITY: Oxidizing agents  
                  Halogens(chlorine)  
POLYMERIZATION: Will not occur  
THERMAL DECOMPOSITION: Oxides of carbon, sulfur, hydrogen sulfide, hydrogen chloride,  
                          chloro carbons.

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## SECTION 7 - SPILL OR LEAK PROCEDURES

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SPILL PROCEDURES: Ventilate area.  
                    Prevent entry into sewers and waterways. Pick up free liquid for  
                    recycle/disposal. Absorb small amounts on inert material for disposal.  
WASTE DISPOSAL: If disposed of, this material is believed to be non-hazardous. Disposal  
                    should be in compliance with federal, state and local laws.

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## SECTION 8 - SPECIAL PRECAUTIONS

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SPECIAL PRECAUTIONS: Open in well ventilated area. Avoid inhalation of fumes (hydrogen-  
                          sulfide, hydrogen chloride, sulfur dioxide).

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## SECTION 9 - TRANSPORTATION AND LABELING

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DOT PROPER SHIPPING NAME: Not Applicable  
DOT HAZARD CLASS: Not Applicable  
DOT ID NUMBER (UN NO.): None  
IMO CLASS: None  
ICAO CLASS: None  
EPA HAZARDOUS SUBSTANCES: None  
PRECAUTIONARY LABELS: Hydrogen Sulfide

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U.S. TSCA INVENTORY: All components are included on the U.S. TSCA Inventory.  
EEC EINECS: All components are in compliance with the EEC Sixth Amendment  
                  Directive 79/831.  
JAPAN MITI: Not Determined

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The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of Lubrizol's knowledge; however, Lubrizol makes no warranty whatsoever, expressed or implied, of MERCHANTABILITY or FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from the use thereof. Lubrizol assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

MATERIAL SAFETY DATA SHEET REV DATE: 021086

427570 HOCUT 757  
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SECTION I-PRODUCT IDENTIFICATION

PRODUCT NAME: HOCUT 757  
PROPER SHIPPING NAME: PETROLEUM OIL OR GREASE-NOS V:

HAZARD CLASS: NON-HAZARDOUS COMPLETED BY: DAVID H EADLINE  
HAZARD ID NO: N/A PHONE NUMBER: 215-666-4105  
MFG. DUNS #: 00-226-1535

SECTION II-HAZARDOUS COMPONENTS

MATERIAL	CAS NO	PERCENT	HAZARD
MINERAL OIL	64742-53-6	30-60	TLV: 5 MG./CU.M.
MINERAL OIL	64742-52-5		AS OIL MIST
P-CHLORO-M-CRESOL	59-50-7	1-10	LD50: 500MG./KG. ORAL-RAT

(PRODUCT USE DILUTION) 5%

SECTION III-PHYSICAL DATA

BOIL. PT.(DEG F): HIGH; WIDE RANGE SPECIFIC GRAVITY: 0.99  
VAPOR PRESSURE (MM HG) NIL EVAP RATE: NIL  
VAPOR DENSITY (AIR = 1) 10+  
PERCENT VOLATILE: NIL SOL IN WATER: EMULSIFIES  
PH NEAT: N/A PH AT 5.0%: 3.5 *dye is Co.I. Reactive Blue\*7* CAS# 12238-09-4  
APPEARANCE AND ODOR: OLIVE GREEN FLUID WITH BLuish CAST; SASSAFRAS ODOR  
*Not listed in NIOSH RTECS*

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, DEG. F (METHOD USED): >300C.O.C. LEL: N/D UEL: N/D  
NFPA CLASSIFICATION HEALTH: 0 FIRE: 1 REACTIVITY: 0  
EXTINGUISHING MEDIA:  
CARBON DIOXIDE, FOAM, DRY CHEMICAL  
SPECIAL FIRE FIGHTING INSTRUCTIONS:  
NONE REQUIRED  
UNUSUAL FIRE AND EXPLOSION HAZARDS:  
NONE

SECTION V - HEALTH HAZARD INFORMATION

\*\*\*\*\*

ROUTES OF EXPOSURE AND EFFECTS

INHALATION:

N/A

SKIN:

MAY BE A SLIGHT IRRITANT ON PROLONGED CONTACT IF SKIN IS SENSITIVE

EYE:

MILD IRRITANT

INGESTION:

NO SIGNIFICANT EFFECTS KNOWN

\*\*\*\*\* FIRST AID \*\*\*\*\*

INHALATION:

N/A

SKIN:

WASH WITH SOAP AND WATER

EYE:

FLUSH WITH WATER 15 MINUTES; CONSULT PHYSICIAN IF IRRITATION PERSISTS

INGESTION:

DO NOT INDUCE VOMITING - CONSULT PHYSICIAN. PRODUCT CONTAINS MINERAL OIL, CHLORINATED PARAFFIN, PETROLEUM SULFONATE

=====  
SECTION VI - REACTIVITY DATA  
=====

STABILITY: STABLE: [X] UNSTABLE: [ ]

