

**SCOTT ALLIANCE J.V.
R & W BUILDERS, INC.**



SPILL REMEDIATION REPORT

**PROJECT
SECURITY FORCES OPERATION FACILITY
SCOTT AFB, IL**

CONTRACT: W912QR-08-C-0013



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Description of events in storm water system.

On Wednesday (10-28-09) there was no rain and the parking lot dried enough to put the binder for the asphalt in place. On Thursday (10-29-09) morning the asphalt began arriving continuously until the rain began at 11am by 11:30 it was clear that the rain would continue. At that point the rest of the asphalt was placed; additional trucks were called off due to conditions. Approximately one third of the asphalt surface of the parking lot was placed the remaining surface had binder coating on it; the binder coating is relatively impervious to rain so the job was put on hold until the weather cleared. However the rain continued through the night and was still raining hard at 7am Friday (10-30-09) when roofing trucks arrived to be unloaded. The rain was quite hard and was causing storm water back up and base wide flooding in the streets, at one point the backup of water was forceful enough to cause manhole covers to be displaced in the street. The manhole cover in the veterinary clinic was pushed up approximately 3-4 inches. The curve on Chapman Street next to the job site was under 12" of water. While we were engaged in unloading in this downpour the storm water ponds backed up to completely full and over flowed onto the parking lot, at one point was under 10-12" of water. Some of the binder product floated on top of the water and was transported to the ponds. As the water receded the floating product was deposited on the grass and the rip rap channel of the Northwest pond. The Northeast pond was in a similar condition but did not appear to have overflowed and drained more slowly trapping a lot of product in the base of the pond. This was discovered during the SWPP inspection on Saturday (10-31-09 Copy included). The situation was addressed by using the SAJV spill kit which contains oil absorbent pads which were used to absorb product which was floating on the water and to pick up product which had coagulated along the concrete channel at the base. Absorbent pads were used to create a barrier in front off the silt fence to capture any oil still floating in the channel. The situation was stabilized and left to be dealt with on Monday 11-2-09.

On November 2nd the situation was evaluated by Dave Mueller COE; Chris Panzau, COE; Gary Puetz, COE; Vanessa Frangos, CES/Storm Water Pollution Prevention Program Manager; with Mark Kabureck, Project Supervisor for Scott Alliance Joint Venture (SAJV); Dan Cole, QC and SWPP Inspector for SAJV; John Derby SSHO and SWPP Inspector for SAJV. Photographs were taken of the East detention pond, West detention pond and south ditch (See Photo Page 1) to record extent of spread of the product and possible remediations. Product is primarily made up of two ingredients: Bitumen and Kerosene (See Material Safety Data Sheet) which is why it floated and was deposited on the pond walls. After evaluation of the problem SAJV proposed that the contaminated areas be treated with Oil Spill Eater II (See Material Safety Data Sheet). The manufacturer stated that the product when mixed could be applied directly to any places where there was visible contamination. The Corps of Engineers indicated that if the base environmental staff approved its use that this would be the best option.

The environmental representatives were invited to the SAJV office to read the MSDS sheet and to participate in a conference call to the manufacturer. The manufacturer mentioned a number of military bases who were already using OSE II. The result of the call was to go ahead with the use of the product. SAJV ordered the product to be shipped over night.

The product was received the next day (11-4-09) and the first batch was made up and applied to the East detention pond as it had the heaviest concentration of active liquid asphalt. The manufacturer had cautioned that the OSE II would digest the oil product but leave carbon behind so the black stain would be less noticeable but not disappear altogether. Applications were also made to the West detention pond and to the South ditch wherever there was visible contamination. The next day (11-5-09) the effect was evaluated as favorable and the environmental office stated that they wanted the blackened weeds and grass removed from the south ditch and treatment of backed up creek water (from the absorbent boom)(See Photo page 2-South ditch 11-5-09) before a final water test was taken. Friday (11-6-09) the supplies for the south ditch work arrived and the work commenced. On the Monday after the ditch work was completed and the backed up creek water was treated and the sheen dissolved. Later that day the water test was taken. Test results were received late in the week (See test lab results) and indicated that the ditch water was clean.



East Detention Pond 11-02-09



East Detention Pond 11-02-09



West Detention Pond 11-02-09



West Detention Pond 11-02-09



South Ditch 11-02-09



South Ditch 11-02-09
@ South Adams Street



South Ditch 11-05-09



East Detention Pond 11-14-09



East Detention Pond 11-14-09



West Detention Pond 11-14-09



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OIL SPILL EATER II
May - 1993
GENERAL DESCRIPTION

OIL SPILL EATER II is a unique Biocatalytic System of preformed multi-enzyme liquid concentrate. OIL SPILL EATER stimulates and accelerates natural biological reactions. When combined with fresh or salt water and oxygen, OSE II will cause crude oil and other organic substances to rapidly decompose; eventually biodegrading them to carbon dioxide and water.

OIL SPILL EATER II is non-toxic to humans, animals, plants and marine life. It is non-poisonous, even if accidentally ingested. It is non-irritating to the most sensitive skin. OSE II contains no known allergens to cause skin, respiratory or other allergic reactions. Birds bathed in OSE II should be quarantined until their own natural oils are restored.

OIL SPILL EATER II is 100% Biodegradable. OSE II has a 5 year shelf life when stored at temperatures below 120 degrees F. Freezing does not harm OSE II; however, cold temperatures slow it's reaction rate somewhat. The product is completely stable and reactive in a pH environment of 3.5 to 11.7.

OSE II contains no corrosive chemicals or metal trace elements, and will not damage electrical insulation or painted surfaces. No special protective clothing or safety equipment is required - as determined by OSHA - Anchorage, Alaska.

OSE II assists in controlling unpleasant odors associated with hydrocarbons. OSE II will destroy - not mask - odors through a natural Biodegradation process.

OSE II will reduce fire hazard once emulsification and the solubilization process is started. This process begins the instant OSE II is applied to crude oil, gasoline or spilled hydrocarbons.

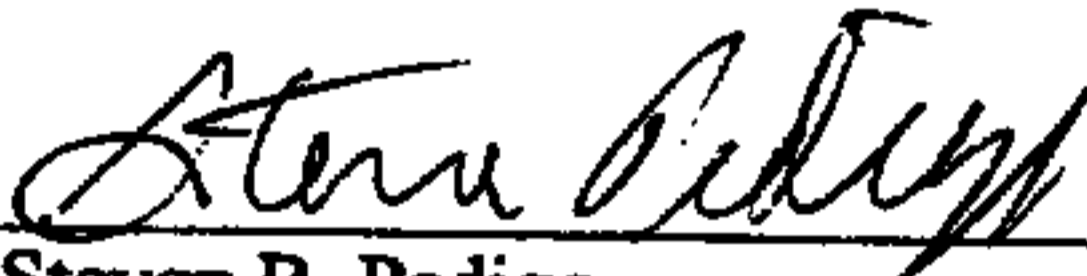
OSE II can be applied easily using a pumper-truck or fire hose, or even a pump-up hand sprayer. On water, OSE II can be applied by omni barge, helicopter, plane or any eductor system.

OSE II eliminates the need for skimmers and it eliminates the problem of disposal (clean docks, driftwood, boats, rubber gear and shorelines). No secondary cleanup is required because OSE II converts the hydrocarbons to CO₂ and water.

OIL SPILL EATER II
May - 1993
GENERAL DESCRIPTION
(Continued)

AGE OF CONTAMINATED HYDROCARBONS

The older or more weathered hydrocarbon contamination increases the time for Bioremediation to occur. When contamination is exposed to the open air and weather, it can form a skin, similar to the way gelatin sets up. The older the hydrocarbon and the more it is exposed to the elements, the thicker the skin becomes; hence, eventually becoming asphaltenes. The thicker this skin - the longer Bioremediation will take to reduce the contamination's TPH. Therefore, the sooner a contamination is addressed and mitigated, the contamination cleanup will be less expensive and less time consuming.



Steven R. Pedigo
Chairman
OSEI, Corp.

SRP/AJL



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SUMMARY

DALLAS NAVAL AIR STATION

OIL SPILL


On January 18, 1995, due to very heavy rains, there was an overflow of 2,000 gallons of JP-4, JP-8 and motor oil behind Building #193 at NAS. The overflow went through a drain pipe on to a neighboring golf course.

NAS personnel began applying OIL SPILL EATER II (OSE) on January 19, 1995 at a 50 to 1 ratio with water, which they applied with hand held sprayers. Over a period of weeks, they applied 40 gallons of OSE and 2,000 gallons of water.

NAS personnel did not perform initial TPH sampling of the contaminated soil but knew from the amount of oil, odor and visual observation of it's severity.

The attached final soil sampling was performed in four (4) different areas using EPA methods 8020/5030 for BETX and 418.1 for total hydrocarbon count. In all four (4) sampling areas the BETX and total hydrocarbons were reduced well below state acceptance levels for contaminant soil of 100 ppm.

In addition, the grass where OSE was applied to the contaminated soil is now lush green!


G. A. Lively
Rear Admiral (ret)
President

OAL/AJL

SUCCESS STORY

24 August 1994

Lawrence M. Brennan, Jr.
3400 Forest Way Court
Arlington, TX 76017

*Mr. Brennan is a Retired
Commander. He was the
Environmental Manager
for the Naval Air Station
in Dallas, Texas.

O. A. (George) Lively
Oil Spill Eater International, Corp.
13127 Chandler Drive
Dallas, Texas 75230

Dear George:

I would like to take this opportunity to tell you how impressed I am with your "Oil Spill Eater II" (OSE II) petroleum product remediator.

Prior to my retirement from the U.S. Navy, I was the Environmental Officer at a large Reserve Naval Air Station. Our goal was to maintain Environmental Compliance and our workload was enormous. We never had to respond to a major petroleum spill but we were constantly being called to cleanup small petroleum product spills associated with aircraft maintenance and lax housekeeping practices. The most important task when responding to a spill was to prevent harmful contaminants from entering the drainage systems. We needed a product to help us to these incidents; that was easy and quick to apply; and was economical. The product was OIL SPILL EATER II.

