

Mr. Paresh Kharti
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

RECEIVED

7:57 am, Feb 29, 2012

**Alameda County
Environmental Health**

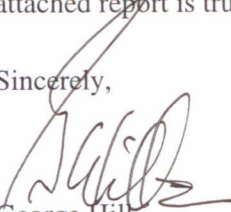
Re: **Connell Automobile Dealership**
3093 Broadway
Oakland, California
ACEH Case No. 199

Dear Mr. Kharti:

The Hill Family Trust & Linden Broadway Property Trust (Trusts) have retained Pangea Environmental Services, Inc. (Pangea) as the environmental consultant for the project referenced above. Pangea is submitting the attached report on behalf of the Trusts.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report is true and correct to the best of my knowledge.

Sincerely,



George Hill
Hill Family Trust



January 18, 2012

VIA ALAMEDA COUNTY FTP SITE

Ms Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Workplan for Enhanced Site Remediation**
Connell Automobile Dealership
3093 Broadway
Oakland, California
ACEH Case No. 199

Dear Ms. Detterman:

On behalf of the Hill Family Trust and Hawthorne Broadway LLC, Pangea Environmental Services, Inc. has prepared this *Workplan for Enhanced Site Remediation* (Workplan) for the subject site. This workplan proposes to use a bio-organic catalyst to enhance the effectiveness of ongoing dual phase extraction and air sparging at the site. This Workplan was first submitted via email on January 18, 2012. If you have any questions or comments, please call me at (510) 435-8664.

Sincerely,
Pangea Environmental Services, Inc.

A handwritten signature in blue ink, appearing to read "Bob Clark-Riddell".

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Workplan for Enhanced Site Remediation*

cc: SWRCB Geotracker (electronic copy)
Mr. George Hill, Geotracker
Mr. Gordon Linden, Geotracker

PANGEA Environmental Services, Inc.



WORKPLAN FOR ENHANCED SITE REMEDIATION

**Connell Automobile Dealership
3093 Broadway
Oakland, California
ACEH Case No. 469**

January 18, 2012

Prepared for:

Hill Family Trust
C/O Mr. George Hill
305 Sheridan Avenue
Piedmont, California 94611

And

Hawthorne Broadway LLC
C/O Mr. Gordon Linden
150 La Salle Avenue
Piedmont, California 94611


Prepared by:

Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:




Morgan Gillies
Project Manager


Bob Clark-Riddell, P.E.
Principal Engineer

PANGEA Environmental Services, Inc.

INTRODUCTION

On behalf of the Hill Family Trust and Hawthorne Broadway LLC, Pangea Environmental Services, Inc. has prepared this *Workplan for Enhanced Site Remediation* (Workplan) for the subject site. This workplan proposes to use a bio-organic catalyst to enhance the effectiveness of ongoing dual phase extraction and air sparging at the site. Our proposed scope of work for site investigation is detailed herein.

SITE BACKGROUND

The site is located on the east side of “Pill Hill” south of Hawthorne Avenue, between Broadway and Webster Street (Figure 1). The northern portion of the site is occupied by the auto repair shop, offices and showrooms of the Connell automobile dealership, while the southern portion of the site is occupied by parking lots. The ground surface elevation ranges from approximately 80 to 100 feet above mean sea level (msl) and slopes southeastwards towards the base of “Pill Hill” at Broadway. Three underground storage tanks (USTs) that previously contained gasoline, diesel, and waste oil were removed from the upper (northwest) portion of the site in December 1989. Soil and groundwater assessment have been ongoing since 1990.

Constituents of Concern

Chemicals of concern at the site are petroleum hydrocarbons (i.e. diesel and gasoline), the lead scavenger 1, 2-dichloroethane, and fuel-related semi-volatile organic compounds (e.g., naphthalene). In some prior analytical results from the site, extractable hydrocarbons have been quantified as total petroleum hydrocarbons as motor oil (TPHmo), although these hydrocarbons may represent the heavier fraction of diesel contamination. Methyl tertiary butyl ether (MTBE) is not a constituent of concern at this site.

Previous Environmental Assessment

Three underground storage tanks (USTs) that previously contained gasoline, diesel, and waste oil were removed from the upper (northwest) portion of the site in December 1989. Soil and groundwater assessment have been ongoing since 1990.

Between October 1996 and March 1998, operation of a soil vapor extraction (SVE) remediation system removed approximately 1,421 pounds of hydrocarbons. Manual removal of separate-phase hydrocarbons (SPH) from monitoring wells has removed a total of approximately 950 pounds (156 gallons) of SPH since 1991. Chemicals of concern at the site are petroleum hydrocarbons (i.e. diesel and gasoline), the lead scavenger 1, 2-dichloroethane, and fuel-related semi-volatile organic compounds (e.g., naphthalene). In some prior analytical results from the site, extractable hydrocarbons have been quantified as total petroleum hydrocarbons as motor oil (TPHmo), although these hydrocarbons may represent the heavier fraction of diesel contamination. Methyl tertiary butyl ether (MTBE) is not a constituent of concern at this site.

On February 27 through April 4, 2007, Pangea installed two groundwater monitoring wells (MW-16A and MW-16B) to monitor groundwater during remediation and installed fifteen remediation wells (AS-1A, AS-1B, AS-2A, AS-3A, AS-3B, AS-4A, RW-1, RW-2, RW-3A, RW-3B, RW-4, RW-5, MW-17A, MW-17B and VE-1) to implement air sparging (AS) and dual phase extraction (DPE). New wells installed at the site were labeled according to the depths of their screen intervals: shallow (A-zone) wells have screen intervals above approximately 30 feet below grade surface (bgs), which generally straddle the top of the water table, while deeper (B-zone) wells are screened below approximately 30 feet bgs to target deeper contamination. After delays associated with the UST Cleanup Fund and prospective property sale, operation of the DPE system began on April 26, 2011 and operation of the AS system began on May 29, 2011.

In August 2008, Pangea conducted additional downgradient soil and groundwater assessment per ACEH direction. No petroleum hydrocarbons were detected above reporting limits in analyzed soil or groundwater from boring SB-1. Based on these and historical results, the lateral extent of hydrocarbon contamination appears to be adequately characterized.

WORKPLAN FOR ENHANCED SITE REMEDIATION

Pangea would like to use a bio-organic catalyst (BOC) accelerate cleanup and reduce cleanup costs. These products are safe and inexpensive. Pangea understands that the San Francisco Bay Region and Los Angeles Water Boards have approved use of BOC or similar products to enhance DPE site remediation. Product information for BOC (also known as NonTox™) is included in Appendix A.

Proposed Remediation Enhancement Technique

Bio-organic catalyst (BOC) is a highly concentrated liquid form “NONTOX™-TPH Eliminator” designed to help desorb and breakdown petroleum hydrocarbons to enhance product recovery efforts and accelerate biodegradation of petroleum hydrocarbons. BOC has been used effectively on open water spills of petroleum crude oil and is enjoying increasing use for subsurface hydrocarbon remediation applications. BOC is often introduced into existing wells using water flushing and/or air sparging for added BOC distribution and increased dissolved oxygen supply. Petroleum hydrocarbons are decomposed, eventually degrading to carbon dioxide and water as end products. BOC is non-toxic, 100% biodegradable, and safe to human, animals and plant life. BOC is mostly water, proteins, and enzymes derived from plant and mineral sources (primarily yeast). BOC works in concert with indigenous bacteria. BOC behaves similar to a surfactant and forms small bubbles when agitated by air injection (or shaking of product within a jar or treatment cell). BOC is relatively inexpensive and is considered ‘green’ remedial technology. Product literature for BOC is presented in Appendix A. BOC is relatively inexpensive, costing approximately \$55 to \$75/gallon depending on purchase quantity.

