

OHIO E.P.A.

OCT 20 2005

ENTERED DIRECTOR'S JOURNAL

BEFORE THE  
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Sport Arena, Inc.  
1 Main Street  
Toledo, Ohio 43605

Respondent

Director's Emergency Final Findings  
and Orders

I. JURISDICTION

These Director's Emergency Final Findings and Orders ("Orders") are issued to Sport Arena, Inc. ("Respondent"), pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") § 6111.06.

II. PARTIES BOUND

These Orders shall apply to and be binding upon Respondent and successors in interest liable under Ohio law. No change in ownership or composition of Respondent or ownership of the Facility (as hereinafter defined) shall in any way alter Respondent's obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as defined in ORC Chapter 6111. and the rules promulgated thereunder.

IV. FINDINGS OF FACT

The Director of the Ohio EPA has determined the following findings:

1. Respondent is working with the United States Coast Guard ("Coast Guard") and the United States Environmental Protection Agency (USEPA) to clean up a spill of petroleum in and along the banks of the Maumee River. The spill originated from Respondent's property. The spill affects an area from at least the Cherry Street bridge to the BP Refinery dock. The spill was reported to the Ohio EPA on October 17, 2005.
2. The petroleum threatens the aquatic life and plants in the area of the spill and recreational and other uses of the Maumee River.
3. As a result of the spill, the riverbank in the area is coated with petroleum. This

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency

By: John Jackson Date: 10-20-05

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petroleum must be removed in order prevent a continued discharge of petroleum to the Maumee River.

4. The regional response team for Region V of the USEPA has developed a protocol to test a shore washing agent, COREXIT 9580, for use in cleaning of the riverbank.
5. Respondent, the USEPA, and the Coast Guard wish to apply the washing agent in a pilot study to the portions of the riverbank deemed suitable by the Coast Guard and USEPA, under the supervision of the Coast Guard and USEPA and the Ohio EPA.
6. On October 19, 2005, Ohio EPA received a request from the Coast Guard and the USEPA to allow Respondent to apply the washing agent in accordance with the pilot study.
7. ORC § 6111.06(C) provides, in part, that '(w)henever the director officially determines that an emergency exists requiring immediate action to protect the public health or welfare, the director may, without notice or hearing, issue an order reciting the existence of the emergency and requiring that such action be taken as is necessary to meet the emergency. Notwithstanding division (A) of this section, such order shall be effective immediately. Any person to whom such order is directed shall comply therewith immediately ....'
8. Respondent is a "person" as defined in ORC § 6111.01(I).
9. Based upon the foregoing, the Director of the Ohio EPA has determined that conditions at the spill area pose an emergency requiring immediate action to protect health or safety or welfare.

**V. ORDERS**

1. Respondent is hereby authorized to apply the washing agent to the pilot study area, but only in strict accordance with the pilot study protocol (copy attached hereto), and in no case shall the pilot study application area extend beyond the area marked by the area between the point of discharge of the petroleum into the Maumee River and Brenner Marina.
2. The COREXIT 9580 shall be applied in accordance with the manufacturer's label rates and restrictions.
3. Respondent shall comply with all the testing, sampling, reporting and other requirements of the protocol.
4. Application of the COREXIT 9580 shall only be done under supervision of the United States Coast Guard, USEPA, and the Ohio EPA.
5. Respondent shall provide a report to the Ohio EPA of the results of the pilot study in accordance with the time frames for reporting to other agencies in accordance with

the requirements of the protocol.

#### **VI. TERMINATION**

Respondent's obligations under these Orders shall terminate sixty (60) days after the effective date of these Orders.

#### **VII. OTHER APPLICABLE LAWS**

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations. These Orders do not waive or compromise the applicability and enforcement of other statutes or regulations applicable to Respondent.

#### **VII. NOTICE**

All documents required to be submitted by Respondent pursuant to these Orders shall be addressed to:

Ohio Environmental Protection Agency  
Northwest District Office  
347 North Dunbridge Road  
Bowling Green, Ohio 43402

or to such persons and addresses as may hereafter be otherwise specified in writing by Ohio EPA.