My staff and I were skeptical when you first demonstrated OSE II, but it did work and on the light petroleum products associated with the aviation industry, ie. JP-5 aviation fuel, hydraulic fluids, and lubricants, it worked extremely well. On numerous occasions when hydraulic fluids would be released on the ramp during aircraft maintenance operations, application of OSE II would remove the oily texture of the spent fluids generally within an hour and the resulting waters would soon evaporate. When a contractor spilled diesel fuel on a parking lot during equipment refueling, our responders had to act quickly in rainy weather. We first erected booms at the storm drain discharges then sprayed the spreading film with OSE II. The spill was not large but was moving fast in the wet conditions. After cleaning the area with absorbent pads and vacuum we pulled and analyzed water samples from the adjacent storm drains. The resulting TPH analysis showed only slight traces of petroleum product.

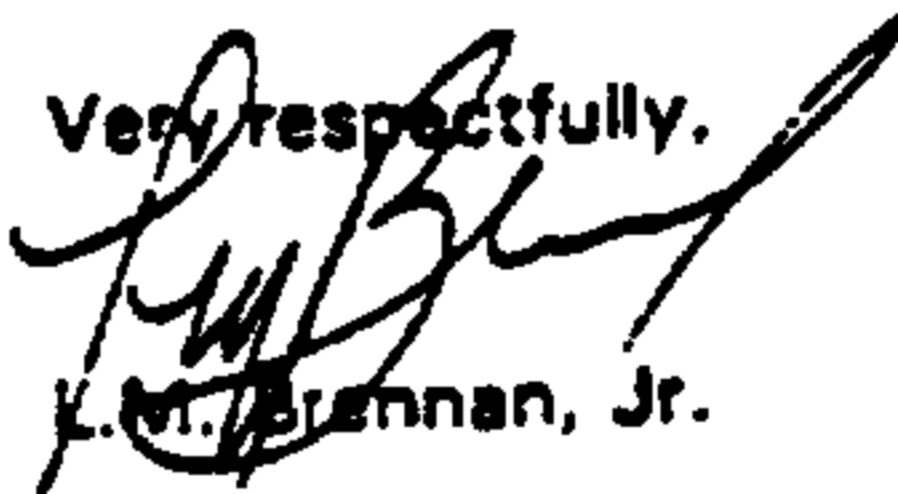
We used OSE II twice during aircraft crash responses. The most significant was the crash of a jet fighter aircraft. The aircraft was totally destroyed on impact and the ensuing fire. Much of the burning fuel ran into a nearby water holding tank. After securing the crash scene we sprayed all affected areas around and in the tank. The next day we prepared to remove any petroleum products visible but there were none. After coordinating with the regulators we took nineteen separate water samples from various locations on the pond and had complete BTEX/TPH analysis run. Half of the samples had no detectable findings while the rest showed only negligible traces of petroleum hydrocarbon.

Lawrence M. Brennan, Jr.
Page 2

We used OSE II for general housekeeping around petroleum products storage areas, for product release during underground storage tank removal and numerous response situations. The product never failed to work as advertised. When we had reason to analyze water samples that had been contaminated with petroleum product and after using your Oil Spill Eater II, the results continually showed minimal petroleum hydrocarbon residues and consistently well below regulatory levels of concern. In all response situations we first contained the spill then picked it up with vacuum and absorbent materials. OSE II was used in conjunction with these other procedures. I feel your product is an excellent solution for remediating petroleum product spills when combined with standard cleanup procedures.

I strongly feel that Oil Spill Eater II will effectively and efficiently remediate any petroleum hydrocarbon contamination situation. Time will vary depending on weight of petroleum product, consistency of median and environmental conditions. Most importantly, it is a product friendly to the environment. It transforms harmful contaminants to more environmentally friendly substances in our soil and water.

Very respectfully,



L. M. Brennan, Jr.



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CHEMICAL PROCESS

February 1991

Once OIL SPILL EATER II is applied to a hydrocarbon spill, the enzymes and other product constituents start emulsification and solubilization of the hydrocarbon substrate. Emulsification and solubilization generally take from a few minutes up to a few hours for weathered heavy-end hydrocarbons, once OSE II is applied with a temperature of 40 degrees F. or greater. Once solubilization is completed, the hydrocarbon substrate is less toxic (and the hazard of fire is diminished) so the enhanced - naturally occurring bacteria will have a higher affinity for the solubilized hydrocarbon substrate.

NOTE: There is no hydraulic loading with the use of OSE II and therefore related hydrocarbons are not pushed into the lower depths of the water column. During these reactions, OSE II offers up a complete nutrient system to promote the rapid growth or colonization of naturally occurring indigenous bacteria.

OSE II is also formulated so that once application to the hydrocarbon substrate occurs, molecular adhesion takes place. This prevents OSE II from being removed from the hydrocarbons easily. The above reaction forms the substrate complex.

Once the outer molecular walls of the hydrocarbon substrate complex have been weakened or broken, then this allows bacteria better access to the hydrocarbon substrate. The nutrients in OSE II's product matrices (readily available nitrogen, phosphorous, carbon and vitamins) rapidly populates naturally occurring bacteria. There are certain product constituents to specifically enhance various hydrocarbon degrading bacteria. The naturally enhanced hydrocarbon degrading bacteria rapidly populate until product nutrients are depleted, at which time they readily convert to the only food source left (the weakened or broken hydrocarbon substrate). The transition- state complex is when the enhanced naturally occurring hydrocarbon degrading bacteria start converting hydrocarbons to CO₂ and water.

Chemical Process (continued)
February 1991

The enhanced naturally occurring hydrocarbon degrading bacteria convert the solubilized hydrocarbons to CO₂ and water which is the end point of the Bioremediation of the hydrocarbon substrate. Any OSE II product components left are 100% Biodegradable and will be used up naturally.

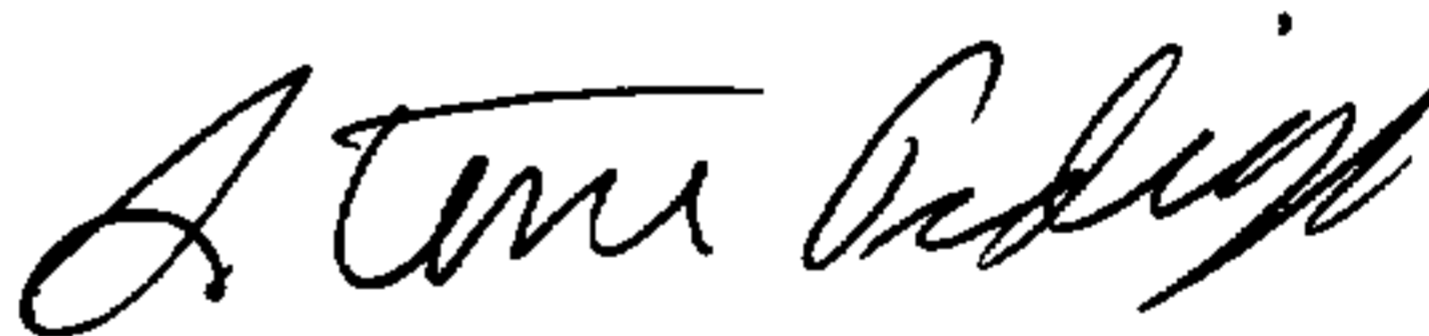
This process emulates Mother Nature completely!

NOTES:

OSE II's optimum temperature range is 40 degrees F. to 110 degrees F. - however OSE II is effective in the range of 28 degrees F. to 120 degrees F.

OSE II has a five (5) year shelf life if stored in a covered area where the temperature does not exceed 102 degrees F.

Our research has determined that the age and weathering of hydrocarbons (if weathered over 1 to 2 years) may slow Bioremediation somewhat.



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EMULATING MOTHER NATURE

HOW BIOREMEDIATION OCCURS IN MOTHER NATURE

We would like to first explain what happens in Mother Nature when a hazardous material is spilled.

There is a myriad of bacteria everywhere, where the spill comes in direct contact with bacteria; that bacteria is killed or dies off. The bacteria that is proximal to the spill but not in direct contact reacts in several ways.

First, the bacteria separate themselves far enough away so as to protect themselves from the toxicity of the spill.

Second, the bacteria then release enzymes and bio surfactants to attack the spill.

Third, the bio surfactants emulsify and solubilize the spill. What this means is the bio surfactants will break up the spill and partition the spill into a manageable consistency. This is also breaking down the molecular structure of the spill or detoxifying it, so it can be used as a food source.

The enzymes then form binding sites on the emulsified or solubilized spill and this is where the bacteria will initially attach themselves and start the digestive process.

For this process to occur there has to be large amounts of bacteria and it is a long process for bacteria to acclimate themselves to a spill. Then it takes time for the bacteria to release enzymes and surfactants. One of the limiting factors is the number of bacteria present to produce and release enough enzymes and surfactants to get the process started. This is why you hear scientists talk about adding nutrients to jumpstart the rapid growth of bacteria so enough enzymes and bio surfactants can be released to affect the mitigation of the spill.

However, nutrients alone are limited because of concentration (washed away or diluted) and the time it takes to grow a large population of bacteria.

Wouldn't it be nice if there was a means of emulating Mother Nature and at the same time speeding up the process to mitigate in hours or days what Mother Nature takes days, months and years to handle on her own?

OIL SPILL EATER II

We have a product that contains the enzymes, bio surfactants, nutrients and other necessary constituents for *complete life cycles and biodegradation*. When our product is added to a spill, it is not necessary to wait on the proximal bacteria to release enough enzymes or bio surfactants since they are already supplied in our product. Therefore, the minute you apply OSE II, there is enough bio surfactant to start the emulsification and solubilization process. This process generally takes a few minutes to several minutes, depending on the consistency of the spill. As the bio surfactants do their job, the enzymes are attaching themselves to broken hydrocarbons, forming digestive binding sites.

Note: Once this process has occurred, several things are true:

1. The fire hazard has diminished.
2. The toxicity of the spill is rapidly diminished.
3. The odor or smell is almost non-existent.
4. The oil or spill will no longer adhere to anything.

If the spill has not reached a shoreline yet, but does so after application, it will not adhere to sand, rock, wood, metal or any vegetation.