Injection Workplan

Pangea will introduce a small volume (about 1 to 2 gallons) of BOC into select site wells and monitor hydrocarbon recovery rates in nearby extraction wells. To help distribute the BOC into the subsurface, Pangea will add a larger volume of water (about 5 to 10 gallons) into each well on an approximate 1:5 ratio of BOC to water. The DPE system will then pull the BOC across the residual impact area toward the extraction wells and remove the BOC in aqueous phase. BOC will also added to select air sparge (deeper) wells to further distribute the BOC and simultaneously provide dissolved oxygen to further stimulate biodegradation. Air sparging will also agitate the BOC to create bubbles and help 'activate' the surfactant qualities of the BOC, bringing together the BOC enzymes, oxygen and contaminants for enhanced biodegradation. Finally, a more dilute BOC and water mixture (1:10 ratio) will be added directly into DPE wells and subsequently extracted after allowing approximately 24 to 48 hours of contaminant desorption. BOC will be added on several episodes depending on remedial effectiveness and observations.

Initial BOC injection will be performed within the upper plume area as follows: first on seven wells near the center of the upper plume (MW-1, MW-14, MW-16A, RW-1, AS-1A, AS-1B, and AS-2A), then on four perimeter wells (MW-15, MW-17A, RW-4 and RW-5). After successful demonstration of BOC capture and hydrocarbon attenuation at the upper plume area, BOC injection will be expanded to the lower plume area as follows: first on four more upgradient wells (MW-4, MW-10, RW-2 and AS-4A), and then on four more downgradient wells (MW-6, RW-3A, RW-3B and AS-3B). With an active DPE/AS system at the site, the injected BOC enhancement product should be fully captured and/or degraded onsite. Hydrocarbon concentrations in groundwater from the recent December 19-20, 2011 monitoring are summarized on Figure 2. The remediation system layout and well locations are shown on Figure 3.

Monitoring Plan

Pangea will primarily monitor contaminant removal rates in vapor phase and aqueous phase by measuring flow rates, analyzing influent vapor/water samples, and recording equipment performance parameters. Before and after BOC addition, Pangea will measure depth to water, DO, ORP and contaminant concentrations in select wells. The primary affect of BOC will likely be increased aqueous-phase removal rate (initially) and decreased contaminant concentrations in groundwater monitoring wells during subsequent sampling.

During BOC activities, field visual screening techniques will be performed to determine the presence of BOC in extracted groundwater. Decreased viscosity on a plate glass sample or soap-like bubbles on a shaken groundwater sample are indicative of BOC presence. The BOC may take a few hours or days to reach the extraction wells. Upon confirmation of BOC in extracted groundwater, Pangea will collect groundwater influent samples for contaminant concentrations analysis by a laboratory to calculate aqueous phase removal

rates. Depending on initial observations, additional BOC introduction may be performed. According to vendor information, the enhanced aqueous-phase removal provided by BOC may reach 400 to 800% initially and typically decreases with successive BOC events. After a few events or if removal rates cease to increase with BOC addition, the BOC addition will be discontinued.

The ultimate evaluation of BOC's enhancement is the effect on groundwater quality in site wells. To control cost, primary well sampling will be performed during routine semi-annual monitoring. Additional well sampling (monthly or quarterly) may be performed on one or a few select wells if semi-annual monitoring is more than one month away from the BOC evaluation period. Ideally, routine well monitoring would be performed no sooner than four weeks after DPE/AS and BOC introduction to provide time for desorption and additional contaminant biodegradation. During routine monitoring Pangea will also monitor dissolved oxygen (DO) and oxidation reduction potential (ORP) in site wells. To screen groundwater for residual BOC during routine monitoring, Pangea will analyze groundwater select samples for non-ionic surfactants using Standard Method SM5540BD (dissolved non-ionic foaming agents, cobalt thiocyanate active substances (CTAS)).

CLOSING

Upon agency approval, Pangea will implement this workplan to enhance DPE/AS remediation, accelerate site cleanup and therefore reduce overall remediation costs. With all due respect, if Pangea does not receive agency comment within the statutorily-provided 60 days from the January 18, 2012 submittal date, Pangea will proceed with implementation of the workplan.

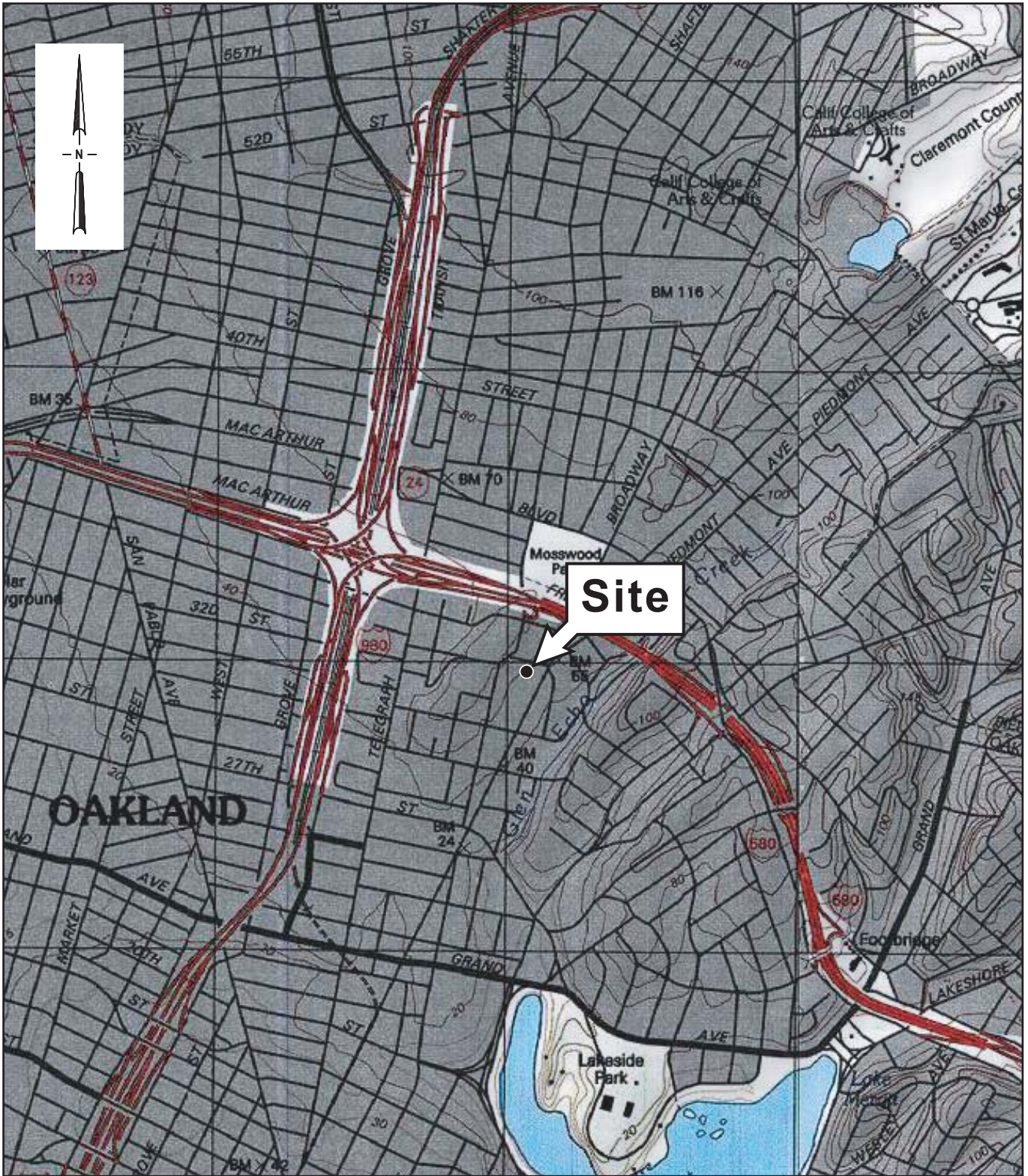
ATTACHMENTS

Figure 1 – Vicinity Map

Figure 2 – Groundwater Elevation and Hydrocarbon Concentration Map, December 2011