#### **IX. RESERVATION OF RIGHTS**

Nothing contained herein shall be construed to prevent Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including seeking civil penalties against Respondent. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require Respondent to perform additional activities pursuant to ORC Chapter 6111, or any other applicable law in the future. Nothing herein shall restrict the right of Respondent to raise any administrative, legal or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of Respondent

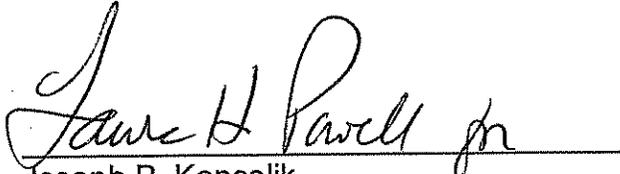
#### **X. EFFECTIVE DATE**

The effective date of the Orders is the date these Orders are entered into the Ohio EPA Director's Journal.

**IT IS SO ORDERED:**

**Sport Arena, Inc.**  
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**Ohio Environmental Protection Agency**

  
\_\_\_\_\_  
Joseph P. Koncelik  
Director

Date 10/20/05

## **REGION V INLAND SHORELINE CLEANER TEST AND EVALUATION PROTOCOL**

### **I. INTRODUCTION**

Subpart J of the National Contingency Plan (NCP) provides that Regional Response Teams (RRTs) and Area Committees shall address, as part of their planning activities, (1) the desirability of using appropriate surface washing agents listed on the NCP Product Schedule; (2) the specific contexts in which such products should and should not be used; and, (3) planning for preauthorization of use.

This test protocol identifies specific practices to be followed for evaluating the effectiveness and biological impacts of test applications of selected chemical shoreline cleaning agents to recover oil discharged to shoreline environments in the Great Lakes region. The Federal On-Scene Coordinator (FOSC) is preauthorized to test specific shoreline cleaning agents subject to the constraints and practices identified in this document, including those identified through state permitting and Section 7 consultation under the Endangered Species Act. Test preauthorization is contingent on the notification process in Section IV and in compliance with Region V Area Contingency Plans and their associated Fish and Wildlife and Sensitive Environments Annex. Any post-test decision to operationally use the cleaning agents must receive RRT concurrence from the EPA, USCG, affected State(s), affected tribe(s), DOI, DOC/NOAA and any potentially affected state or foreign government.

This protocol addresses the testing and evaluation of Corexit 9580 and Cytosol in participating States listed in Appendix 3. The RRT V shall periodically review the NCP Product Schedule for the purpose of removing or considering preauthorized testing protocols for these or other shoreline-cleaning agents. Any additions to the pre-authorized shoreline cleaner test list shall be subject to additional RRT V test protocol development, state permitting and ESA Section 7 consultation.

## II. CRITERIA FOR CONSIDERING THE USE OF SHORELINE CLEANERS

The RRT V spill response policy is to contain and recover oil discharged to the aquatic environment without the use of chemical agents. However, RRT V recognizes that in certain circumstances timely containment and effective physical removal of the oil may not be possible, and the utilization of chemical agents, alone or in conjunction with mechanical removal methods, may be considered as a means to minimize a substantial threat to public health or welfare, or to minimize long term environmental damage.

Initial evaluation of the type of oil and impacted shoreline are required prior to testing chemical agents on a spill. Shoreline-cleaning agents work best with Type IV heavy crude oil (Appendix 1 describes oil types). However, light and medium crude oil can weather to heavier crude over time as constituents of the oil volatilize. A bucket test should be conducted to determine if the removed oil would likely float so it can be collected when remobilized (See Section IV: Test Preparation Procedures). If the removed oil sinks, it may be more difficult to collect and could adversely impact benthic communities. Shoreline types best suited for the use of shoreline-cleaning agents include man made structures, Rip/Rap, boulders, cobble, bedrock, etc., that can be cleaned without trapping removed oil in inaccessible spaces (Appendix 2: Shoreline Types).

Use this flow chart to identify and consider initial issues that guide the decision process of testing a shoreline-cleaner to determine if it merits further consideration as a viable response tool. If so, consider the physical conditions and special consideration constraints in Section III.