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL; OXIDES OF CARBON AND NITROGEN, HYDROGEN CHLORIDE

HAZARDOUS POLYMERIZATION: MAY OCCUR: [ ] WILL NOT OCCUR: [X]

=====  
SECTION VII - SPILL OR LEAK PROCEDURES  
=====

POTENTIAL AS A POLLUTANT:

NOT CONSIDERED A POLLUTANT IF EFFECTIVE WASTE DISPOSAL METHODS ARE UTILIZED. (COD - 2,247,000 PPM)

BIOCHEMICAL OXYGEN DEMAND (BOD-5): 175,000 - 200,000 PPM

SPILL, LEAK OR RELEASE:

APPLY DRY OIL ABSORBENT MATERIAL AND SWEEP UP

WASTE DISPOSAL:

NEAT MATERIAL - FOLLOW REGULATIONS FOR DISPOSAL OF WASTE PETROLEUM OIL. FOR EMULSIONS, USE DEEMULSIFICATION PROCESS TO SPLIT PRODUCT. TREAT OILY LAYER AS WASTE OIL. NEUTRALIZE AQUEOUS LAYER AND RELEASE TO TREATMENT PLANT IN ACCORDANCE

\*\*\*\*\*

WITH PERTINENT REGULATIONS.

=====

SECTION VIII - SPECIAL PROTECTION INFORMATION

=====

RESPIRATORY PROTECTION:  
 NOT REQUIRED

VENTILATION:  
 GENERAL WORKPLACE VENTILATION IS SATISFACTORY

PROTECTIVE GLOVES:  
 RUBBER GLOVES IF SKIN IS SENSITIVE

EYE PROTECTION:  
 SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT:  
 NOT REQUIRED

=====

SECTION IX - SPECIAL PRECAUTIONS

=====

STORAGE AND HANDLING CONDITIONS:  
 AVOID CONTACT WITH STRONG OXIDIZERS

## 1. MATERIAL AND MANUFACTURER IDENTIFICATION

<b>Product name</b>	TRIM <sup>®</sup> SOL
<b>Material type</b>	Water-miscible cutting and grinding fluid concentrate
<b>Classification/Synonym(s)</b>	Chemical emulsion/Soluble oil
<b>Product use</b>	Coolant and lubricant in metal removal processes
<b>Manufacturer address</b>	MASTER CHEMICAL CORPORATION 501 West Boundary PO Box 220 Perrysburg, OH 43551
<b>Emergency telephone number</b>	(419) 874-7902
<b>Telex number</b>	510-600-1600 Answerback: MASTER CHEM UD
<b>Easylink number</b>	62897774

## 2. REGULATORY INFORMATION

<b>Department of Transportation</b>	DOT Hazard Class: None TRIM <sup>®</sup> SOL is not classified as a hazardous material by DOT.
<b>Resource Conservation and Recovery Act</b>	EPA Hazardous Waste Number(s): None TRIM <sup>®</sup> SOL is not classified as a hazardous waste by EPA.
<b>Toxic Substances Control Act</b>	All TRIM <sup>®</sup> SOL ingredients are listed on the TSCA Inventory of Chemical Substances.

## 3. INGREDIENT INFORMATION

The exact chemical identities and percentages of the raw materials used in TRIM<sup>®</sup> SOL are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (CFR 1910.1200).

## 4. PHYSICAL DATA

Boiling point (at 760 mm Hg)	217°F	Specific gravity (H <sub>2</sub> O=1)	1.004
Vapor pressure (psi)	<1	Percent volatiles	
Vapor density (Air=1)	not determined	by volume	18.48%
Solubility in water	100%	Evaporation rate	1
Appearance	Dark green viscous liquid with mild, pleasant odor.	(butyl acetate =1)	
		pH of concentrate	not applicable
		pH of 5% solution	9.4

## 5. FIRE AND EXPLOSION HAZARD DATA

Flash point (test method)	305°F (COC) None (TCC)
Flammable limits	Not determined
Extinguishing media	As appropriate for the surrounding fire
Special fire fighting procedures	None
Unusual fire and explosion hazards	None

## 6. HEALTH HAZARD DATA

Threshold limit value	None established by ACGIH or OSHA	
Acute effects of overexposure	Eye contact	Transient irritation
	Skin contact	Possible defatting, nonirritant, nonsensitizer
	Inhalation	Nontoxic
	Ingestion	Nontoxic
	Skin absorption	Nontoxic
Chronic effects of overexposure	None currently known	

The National Toxicology Program Annual Report on Carcinogens does not list TRIM® SOL or any of its ingredients.

The International Agency for Research on Cancer Monographs have not found TRIM® SOL or any of its ingredients to be potential carcinogens.

The Occupational Safety and Health Administration does not regulate TRIM® SOL or any of its ingredients as potential carcinogens.

Signs and symptoms of exposure	None	
Medical conditions generally aggravated by exposure	None known	
Emergency and first aid procedures	Eyes	Flush immediately with cool, clean water for at least 15 minutes.
	Skin	Wash with mild soap and warm water.
	Inhalation	Remove to fresh air.
	Ingestion	If large quantities are ingested, pump stomach.