If the spill has already attached itself once application occurs, the spill will be lifted from sand, rock, wood, metal or vegetation.

The spill is detoxified to the point, that indigenous (natural) bacteria can now utilize the oil as a food source. Also, this diminishes toxicity to marine organisms, birds or wildlife.

OSE II causes the oil to float on the surface of the water, which reduces the impact to the sub-surface - preventing secondary contamination of the water column or tertiary contamination of the floor of the body of water at the spill area.

The spill being held on the surface will make it easy to monitor. You will be able to see bacteria growing on the spill, and the oil will be digested to CO₂ and water before your eyes on a contained spill.

Unlike mechanical cleanup, which cleans up a maximum of 20% of the oil spilled, OSE II will clean up 100% of the spilled oil.

Oil Spill Eater II emulates (copies) mother nature's process exactly.



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CLEANUP PROCEDURES



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April 30, 2002

OIL SPILL EATER II PROCEDURE FOR OIL SPILL CLEANUP

GENERAL INFORMATION

It takes approximately 2 to 24 hours for OIL SPILL EATER II to penetrate the molecular wall of fresh crude oil. It takes OIL SPILL EATER II approximately 3 to 15 minutes to penetrate the molecular wall of light end petroleum or gasoline.

However, once you spray OIL SPILL EATER II on the oil, it attaches itself and will eventually engulf the oil regardless of where the oil or light petroleum may spread on ocean waters or on rivers and streams.

Additionally, once sprayed with OIL SPILL EATER II, the oil cannot attach itself to the shoreline, to rocks or to any equipment in its path.

If OIL SPILL EATER II is to be used on ocean spills or on Intertidal Zones, mix product with ocean water.

If OIL SPILL EATER II is to be used on lakes, rivers, streams, ponds or on land, mix with water from a lake, river, stream or pond.

If you are performing a cleanup, **MAKE SURE** that the water used to mix with OSEII and the water used to keep area saturated is the type of water normally associated with that area. If you use fresh water in an area normally contacted with salt water or vice versa, these are different types of bacteria and competition could occur. Competition will slow the bioremediation until the area re-stabilizes.

NOTE: *Never mix tap (faucet) water and OIL SPILL EATER II (IF POSSIBLE).
The chlorine in the tap (faucet) water slows bacterial enhancement.*

These *Procedures and Application Instructions* cover Heavy End and Light End Hydrocarbons. The OSEI Corporation defines Light End Hydrocarbons as: BETX, gasoline and light solvents. Heavy End Hydrocarbons are crude oil, halogenated hydrocarbons, heavy



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PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS
- ON LAND SURFACE

Surface Spills on Land

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II for every fifty (50) gallons of oil contamination.
2. Use one (1) barrel of OSE II for every 2,750 gallons of oil contamination.

B. If you know gallons of oil contamination:

Multiply Gallons of oil contamination (A) x .02
= Gallons of OSE II concentrate needed

C. If you know barrels of oil contamination:

Multiply Barrels of oil contamination (A) x .015
= Barrels of OSE II concentrate needed

D. If you do not know gallons or barrels of oil contamination:

Multiply: A () Ft. x B () Ft. x C () Inches x (.0125)
= Gallons of OSE II Concentrate Needed

Example: Oil spill is 120 ft. x 60 ft. and 1" thick

Multiply: 120' x 60' x 1" x .0125 = 90 gal. OSE II

- E. Once the oil has seeped into the soil, then determine cubic yards of contaminated soil:

To determine Cubic Yards:

$$\underline{L \text{ (Ft.)}} \quad \times \quad \underline{W \text{ (Ft.)}} \quad \times \quad \underline{\text{Depth (Ft.)}} \quad \times \quad \underline{.037} = (B)$$

To determine Gallons of OSE II needed for cleanup:

$$\underline{\text{Yd}^3 (B)} \quad \times \quad \underline{.44} \quad = \quad \text{Gallons of OSE II needed}$$

II. Procedure:

- A. Determine logistics and equipment for the particular situation. (Sample jars, mixing tank, application method, tiller, water source etc.).
- B. Mix the required gallons of OSE II at a ratio of 50 gallons of water for every gallon of OSE II required.

Note: If contamination area is in contact with ocean water or spray, then use ocean water; if not, then use fresh water from the area associated with the spill. Do not add ocean water to an area not associated with ocean water or vice versa with fresh water or an adverse competition may occur among indigenous bacteria.

III. Testing:

- A. Determine a grid formation for spill area.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag and shake to form a composite; then perform EPA 8030 or 8100 TPH test to determine the initial TPH - and note.
- C. Apply product.
- D. On day 7, day 15, day 30, and every 15 days after until an acceptable TPH level is obtained, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and perform EPA 8030 or 8100 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

IV. Application:

- A. Mix the required OSE II at a ratio of 50 to 1.
- B. Apply the entire amount of mixed OSE II to the contamination as evenly as possible.

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - ON LAND

- C. Maintain a 30% moisture level within the contamination to ensure motility and O₂.
- D. If the contamination is on soil and the soil absorbs the contamination, then disc the area once a week and maintain a moisture level of 30%.
- E. To determine the number of gallons of water to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with OSE II concentrate and apply each time moisture content drops below 30%, and apply enough water to get the moisture level to 30%.

Note: For oil with a TPH of 100,000 and is very weathered, then additional applications of OSE II may be required.

- F. When average temperature remains below 40° F during daylight hours, keep contaminated area covered with a thin translucent plastic. Continually maintain the 30% moisture level.

Note: Unless harsh winter weather persists, the plastic will help hold in the heat from the earth.

PLEASE NOTE:

The more OSE II used, the faster biodegradation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing.

OSE II will eliminate oil spills from adding toxins to underground water systems. OSE II causes hydrocarbons to float on the surface.

These instructions are general to encompass as many situations as possible. Any specific situations should be referred to OSEI Corporation before application.

NEVER mix Oil Spill Eater II with tap water - if possible!

- V. OSEI Corporation will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.



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PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS
- FOR SURFACE SPILLS ON LAND

I. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II concentrate for every one hundred (100) gallons of light end hydrocarbons or gasoline.
2. Use one (1) barrel of OSE II concentrate for every 5,500 gallons of light petroleum or gasoline light end hydrocarbons or gasoline.

B. If you know gallons of light end hydrocarbons or gasoline spilled:

Multiply Gallons of contaminate (A) x .01 = Gallons of OSE II needed

C. Once light end hydrocarbons or gasoline has seeped into the soil, then determine cubic yards of contaminated soil.

To determine cubic yards:

$$\underline{L \text{ (Ft.)}} \quad \times \quad \underline{W \text{ (Ft.)}} \quad \times \quad \underline{\text{Depth (Ft.)}} \quad \times \quad \underline{.037} = \quad \underline{A \text{ (Yd}^3\text{)}}$$

To determine gallons of OSE II needed for cleanup

$$\text{Yd}^3 \text{ (A)} \quad \times \quad .22 \quad = \quad \text{Gallons of OSE II needed}$$

Note: Once OSE II has been applied to the soil, the fire hazard will start diminishing.

II. Procedure:

- A. Determine logistics and equipment for the particular situation. (Sample jars, mixing tank, application method, tiller, water source etc.).

- B. Mix the required gallons of OSE II at a ratio of 100 gallons of water for every gallon of OSE II required.

Note: If contamination area is in contact with ocean water or spray, then use ocean water from the area associated with the spill. Do not add ocean water to an area not associated with ocean water or vice versa with fresh water or an adverse competition may occur among indigenous bacteria.

III. Testing:

- A. Determine a grid formation for spill area.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag to form a composite. Then have a laboratory perform an EPA 8015 or 8020 TPH test to determine the initial TPH.
- C. Apply product.
- D. On day 7, day 15, day 30, and every 15 days thereafter until the TPH reaches an acceptable level, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and have a laboratory perform an EPA 8015 or 8020 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

IV. Application:

- A. Mix the required OSE II at a ratio of 100 to 1.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contamination.
- C. Maintain a 30% moisture level within the contamination to ensure motility and O₂.
- D. If the contamination is on soil and the soil absorbs the contamination, then disc the area once a week and maintain a moisture level of 30%.
- E. To determine the number of gallons to apply per application to maintain a 30% moisture level, take the number of gallons used to mix the OSE II concentrate and apply each time moisture level drops below 30%. Apply enough of the water to get the moisture level to 30% or above.

Note: If light end hydrocarbon is weathered and aged, then additional applications of OSE II may be needed, or additional time for mitigation may be required.

- F. When average temperature remains below 40° F during mitigation time, keep contaminated area covered with a thin translucent plastic and maintain the 30% moisture level with water.

Note: Unless harsh winter weather persists, the plastic will help hold in the heat from the earth.

PLEASE NOTE:

The more OSE II used, the faster the bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate light end hydrocarbons spills from adding toxins to underground water systems.

These instructions are general to encompass as many situations as possible. Any special situations should be referred to OSEI Corporation before application.

NEVER mix Oil Spill Eater II with tap water, if possible!

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS - ON LAND



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PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS
- FROM AN EXCAVATED SITE

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. If you know the number of contaminated yards:

Multiply: Number of Yd³ (A) x (.44)
= Total Gallons of OSE II needed for oil cleanup

B. If you do not know yards of contaminated soil:

Multiply: $\frac{L \text{ in Ft.}}{\text{Length in Feet}} \times \frac{W \text{ in Ft.}}{\text{Width in Feet}} \times \frac{D \text{ in Ft.}}{\text{Depth in Feet}} \times .037 = A(\text{Yd}^3)$

Use formula in A above to determine number of gallons of "*Oil Spill Eater II*" concentrate required.

II. Procedure:

- A. Determine logistics, equipment and site to spread contaminated soil for the particular situation.
- B. If the particular governmental regulating body requires, lay a plastic barrier in place.
- C. Place contaminated soil in 24" lifts or less on the plastic barrier.

III. Application:

- A. Mix the required OSE II at a ratio of 50 to 1 for the oil.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contaminated soil.