### III. CONSTRAINTS GOVERNING TEST USE OF SHORELINE CLEANERS:

Physical Conditions play a vital role in the overall effectiveness of shoreline cleaners, as well as the success in recovering refloated oil. As such, the following constraints shall be observed:

**Water Velocity:** Current at the impacted area must be less than 1 knot. This will help ensure refloated oil does not escape containment and contaminate clean beaches down current.

**Wave Action:** The treated area cannot be exposed to breaking waves. The cleaning agents require a soaking time and continual bombardment will reduce effectiveness of the agent(s).

**Water Depth:** Approximately one foot of water should submerge the hose and strainer assembly of the pump configuration. Depth must be sufficient to facilitate the operation of portable pumps.

4. **Accessibility:** Area must be accessible to observers, monitors, sample collectors, and contract workers.

5. **Precipitation:** Application during heavy rain, sleet or snow should be avoided. Heavy precipitation will greatly reduce cleaner effectiveness by impacting the soaking time.

**Temperature:** If ambient air temperature is below 50 ° F, special consideration of the shoreline cleaner's viscosity should be reviewed when selecting it for use. Consult Manufacturer's recommended application criteria when practical (appended).

7. **Wind:** High wind will play a vital role in the effectiveness of certain cleaners. (See appended application procedures for Corexit 9580)

Special Consideration areas are notable for environmental sensitivity, treaty protection, government designation, important public value and private

ownership. If testing is proposed in the following areas, additional consultation with the appropriate manager or owner shall be undertaken prior to test application:

**Vital Resources - i.e. water supplies:** Shoreline cleaner testing is not recommended near operating water intakes. Oil lifted from the substrate may disperse into the water column or escape floating containment, potentially fouling water supplies.

**Threatened & Endangered Species (Federal and State listed) and designated critical habitats:** OSCs shall review available information in the ACP on the presence of federally listed species and designated critical habitat. If the proposed test may affect federally listed species or critical habitat, the OSC shall initiate emergency consultation with the FWS or NMFS, as appropriate, to obtain timely recommendations to avoid or minimize impacts. See the Inter-Agency MOA Regarding Oil Spill Planning and Response Activities Under the FWPCAs NCP and ESA. OSCs shall consult with the governing state agency regarding any recommended measures to avoid or minimize impacts to state-listed species and their habitats.

**Federal, State or local parks, recreational areas, and refuges:** OSCs shall not undertake testing of shoreline cleaners within or adjacent to federal, state or local parks, recreational areas, and refuges without the prior consent of the land managing agency. Test applications on such lands are subject to all conditions imposed by the managing authorities.

**Tribal Governments:** OSCs shall receive prior approval from the appropriate tribal authority before undertaking test applications on or adjacent to tribally administered lands and waters, including lands and waters protected by treaty. Test applications on such lands are subject to all conditions imposed by these authorities.

**Historical/Archeological Resources:** OSCs shall consult with the State Historic Preservation Officer (SHPO) and other trustees to identify, avoid, and/or mitigate potential impacts.

**Private landowners:** OSCs shall notify landowners of their intent to conduct test applications of shoreline cleaning agents on privately-owned property and give special consideration to any concerns expressed by the landowners.

Foreign Governments: OSCs shall notify Canadian Authorities (Canadian Coast Guard and Environment Canada) of their intent to conduct test applications of shoreline cleaning agents in the Great Lakes and Connecting Channels and give special consideration to any concerns expressed by these agencies.

#### **IV. TEST PREPARATION PROCESS**

OSCs shall follow this protocol to ensure the physical conditions and special considerations are met and have been adequately addressed prior to continuing consideration of testing shoreline cleaners. The following processes and procedures shall be used to guide further action:

Identify, notify and coordinate with stakeholders to include incident specific RRT notification of your intent to initiate test preparation (Use the Contact Information list in Appendix 5)

Select one or both of the approved shoreline-cleaning agents based on environmental conditions (Corexit 9580 and/or Cytosol)

Conduct a bucket test to determine if removed oil will float or sink. If it floats, note the time it takes for the water column to clear (all particles float to the surface). If the oil sinks, then the use of shoreline-cleaners is not appropriate.

Contact shoreline-cleaning agent supplier  
Identify cost

Determine availability

Consider transportation

Invite shoreline-cleaning agent representative to participate

#### **V. TEST APPLICATION PROCEDURES**

Identify test areas and control area boundaries (see Appendix 8: Test Layout Example)

Select a minimum of two representative test areas that 5 gallons of product will adequately cover (approximately 300 to 500 square feet total) and clearly mark the areas.