## 7. REACTIVITY DATA

Stability	<input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Unstable
Conditions to avoid	None	
Incompatibility (materials to avoid)	Strong oxidizers, acids and alkalis	
Hazardous combustion or decomposition products	Thermal decomposition (fire) may produce CO, CO <sub>2</sub> , HCl, SO <sub>2</sub>	
Hazardous polymerization Conditions to avoid	<input type="checkbox"/> May occur	<input checked="" type="checkbox"/> Will not occur
	None	

## 8. SPILL OR LEAK PROCEDURES

Steps to be taken if material is released or spilled	Mop up or use dry absorbent
Waste disposal method	Acid-alum split Refer to Data and Information Sheet for suggested procedure.

## 9. SPECIAL PROTECTION INFORMATION

Respiratory protection (Specify type)	None	
Ventilation	Local exhaust	Not normally required
	Mechanical (general)	General room ventilation should be sufficient
	Special	None
	Other	None
Protective gloves	None	
Other protective equipment	None	
Eye protection	Safety glasses	

## 10. SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing	Refer to Data and Information Sheet or container labels.
Other precautions	None
Date of preparation	October, 1985



**master CHEMICAL CORPORATION**  
**METALWORKING FLUIDS DIVISION**  
**501 WEST BOUNDARY**  
**PO BOX 220**  
**PERRYSBURG, OH 43551**  
**(419) 874-7902**

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MATERIAL SAFETY DATA SHEET

PAGE 1



Sun Refining and Marketing Company

THIS PRODUCT SAFETY INFORMATION IS PROVIDED PERIODICALLY TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH/SAFETY/ENVIRONMENTAL REGULATIONS. PLEASE FORWARD THIS TO YOUR MANAGER OF SAFETY AND HEALTH. THIS FORM REPLACES OUR PREVIOUS FORM DATED 03/08/86

SUN CODE

R0000035090

PRINTED: 87/04/04

SECTION 1 IDENTIFICATION

NAME SUNICUT 521 SYNONYMS REV. DATE 11/14/85

CAS REGISTRY NO. CAS NAME NO CLASSIFICATION - MIXTURE

A.R. SANDRI INCORPORATED
ATTN: ANN
P O BOX #760
GREENFIELD MA 01302

CHEMICAL FAMILY BLEND
SUN REFINING
AND MARKETING COMPANY
TEN PENN CENTER 1801 MARKET STREET
PHILADELPHIA PA 19103

INFORMATION SUPPLIED BY
AND PHONE JONATHAN M. HAAS
(215) 293-6321

SECTION 2 INGREDIENTS

SEVERELY HYDROTREATED, CHEMICALLY NEUTRALIZED LIGHT AND HEAVY NAPHTHENIC DISTILLATES, CAS#64742-53-6 AND CAS#64742-52-5; CHLORINATED ALPHA-OLEFINS, CAS#68527-02-6; SULFURIZED LARD OIL, CAS#61790-49-6; AND SULFUR, CAS#7704-34-9

SECTION 3 PHYSICAL DATA

BOILING POINT: 760 mm Hg WIDE RANGE OF WIDE RANGE °C
VAPOR PRESSURE: (mm Hg AT 20°C) NIL
VAPOR DENSITY: (AIR = 1) 8.7
pH INFORMATION: pH N/A @ °F H.
MELTING POINT: N/A °F, N/A °C
SOLUBILITY IN H2O: (% BY VOL.) NIL
OCTANOL/WATER PARTITION COEFFICIENT: N.D.
SPECIFIC GRAVITY: (H2O=1) 0.97
% VOLATILES BY VOL.: NIL
APPEARANCE AMBER FLUID.
PACKING DENSITY: (WHEN APPLICABLE) Kg/m³ N/A
EVAPORATION RATE: (ETHYL ETHER = 1) 1000X SLOWER
AND ODOR: CHARACTERISTIC ODOR.
ODOR THRESHOLD (ppm) N.D.

SECTION 4 FIRE AND EXPLOSION DATA (CONT. ON PAGE 2)

FLASH POINT: 300 MIN COC °F, 150 MIN COC °C. AUTOIGNITION TEMPERATURE: NOT DETERMINED °F, NOT DETERMINED °C.

Table with 3 columns: NFPA CLASSIFICATION (HEALTH 0, FIRE 1, REACTIVITY 0), HAZARD RATING (LEAST 0, SLIGHT 1, MODERATE 2, HIGH 3, EXTREME 4), and FLAMMABLE LIMITS IN AIR (LOWER EXPLOSIVE LEVEL (LEL) NOT DETERMINED, UPPER EXPLOSIVE LEVEL (UEL) NOT DETERMINED).

FIRE AND EXPLOSION HAZARDS

CAN BE MADE TO BURN (FLASH POINT GREATER THAN 200F).

SUN CODE R0000035090

MATERIAL SAFETY DATA SHEET

PAGE 2

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0000350900

**EXTINGUISHING MEDIA**  
 WATER FOG. CHEMICAL FOAM. DRY CHEMICAL POWDER.  
 CARBON DIOXIDE.

**SPECIAL FIRE FIGHTING INSTRUCTIONS**  
 WEAR SELF-CONTAINED BREATHING APPARATUS WHEN FIRE  
 FIGHTING IN CONFINED SPACE.