Figure 3 – Remediation System Layout

Appendix A – Bio-Organic Catalyst Product Information



SOURCE: TOPOI MAPS



SCALE : 1" = 1/4 MILE

Figure 1

Connell Automobile Dealership
 3093 Broadway
 Oakland, California



Vicinity Map

WEBSTER STREET

HAWTHORNE STREET

BROOK STREET

BROADWAY

LF2

LF3

LF4

Connell Automobile Dealership
3093 Broadway

Office Building

VE-1
NM
90,000
9,700
<1,000

MW-16A
NM
SPH(Sheen)

MW-16B
NM
15,000
3,900
<170

RW-2
NM
77,000
11,000
<2,100

MW-6
60.63
NS

MW-8
57.98
NS

MW-1
66.90
63,000
5,000
<1,000

RW-5
NM
6,700
350
<120

RW-4
NM
75,000
1,200
<1,000

MW-14
68.99
14,000
1,400
<300

MW-17A
NM

MW-15
NM
36,000
4,000
<1,000

MW-17A
NM
91,000
4,100
<1,500

MW-17B
NM

MW-9
67.74
NS

MW-4
67.38
150,000
8,000
<2,000

RW-3A
NM
41,000
3,000
<750

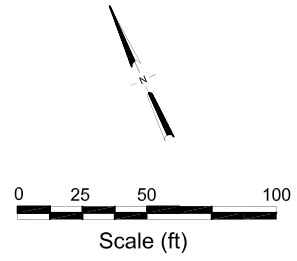
MW-7
66.53
NS

MW-7
66.53
NS

MW-13
59.41
NS

EXPLANATION

- MW-2 ● Monitoring well location
- RW-1 ▨ Remediation/monitoring well location
- Well ID
- ELEV Groundwater Elevation
- TPH₉ Hydrocarbon concentrations in groundwater in micrograms per liter (ug/L)
- Benzene
- MTBE
- SPH (0.01) Separate phase hydrocarbons (thickness in feet)
- NS Not sampled
- CPT-16 ⊕ Penetration test boring
- SB-1 ● Soil Boring
- LF2 ⊗ Abandoned monitoring well location (installed by Levine-Fricke)
- Approximate groundwater flow direction
- Groundwater elevation contour, in feet (relative to an arbitrary datum)
- NM Not measured



Basemap from Subsurface Consultants, Inc. and Cambria Environmental Technology, Inc.

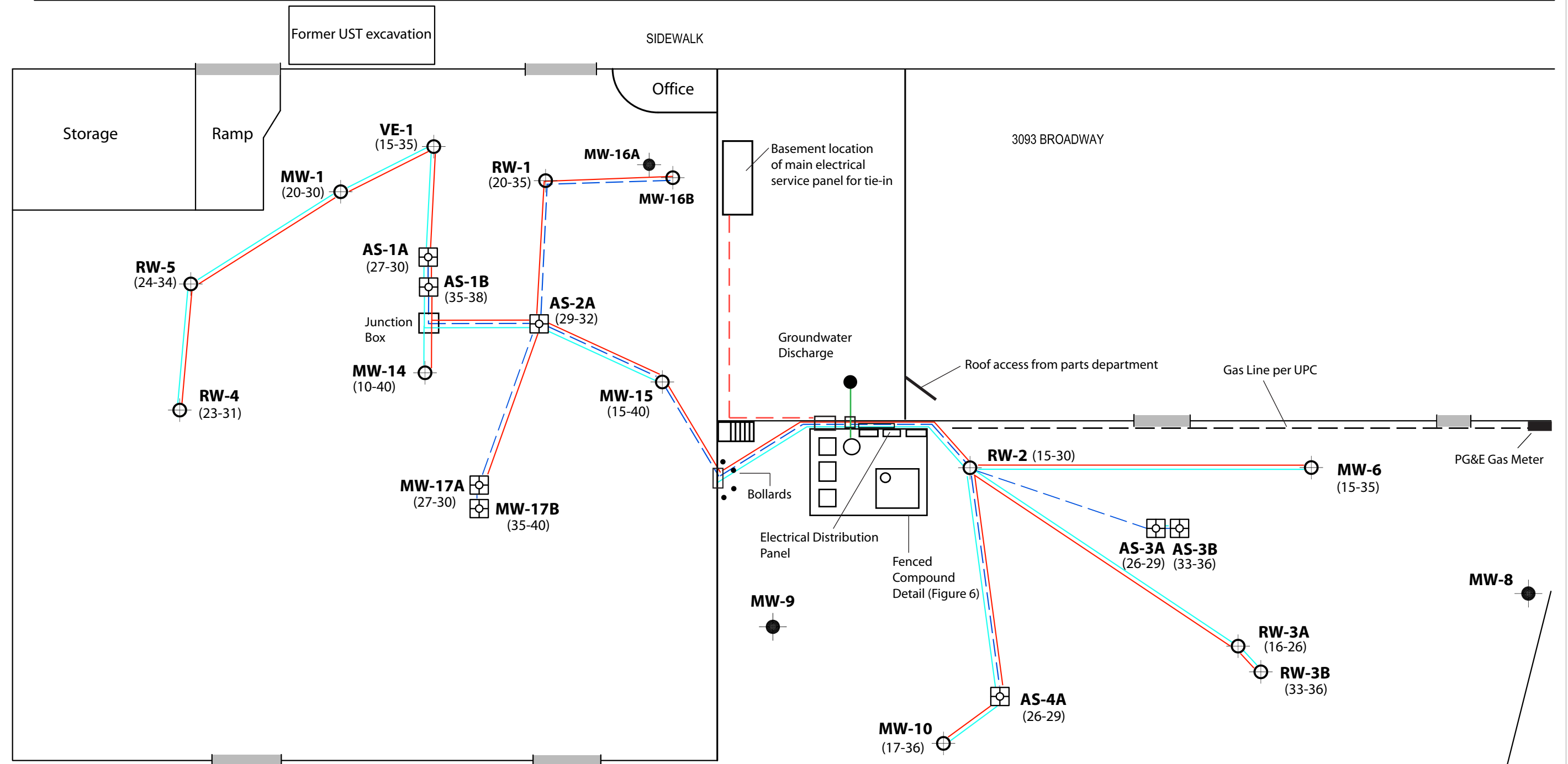
Figure 2

Connell Automobile Dealership
3093 Broadway
Oakland, California

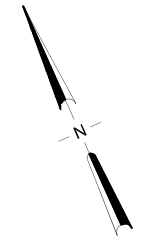


Groundwater Elevation and
Hydrocarbon Concentration Map

December 19-20, 2011



EXPLANATION	
MW-1	Monitoring well location
RW-4	Extraction well location
AS-1A	Air sparge well location (A = Shallow, B = Deeper)
(27-30)	Well screen depth, feet below grade surface
	Dual Phase Extraction piping
	Air Sparge piping
	Contingency GWE Piping



MW-7

Figure 3

APPENDIX A

Bio-Organic Catalyst Product Information

NONTOX™

Petroleum Hydrocarbon Remediator:

The cleaning and remediation of petroleum hydrocarbon contaminated water and soils is a fundamental environmental challenge that impacts most industries and transportation systems, including shipping. NONTOX™ is a specially formulated bio-organic catalytic composition which greatly accelerates remediation rates, at very low relative cost compared to traditional remediation technologies.