- C. Maintain a 30% moisture level within the contaminated soil to ensure motility and O₂.
- D. To determine the number of gallons of water to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with the OSE II concentrate and apply each time the moisture level drops below 30%.
- E. Disc soil once a week.

Note: If contaminated soil is weather and aged, then additional application of OSE II may be needed, or additional time for mitigation may be required.

- F. When temperature remains below 40° during the cleanup, keep contaminated soil covered with a thin translucent plastic and maintain a 30% moisture level.

PLEASE NOTE:

The more OSE II used, the faster bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate contaminated soil from adding toxins to underground water systems. These instructions are general to encompass as many situations as possible. Any special situations should be referred to OSEI Corporation before application.

NEVER mix OSE II with tap water - if possible!

IV. Testing:

- A. Determine a grid formation for contaminated soil once in place to be treated.
- B. Take a 50 gram extraction from each grid and mix in a plastic bag to form a composite. Then have a laboratory perform EPA 8030 or 8100 TPH test to determine the initial TPH.
- C. Apply OSE II.
- D. On day 7, day 15, day 30 and every 15 days thereafter until the acceptable TPH level is obtained, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and perform EPA 8030 or 8100 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - FROM EXCAVATED SITE



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admirallively@msn.com

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS
- FROM AN EXCAVATED SITE

1. To determine quantity of *Oil Spill Eater II* needed:

A. If you know the number of contaminated yards:

Multiply: Number of Yd³ (A) x (.22)
= Total Gallons of OSE II needed

B. If you do not know the yards of contaminated soil:

Multiply: $\frac{L \text{ in Ft.}}{\text{Length in Feet}} \times \frac{W \text{ in Ft.}}{\text{Width in Feet}} \times \frac{D \text{ in Ft.}}{\text{Depth in Feet}} \times .037 = A(\text{Yd}^3)$

Use formula in A above to determine number of gallons of "*Oil Spill Eater II*" concentrate required.

II. Procedure:

- A. Determine logistics, equipment and site to spread contaminated soil for the particular situation.
- B. If the particular governmental regulating body requires, lay a plastic barrier in place.
- C. Place contaminated soil in 24" lifts or less on the plastic barrier.

III. Application:

- A. Mix the required OSE II at a ratio of 100 to 1 for light end hydrocarbons.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contaminated soil.

- C. Maintain a 30% moisture level within the contaminated soil to ensure motility and O₂.
- D. To determine the number of gallons of water possible to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with the OSE II concentrate and apply each time the moisture level drops below 30%.
- E. Disc soil once a week.

Note: If contaminated soil is weather and aged, then additional application of OSE II may be needed, or additional time for mitigation may be required.

- F. When temperature remains below 40° F during the cleanup, keep contaminated soil covered with a thin translucent plastic, and maintain a 30% moisture level.

IV. Testing:

- A. Determine a grid formation for contaminated soil once in place to be treated.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag to form a composite; then perform EPA 8015 or 8020 method TPH test to determine the initial TPH - and note.
- C. Apply product.
- D. On day 7, day 15, day 30 and every 15 days thereafter until the acceptable TPH level is obtained, take a 50 gram extraction from each grid and place in a plastic bag. Mix it to form a composite. Perform EPA 8015 or 8020 method test to determine TPH level. Testing should cease once the acceptable level of TPH reduction is obtained.

Note: The more OSE II used, the faster bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate contaminated soil from adding toxins to the underground water systems. These instructions are general to encompass as many situations as possible. Any special instructions should be referred to OSEI Corporation before application.

NEVER mix OSE II with tap water (if possible)!

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS - FROM AN EXCAVATED SITE



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CLEANUP PROCEDURES



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April 30, 2002

OIL SPILL EATER II PROCEDURE FOR OIL SPILL CLEANUP

GENERAL INFORMATION

It takes approximately 2 to 24 hours for OIL SPILL EATER II to penetrate the molecular wall of fresh crude oil. It takes OIL SPILL EATER II approximately 3 to 15 minutes to penetrate the molecular wall of light end petroleum or gasoline.

However, once you spray OIL SPILL EATER II on the oil, it attaches itself and will eventually engulf the oil regardless of where the oil or light petroleum may spread on ocean waters or on rivers and streams.

Additionally, once sprayed with OIL SPILL EATER II, the oil cannot attach itself to the shoreline, to rocks or to any equipment in its path.

If OIL SPILL EATER II is to be used on ocean spills or on Intertidal Zones, mix product with ocean water.

If OIL SPILL EATER II is to be used on lakes, rivers, streams, ponds or on land, mix with water from a lake, river, stream or pond.

If you are performing a cleanup, **MAKE SURE** that the water used to mix with OSEII and the water used to keep area saturated is the type of water normally associated with that area. If you use fresh water in an area normally contacted with salt water or vice versa, these are different types of bacteria and competition could occur. Competition will slow the bioremediation until the area re-stabilizes.

NOTE: *Never mix tap (faucet) water and OIL SPILL EATER II (IF POSSIBLE).
The chlorine in the tap (faucet) water slows bacterial enhancement.*

These *Procedures and Application Instructions* cover Heavy End and Light End Hydrocarbons. The OSEI Corporation defines Light End Hydrocarbons as: BETX, gasoline and light solvents. Heavy End Hydrocarbons are crude oil, halogenated hydrocarbons, heavy



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OIL SPILL EATER II (OSE II)

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - ON WATER

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II concentrate for every fifty (50) gallons of oil.
2. Use one (1) barrel of OSE II concentrate for every 2,750 gallons of oil.

B. If you know how many gallons of oil:

Multiply Gallons of oil (A) x .02 = OSE II concentrate needed

-Or-

If you know how many barrels of oil:

Multiply Barrels of oil (A) x .015 = Barrels of OSE II concentrate needed

C. If you do not know how many gallons or barrels of oil:

Multiply: $\frac{A () \text{ Yds}}{\text{Length of Oil Slick}} \times \frac{B () \text{ Yds}}{\text{Width of Oil Slick}} \times \frac{C () \text{ Inches}}{\text{Thickness of Oil}}$

x (.0023) = Barrels of OSE II Concentrate Needed

-Or-

x (.12) = Gallons of OSE II Concentrate Needed

II. Application Procedure:

A. Water temperature above 40° F

1. Dilute each gallon of OSE II concentrate with fifty gallons of fresh or sea water - depending on the area that is contaminated.

2. Using a helicopter or a barge with spray booms, eductor system or hand sprayer, spray the mixed OSE II onto the perimeter of the oil spill and work toward the center.
 3. Next - spray OSE II over the entire surface of the spill. If the oil spill is very heavy (more than two or three inches deep), you may have to reapply OSE II to gain the one (1) part mixed OSE II to one (1) part heavy end hydrocarbon.
- B. Water temperature lower than 40° F
1. Cold water reduces the rate at which OSE II enhances biodegradation of crude oil. However, biodegradation will continue to 28° F in salt water and 32.5° F in fresh water.

III. If Testing is Required:

- A. Items needed:
1. An extraction device that will hold 100 ml or 3 ounces of liquid and can be pushed 6 inches or 60 cm below the water's surface.
 2. 20 brown 100 ml bottles with teflon sealed caps.
 3. Ice chest and ice to transport samples to the lab.
- B. Pre OSE II Application Procedures:
1. Keep a daily log of observations.
 2. Decide on 3 areas of the spill forming a triangle (Δ) to extract 3 samples.
 3. Extract the 3 samples with the extraction device, pushing the collection vessel just under the surface.
 4. Place each extraction in a brown jar and seal with teflon cap.
 5. Mark jars (*Initial Untreated Samples*).
 6. Place samples in the ice chest.
- C. Perform the same steps above except pull 1 sample proximal to the spill but from an area not contaminated, affected, or impacted in any way by the spill. This is to determine what the background level or pre spill conditions are. Note the time and date of extraction.

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - ON WATER

- D. 10 minutes after applying OSE II, perform the next extractions.
1. If possible, using the same triangle extraction points, push extraction device approximately 2 to 3 inches below the surface and pull extraction.
 2. Decant extracted sample into a brown jar and mark initial sample 3 minutes after applying OSE II, and note the time and date of extraction.
 3. Place brown jar samples in the ice chest and transport to the lab.
- E. Sampling Times
1. Using procedures in D above, extract samples on day 7, day 15, day 30 and every 15 days thereafter until the acceptable level of cleanup is accomplished. Obviously, testing should cease once the acceptable levels are met.
 2. In most cases, within 30 days the acceptable levels will have been accomplished.
- F. Lab Tests
1. If the spill is light end hydrocarbons, then either EPA method 8015 or 8030 should be performed.
 2. If the spill is heavy end hydrocarbons, then either EPA method 8030 or 8100 should be utilized.

IV. If Toxicity Testing is required:

- A. Items Needed
1. An extraction device that will be capable of extracting 100 ml samples 3 meters or 3 feet below the waters' surface.
 2. 12 - 100 ml brown jars with teflon seals.
 3. Ice chest with ice.
- B. Using instructions for extractions and the extraction time / date in III above to perform sampling
1. The 3 samples, once at the lab, should be homogenized and used for a toxicity test.

Note: In the ocean mysids, or mummichogs are generally acceptable species, and in fresh water minnows or rainbow trout are generally acceptable species.

In most cases, one toxicity test just after application of OSE II is required. However, if toxicity sampling is carried out each time efficacy testing is performed, then toxicity reduction will be proven as well.

Note: If spill is on the ocean, use ocean water to mix "OSE II." If spill is on a lake, river, stream or pond, use lake, river, stream or pond water to mix with "OSE II." To mix ocean water with anything other than ocean water and vice versa may cause adverse competition.

N E V E R mix "Oil Spill Eater II" with tap water - if possible!



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OIL SPILL EATER II

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS - ON WATER

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. One (1) gallon of OSE II concentrate for every one hundred (100) gallons of light end hydrocarbons.
2. One (1) barrel of OSE II concentrate for every 5,500 gallons of light end hydrocarbons.