**SECTION 5 HEALTH HAZARD INFORMATION**

**EXPOSURE LIMITS**  
 8 HR. TIME WEIGHTED PERMISSIBLE EXPOSURE 5.0 MG/M3 . SUN RECOMMENDATION.

**ROUTES OF EXPOSURE AND EFFECTS**  
 INHALATION NO ACUTE EFFECTS EXPECTED TO TWICE EXPOSURE LIMIT.

SKIN MILD IRRITATION WITH PROLONGED OR REPEATED CONTACT.

EYE CONTACT WITH THE EYE MAY CAUSE MILD IRRITATION.

**INGESTION WEIGHT.** PRACTICALLY NON-TOXIC (LD50 > 15G/KG). LD50 IN RATS IS: >15 GRAMS PER KILOGRAM OF RAT BODY

**FIRST AID**  
 INHALATION MOVE PERSON TO FRESH AIR.

SKIN WASH WITH SOAP AND WATER UNTIL NO ODDR REMAINS. IMMEDIATELY WASH WITH WATER FOR AT LEAST 15 MIN. WASH CLOTHING BEFORE REUSE.

EYE FLUSH WITH WATER. IF IRRITATION PERSISTS, OBTAIN MEDICAL ASSISTANCE.

**INGESTION AMOUNTS** WHICH ACCIDENTALLY ENTER MOUTH SHOULD BE RINSED OUT UNTIL TASTE OF IT IS GONE. GIVE LIQUIDS AND INDUCE VOMITING UNLESS VICTIM IS UNCONSCIOUS. OBTAIN MEDICAL ASSISTANCE. SMALL

**SECTION 6 REACTIVITY DATA (CONT. ON PAGE 3)**

STABLE.	STABILITY	STRONG OXIDIZERS	INCOMPATIBLE MATERIALS	HAZARDOUS DECOMPOSITION PRODUCTS CARBON MONOXIDE AND ASPHYXIANTS HYDROGEN CHLORIDE AND OXIDES OF SULFUR.
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MATERIAL SAFETY DATA SHEET

PAGE 3

SUN CODE

0000350900

~~POLYMERIZATION WILL NOT OCCUR.~~

**SECTION 7 PROTECTION INFORMATION**

~~VENTILATE AS NEEDED TO COMPLY WITH EXPOSURE LIMIT.~~

~~PERSONAL PROTECTIVE EQUIPMENT  
EYE PRODUCT MINIMALLY IRRITATING TO EYES. LOCAL SAFETY POLICY DECISION.~~

~~GLOVES IMPERVIOUS GLOVES RECOMMENDED WHEN PROLONGED SKIN CONTACT CANNOT BE AVOIDED.~~

~~RESPIRATOR CONCENTRATION IN AIR DETERMINES PROTECTION NEEDED. USE ONLY NIOSH CERTIFIED RESPIRATORY PROTECTION.  
RESPIRATORY PROTECTION USUALLY NOT NEEDED UNLESS PRODUCT IS HEATED OR MISTED.~~

~~OTHER IF CONTACT IS UNAVOIDABLE, WEAR IMPERVIOUS PROTECTIVE GEAR.~~

**SECTION 8 DISPOSAL PROCEDURES**

~~AQUATIC TOXICITY  
NOT DETERMINED~~

~~SPILL, LEAK OR RELEASE  
CONTAIN SPOIL. ABSORB ON INERT MATERIAL.~~

~~WASTE DISPOSAL  
FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS. DO NOT FLUSH TO DRAIN/ STORM SEWER. CONTRACT TO AUTHORIZED  
DISPOSAL SERVICE.~~

**SECTION 9 SPECIAL PRECAUTIONS**

~~STORAGE AND HANDLING CONDITIONS  
NFPA CLASS IIIB STORAGE.~~

**SECTION 10 PRECAUTIONARY LABEL (IF APPLICABLE)**

~~NO ADDITIONAL PRECAUTIONS AND LABELS~~

ATTACHMENT 2 SOIL SAMPLE RESULTS, SPILL AREA

## SAMPLE INDEX

-----

GELF 1	composite sample from the landfarm
GELF 2	composite sample from the landfarm
GELF 3	composite sample from the landfarm
GELF 4	composite sample from the landfarm
GELF 5	composite sample from the landfarm
GELF 6	composite sample from the landfarm
SS-1	sample from landfarm prior to manure addition
SS-2	sample from landfarm prior to manure addition
SBO1A	soil boring, see table 1
SBO1B	soil boring, see table 1
SBO2A	soil boring, see table 1
SBO2B	soil boring, see table 1
SBO2C	soil boring, see table 1
SBO3A	soil boring, see table 1
SBO4A	soil boring, see table 1
SS1	sample from bottom of excavation near SBO3
SS2	oil saturated soil for drum disposal. Composite from edge of pad.
Swale 1	dry drainage swale next to excavation
Swale 2	dry drainage swale, approximately 60 feet east of excavation
Swale 3	dry drainage swale, approximately 125 feet east of excavation