Set aside a representative control area similar to the test areas for comparison

Obtain Global Positioning System (GPS) location points defining each area

Include a map of the area identifying the test and control areas

Effectiveness criteria and monitoring procedures:

Estimates of effectiveness of a Shoreline Cleaning Agent for removing oil are determined by comparing results from tests of oiled substrates with and without application of a candidate Shoreline Cleaning Agent. Therefore, washing the representative control set-aside with on-site water in a manner equivalent to samples receiving treatment with the Shoreline Cleaning Agent is prescribed.

8 oz. (125 ml) sample jars can be used to collect run-off wash water for augmenting estimated effectiveness. Photo-documentation of jars will be needed.

### 3. Water and sediment sampling in control and test areas for Total Petroleum Hydrocarbon (TPH) analysis

a) Using 1-liter sample jars, collect a background water sample in an adjacent non-impacted area in addition to subsurface water samples from inside and outside of the boom in the test areas and downgradient of boomed areas immediately prior to cleaning agent application. During washing operations, collect 1-liter subsurface water samples from inside and outside of the boom in the test areas and downgradient of boomed areas at 10-minute increments until 30 minutes after washing process is completed.

b) Label water sample jars with a unique identifier and include media type, date, time, location (GPS), depth, and shoreline cleaner used, and store in a cool to cold container for shipment to EPA-approved lab for quick turn around analysis in accordance with EPA-approved protocol.

c) Using 8 oz. (250 ml) jars or sleeves, collect sediment samples in test areas immediately prior to cleaning agent application and after washing process is completed.

d) Label sediment sample jars with a unique identifier and include media, date, time, location (GPS), depth, and shoreline cleaner used, and store in a cool to cold container for shipment to EPA-approved lab for quick turn around analysis in accordance with EPA-approved protocol.

e) Document the process and interpret analytical results.

#### 4. Toxicity procedures to evaluate shoreline cleaning agent impacts to aquatic life

Choose a laboratory to run the aquatic toxicity tests. See the attached list of laboratories that routinely run these tests in Appendix 5: Contact Information.

Collect one-gallon (4 liter) subsurface water samples in brown glass containers at each sampling site.

Collect a water sample from an unimpacted area (background/control), from an area near the shoreline inside the boom and from an area downstream outside the boom prior to the application of the shoreline cleaner.

Collect a water sample inside and outside the boom and a sample downstream after the shoreline cleaner is washed from the rocks into the surface water.

Label sample jars with a unique identifier and include date, time, location (GPS), depth, and shoreline cleaner used, and store in a cool to cold container for shipment to EPA-approved lab for quick turn around analysis in accordance with EPA-approved protocol.

Ask the laboratory to conduct 48-hour EC50/LC50 acute toxicity tests and 7-day chronic toxicity tests for *Ceriodaphnia dubia* using the American Society for Testing and Materials (ASTM) guidelines.

Compare the results from the 48-hour EC50/LC50 and the 7-day tests to assess whether the application of the shoreline cleaner has the potential to adversely affect aquatic life.

Document the process and interpret analytical results.

Booming and recovery procedures:

- a) Identify current direction and velocity.
- b) Use a float to determine distance of boom from the shoreline based on the time it takes for the oil in the bucket test to float to the top and the water becomes clear.
- c) Install a double boom around the test and control areas at the appropriate distance.
- d) Use appropriate absorbent material inside the boom for oil recovery and if possible more aggressive removal equipment (i.e., vacuum pumps, portable skimmers, etc.) to remove the oil.

Site specific product application procedures to be in accordance with manufacturer's recommended application procedures (See Appendix 7).

## VI. REPORTING

After-action report outline:

(Insert an example)

### 2. Lessons learned:

Following each use of this protocol, the OSC will provide observations, lessons learned, and suggested changes to one the Region V Shoreline Cleaner Subcommittee members identified in Appendix 7 who will contact the other members and set up a conference call to discuss and incorporate the suggested changes as appropriate. The Shoreline Cleaner Subcommittee will identify the appropriate point of contact to maintain a file or database of all uses of this protocol on spills of opportunity and capture lessons learned from each application.