B. If you know how many gallons of light end hydrocarbons spilled:

Multiply Gallons of spill (A) x .01 = Gallons of OSE II concentrate needed
 -Or-

If you know how many barrels of light end hydrocarbons spilled:

Multiply Barrels of spill (A) x .0075 = Barrels of OSE II concentrate needed

C. If you do not know how many gallons or barrels of light end hydrocarbons:

Multiply: $\frac{A \text{ () Yds}}{\text{Length of Spill}} \times \frac{B \text{ () Yds}}{\text{Width of Spill}} \times \frac{C \text{ () Inches}}{\text{Depth of Spill}} \times$

(.0012) = Barrels of OSE II concentrate needed

(.06) = Gallons of OSE II concentrate needed

II. Application Procedure:

A. Water temperature above 40° F

1. Dilute each gallon of OSE II concentrate with one hundred gallons of fresh or sea water. Do not use fresh water on ocean water or vice versa or adverse competition may occur.

2. Using a helicopter or a barge with spray booms, eductor system set at 1%, or any spray system, spray a heavy coat of Oil Spill Eater II on the outside edges of the spill and work toward the center, if possible. This will help keep the spill from spreading.

As the spray reaches and saturates the light end hydrocarbon molecules, emulsion will start immediately and the fire hazard will be eliminated as quickly as complete emulsion takes place. The light end hydrocarbons will eventually be converted to CO₂ and water.

3. The fire hazard should be eliminated in 4 hours or less, and the hydrocarbons should be eliminated expeditiously also.

B. Water temperature below 40° F

1. Cold water reduces the rate at which OSE II enhances biodegradation of hydrocarbons. However, biodegradation will continue on salt water down to 28° F, and on fresh water down to 32.5° F.

III. If Testing is Required:

A. Items needed:

1. An extraction device that will hold 100 ml or 3 ounces of liquid and can be pushed 6 inches or 60 cm below the water's surface.
2. 20 brown 100 ml bottles with teflon sealed caps.
3. Ice chest and ice to transport samples to the lab.

B. Pre OSE II Application Procedures:

1. Keep a daily log of observations.
2. Decide on 3 areas of the spill forming a triangle (Δ) to extract 3 samples.
3. Extract the 3 samples with the extraction device, pushing the collection vessel just under the surface.
4. Place each extraction in a brown jar and seal with teflon cap.
5. Mark jars (*Initial Untreated Samples*).
6. Place samples in the ice chest.

- C. Perform the same steps above except pull 1 sample proximal to the spill but from an area not contaminated, affected, or impacted in any way by the spill. This is to determine what the background level or pre spill conditions are. Note the time and date of extraction.
- D. 10 minutes after applying OSE II, perform the next extractions.
1. If possible, using the same triangle extraction points, push extraction device approximately 2 to 3 inches below the surface and pull extraction.
 2. Decant extracted sample into a brown jar and mark initial sample 3 minutes after applying OSE II, and note the time and date of extraction.
 3. Place brown jar samples in the ice chest and transport to the lab.
- E. Sampling Times
1. Using procedures in D above, extract samples on day 7, day 15, day 30 and every 15 days thereafter until the acceptable level of cleanup is accomplished. Obviously, testing should cease once the acceptable levels are met.
 2. In most cases, within 30 days the acceptable levels will have been accomplished.
- F. Lab Tests
1. If the spill is light end hydrocarbons, then either EPA method 8015 or 8030 should be performed.
 2. If the spill is heavy end hydrocarbons, then either EPA method 8030 or 8100 should be utilized.

Note: If spill is on the ocean, mix "OSE II" with ocean water. If spill is on a lake, river, stream or pond, mix "OSE II" with lake, river, stream or pond water.

N E V E R mix "Oil Spill Eater II" with tap water!



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**PROCEDURE FOR REMOVAL OF A HYDROCARBON SHEEN
ON WATER, CONCRETE, AND ASPHALT**

1. **To determine quantity of *Oil Spill Eater II* concentrate needed:**

$$\text{Multiply: } \frac{A (\text{) Ft.}}{\text{Length of Spill}} \quad \times \quad \frac{B (\text{) Ft.}}{\text{Width of Spill}} \quad \times \quad .0004$$

= Gallons of OSE II concentrate needed

II. Application Procedure:

1. Dilute each gallon of OSE II concentrate with 50 gallons of fresh or sea water. Do not use ocean water with fresh water or vice versa because adverse competition may occur.
2. Using a barge with spray booms, hand sprayer or eductor system set at 2%, (depending on size of sheen), spray a good coating of OSE II over the entire sheen. As soon as the OSE II reaches the sheen, emulsion and solubilization will start immediately and finally conversion to CO₂ and water.
3. The hydrocarbons should be emulsified and solubilized rapidly and any fire hazards will be eliminated rapidly. Conversion to CO₂ and water is expeditious.

NOTE: If sheen is on ocean water, mix "OSE II" with ocean water. If sheen is on a lake, river, stream or pond, mix "OSE II" with lake, river, stream or pond water.

NEVER mix OSE II with tap water if possible!



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OIL SPILL EATER II

PROCEDURE FOR CLEANUP OF HYDROCARBONS - ON INTERTIDAL ZONES

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

$$\begin{array}{l} \text{Multiply: } \frac{A \text{ () Yds}}{\text{Length of}} \quad \times \quad \frac{B \text{ () Yds}}{\text{Width of}} \quad \times \quad \frac{C \text{ () Inches}}{\text{Thickness of}} \quad \times \quad .12 \\ \text{Oil Slick} \qquad \qquad \qquad \text{Oil Slick} \qquad \qquad \qquad \text{Oil} \\ \\ = \text{Gallons of OSE II concentrate needed} \end{array}$$

II. Application:

- A. Dilute each gallon of OSE II needed (from I above) with 50 gallons of ocean water or fresh water, or mix 50 gallons of fresh or sea water, depending on area to be cleaned, with 1 gallon of OSE II. Do not use ocean water with fresh water or vice versa because adverse competition may occur.
- B. It is important that you apply enough OSE II mixed 50 to 1 to get 1 part mixed OSE II to 1 part spilled hydrocarbon to ensure mobilization of oil will occur.
- C. In an Intertidal Zone, it may be difficult to obtain the exact application rate, so additional applications may be necessary.
- D. If necessary, Oil Spill Eater II should be applied every 48 hours in water above 40° F and every 72 hours in water below 40° F. Application should continue until oil is completely mobilized from beach area.
- E. If subsurface oil occurs, OSE II will percolate along with the oil and once natural bacteria growth is started, the bacteria with its affinity for hydrocarbons, will follow the food source.

NOTE: *If Intertidal Zone is in an ocean setting, mix "OSE II" concentrate with ocean water. If Intertidal Zone is a fresh water setting such as a lake, river, stream or pond, mix "OSE II" with lake, river, stream or pond water.*

NEVER mix OSE II with tap water if possible!



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April 30, 2002

OIL SPILL EATER II PROCEDURE FOR OIL SPILL CLEANUP

GENERAL INFORMATION

It takes approximately 2 to 24 hours for OIL SPILL EATER II to penetrate the molecular wall of fresh crude oil. It takes OIL SPILL EATER II approximately 3 to 15 minutes to penetrate the molecular wall of light end petroleum or gasoline.

However, once you spray OIL SPILL EATER II on the oil, it attaches itself and will eventually engulf the oil regardless of where the oil or light petroleum may spread on ocean waters or on rivers and streams.

Additionally, once sprayed with OIL SPILL EATER II, the oil cannot attach itself to the shoreline, to rocks or to any equipment in its path.

If OIL SPILL EATER II is to be used on ocean spills or on Intertidal Zones, mix product with ocean water.

If OIL SPILL EATER II is to be used on lakes, rivers, streams, ponds or on land, mix with water from a lake, river, stream or pond.

If you are performing a cleanup, **MAKE SURE** that the water used to mix with OSEII and the water used to keep area saturated is the type of water normally associated with that area. If you use fresh water in an area normally contacted with salt water or vice versa, these are different types of bacteria and competition could occur. Competition will slow the bioremediation until the area re-stabilizes.

NOTE: *Never mix tap (faucet) water and OIL SPILL EATER II (IF POSSIBLE).
The chlorine in the tap (faucet) water slows bacterial enhancement.*

These *Procedures and Application Instructions* cover Heavy End and Light End Hydrocarbons. The OSEI Corporation defines Light End Hydrocarbons as: BETX, gasoline and light solvents. Heavy End Hydrocarbons are crude oil, halogenated hydrocarbons, heavy



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PROCEDURE FOR CLEANUP OF OIL SPILLS ON CONCRETE OR ASPHALT

1. LIGHT END HYDROCARBONS:

- a. Estimate gallons of spilled fuel.
- b. Use 1.5 ounces of OSE II concentrate per spilled gallon.
- c. Use 1 gallon of water per spilled gallon.
- d. Mix OSE II with water.
- e. Spray on spill.
- f. Allow OSE II to react for 20 minutes.
- g. Either (1) wash off with water or (2) simply allow residue to evaporate.

2. HEAVY END HYDROCARBONS:

- a. Follow same procedure as in 1 above, except use 3 ounces of OSE II for spilled gallons of heavy oils.
- b. If possible, use stiff brush to agitate.
- c. Allow OSE II to react for 30 minutes.
- d. Wash off with water.

3. THICK AND OLD OIL STAINS:

- a. Follow procedure in 1 above.
- b. Use 4 ounces of OSE II and 1 gallon of water per every 9 square feet of contaminant.
- c. Brush vigorously with stiff brush.
- d. Allow OSE II to react for 30 minutes.
- e. Wash off with water.
- f. Repeat process, if required.

NOTE: Old oil on concrete may imbed carbon into concrete. OSE II will not remove this black carbon. However, carbon is inert and non-toxic.