NONTOX™ provides a superior cleaning capability when used to wash petroleum hydrocarbon based contaminants, and then allows for their subsequent accelerated remediation, so that the cleaning/remediation process is combined together into a synergistic and complementary procedure.

NONTOX™ is a highly concentrated bio-organic catalyst composition formulated to provide an instant protection from auto ignition risks from petroleum hydrocarbon spills and wastes, and greatly accelerates biodegradation of these hazardous compounds in both water and soil applications.

Benefits:

- Immediate protection from auto ignition of petroleum hydrocarbons
- Able to provide superior cleaning of oil coatings and wastes
- Accelerates biodegradation rates of petroleum hydrocarbons
- Reduces costs associated with soil and water remediation procedures
- Provides treatment to most petroleum hydrocarbon contamination
- Helps in the precipitation of metals in wastewater discharges
- Acts quickly to effectively remove highly soluble elements
- Limits the formation of anoxic "dead zones"

USDA
Approved
Safe
Non-Toxic
Biodegradable

General Description

NONTOX: PETROLEUM HYDROCARBON REMEDICATION/CLEANING

- Is a biocatalytic system in a liquid concentrate form that stimulates and accelerates natural biological reactions. When combined with fresh or salt water and oxygen, the product will cause crude oil, jet fuel, diesel oil and other organic substances to rapidly decompose, eventually biodegrading them to carbon dioxide and water as end products.

- It is non-toxic and safe to humans, animals, marine life and plant life. It is 100% biodegradable.

- Works in concert with indigenous bacteria. No cultured or foreign bacteria are introduced into the ecosystem.

- Is nonflammable. It will reduce fire hazards by increasing flash points and autoignition threshold points in substances such as gasoline or fuel oil.

- Eliminates obnoxious odors associated with crude oil, petroleum derivatives and other organic molecules that are proceeding through the natural decomposing process.

- Is fully compatible with most types of application equipment now in use. The product may be easily applied by hand or power sprayers, helicopter, airplane or floating equipment. Its application requires no special safety equipment.

TARGETED HYDROCARBON CONTAMINANTS

In this case, the hydrocarbon compounds found in water, soil and air are the selected targets of NONTOX. This would include such petroleum derived products as crude oil, drilling muds, creosote, kerosene, coal tars, gasoline, diesel, bunker fuels, lubricating and hydraulic fluids. Other contaminant groups would include aliphatic and aromatic hydrocarbons, polynuclear aromatic hydrocarbons, chlorinated aliphatic compounds, chlorinated aromatic compounds and chlorinated and non-chlorinated phenols.

It has been shown that the product has unique features in odor elimination of such gases as hydrogen sulfide, ammonia, mercaptan and other noxious odors emanating from anaerobic decomposition. The odor degradation activity happens in a very short period and effectively eliminates volatilization of light chain organic molecules, such as the BTEX group of petrochemicals, into the atmosphere.

TREATMENT METHODOLOGY

The product is fully compatible with most types of application equipment now in use. NONTOX may be easily applied with hand or power sprayers, standard educator tubes, helicopters, airplane or floating equipment. No special nozzles or hoses are required. Each

treatment site may differ in its requirements and modality of treatment. Factors that can influence the tactical use of NONTOX are:

Redox Potential Temperature Availability of Nutrients Nature and Concentration of Contaminants pH Heavy Metals Should these variables complicate the application and treatment procedures, the NONTOX works well with other commonly accepted treatment modalities such as venting, injection aeration, aeration lagoons and enoculants for removal of heavy metals.

Water or Beach Spills

Reducing the danger of oil reaching beaches and shore structures is best achieved by spraying the oil slick perimeter with a diluted solution of 10 gallons of NONTOX mixed with 150 gallons of sea water or fresh water for each 40,000 square feet of surface area to be treated. If the slick has a heavy consistency, it is recommended that a 1:15 diluted NONTOX solution is applied over a three-day period, using one-third of the mixed solution each day. For best results, the product should be applied at a high pressure – generally above 500 psi.

TECHNICAL DATA

Bacterial Proliferation

The successful biodegradation of petroleum is dependent on two factors: 1) having the bio-organic catalyst reduce the petroleum to a form, which can be readily assimilated, by bacteria and 2) stimulating the proliferation of naturally occurring nonpathogenic heterotrophic bacteria. NONTOX to significantly increase beneficial bacterial activity in bay water by 12,857% and ocean water by 14,333%.

Accelerated Bioremediation

Independent laboratory studies from specialists in petroleum technology have quantified the ability of NONTOX to dramatically reduce petroleum contaminants. showing a 90% reduction in Jet-A, Diesel-2 and Heavy Duty Lube Oil within 96 hours. While treatment time required may vary dependent on conditions previously noted, the mode of action is the same. NONTOX is a unique biocatalytic system that accelerates natural biological reactions with hydrocarbon products in water.

METAL CONTAMINANT PRECIPITATION

Another benefit of NONTOX use is its ability to break the matrix that suspends metals.

FLAMMABILITY REDUCTION

Open cup flash points and auto ignition temperature tests quantify the ability of NONTOX to render petroleum products nonflammable and dramatically increase their auto ignition temperatures. NONTOX alters the molecular structure that dramatically reduces

flammability and the elimination of volatile organic compounds (VOCs) and their odors. The importance of this feature cannot be overstated in terms of shipboard safety and survivability. In addition, the use of other ecologically incompatible materials, such as AFFF Foam, may be significantly reduced.

SAFETY PROFILE

Extensive independent laboratory testing utilizing accepted standards for dermal and ocular effects on animal and human subjects have been performed. Phytotoxicity, bacteria community and internal aquatic organism safety studies are well documented.

OTHER POSSIBLE APPLICATIONS

- Initial Actions for Fire Fighting, i.e. cover the fire hazard with a layer of AFFF and flash point reducing product.
- Fuel or Oil Tank Cleaning
- Engine / Generator Wipe down
- Galley Drain Line Unclogging
- CHT Tank Cleaning / Degreasing
- Flight Deck Cleaning (should be able to hose it over the side).
- Trough Cleaning



NONTOX

Total Petroleum Hydrocarbon (TPH) Bio-Remediation/Bio-Organic Catalyst

The NONTOX product line is an advanced bio-catalytic formula designed to work in concert with indigenous ecologies to accelerate the bio-remediation of petroleum hydrocarbon pollutants (TPH) in water and soils. It is safe and non-toxic to humans, marine life, and plant life. It is 100% biodegradable, and introduces no foreign, or cultured, bacteria into the environment. NONTOX raises dissolved oxygen levels in water bodies, which is critically important to aquatic life.