## APPENDIX 1: OIL TYPES

Group #	Description	Characteristics	1 Light Distillates	*Very volatile and highly flammable
		Sp. Gr. < 0.8	*High evaporation rates	API >
45	*Rapid spreading rates	Visc.: 0.5 - 2 cSt.	@ 15 C.	*Highly toxic to biota
	* Little if any, emulsification			*High penetration of

substrate                    II Light Crudes \* Moderate volatility                    Sp. Gr. 0.8 - 0.85 \* Low to moderate viscosity                    API 35 - 45 \* Below pour points, behave like group IV oils                    Vise.: 4 to solid \* Moderate to high toxicity                    (avg. 8 cSt) @ 15 C. \* Can form stable emulsions                    \* Moderate to high penetration of substrate                    III Medium Crudes \* Moderate volatility                    Sp. Gr. 0.85 - 0.95 \* Moderate viscosity                    API 17.5 - 35 \* Below pour points, behave like group IV oils                    Vise.: 8 to solid \* Variable acute toxicity - depending on light                    (avg. 275 cSt.) @ 15 C fractions remaining.                    \* Can form stable emulsions                    \* Low to moderate penetration of substrate                    IV Heavy Crudes / Fuel Oils \* Moderate volatility                    Sp. Gr. 0.95 - 1.00 \* Moderate to high viscosity                    API 10.0 - 17.5 \* Below pour points, behave like group IV oils.                    Vise.: 1500 - solid @ 15 C \* Variable acute toxicity - depending on light fractions remaining                    \* Can form stable emulsions                    \* Low to moderate penetration of substrate                    V Very Heavy Fuel / Bunker Oils \*Very low volatility                    Sp. Gr. > 1.00 \* Little if any evaporation                    API < 10.0 \*Very high viscosity                    Vise.: solid ( unless heated) \*Very low acute toxicity                    \* Can form stable emulsions                    \* Little if any penetration of substrate

Group # (Based in Part on I.T.O.P.F. Oil Groups, 1987 & U.S.C.G., 1990)

Group I oils (or non-persistent oils) tend to disappear rapidly from the sea surface

Group II - V (often referred to as persistent oils) dissipates more slowly depending upon their specific physical / chemical properties and the volume spilled.

## APPENDIX 2: ESI SHORELINE TYPES

The use of Shoreline Cleaners should only be considered on the following shoreline types:

ESI = 5A    MIXED SAND AND GRAVEL BEACHES

## DISCRIPTION

These beaches are composed of variable mixture of shells, rubble, and rock fragments in a multitude of sizes.

They occur in a wide variety of settings, but are most common on exposed shorelines in shallow indentations adjacent to eroding headlands and bluffs.

Active beaches have low infaunal densities because of sediment mobility; more stable beaches have moderate densities.

## PREDICTED OIL IMPACT

Oil penetration may be high (tens of cm), with greatest penetration in coarser, well sorted sediments.

Under very heavy accumulations, oil may spread across the entire beach.

During small spills, oil would be deposited along and above the high water swash line.

Burial of oil by clean sediments may be very deep (more than one meter) at the high water berm.

Asphalt pavements are likely to form in more sheltered beaches where heavy accumulations of oil fill the voids between the sediments; once formed, these pavements are very stable and can persist for years.

Any oil stranded above the high water line would be highly persistent.

Biota present may be killed by oil, either by smothering or lethal concentrations of dissolved components in interstitial water.

## ESI = 5B ARTIFICIAL FILL CONTAINING A RANGE OF GRAIN SIZE AND MATERIALS

### DISCRIPTION

Most of the developed ports and harbors have areas that have been modified by creating beaches, assorted breakwaters, etc., by artificial placement of a variety of materials.

Usually has the consistency of mixed sand and gravel beaches, being composed of sand mixed with rock debris.

These beaches may be exposed only to very intermittent energy.

#### PREDICTED OIL IMPACT

Oil penetration may be high (tens of cm), with greatest penetration in coarser, well sorted sediments.

Deeply penetrated oil may leach for a period of time, generating a source of chronic oiling to adjacent habitats.

Under very heavy accumulations, oil may spread across the entire beach.