MATERIAL SAFETY DATA SHEET

July 24, 1996
Page 1 of 7

24 HOUR EMERGENCY ASSISTANCE
PERS 1-800-633-8253

GENERAL MSDS ASSISTANCE
Missouri Petroleum (314) 991-2180
In-Bound WATS - 1-800-392-4295

ACUTE HEALTH*	FIRE	REACTIVITY	HAZARD RATING				
			LEAST	SLIGHT	MODERATE	HIGH	EXTREME
1	2	0	0	1	2	3	4

*FOR ACUTE AND CHRONIC HEALTH EFFECTS REFER TO THE DISCUSSION IN SECTION 3

SECTION 1

NAME

Product **Missouri Petroleum MC30 Liquid Asphalt**
Chemical Name **Mixture (See Section 2 A)**
Chemical Family **Petroleum Hydrocarbon**
Missouri Petroleum
Product Code **MC30**

SECTION 2A

NO.	PRODUCT/INGREDIENT COMPOSITION	CAS NUMBER	PERCENT
P	Missouri Petroleum MC30 Liquid Asphalt	Mixture	100
1	Bitumen	8052-42-4	55-60
2	Kerosene	8008-20-6	40-45
3	Hydrogen Sulfide	7783-06-4	<0.10

SECTION 2B

NO.	ACUTE ORAL LD50	ACUTE TOXICITY DATA ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	Not Available		
1	>5.0 G/KG (rat)	>2.0 G/KG (rabbit)	

SECTION 3

HEALTH INFORMATION

The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EYE CONTACT

Based on essentially similar component testing product is presumed to be minimally irritating to the eyes. Contact with product at elevated temperatures can result in thermal burns.

SKIN CONTACT

Based on essentially similar component testing product is presumed to be moderately irritating to the skin. Contact with product at elevated temperatures can result in thermal burns. Prolonged and repeated contact may result in various skin disorders such as dermatitis, folliculitis, oil acne, or skin tumors.

INHALATION

Warning - Hydrogen Sulfide (H₂S) and other hazardous vapors may evolve and collect in the headspace of storage tanks or other enclosed vessels. Hydrogen Sulfide is an extremely flammable, toxic gas. Inhalation of vapors, mist or fume (generated at high temperatures) may cause irritation to the nose, throat and respiratory tract, and may result in CNS depression.

INGESTION

Based on essentially similar component testing product is presumed to be no more than slightly toxic if ingested.

SIGNS AND SYMPTOMS

Irritation as noted above. Early to moderate CNS (Central Nervous System) Depression may be evidenced by giddiness, headache, dizziness and nausea; in extreme cases, unconsciousness and death may occur.

AGGRAVATED MEDICAL CONDITION

Preexisting skin and respiratory disorders may be aggravated by exposure to this product.

OTHER HEALTH EFFECTS

The International Agency for Research on Cancer has determined there is sufficient evidence of carcinogenicity for extracts of steam-refined asphalts in experimental animals. See Section 6 for additional health information.

SECTION 4

OCCUPATIONAL EXPOSURE LIMITS

NO.	OSHA		TLV/TWA	ACGIH		OTHER
	PEL/TWA	PEL/CEILING		TLV/STEL		
P 3	10 PPM		5 MG/M ³ * 10 PPM	15 PPM		15 PPM**
*ASPHALT (PETROLEUM) FUMES						
**OSHA PEL/STEL						

SECTION 5

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

Flush with water for 15 minutes while holding eyelids open. Get medical attention.

SKIN CONTACT

If hot asphalt strikes the skin, drench or immerse the area in water to assist cooling. If available, apply iced water or ice packs to the burned area. (Do not use iced water or cold packs if the burned area covers more than 10% of the body, as this may contribute to shock.) Do not try to remove asphalt from a burn after it has cooled. Seek medical attention. If cool asphalt contacts the skin, wash the area with hot soapy water. Use of a waterless hand cleaner will help to remove the asphalt.

INHALATION

Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get Medical attention. Be aware that H₂S may be present if victim is unconscious; make sure you are using breathing protection before attempting to remove victim to fresh air.

INGESTION

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.

NOTE TO PHYSICIAN

Note to the physician: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e. most oils and greases.

INFORMATION

Breathing asphalt aerosol or asphalt smoke for protracted periods of time has produced damage to the lungs of mice. Among the changes observed were bronchitis, pneumonitis and abscess formation.

Asphalt fume condensates have been shown to produce a tumorigenic response when repeatedly applied to the skin of experimental animals. The relevance of these data to humans is not known at this time.

Repeated dermal application of high levels of middle distillate fuels in experimental animals has produced extremely severe irritation to corrosive action on the skin. Varying degrees of liver and kidney damage were noted in these studies, including congestion, enlargement, mottling, and multifocal necrosis.

Middle distillate fuels have been demonstrated to cause chromosome damage in the in vivo rat bone marrow cytogenetics assay, and mutagenic in the L51 78Y mouse lymphoma assay.

H₂S is irritating to the eyes and respiratory tract at low concentrations. 0.02 PPM - odor threshold. 10 PPM eye irritation. 100 PPM - headache, dizziness, vomiting, coughing. 200-300 PPM - eye inflammation, respiratory tract irritation after 1 hour exposure. 300-700 PPM - loss of consciousness or possibly death in 30 min. to an hour. 700-900 PPM - rapid loss of consciousness; death can result. >1000 PPM unconsciousness in seconds; death in minutes unless victim is removed from contaminated area and breathing is restored. Do not depend on sense of smell for warning. H₂S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H₂S will accumulate in the body tissue after repeated exposure.

SECTION 7

PHYSICAL DATA

Boiling Point: Not Available
(Deg F)

Specific Gravity: 0.9303
(H₂O = 1)

Vapor Pressure: Not Available
(MM HG)

Melting Point: Not Available
(Deg F)

Solubility: Negligible
(In Water)

Vapor Density: Not Available
(Air = 1)

Evaporation Rate (N-Butyl Acetate = 1): Not Available

Appearance and Odor:
Black Viscous Semisolid. Asphalt Odor.

SECTION 8

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:
154 Deg F (Closed Cup)

FLAMMABLE LIMITS/ % VOLUME IN AIR
Lower: N/AV Upper: N/AV

EXTINGUISHING MEDIA

Dry Chemical or foam preferred. Water fog may be used on flat surfaces such as roads.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Caution: Combustible. Do not use water on asphalt fire in tank or other containers since it may cause violent eruption and spreading of burning asphalt. Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Caution: This material is routinely blended, dispensed and applied at temperatures above the flash point. Therefore, keep away from sources of ignition. Containers exposed to intense heat from fire should be cooled with water. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed. Sulfur Oxides and Hydrogen Sulfide, both of which are toxic, may be released upon combustion. H₂S vapors are heavier than air, may accumulate in low areas and travel along the ground to a remote ignition source; if ignited will flash back to original container

SECTION 9

REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

CONDITIONS AND MATERIALS TO AVOID:

Do not allow molten product to contact water or liquids as this can cause violent eruptions, splatter hot material or ignite flammable materials.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

SECTION 10

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

If exposure may or does exceed occupational exposure limits (Sec. 4) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors.

PROTECTIVE CLOTHING

Avoid contact with eyes. Wear safety glasses or goggles as appropriate. Avoid prolonged or repeated contact with skin. Wear gloves and other clothing as required to minimize contact.

SECTION 11

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

Caution, Combustible. *** Large Spills*** Eliminate potential sources of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain, Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material; place in non-leaking containers and seal tightly for proper disposal. Flush area with water to remove trace residue; dispose of flush solution as above. *** Small Spills*** take up with an absorbent material and place in non-leaking containers for proper disposal.

SECTION 12

SPECIAL PRECAUTIONS

When asphaltic products are heated, they often give off small amounts of Hydrogen Sulfide. Hydrogen Sulfide is an extremely flammable, highly toxic gas. Breathing Hydrogen Sulfide must be avoided. Minimize breathing of vapors, fumes, or mist; when possible, use ventilation or work upwind of source of vapors, fumes and mist. Launder contaminated clothing before using. Discard leather goods when they cannot be decontaminated. Observe good personal hygiene. Wash thoroughly after working with asphalt and before eating or smoking.

SECTION 13 TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:
Flammable Liquid, III

D.O.T. PROPER SHIPPING NAME:
ELEVATED TEMPERATURE LIQUID, flammable,
n.o.s., with flash point above 37.5 C, at or above its flashpoint

OTHER REQUIREMENTS:
3, UN 3256, PG 111,

SECTION 14 OTHER REGULATORY CONTROLS

The components of this product are listed on the EPA/TSCA Inventory of Chemical Substances. Protection of stratospheric ozone (pursuant to Section 611 of the Clean Air Act Amendments of 1990): per 40 CFR Part 82, this product does not contain nor was it directly manufactured with any Class I or Class 11 ozone depleting substances.

In accordance with SARA Title 111, Section 313, the attached Environmental Data Sheet (EDS) should always be copied and sent with the MSDS.

SECTION 15 STATE REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

STATE LISTED COMPONENT	PERCENT	STATE CODE
Bitumen (CAS NO: 8052-42-4)	55-60	CA, CT, FL, IL, LA, MA, ME, MN, NJ, PA, RI
Kerosene (CAS NO: 8008-20-6)	40-45	CT, FL, LA, MA, NJ, PA, RI
Hydrogen Sulfide (H2S) (CAS NO: 7783-06-4)	< 0.1	MA

CA = California Haz. Subst. List; CA65 = California Safe Drinking Water and Toxics Enforcement Act list; CT = Connecticut Toxic Subst. List; FL = Florida Subst. List; 11 = Illinois Tox. Subst. List; LA = Louisiana Haz. Subst. List; MA = Massachusetts Subst. List; ME = Maine Haz. Subst. List; MN = Minnesota Haz. Subst. List; NJ = New Jersey Haz. Subst. List; PA = Pennsylvania Haz. Subst. List; RI = Rhode Island Haz. Subst. List.

SECTION 16

SPECIAL NOTES

Revisions were made in section 13

The information contained herein is based on the data available to us and is believed to be correct. However, Missouri Petroleum makes no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Missouri Petroleum assumes no responsibility for injury from the use of the product described herein.

date prepared: July 24, 1996

BE SAFE

**READ OUR PRODUCT
SAFETY INFORMATION ... AND PASS IT ON
(PRODUCT LIABILITY LAW REQUIRES IT)**

SEE SUPPLEMENTAL ENVIRONMENTAL DATA ON PAGE 7 OF 7

ENVIRONMENTAL DATA

Product Missouri Petroleum MC30 Liquid Asphalt

Product Code MC30

SECTION 1 NO.