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

General Electric Company  
Armament/Electrical Dept.  
Lakeside Avenue  
Burlington, VT 05402

Date : 05/23/90  
ETR Number : 21469  
Project No.: 90029  
No. Samples: 2  
Arrived : 05/18/90  
P.O. Number: 024-DHK541K

Attention : John Begin

Page 1

CC Results to : Andrea Asch

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Method No.	Parameter
-----	-----
9071	Oil/Grease

Lab No.	Sample Description	Result
-----	-----	-----
114981	SS-1:05/18/90 @1500(Soil)	3500 e
114982	SS-2:05/18/90 @1530(Soil)	430 e



### Comments/Notes

e = mg/Kg as received

< Last Page >

Submitted By :

*R. Mason*

Aquatec Inc.



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TEL. 802-658-1074

## ANALYTICAL REPORT

General Electric Company  
Armament/Electrical Dept.  
Lakeside Avenue  
Burlington, VT 05402

Attention : John Begin

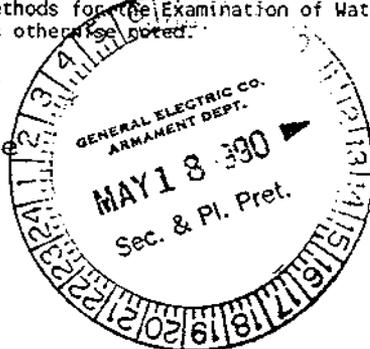
Date : 05/16/90  
ETR Number : 21186  
Project No.: 90029  
No. Samples: 7  
Arrived : 05/01/90  
P.O. Number: 024-DHK541K

Page 1

CC Results to : Andrea Asch

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Method No.      Parameter  
-----  
9071              Oil/Grease



Lab No.	Sample Description	Result
114051	SBO1A:05/01/90 (Soil)	1560 e
114057	SBO4A:05/01/90 (Soil)	<25 e

### Comments/Notes

e = mg/Kg as received

< Last Page >

Submitted By :

*R. Mason McRae*

Aquatec Inc.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114051  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB01A, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	15
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	26
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xylenes	7.6
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	61%
Method 8020	71%



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75 Green Mountain Drive, So. Burlington, VT 05403  
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## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114052  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB01B, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	10
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	15
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xylenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	102%
Method 8020	133%



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75 Green Mountain Drive, So. Burlington, VT 05403

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## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114053  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB02A, collected 5/1/90.

### Volatile Organic Compounds in ug/Kg as Received EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	<5.0
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethane	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xlenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	88%
Method 8020	93%



# aquatec

ENVIRONMENTAL SERVICES

73 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114054  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB02B, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	<5.0
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xylenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	95%
Method 8020	101%



# aquatec

ENVIRONMENTAL SERVICES

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## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114055  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB02C, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	<5.0
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xylenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	80%
Method 8020	81%



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75 Green Mountain Drive, So. Burlington, VT 05403

TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 16 May 1990

Aquatec Lab No.: 114056

ETR No.: 21186, Project 90029

Sample Received On: 1 May 1990

Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB03A, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	<5.0
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xylenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	97%
Method 8020	95%



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75 Green Mountain Drive, So. Burlington, VT 05403

TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 16 May 1990  
Aquatec Lab No.: 114057  
ETR No.: 21186, Project 90029  
Sample Received On: 1 May 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SB04A, collected 5/1/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<5.0
bromodichloromethane	<5.0
bromoform	<5.0
bromomethane	<5.0
carbon tetrachloride	<5.0
chlorobenzene	<5.0
chloroethane	<5.0
chloroform	<5.0
chloromethane	<5.0
dibromochloromethane	<5.0
1,2-dichlorobenzene	<5.0
1,3-dichlorobenzene	<5.0
1,4-dichlorobenzene	<5.0
1,1-dichloroethane	<5.0
1,2-dichloroethane	<5.0
1,1-dichloroethene	<5.0
cis-1,2-dichloroethene	<5.0
trans-1,2-dichloroethene	<5.0
1,2-dichloropropane	<5.0
cis-1,3-dichloropropene	<5.0
trans-1,3-dichloropropene	<5.0
ethylbenzene	<5.0
methylene chloride	<5.0
1,1,1,2-tetrachloroethane	<5.0
tetrachloroethene	<5.0
toluene	<5.0
1,1,1-trichloroethane	<5.0
1,1,2-trichloroethane	<5.0
trichloroethene	<5.0
trichlorofluoromethane	<5.0
vinyl chloride	<5.0
xlenes	<5.0
Freon 113	<5.0

### Percent Internal Standard Recoveries

Method 8010	79%
Method 8020	87%



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75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

General Electric Company  
Armament/Electrical Dept.  
Lakeside Avenue  
Burlington, VT 05402

Attention : Mr. John Begin

CC Results to : Andrea Asch

Date : 05/03/90  
ETR Number : 21107  
Project No.: 90029  
No. Samples: 5  
Arrived : 04/26/90  
P.O. Number: 024-DHK541K

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Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Method No.      Parameter  
-----  
9071              Oil/Grease

Lab No.	Sample Description	Result
113862	SS1:04/26/90 @1400(Soil)	<25 e
113863	SS2:04/26/90 @1400(Soil)	78000 e
113864	Swale 1:04/26/90 @1500(Soil)	9500 e
113865	Swale 2:04/26/90 @1500(Soil)	12500 e
113866	Swale 3:04/26/90 @1500(Soil)	240 e



Comments/Notes

e = mg/Kg as received

< Last Page >

Submitted By :

Aquatec Inc.