NONTOX is fully compatible with most types of application equipment, including hand or power sprayers, helicopter, airplane, or floating equipment. Its application requires no special equipment. NONTOX is non-flammable, and will also reduce fire hazards by increasing flash points and auto-ignition thresholds of substances such as gasoline and fuel oil.

The Safety Profile of NONTOX has been established through extensive laboratory testing utilizing accepted standards for dermal and ocular effects on animal and human subjects. Non-toxicity to bacteria colonies and aquatic organisms has been documented.

NONTOX works through the twin factors that are essential to petroleum hydrocarbon bio-remediation: 1) reduction of the hydrocarbons into a form that can be readily assimilated by indigenous ecological microorganisms, 2) stimulation of the proliferation of naturally occurring beneficial microorganisms within sea water, soils, and water bodies.

Independent studies have shown 90% reductions in TPH levels in 96 hours.

NONTOX is a highly concentrated liquid composition that is applied through water delivery spray systems. The dilution levels can be very high, as low as parts per million ranges, depending upon the concentrations of petroleum hydrocarbon pollutants within the water or soil.

The application of NONTOX requires no special installation set ups. It is advisable to be added within water tanks prior to application for proper dilution.

NONTOX is completely safe for use by personnel, and requires no special protective clothing or handling procedures.

NONTOX is a patented and proprietary complex composition of individual ingredients derived from readily available sources, thereby allowing rapid scale up of production to any desired levels.

NONTOX PROTOCOL FOR TOTAL PETROLEUM HYDROCARBON (TPH) BIO-REMEDICATION
ADVANCED BIO-ORGANIC CATALYST COMPOSITION
FOR GENERAL GUIDELINES: ONE (1) PART OF NONTOX FOR ONE (1) PART OF TPH CONTAMINATION



APPLICATION RATES:

SOILS: To treat (1) cubic yard, or 4200 lbs.
up to 500 TPH = 20.5 oz. in (4) Gals. Of Water
up to 2500 TPH = 25.6 oz. in (4) Gals. Of Water
over 2500 TPH = 30.7 oz. in (4) Gals. Of Water

Maintain soil moisture @ 15 - 18%, Apply in (3) Equal Applications 5 - 7 Days Apart

(1) Cubic Yard = 4200 Lbs. (1) Ton = 2000 Lbs.

PAVEMENTS: For treating Pavement Surfaces, such as below, use 2.5% Dilution of NONTOX in PowerWasher:
(For best results: High Pressure, Above 500 psi)

1. Concrete
2. Asphalt
3. Coplestone
4. Compacted Earth
5. Steel or Metal Plate
6. Laminates

WATERS: For treating TPH Contaminated Waters, Use (1) Part of NONTOX for (1) Part of TPH Contamination
(Good agitation with contaminated waters recommended.)

1. Salt Water
2. Fresh Water
3. Tanker Ships
4. Tanker Trucks

* For additional nutrient requirements for active biological cultures in waters or soils, a liquid NPK fertilizer is advised.

FIRE PREVENTION CAPABILITIES:

1. Open Cup Flash Point Tests: Non-Flammable
2. Auto Ignition Tests: Non-Flammable



NONTOX will significantly reduce ability of fuel spills to ignite.

SAFETY PROFILE:

NONTOX is completely non-toxic and safe to marine, animal and human life. 100% Bio-Degradable. Extensive independent laboratory testing utilizing accepted standards for dermal and ocular effects on animal and human subjects have been performed. Phytotoxicity, bacteria community and internal aquatic safety studies are well documented.

VOLATILE ORGANIC (VOC) ODORS:

NONTOX will eliminate the noxious odors associated with crude oil, petroleum derivatives, chlorinated aromatic compounds, and other petroleum based products.

MECHANISM OF ACTION:

NONTOX works through an accelerated natural breakdown of petroleum hydrocarbon substances (bio-catalysis). Works in concert with indigenous microbiology, introduces no cultured or foreign bacteria into the ecosystem. Natural biological populations in Sea Water ecologies have increased by over 12,000% with NONTOX.

APPLICATION EQUIPMENT:

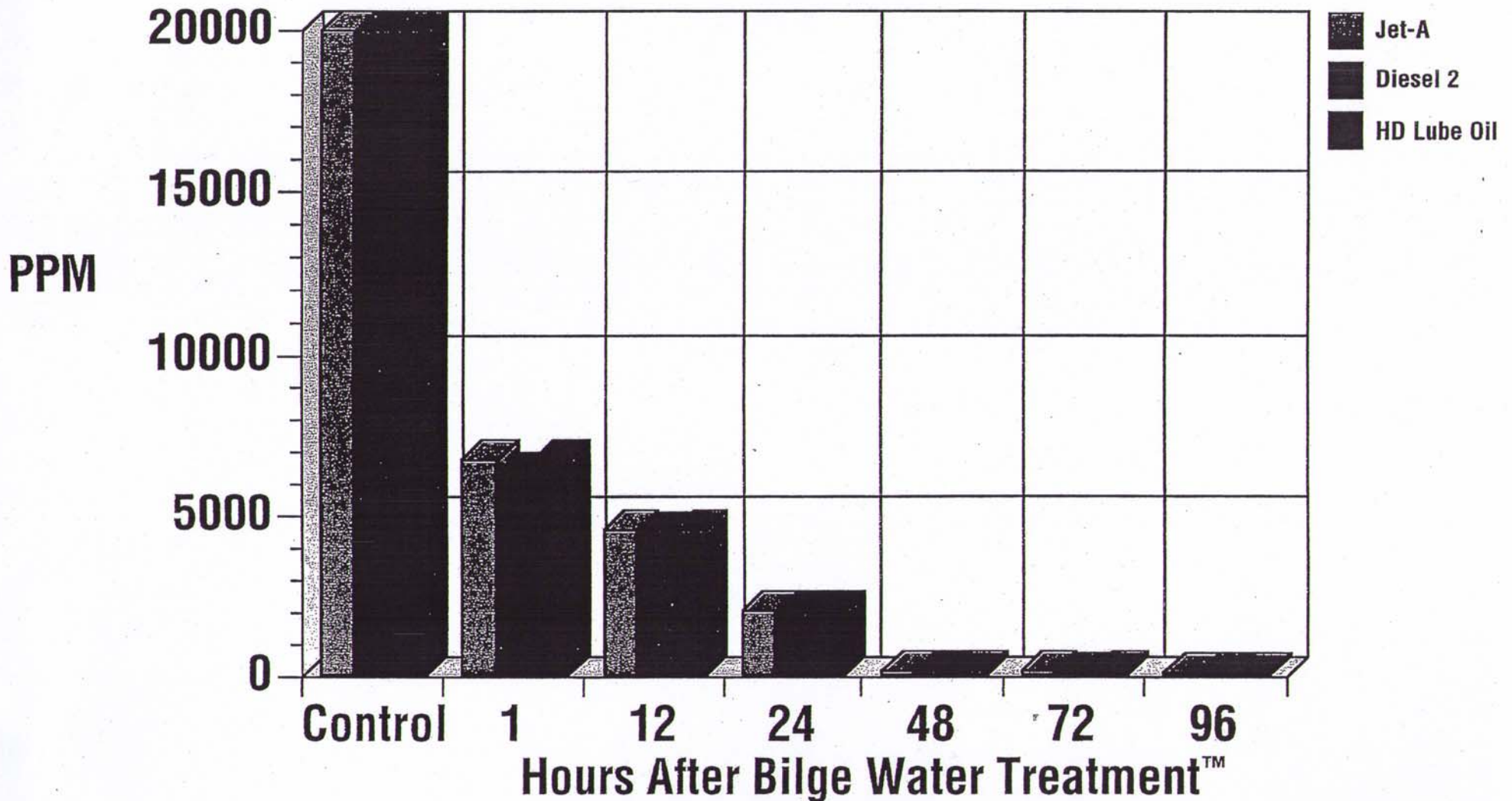
NONTOX is fully compatible with most types of application equipment used, including; hand or power sprayers, standard educator tubes, tankers, helicopters, airplanes, or floating equipment.