NO.	PRODUCT/COMPOSITION COMPONENT	CAS NUMBER	PERCENT
P	Missouri Petroleum MC30 Liquid Asphalt		
1	Bitumen	Mixture	100
2	Kerosene	8052-42-4	55-60
3	Hydrogen Sulfide	8008-20-6	40-45
		7783-06-4	<0.10

SECTION 2

NO.	EHS RQ (LBS) (*1)	EHS TPQ (LBS) (*2)	SARA TITLE III INFORMATION		311/312 CATEGORIES (*5)
			SEC 313 (*3)	313 CATEGORY (*4)	
P					
3	100	100			H-1, H-2, P-3 H-1, P-3

FOOTNOTES

- *1 = Reportable quantity of extremely hazardous substance, SEC. 302
- *2 = Threshold planning quantity, extremely hazardous substance, SEC 302
- *3 = Toxic Chemical, SEC 313
- *4 = Category as required by SEC 313 (40 CFR 372.65 C). Must be used on toxic release inventory form.
- *5 = Hazard category for SARA SEC. 311/312 reporting.
Health H-1 Immediate (Acute) health hazard. H-2 = Delayed (Chronic) health hazard.
Physical P-3 Fire hazard. P-4 = Sudden release of pressure hazard. P-5 = Reactive hazard.

SECTION 3

ENVIRONMENTAL RELEASE INFORMATION

Under EPA-CWA, this product is classified as an oil under Section 311. Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center. 800-424-8802.

SECTION 4

RCRA INFORMATION

Under EPA - RCRA (40 CFR 261.21), if this product becomes a waste material, it would be ignitable hazardous waste, hazardous waste number D001. Refer to latest EPA or State regulations regarding proper disposal.

The information contained in this Environmental Data Section of the MSDSMC30.SDS publication is based on data available to us at the time of publication and is believed to be correct. However, Missouri Petroleum makes no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Missouri Petroleum assumes no responsibility for injury from the use of the product described herein.

Date prepared: July 24, 1996

MISSOURI PETROLEUM PRODUCTS COMPANY
1620 Woodson Rd.
St. Louis, Mo. 63114

*Mike Nowak
OF 566-4506
FAX 566-2556
cell 920-0393*

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I OIL SPILL EATER II

Manufacturer's Name OIL SPILL EATER INTERNATIONAL	Emergency Telephone Number (972) 669-3390
Address (Number, Street, City, State, and ZIP Code) 13127 Chandler Drive	Telephone Number for Information same - FAX (972) 644-8359
Dallas, Texas 75243	Date Prepared October 28, 1998
	Signature of Preparer (optional) <i>Steve Lehigh</i>

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (approx)
No Hazardous Components (OSE II)	NO TLV	NO TLV	NONE	
H2O	NO TLV	NO TLV	NONE	
NITROGEN	NO TLV	NO TLV	NONE	
MOLASSES	NO TLV	NO TLV	NONE	
NON IONIC SURFACTANT	NO TLV	NO TLV	NONE	
SUGAR	NO TLV	10 mg. per Cubic M. dry	NONE	
PROTEASE	NO TLV	NO TLV	NONE	
PHOSPHORUS	NO TLV	NO TLV	NONE	
YEAST	NO TLV	NO TLV	NONE	
AMYLASE	NO TLV	NO TLV	NONE	
ANIONIC SURFACTANT	NO TLV	NO TLV	NONE	
MALT	NO TLV	NO TLV	NONE	

Section III — Physical/Chemical Characteristics

Boiling Point	214° F. *	Specific Gravity (H ₂ O = 1) 20° C	1.05
Vapor Pressure (mm Hg.)		Melting Point	.0° F.
Vapor Density (AIR = 1)	1.1	Evaporation Rate (Butyl Acetate = 1)	
Solubility in Water	100%		
Appearance and Odor	Amber with the smell of some ferment.		

Section IV — Fire and Explosion Hazard Data

Flash Point: (Method Used) * fire In excess - 7000° F - retardant	Flammable Limits NON FLAMMABLE	LEL NA	UEL NA
Extinguishing Media NONE - FIRE RETARDANT *METHOD-ASTM-D56			
Special Fire Fighting Procedures NONE - FIRE RETARDANT			
Unusual Fire and Explosion Hazards NONE			

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid Temperature above 120°F can reduce enzyme activity, avoid acidic conditions below 3.5pH strong bases over 11.7. strong bases over 11.7.
	Stable	X	
Incompatibility (Materials to Avoid)			

Hazardous Decomposition or Byproducts: NONE (By-products CO2 and water).

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
	Non-toxic	non-toxic	Toxic if more than one quart injected.
Health Hazards (Acute and Chronic): Toxicity tests - Inhalation, skin sensitization, ocular, and ingestion show virtually no toxicity.			

Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated?
None	No listing.	None	NO

Signs and Symptoms of Exposure: N/A

Medical Conditions Generally Aggravated by Exposure: NONE

Emergency and First Aid Procedures: Wash eyes thoroughly. Use good hygienic practices.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: Can be washed into sewer systems, or absorbed by earth.

Waste Disposal Method: No special disposal.

Precautions to Be Taken in Handling and Storing: Handling - none. Do not store where temp. exceeds 120°F. 15 Year Shelf Life.

Other Precautions: NONE

Section VIII — Control Measures

Respiratory Protection (Specify Type): None required.		
Ventilation	Local Exhaust	Special: None
	Mechanical (General)	Other: None
Protective Gloves	Not required.	Eye Protection: Not required.
Other Protective Clothing or Equipment: None		
Work Hygienic Practices: Use good normal hygienic practices.		

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

November 12, 2009

Dan Cole
Scott Alliance J.V.
109 Sir Lawrence Dr.
Belleville, IL 62221
TEL: (618) 744-9203
FAX: (618) 744-9208



NELAP Accredited #100226

RE: SFOF

WorkOrder: 09110382

Dear Dan Cole:

TEKLAB, INC received 2 samples on 11/9/2009 3:35:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Heather A. White

Heather A. White
Project Manager
(618)344-1004 ex 20

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Scott Alliance J.V.

Project: SFOF

LabOrder: 09110382

Report Date: 12-Nov-09

CASE NARRATIVE

Cooler Receipt Temp: 14.0 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL belowPQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Scott Alliance J.V.
WorkOrder: 09110382
Lab ID: 09110382-001
Report Date: 12-Nov-09

Client Project: SFOF
Client Sample ID: Upstream
Collection Date: 11/9/2009 2:00:00 PM
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8015B, TOTAL PETROLEUM HYDROCARBONS (OA-2) BY GC/FID								
Diesel	NELAP	0.250		ND	mg/L	1	11/12/2009 2:03:00 AM	DMH
Kerosene	NELAP	0.400		ND	mg/L	1	11/12/2009 2:03:00 AM	DMH
Mineral Spirits	NELAP	0.400		ND	mg/L	1	11/12/2009 2:03:00 AM	DMH
Motor Oil	NELAP	0.400		ND	mg/L	1	11/12/2009 2:03:00 AM	DMH
Surr: n-Tetracontane	NELAP	39.9-162		59.0	%REC	1	11/12/2009 2:03:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	2.0		ND	µg/L	1	11/9/2009 8:28:00 PM	TAL
Ethylbenzene	NELAP	5.0		ND	µg/L	1	11/9/2009 8:28:00 PM	TAL
Toluene	NELAP	5.0		ND	µg/L	1	11/9/2009 8:28:00 PM	TAL
Xylenes, Total	NELAP	5.0		ND	µg/L	1	11/9/2009 8:28:00 PM	TAL
Surr: 1,2-Dichloroethane-d4		74.7-129		100.3	%REC	1	11/9/2009 8:28:00 PM	TAL
Surr: 4-Bromofluorobenzene		86-119		99.3	%REC	1	11/9/2009 8:28:00 PM	TAL
Surr: Dibromofluoromethane		81.7-123		100.3	%REC	1	11/9/2009 8:28:00 PM	TAL
Surr: Toluene-d8		84.3-114		95.9	%REC	1	11/9/2009 8:28:00 PM	TAL

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Scott Alliance J.V.
WorkOrder: 09110382
Lab ID: 09110382-002
Report Date: 12-Nov-09

Client Project: SFOF
Client Sample ID: Downstream
Collection Date: 11/9/2009 2:00:00 PM
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8015B, TOTAL PETROLEUM HYDROCARBONS (OA-2) BY GC/FID								
Diesel	NELAP	0.250		ND	mg/L	1	11/12/2009 2:20:00 AM	DMH
Kerosene	NELAP	0.400		ND	mg/L	1	11/12/2009 2:20:00 AM	DMH
Mineral Spirits	NELAP	0.400		ND	mg/L	1	11/12/2009 2:20:00 AM	DMH
Motor Oil	NELAP	0.400		ND	mg/L	1	11/12/2009 2:20:00 AM	DMH
Surr: n-Tetracontane	NELAP	39.9-162		97.4	%REC	1	11/12/2009 2:20:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzene	NELAP	2.0		ND	µg/L	1	11/9/2009 8:59:00 PM	TAL
Ethylbenzene	NELAP	5.0		ND	µg/L	1	11/9/2009 8:59:00 PM	TAL
Toluene	NELAP	5.0		ND	µg/L	1	11/9/2009 8:59:00 PM	TAL
Xylenes, Total	NELAP	5.0		ND	µg/L	1	11/9/2009 8:59:00 PM	TAL
Surr: 1,2-Dichloroethane-d4		74.7-129		101.3	%REC	1	11/9/2009 8:59:00 PM	TAL
Surr: 4-Bromofluorobenzene		86-119		103.1	%REC	1	11/9/2009 8:59:00 PM	TAL
Surr: Dibromofluoromethane		81.7-123		101.8	%REC	1	11/9/2009 8:59:00 PM	TAL
Surr: Toluene-d8		84.3-114		95.1	%REC	1	11/9/2009 8:59:00 PM	TAL

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Scott Alliance J.V.