*R. Mason M. Dees*



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
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## ANALYTICAL REPORT

Date: 3 May 1990

Aquatec Lab No.: 113862

ETR No.: 21107, Project 90029

Sample Received On: 26 April 1990

Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled SS1, collected 4/26/90 at 1400  
hours.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8010 or 8020

benzene	<2.0
bromodichloromethane	<2.0
bromoform	<2.0
bromomethane	<2.0
carbon tetrachloride	<2.0
chlorobenzene	<2.0
chloroethane	<2.0
chloroform	<2.0
chloromethane	<2.0
dibromochloromethane	<2.0
1,2-dichlorobenzene	<2.0
1,3-dichlorobenzene	<2.0
1,4-dichlorobenzene	<2.0
1,1-dichloroethane	<2.0
1,2-dichloroethane	<2.0
1,1-dichloroethene	<2.0
cis-1,2-dichloroethene	<2.0
trans-1,2-dichloroethene	<2.0
1,2-dichloropropane	<2.0
cis-1,3-dichloropropene	<2.0
trans-1,3-dichloropropene	<2.0
ethylbenzene	<2.0
methylene chloride	<2.0
1,1,1,2-tetrachloroethane	<2.0
tetrachloroethene	<2.0
toluene	<2.0
1,1,1-trichloroethane	<2.0
1,1,2-trichloroethane	<2.0
trichloroethene	<2.0
trichlorofluoromethane	<2.0
vinyl chloride	<2.0
xylenes	<2.0



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TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 3 May 1990

Aquatec Lab No.: 113863

ETR No.: 21107, Project 90029

Sample Received On: 26 April 1990

Sample Identification: General Electric Company, Burlington, VT, soil sample labeled SS2, collected 4/26/90 at 1400 hours.

### Volatile Organic Compounds in ug/Kg as Received EPA Method 8010 or 8020

benzene	<2.0
bromodichloromethane	<2.0
bromoform	<2.0
bromomethane	<2.0
carbon tetrachloride	<2.0
chlorobenzene	<2.0
chloroethane	<2.0
chloroform	<2.0
chloromethane	<2.0
dibromochloromethane	<2.0
1,2-dichlorobenzene	<2.0
1,3-dichlorobenzene	<2.0
1,4-dichlorobenzene	<2.0
1,1-dichloroethane	<2.0
1,2-dichloroethane	<2.0
1,1-dichloroethene	<2.0
cis-1,2-dichloroethene	<2.0
trans-1,2-dichloroethene	<2.0
1,2-dichloropropane	<2.0
cis-1,3-dichloropropene	<2.0
trans-1,3-dichloropropene	<2.0
ethylbenzene	<2.0
methylene chloride	4.1
1,1,1,2-tetrachloroethane	<2.0
tetrachloroethene	<2.0
toluene	<2.0
1,1,1-trichloroethane	4.2
1,1,2-trichloroethane	<2.0
trichloroethene	<2.0
trichlorofluoromethane	<2.0
vinyl chloride	<2.0
xylenes	<2.0

ATTACHMENT 3 SOIL SAMPLE RESULTS, LANDFARM



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75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

General Electric Company  
Armament/Electrical Dept.  
Lakeside Avenue  
Burlington, VT 05402

Attention : Gary Kjellerian

Date : 07/19/90  
ETR Number : 22032  
Project No.: 90029  
No. Samples: 8  
Arrived : 06/28/90  
P.O. Number: 024-DHK541K

Page 1

CC Results to : Andrea Asch

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No.	Sample Description		
-----	-----	-----	-----
117008	GELF 1:		
	Method No.	Parameter	Result
	-----	-----	-----
	418.1	Petroleum Hydrocarbons	1370 e
117009	GELF 2:		
	418.1	Petroleum Hydrocarbons	1050 e
117010	GELF 3:		
	418.1	Petroleum Hydrocarbons	1620 e
117011	GELF 4:		
	418.1	Petroleum Hydrocarbons	1400 e
117012	GELF 5:		
	418.1	Petroleum Hydrocarbons	796 e
117013	GELF 6:		
	418.1	Petroleum Hydrocarbons	436 e
117014	GELS 3:06/28/90 @1400		
	9010	Cyanide, Total	<0.50 e

### Comments/Notes

e = mg/Kg as received

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75 Green Mountain Drive, So. Burlington, VT 05403  
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## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117008  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 4 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 1, collected 6/28/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8240