TPH BIO-REMEDICATION:

NONTOX has demonstrated in independent studies reductions in TPH levels of up to 90% in jet fuel, diesel fuel, and heavy duty lube oil, within days. Light volatile hydrocarbon reductions are very rapid.

BILGE WATER TREATMENT™

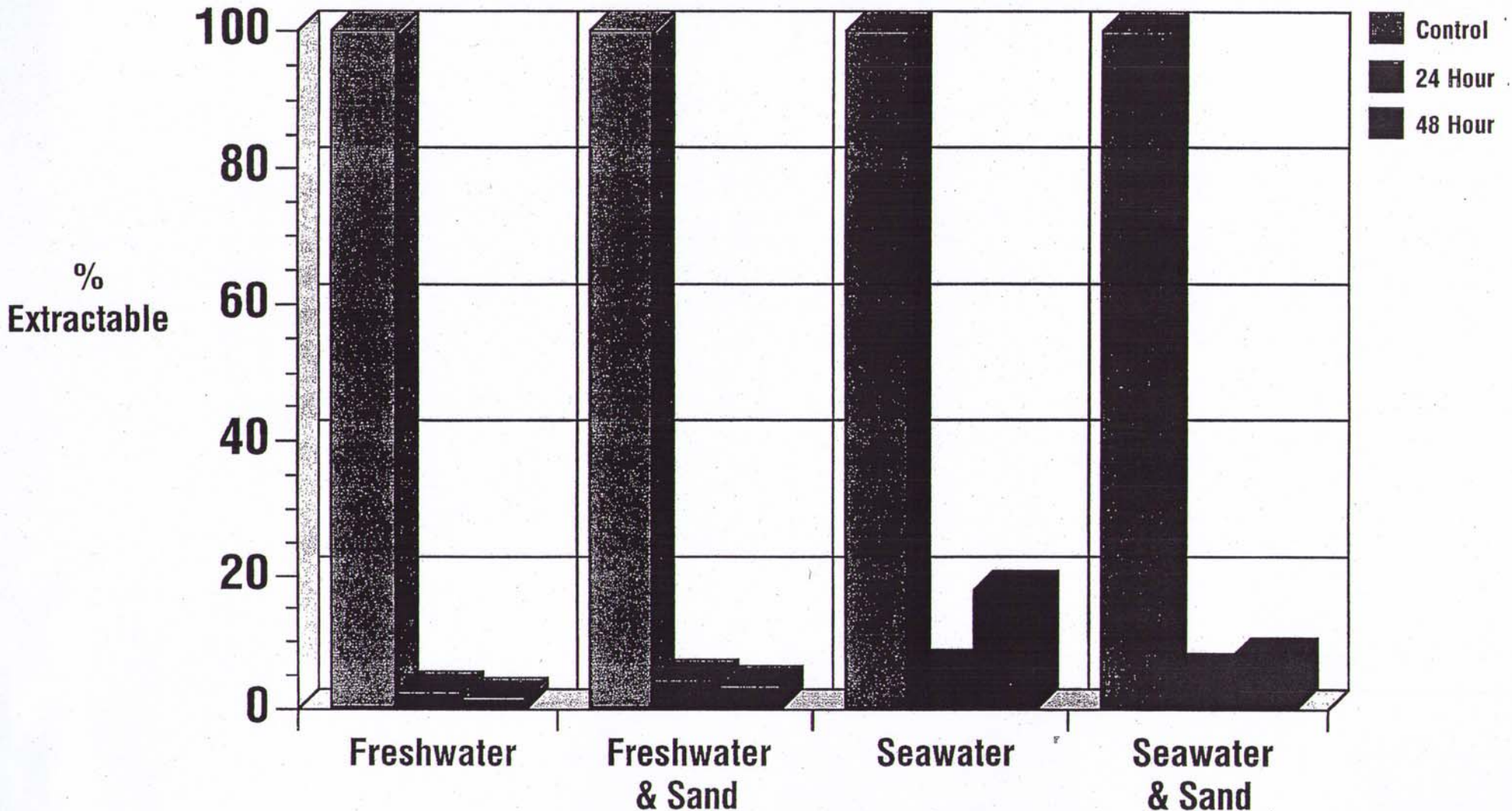
PETROLEUM REDUCTION



Reference: ACIS Labs - Specialists in Petroleum Technology, Detroit, Michigan. Report Number: 9308-2541-1,
Report Date: 09/07/03 Test Method: Froth Extract (FOE) - EPA 812.1