Project: SFOF

Lab Order: 09110382

Report Date: 12-Nov-09

RECEIVING CHECK LIST

Carrier: Dan Cole

Received By: MLD

Completed by: *Marvin L. Darling II*
On: 09-Nov-09
Marvin L. Darling

Reviewed by: *Elizabeth A. Hurley*
On: 09-Nov-09
Elizabeth A. Hurley

Pages to follow: Chain of custody Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 14.0
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
<div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><i>When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.</i></div>				
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials <input type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Any No responses must be detailed below or on the COC.

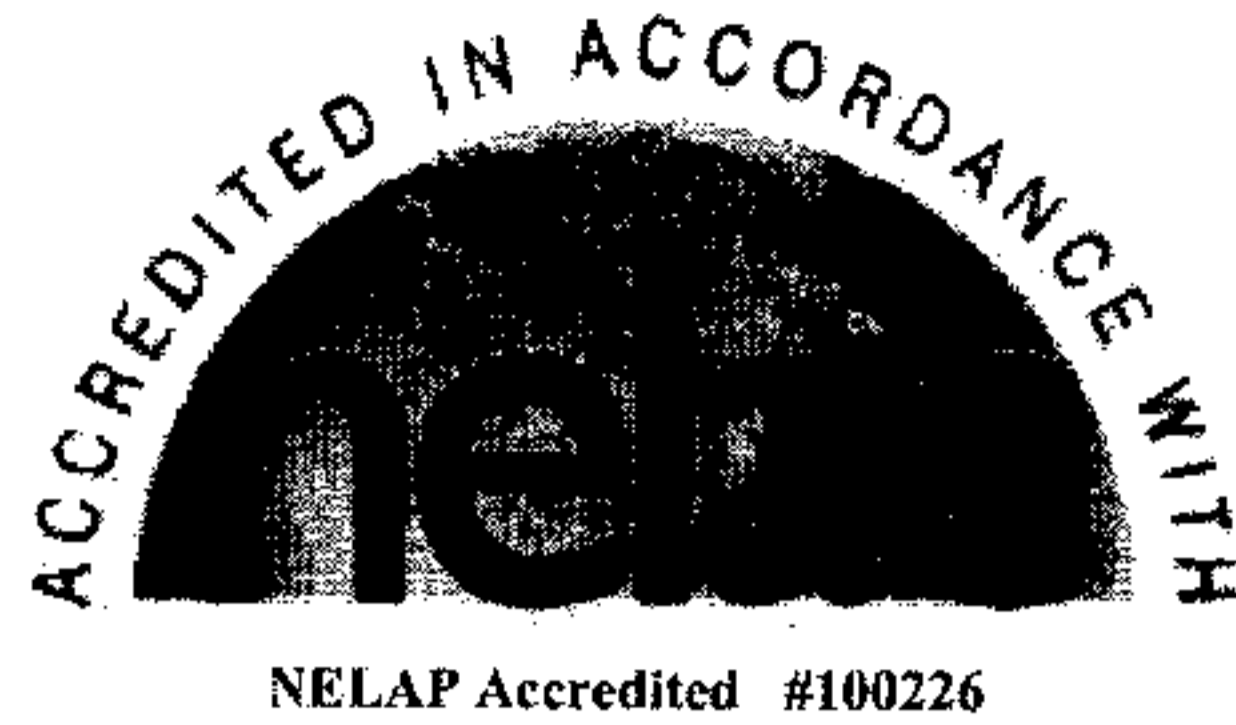
ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

November 12, 2009

Dan Cole
Scott Alliance J.V.
109 Sir Lawrence Dr.
Belleville, IL 62221
TEL: (618) 744-9203
FAX: (618) 744-9208



RE: East Basin/Outfall

WorkOrder: 09110271

Dear Dan Cole:

TEKLAB, INC received 2 samples on 11/5/2009 2:55:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Heather A. White

Heather A. White
Project Manager
(618)344-1004 ex 20

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Scott Alliance J.V.

Project: East Basin/Outfall

LabOrder: 09110271

Report Date: 12-Nov-09

CASE NARRATIVE

Cooler Receipt Temp: 0.2 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Scott Alliance J.V.

Client Project: East Basin/Outfall

WorkOrder: 09110271

Client Sample ID: Outfall

Lab ID: 09110271-002

Collection Date: 11/4/2009 12:15:00 PM

Report Date: 12-Nov-09

Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8015B, TOTAL PETROLEUM HYDROCARBONS (OA-2) BY GC/FID								
Diesel	NELAP	0.625		ND	mg/L	1	11/10/2009 2:14:00 AM	DMH
Kerosene	NELAP	1.00		ND	mg/L	1	11/10/2009 2:14:00 AM	DMH
Mineral Spirits	NELAP	1.00		ND	mg/L	1	11/10/2009 2:14:00 AM	DMH
Motor Oil	NELAP	1.00	J#	0.89	mg/L	1	11/10/2009 2:14:00 AM	DMH
Surr: n-Tetracontane	NELAP	39.9-162		86.5	%REC	1	11/10/2009 2:14:00 AM	DMH
SW-846 5030, 8260B, GASOLINE RANGE ORGANICS (OA-1) BY GC/MS								
Benzene	NELAP	2.0		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Ethylbenzene	NELAP	5.0		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Gasoline Range Organics		1000		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Toluene	NELAP	5.0		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Xylenes, Total	NELAP	5.0		ND	µg/L	1	11/11/2009 2:25:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		61-128		106.7	%REC	1	11/11/2009 2:25:00 PM	RWE
Surr: 4-Bromofluorobenzene		78.2-117		97.0	%REC	1	11/11/2009 2:25:00 PM	RWE
Surr: Dibromofluoromethane		66.6-130		98.8	%REC	1	11/11/2009 2:25:00 PM	RWE
Surr: Toluene-d8		80.1-122		101.4	%REC	1	11/11/2009 2:25:00 PM	RWE

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: Scott Alliance J.V.

Client Project: East Basin/Outfall

WorkOrder: 09110271

Client Sample ID: East Basin

Lab ID: 09110271-001

Collection Date: 11/4/2009 12:04:00 PM

Report Date: 12-Nov-09

Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8015B, TOTAL PETROLEUM HYDROCARBONS (OA-2) BY GC/FID								
Diesel	NELAP	0.250		ND	mg/L	1	11/10/2009 1:57:00 AM	DMH
Kerosene	NELAP	0.400		2.22	mg/L	1	11/10/2009 1:57:00 AM	DMH
Mineral Spirits	NELAP	0.400		ND	mg/L	1	11/10/2009 1:57:00 AM	DMH
Motor Oil	NELAP	0.400	#	2.15	mg/L	1	11/10/2009 1:57:00 AM	DMH
Surr: n-Tetracontane	NELAP	39.9-162	S	0	%REC	1	11/10/2009 1:57:00 AM	DMH
SW-846 5030, 8260B, GASOLINE RANGE ORGANICS (OA-1) BY GC/MS								
Benzene	NELAP	2.0		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Ethylbenzene	NELAP	5.0		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Gasoline Range Organics		1000		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Toluene	NELAP	5.0		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Xylenes, Total	NELAP	5.0		ND	µg/L	1	11/11/2009 1:57:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		61-128		104.8	%REC	1	11/11/2009 1:57:00 PM	RWE
Surr: 4-Bromofluorobenzene		78.2-117		97.6	%REC	1	11/11/2009 1:57:00 PM	RWE
Surr: Dibromofluoromethane		66.6-130		100.8	%REC	1	11/11/2009 1:57:00 PM	RWE
Surr: Toluene-d8		80.1-122		100.5	%REC	1	11/11/2009 1:57:00 PM	RWE

Sample Narrative

SW-846 3510C, 8015B, Total Petroleum Hydrocarbons (OA-2) by GC/FID

Surrogate recovery was outside QC limits due to matrix interference.

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: Scott Alliance J.V.

Project: East Basin/Outfall

Lab Order: 09110271

Report Date: 12-Nov-09

RECEIVING CHECK LIST

Carrier: Dan Cole

Received By: DB

Completed by:

On:

06-Nov-09



Elizabeth A. Hurley

Reviewed by:

On:

06-Nov-09



Shelly A. Hennessy

Pages to follow: Chain of custody Extra pages included

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Temp °C 0.2
Type of thermal preservation?	None <input type="checkbox"/>	Ice <input checked="" type="checkbox"/>	Blue Ice <input type="checkbox"/>	Dry Ice <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Reported field parameters measured:	Field <input type="checkbox"/>	Lab <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
<div style="border: 1px solid black; padding: 2px;"><i>When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.</i></div>				
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	No VOA vials <input type="checkbox"/>	
Water - TOX containers have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No TOX containers <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Any No responses must be detailed below or on the COC.

A significant amount of headspace was present in one of the East Basin volatile vials. DB 11/5/09

CHAIN OF CUSTODY

pg. ____ of ____ Work Order # 09110271

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: Scott Alliance J.V
 Address: 109 Sir Lawrence Dr.
 City / State / Zip: Bellville FL 62221
 Contact: Dan Cole Phone: 618-744-9203
 E-Mail: cole_dan@sbcglobal.net Fax: 744-9208

Samples on: Ice Blue Ice No Ice 0.2 °C
 Preserved in: Lab Field **FOR LAB USE ONLY**
 Lab Notes:
headspace in one of two vials - East Basin DB11/09
 Comments: QA1 + QA2 per bottle order per 11/6/09

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. Yes No
- Are these samples known to be hazardous? Yes No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. Yes No

Project Name / Number		Sample Collector's Name		MATRIX								INDICATE ANALYSIS REQUESTED																	
Results Requested		Billing Instructions		# and Type of Containers								Water	Drinking Water	Soil	Sludge	Sp. Waste	BTEX	TPH											
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1-2 Day (100% Surcharge)	<input type="checkbox"/> Other <input type="checkbox"/> 3 Day (50% Surcharge)	UNPRES	HNO ₃	NaOH	H ₂ SO ₄	HCL	MeOH	NaHSO ₄	Other																				
Lab Use Only	Sample Identification	Date/Time Sampled																											
	East Basin	4 Nov / 1204	1				2				X					X	X												
	Outfall	4 Nov / 1215	1				2				X					X	X												
Relinquished By		Date / Time		Received By								Date / Time																	
		Nov 5 - 2009 2:55 PM										11/5/09 2:55																	