<u>benzene</u>	5 U	<u>methylene chloride</u>	LCB
<u>carbon tetrachloride</u>	5 U	<u>chloromethane</u>	10 U
<u>chlorobenzene</u>	5 U	<u>bromomethane</u>	10 U
<u>1,2-dichloroethane</u>	5 U	<u>bromoform</u>	5 U
<u>1,1,1-trichloroethane</u>	5 U	<u>bromodichloromethane</u>	5 U
<u>1,1-dichloroethane</u>	5 U	<u>dibromochloromethane</u>	5 U
<u>1,1,2-trichloroethane</u>	5 U	<u>tetrachloroethene</u>	5 U
<u>1,1,2,2-tetrachloroethane</u>	5 U	<u>toluene</u>	5 U
<u>chloroethane</u>	10 U	<u>trichloroethene</u>	5 U
<u>2-chloroethyl vinyl ether</u>	10 U	<u>vinyl chloride</u>	10 U
<u>chloroform</u>	5 U	<u>acetone</u>	10 U
<u>1,1-dichloroethene</u>	5 U	<u>2-butanone</u>	10 U
<u>1,2-dichloroethenes</u>	5 U	<u>carbon disulfide</u>	5 U
<u>1,2-dichloropropane</u>	5 U	<u>2-hexanone</u>	10 U
<u>trans-1,3-dichloropropene</u>	5 U	<u>4-methyl-2-pentanone</u>	10 U
<u>cis-1,3-dichloropropene</u>	5 U	<u>styrene</u>	5 U
<u>ethylbenzene</u>	5 U	<u>vinyl acetate</u>	10 U
		<u>total xylenes</u>	5 U

% Solids = 63

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117009  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 4 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 2, collected 6/28/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8240

<u>benzene</u>	<u>5 U</u>	<u>methylene chloride</u>	<u>LCB</u>
<u>carbon tetrachloride</u>	<u>5 U</u>	<u>chloromethane</u>	<u>10 U</u>
<u>chlorobenzene</u>	<u>5 U</u>	<u>bromomethane</u>	<u>10 U</u>
<u>1,2-dichloroethane</u>	<u>5 U</u>	<u>bromoform</u>	<u>5 U</u>
<u>1,1,1-trichloroethane</u>	<u>5 U</u>	<u>bromodichloromethane</u>	<u>5 U</u>
<u>1,1-dichloroethane</u>	<u>5 U</u>	<u>dibromochloromethane</u>	<u>5 U</u>
<u>1,1,2-trichloroethane</u>	<u>5 U</u>	<u>tetrachloroethene</u>	<u>5 U</u>
<u>1,1,2,2-tetrachloroethane</u>	<u>5 U</u>	<u>toluene</u>	<u>5 U</u>
<u>chloroethane</u>	<u>10 U</u>	<u>trichloroethene</u>	<u>5 U</u>
<u>2-chloroethyl vinyl ether</u>	<u>10 U</u>	<u>vinyl chloride</u>	<u>10 U</u>
<u>chloroform</u>	<u>5 U</u>	<u>acetone</u>	<u>10 U</u>
<u>1,1-dichloroethene</u>	<u>5 U</u>	<u>2-butanone</u>	<u>10 U</u>
<u>1,2-dichloroethenes</u>	<u>5 U</u>	<u>carbon disulfide</u>	<u>5 U</u>
<u>1,2-dichloropropane</u>	<u>5 U</u>	<u>2-hexanone</u>	<u>10 U</u>
<u>trans-1,3-dichloropropene</u>	<u>5 U</u>	<u>4-methyl-2-pentanone</u>	<u>10 U</u>
<u>cis-1,3-dichloropropene</u>	<u>5 U</u>	<u>styrene</u>	<u>5 U</u>
<u>ethylbenzene</u>	<u>5 U</u>	<u>vinyl acetate</u>	<u>10 U</u>
		<u>total xylenes</u>	<u>5 U</u>

% Solids = 63

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117010  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 3 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 3, collected 6/28/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8240

<u>benzene</u>	5 U	<u>methylene chloride</u>	LCB
<u>carbon tetrachloride</u>	5 U	<u>chloromethane</u>	10 U
<u>chlorobenzene</u>	5 U	<u>bromomethane</u>	10 U
<u>1,2-dichloroethane</u>	5 U	<u>bromoform</u>	5 U
<u>1,1,1-trichloroethane</u>	5 U	<u>bromodichloromethane</u>	5 U
<u>1,1-dichloroethane</u>	5 U	<u>dibromochloromethane</u>	5 U
<u>1,1,2-trichloroethane</u>	5 U	<u>tetrachloroethene</u>	5 U
<u>1,1,2,2-tetrachloroethane</u>	5 U	<u>toluene</u>	5 U
<u>chloroethane</u>	10 U	<u>trichloroethene</u>	5 U
<u>2-chloroethyl vinyl ether</u>	10 U	<u>vinyl chloride</u>	10 U
<u>chloroform</u>	5 U	<u>acetone</u>	10 U
<u>1,1-dichloroethene</u>	5 U	<u>2-butanone</u>	10 U
<u>1,2-dichloroethenes</u>	5 U	<u>carbon disulfide</u>	5 U
<u>1,2-dichloropropane</u>	5 U	<u>2-hexanone</u>	10 U
<u>trans-1,3-dichloropropene</u>	5 U	<u>4-methyl-2-pentanone</u>	10 U
<u>cis-1,3-dichloropropene</u>	5 U	<u>styrene</u>	5 U
<u>ethylbenzene</u>	5 U	<u>vinyl acetate</u>	10 U
		<u>total xylenes</u>	5 U