During small spills, oil would be deposited along and above the high water swash line.

Natural removal rates may be very slow, depending on local wave or boat wake energy.

Asphalt pavements are likely to form in more sheltered beaches where heavy accumulations of oil fill the voids between the sediments; once formed, these pavements are very stable and can persist for years.

Any oil stranded above the high water line would be highly persistent.

#### ESI = 6 GRAVEL BEACHES

##### DISCRIPTION

Gravel beaches are composed purely of gravel-sized sediments, with little-to-no sand.

The gravel-sized sediments include rubble and/or shell and rock fragments.

Gravel beaches are present adjacent to eroding headlands.

They can be steep, with multiple wave-built berms forming the upper beach.

## PREDICTED OIL IMPACT

Oil on gravel beaches would coat individual pieces of gravel.

Limestone rubble is very porous and most oils will soak into the limestone itself.

High porosity and permeability would allow deep penetration to several tens of centimeters into substrate.

In exposed areas, waves would remove surface contamination.

In intermittent-energy areas, buried or penetrated oil would tend to seep out slowly, generating sheens that can recontaminate the shoreline.

There is a high potential for burial by accretional features.

If left to harden, heavy accumulations of oil would likely form an asphalt/gravel pavement in sheltered areas.

ESI = 7A RIPRAP

## DISCRIPTION

Riprap consists of large rocks as well as concrete armor units (tetrapods, dolos, etc.).

Riprap is present in harbor entrances and along developed areas for shore protection.

Biomass is generally low in high-energy area, but attached organisms density and species diversity are higher at more protected sites.

## PREDICTED OIL IMPACT

Heavy oil would coat the surface as well as penetrate and completely fill the cavities in riprap structures.

In exposed areas, waves would remove surface contamination.

In lower-energy areas, oil would tend to seep out of the oil-filled cavities slowly, generating sheens that can recontaminate adjacent shorelines.

If oil is left to harden, an asphalt pavement may result.

## ESI = 7B COASTAL STRUCTURES

### DISCRIPTION

Seawalls, piers, bulkheads, and other structures can dominate developed shorelines along harbors and bays.

### PREDICTED OIL IMPACT

Oil would coat the high water mark surfaces of rocky shores and seawalls.

On vertical surfaces, the oil would form a distinct oil band along the high water mark.

Oil may persist for weeks to months; fresh oil and light refined products have high acute toxicities, which can affect attached organisms after even short exposures.

## ESI = 10 NARROW AND BROAD WETLANDS

### DESRPTION

Narrow or fringing wetlands are found throughout.

Broad wetlands are most common in low-lying, sheltered areas.

They are relatively sheltered from wave activity.

Narrow areas less then 5 meters wide are found throughout the study area.

Wetlands are most important wildlife habitat in the area, providing a nesting area for ducks, geese, herons, rails, kingfishers, some shorebirds, muskrats, and turtles; as well as a nursery and spawning ground for many species of sport and forage fish.

### PREDICTED OIL IMPACT

Oil in heavy accumulations may persist for decades.

Small quantities of oil will be deposited primarily along the outer wetland fringe or along the upper wrack (debris) swash line.

Resistant biota, including bird life, is likely to be oiled and possibly killed.

### APPENDIX 3: STATE PROCEDURES

TBD: This appendix should contain contact information and include state specific requirements.

Michigan (participating state)  
-Add in permit process.

Ohio (not participating at this time but is expressing interest)

Wisconsin (not participating at this time but have expressed interest)

Indiana (not participating at this time)

Illinois (not participating at this time)

Minnesota (not participating at this time but in discussion)

#### APPENDIX 4: EQUIPMENT LIST

##### ITEM (QTY)

wooden stakes (30)  
orange or red survey tape (2 rolls)  
sledge hammer (2)  
shovel (2)  
hand shovel (2)  
funnel (2)  
Gasoline tank 20 gallon  
p250 or equivalent water pump (2)  
100 ft of intake hose (2)  
intake strainer (2)  
200 ft fire hose (2)  
500 ft ball of string (6)  
knife (2)  
400 ft snares minimum must have enough for back up (12 boxes to start)  
400 ft of sausage boom sorbant type (12 bails to start)  
200 ft of harbor boom  
boom anchor (4)  
10 bails of sorbant pads  
hand held sprayer garden type (4)  
duct tape (5 rolls)  
wide clear tape (1 roll)  
empty plastic water jug for priming water pumps (2)  
PPE - face shields, rubber gloves, steel toe boots, waders, tyvek suits (4 sets)