BILGE WATER TREATMENT™

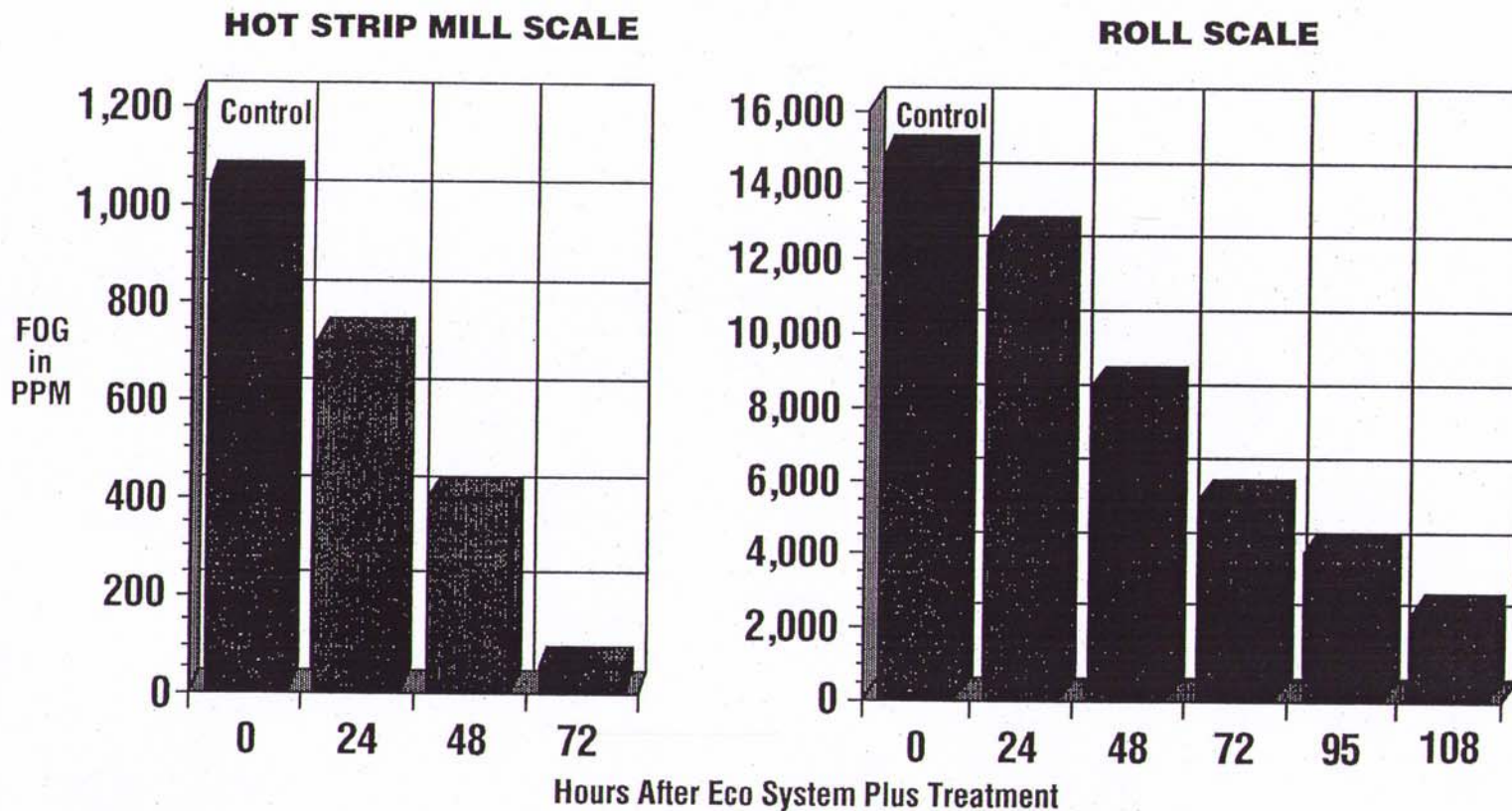
CRUDE OIL REDUCTION



Reference: IT Analytical Services, Cerritos, California. Report Number: A-3817-12,
Report Date: 11/26/83, Test Method: Freon Extract (FOG) - EPA 413.1.

STEEL MILL SCALE

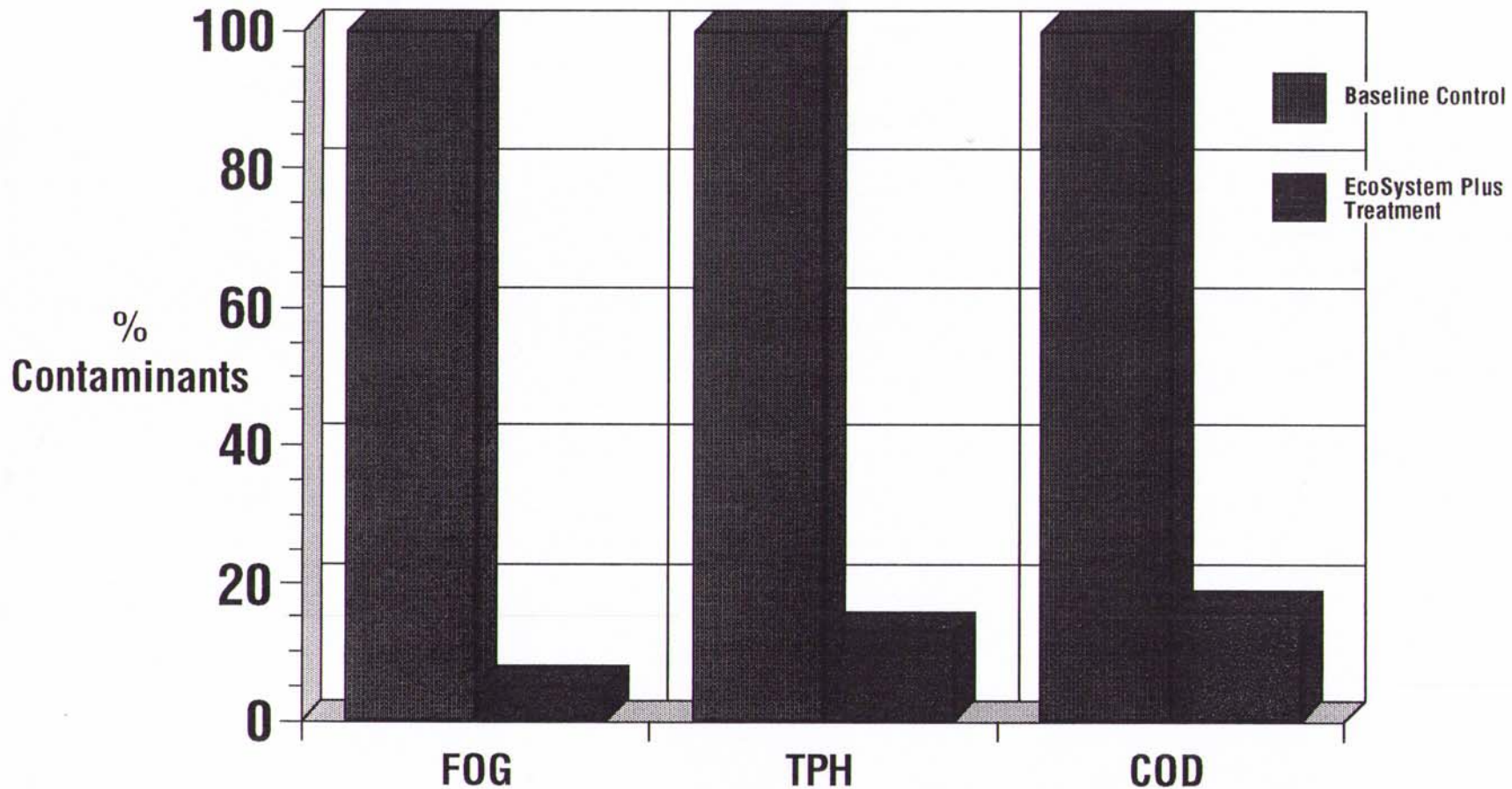
Hydrocarbon Contaminants



Reference: Hot Strip Mill Scale - ACIS Laboratories, Detroit, Michigan. Report Number: 9405-2935-1A Report Date: 08/12/94 Test Methods: EPA 413.1
Roll Scale - ACIS Laboratories, Detroit, Michigan. Report Number: 94075-2935-2 Report Date: 05/31/94 Test Methods: EPA 413.1