% Solids = 78

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
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## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117011  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 3 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 4, collected 6/28/90.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8240

<u>benzene</u>	5 U	<u>methylene chloride</u>	LCB
<u>carbon tetrachloride</u>	5 U	<u>chloromethane</u>	10 U
<u>chlorobenzene</u>	5 U	<u>bromomethane</u>	10 U
<u>1,2-dichloroethane</u>	5 U	<u>bromoform</u>	5 U
<u>1,1,1-trichloroethane</u>	5 U	<u>bromodichloromethane</u>	5 U
<u>1,1-dichloroethane</u>	5 U	<u>dibromochloromethane</u>	5 U
<u>1,1,2-trichloroethane</u>	5 U	<u>tetrachloroethene</u>	5 U
<u>1,1,2,2-tetrachloroethane</u>	5 U	<u>toluene</u>	5 U
<u>chloroethane</u>	10 U	<u>trichloroethene</u>	5 U
<u>2-chloroethyl vinyl ether</u>	10 U	<u>vinyl chloride</u>	10 U
<u>chloroform</u>	5 U	<u>acetone</u>	LCB
<u>1,1-dichloroethene</u>	5 U	<u>2-butanone</u>	10 U
<u>1,2-dichloroethenes</u>	5 U	<u>carbon disulfide</u>	5 U
<u>1,2-dichloropropane</u>	5 U	<u>2-hexanone</u>	10 U
<u>trans-1,3-dichloropropene</u>	5 U	<u>4-methyl-2-pentanone</u>	10 U
<u>cis-1,3-dichloropropene</u>	5 U	<u>styrene</u>	5 U
<u>ethylbenzene</u>	5 U	<u>vinyl acetate</u>	10 U
		<u>total xylenes</u>	5 U

% Solids = 76

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/638-1074

## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117012  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 4 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 5, collected 6/28/90.

### Volatile Organic Compounds in ug/Kg as Received EPA Method 8240

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	10 U
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
		total xylenes	5 U

% Solids = 80

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403  
TEL. 802/658-1074

## ANALYTICAL REPORT

Date: 17 July 1990  
Aquatec Lab No.: 117013  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 4 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil  
sample labeled GELF 6, collected 6/28/90.

### Volatile Organic Compounds in ug/Kg as Received EPA Method 8240

<u>benzene</u>	5 U	<u>methylene chloride</u>	LCB
<u>carbon tetrachloride</u>	5 U	<u>chloromethane</u>	10 U
<u>chlorobenzene</u>	5 U	<u>bromomethane</u>	10 U
<u>1,2-dichloroethane</u>	5 U	<u>bromoform</u>	5 U
<u>1,1,1-trichloroethane</u>	5 U	<u>bromodichloromethane</u>	5 U
<u>1,1-dichloroethane</u>	5 U	<u>dibromochloromethane</u>	5 U
<u>1,1,2-trichloroethane</u>	5 U	<u>tetrachloroethene</u>	5 U
<u>1,1,2,2-tetrachloroethane</u>	5 U	<u>toluene</u>	5 U
<u>chloroethane</u>	10 U	<u>trichloroethene</u>	5 U
<u>2-chloroethyl vinyl ether</u>	10 U	<u>vinyl chloride</u>	10 U
<u>chloroform</u>	5 U	<u>acetone</u>	10 U
<u>1,1-dichloroethene</u>	5 U	<u>2-butanone</u>	10 U
<u>1,2-dichloroethenes</u>	5 U	<u>carbon disulfide</u>	5 U
<u>1,2-dichloropropane</u>	5 U	<u>2-hexanone</u>	10 U
<u>trans-1,3-dichloropropene</u>	5 U	<u>4-methyl-2-pentanone</u>	10 U
<u>cis-1,3-dichloropropene</u>	5 U	<u>styrene</u>	5 U
<u>ethylbenzene</u>	5 U	<u>vinyl acetate</u>	10 U
		<u>total xylenes</u>	5 U

% Solids - 81

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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Date: 17 July 1990  
Aquatec Lab No.: 117014  
ETR No.: 22032, Project 90029  
Sample Received On: 28 June 1990; Analyzed On: 4 July 1990  
Sample Identification: General Electric Company, Burlington, VT, soil sample labeled GELF 3, collected 6/28/90 at 1400 hours.

Volatile Organic Compounds in ug/Kg as Received  
EPA Method 8240

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	10 U
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	2J	vinyl acetate	10 U
		total xylenes	2J

% Solids = .77

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.