##### Sampling equipment

6 cases of 1 liter bottles (for H2O TPH test)

4 cases of brown 1-gallon or 4 liter jugs (for H2O toxicity analysis)  
 1 case of 8 oz (250 ml) jars or brass sleeves (for sediment testing)  
 protective gloves (2 boxes)  
 large coolers (10)  
 blue ice or cold ice gel refrigerant (sufficient to cool samples)  
 bubble wrap (sufficient to properly protect sample jars)  
 wooden sample tongue depressors (10)  
 labels (100)  
 chain-of-custody forms (50)  
 GPS receiver (2)  
 batteries (8 AA)  
 water resistant making pen (2)  
 Note pads small pocket size (4)  
 Kemmer tube or equivalent (for water samples below the surface)

#### APPENDIX 5: CONTACT INFORMATION

##### Region V Shoreline Cleaner Subcommittee:

Darrell Robertson	US Department of the Interior	617-223-8565
Michael Chezik	US Department of the Interior	215-597-5378
Jason Maddox	US Department of Commerce/NOAA	216-522-7760
Thor Strong	Michigan DEQ	517-335-8305
Dennis Bush	Michigan DEQ	517-373-9958
Samuel Borries	US Environmental Protection Agency	312-353-2886
Steve Clement	Environment Canada	416-739-5908
Dave Siebold	Marathon Ashland Petroleum	419-421-2629
David Fritz	BP	630-420-5880
Joe Czarniecki	Exxon/Mobile	703-846-3376

##### RRT V Representatives:

(Insert call down list from RRT V roster)

##### Analytical Labs:

TBD:

STL - North Canton    STL - Valparaiso  
 4101 Shuffell Drive NW    2400 Cumberland Drive  
 North Canton, Ohio 44720    Valparaiso, IN 46383  
 330-497-9396    219-462-2953  
 Becky Strait    Kathy Osborn

Equipment Providers:

TBD:

APPENDIX 6: PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS)

CYTOSOL

COREXIT

APPENDIX 7: MAUFACTURERS' APPLICATION PROCEDURES

CYTOSOL

Type of Product: Surface Washing Agent

CytoCulture International, Inc.  
 249 Tewksbury Avenue  
 Point Richmond, CA 94801-3829  
 Phone: (510) 233-0102  
 Fax: (510) 233-3777  
 (Dr. Randall von Wedel)

PRIMARY DISTRIBUTORS

CytoCulture International, Inc.  
 249 Tewksbury Avenue  
 Point Richmond, CA 94801-3829  
 Phone: (206) 768-1450  
 Fax: (510) 233-3777  
 (Mr. Larry Pintler)

Foss Environmental, Inc.  
 7440 West Marginal  
 Seattle, WA 98108-4141  
 Phone: (510) 233-0102  
 Fax: (206) 767-3460  
 (Mr. Greg McGowan)

Advanced Cleanup Tech. Inc

20928 Lambertson Ave.  
Carson, CA 90810  
Phone: (800) 334-2284  
Fax: (310) 763-9076  
(Mr. Walt Dorn)

Avoid freezing. At temperatures below the cloud point (43 F), the product may become cloudy, but will return to normal upon warming, with no effect on performance. Store product in airtight containers, if possible, without excessive exposure to moisture.

**SHELF LIFE:** Closed container: 10 years in a dry environment. Open container: 1 year in a warm, humid environment. The product does not deteriorate appreciably over time, but will grow bacteria if water condensation accumulates in the container.

#### RECOMMENDED APPLICATION PROCEDURE

##### 1. Application Method:

The CytoSol is applied to oiled shorelines to extract and recover weathered petroleum by flotation with passive water deluges from header pipes or manual spraying. Remaining residual hydrocarbons are biodegraded, either passively by intrinsic bioremediation, or aggressively by enhancing the process with controlled amounts of nutrients and/or acclimated cultures of bacteria cultured from the site, when approved by local, state and federal agencies. The CytoSol Process is most suitable for the treatment of heavily oiled shorelines that do not respond well to conventional treatments, or that are considered too sensitive for mechanical/pressure wash strategies. Prior to the application of CytoSol, collection booms, oil skimmers, sorbent pads, or other appropriate containment and collection mechanisms must be deployed and operational.