DIGESTER GREASE CAP

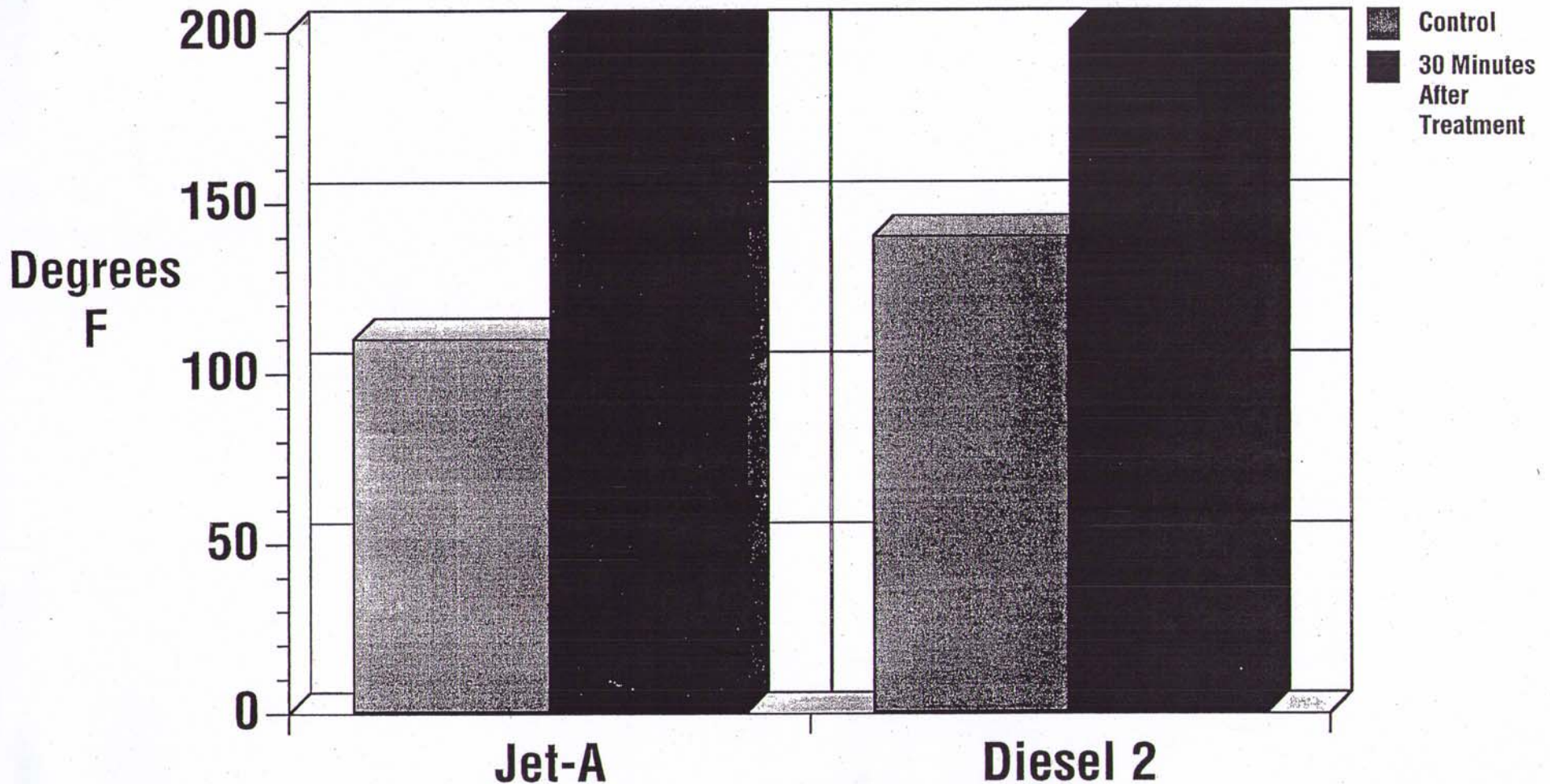
Liquification and Treatment After 72 Hours



Reference: ACIS Labs - Specialists in Petroleum Technology, Detroit, Michigan. Report Number: 9403-2850
Report Date: 04/18/94 Test Method: FOG - EPA 413.1; TPH - EPA 418.1; COD - EPA 416.1

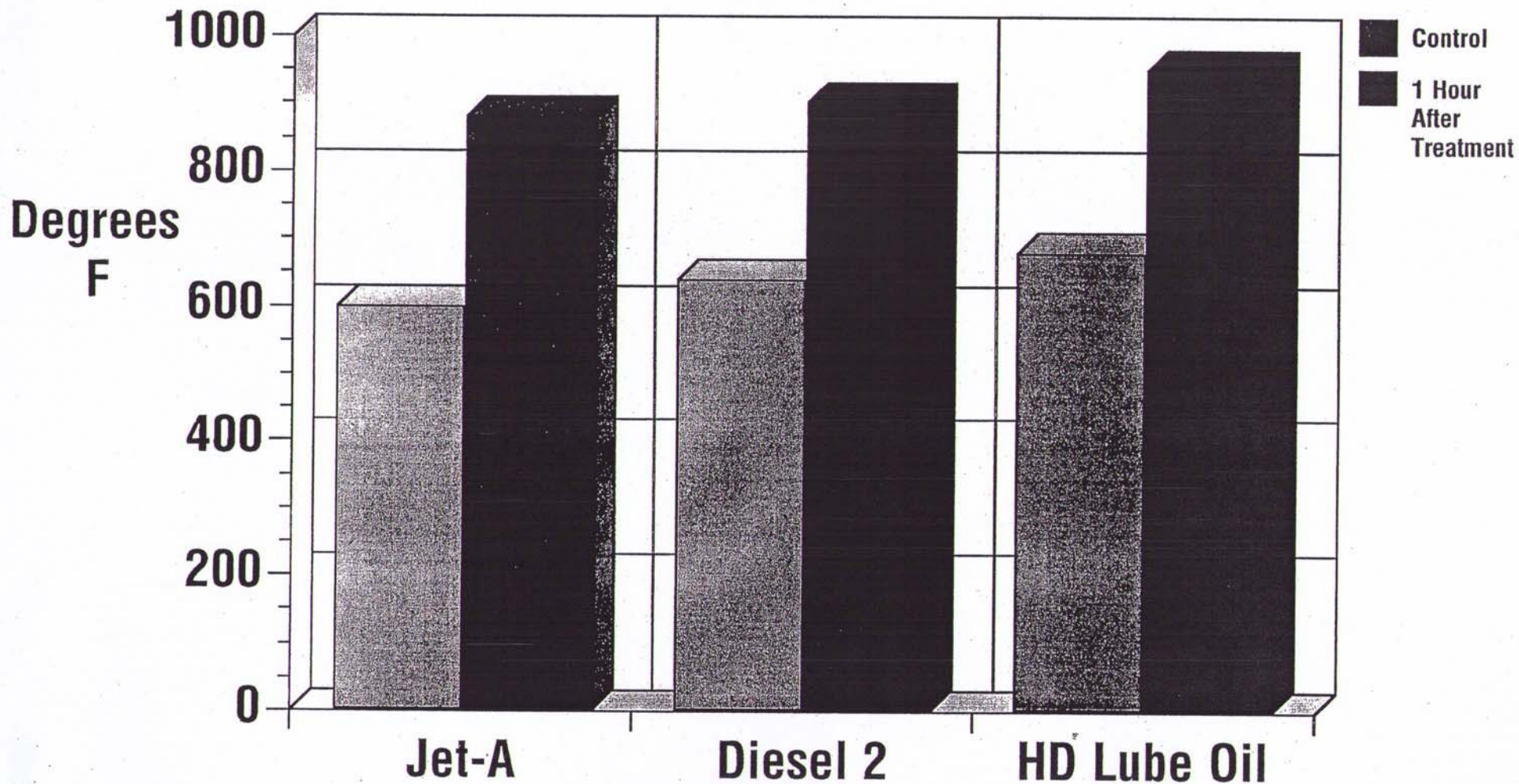
BILGE WATER TREATMENT™

OPEN CUP FLASH POINT TEST



BILGE WATER TREATMENT™

AUTO IGNITION TEST



Reference: ACIS Labs - Specialists in Petroleum Technology, Detroit, Michigan. Report Number: 9310-2594-1, Report Date: 09/07/93, Test Method: Auto Ignition Temperature - ASTM D2155-66.