##### 2. Concentration/Application Rate:

CytoSol may be applied with a variety of spraying or washing equipment, depending upon the scale and type of shoreline to be cleaned. The product is to be used only neat and undiluted, for direct application to spilled oil. For large beach areas, CytoSol can be sprayed from water trucks or work boats equipped with pumps, hoses, and nozzles to deliver the product as an aerial spray. In smaller applications, CytoSol may be applied with hand sprayers or portable pumps to spray the product directly onto oiled surfaces. Dose rates will vary with the type and amount of petroleum spilled, the extent of weathering, and other site specific conditions, including temperature, porosity of shoreline, and

residence time available to let the product contact the oil. In general, the ratio of applied CytoSol to crude oil is between 0.5:1 and 1:1. The quantity of CytoSol applied should be approximately equivalent to the quantity of petroleum accumulated on the shoreline, or as required to dissolve and remove weathered oil. After application, the product should be allowed to penetrate and dissolve the weathered petroleum for at least one hour, preferably longer. Cold weather applications will require more contact time before initiating recovery. In tidal areas, it is advisable to apply the CytoSol as the tide is ebbing (receding) to maximize contact time. Trapped oil may continue to be released for several days, requiring that containment devices be left in place.

### 3. Conditions for Use:

The following shoreline types are appropriate for the use of CytoSol: Coarse sand beaches where petroleum has penetrated into sand; marsh areas and vegetated wetlands where oil has coated plants and become trapped; concrete bulkheads, rip rap and piers that may have trapped oil; oiled pilings; gravel or cobble shorelines and rocky shores, where oil has become trapped in pockets; and, public beaches, fisheries, hatcheries, river banks, and other sensitive or high impact sites. The CytoSol has been fielded tested successfully for removing oil from mussel beds and intertidal zones, pilings and concrete rip rap. The CytoSol also proved effective in facilitating the removal of oil from the banks and vegetation along an oiled creek.

COREXIT 9580 Shoreline Cleaner (EC9580A)  
Type of Product: Surface Washing Agent (hydrocarbon based)

Nalco/Exxon Energy Chemicals, LP  
P.O. Box 87  
Sugar Land, TX 77487-0087  
Customer Services:  
Phone: (281) 263-7205  
(800) 333-3714  
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24-hour Emergency Number:  
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Product Management:  
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(281) 263-7955  
Mobile: (713) 854-1658  
(Mr. Paul Hey)

**PRIMARY DISTRIBUTORS**

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**SHELF LIFE**

COREXIT 9580 is unlimited.

**RECOMMENDED APPLICATION PROCEDURE**

**1.Application Method:**

COREXIT 9580 contains a balanced formula of specifically selected biodegradable surfactants in a de-aromatized hydrocarbon solvent system. COREXIT 9580 has a very low degree of toxicity to marine and shoreline organisms.

Shorelines, Mangroves, and Seagrasses-COREXIT 9580 is sprayed directly on the oiled rocky shorelines, mangroves or seagrasses full strength as supplied. After a soak time of zero to thirty minutes, rinse the cleaner and the oil released from the shoreline surface into the water where it can be readily recovered by conventional means such as skimmers or absorbents. The soak time may vary with temperature, oil density and degree of weathering.

**2.Concentration/Application Rate:**

The recommended dosage is approximately 1 gallon per 100 sq. ft. but this can vary depending on the amount of weathering and oiling. The product should be applied full strength as supplied. Since it is hydrocarbon-based, the product should not be diluted with water during application, as this will greatly reduce effectiveness.

3. Conditions for Use:

COREXIT 9580 SHORELINE CLEANER is useful on shorelines in fresh or salt water. It is effective on all types of oil including heavily weathered and emulsified oil ("chocolate mousse") containing up to 50% water.

APPENDIX 8: TEST CONFIGURATION EXAMPLE  
WORKING DRAFT OF 8-17-01

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