ORIGINAL

Mississippi Canyon 252 Vessel Evaluation and Decontamination Plan

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APPROVALS

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PURPOSE

This plan serves to identify general guidance procedures to be followed by contractors involved with oil spill response operations. Because these operations may involve vessels transiting through slicks, operating within oiled waters or recovery operations, we may assume that response equipment, vessel hulls, decks, machinery, tanks, piping, deck gear and other areas will be impacted with oil. This plan will be used for all vessels and support equipment, either contaminated or suspected of being contaminated with oil, to return to a non-oiled state.

CONCEPT OVERVIEW

In view of the extensive equipment inventory involved in this response effort, the responsible party will oversee gross decontamination of equipment and vessels; establish and oversee temporary berthing of oiled vessels and oversee final decontamination of oil spill response vessels and equipment.

The primary focus of this operation will be to expedite cleanup of oiled response vessels and response equipment in a safe, organized and efficient manner while minimizing further damage to the environment and waste generation.

Decontamination is planned to occur in two phases:

- Transit vessels may undergo gross decontamination at an offshore cleaning station and final decontamination, if necessary, at a designated berth or anchorage.
- Response vessels will undergo gross decontamination offshore and final decontamination at a designated anchorage or staging area.
- All equipment will undergo gross decontamination prior to being transported to a decontamination site.
- Response Equipment will be transported for decontamination from the work zone to a bermed decontamination area for final decontamination.

SAFETY

All required Personal Protective Equipment (PPE) shall be properly utilized at all times during decontamination operations. In addition to the normal safe work practices used on scene, when using high pressure washing systems, full face shields and eye protection shall be utilized and a maintenance record shall be provided for the equipment.

On-water decontamination operations shall begin no earlier than one half hour after sunrise, and shall cease no later than one half hour before sunset. In the event the team leader wishes to operate outside these parameters they must obtain permission from the designated person at the Unified Command Post. Shore-based decontamination of equipment can be conducted on a 24 hour basis with proper lighting and safety procedures in place.

HEALTH AND SAFETY MANAGEMENT SYSTEM

Incident contractors will have a health and safety management system which, at a minimum, will include a safe practices program with performance targets (or utilize Company's program). Incident contractors will communicate the expectation that everyone has an obligation to stop work that is unsafe.

In addition, incident contractors will have a hazard identification and risk assessment process for completing a daily pre-job task hazard analysis and/or work permitting system to identify and control the hazards to an acceptable level. At a minimum, a process for completing daily Job Safety Analysis (JSA), or Job Safety Environmental Analysis (JSEA), is required to facilitate the daily task hazard analysis.

VESSEL SAFETY CONCERNS

A minimum of one vessel, of adequate horsepower, shall perform the role of safety observer, or for a vessel representative to observe the operation, if they wish. This vessel is responsible for providing access to all affected surfaces of the contaminated vessel. Communications between the tug and decon teams must be in place to provide for the safety of the crew, and to facilitate efficient operations.

In the event the decontamination team leader feels the team cannot safely operate due to weather or other considerations, they can cease operations and report the circumstances to the designated person at the Unified Command Post.

AIR MONITORING

Air monitoring may be conducted to address worker health and safety during decontamination operations. For additional information regarding air monitoring, please reference the CTEH "Air Sampling and Analysis Plan" available with the Incident Action Plan.

CONFINED SPACE OPERATIONS

If a tank or space fits the definition of a Confined Space as outlined in Site Safety Plan, a confined space entry permit and rescue plan will be completed. All entry and standby personnel will be required to show proof of confined space training and certification in accordance with the BP Safe Practice requirements.

METHODOLOGY

DECONTAMINATION OF VESSELS

Decontamination of designated vessels will be completed by removing all spilled product on the hull of the affected vessel. Upon completion of decontamination by the decontamination team, the team will allow final inspection by vessel representatives and/or an FOSC Representative. This does not preclude FOSC Representatives from monitoring the cleaning of the vessel as it occurs.

Gross decontamination of transit vessels will be available offshore. Vessels in need of decontamination at the Mississippi Canyon Offshore Cleaning Station should contact the station directly on Channel 16. The Team Leader will make individual arrangements with each vessel requesting to be cleaned.

If environmental conditions exist, prior to commencement of steam cleaning operations, containment boom will be placed downstream of the vessel. Adsorbent sweep or sorbent materials will be placed inside the containment boom to collect any residual oil being removed. No detergents or chemicals will be utilized during the decontamination process unless approved by the Regional Response Team. All oiled adsorbent material will be bagged and placed in appropriate containers for disposal as per the approved waste disposal plan. One work boat, pressure washer and crew will go down each side of the vessel cleaning the oil from bow to stern.

Removed oil will be allowed to float into containment boom and removed, when applicable. Upon completion of vessel decontamination, each vessel will be inspected and approved by the FOSC Representative, in accordance with this plan.

No vessel decontamination will be done in the vicinity of water intakes, environmentally sensitive areas or in areas where the public could be affected. Cleaned vessels must remain in the above location until the FOSC Representative has inspected and released the vessel for transit upriver.

Pressure washing operations will require a pressure washer (either cold or hot) with a temperature range up to 220° F and a pressure rating up to 3000 PSI. Every attempt will be exercised to mitigate noise-generating equipment by placing it in insulated areas.

Where permissible, decontamination will be completed on all solid surfaces by cold or hot pressure washing. Non-permissible areas are locations where worker safety could potentially be endangered, such as the stern of the vessel while engaged, or if environmental conditions exist that do not allow for safe operations. Decon team leaders, safety observer assist vessels, the FOSC Representative, or any other involved parties are required to report any of the above conditions, or others, that do not allow for safe operations. Once unsafe operations are recognized and reported to a Site Safety Officer, cleaning operations shall be suspended until conditions change, or if alternate operations are approved by the Unified Command.

Where possible, each work area will be pre-boomed (e.g., to protect Bulkheads, Piles, Rip Rap, etc.) to contain any free floating oil that enters the water and will be immediately collected using sorbent pads or mechanical skimming techniques as appropriate.

Preplanning, in order to ensure for the protection of adjacent areas, especially water intake locations must be the primary focus of the decontamination teams. Floating sorbent materials shall be utilized where necessary to retain free-floating oil. These sorbents shall be tended continuously by the on-scene response vessels.

It is not anticipated that any confined space entry will be necessary during this operation, but in the event it is, a Confined Space Entry Permit will be completed for entry into Confined Spaces as defined in the Site Safety Plan.

All disposable equipment and PPE should be segregated and disposed of according to the approved disposal plan.

OFFSHORE VESSEL CLEANING

Decontamination of offshore vessels will adhere to the following guidelines and is to occur at one of the following Vessel Cleaning Stations:

Vessel Cleaning Station 1:	Latitude:	28° 17′ 39.98″ N
	Longitude:	88° 42′ 20.00″ W
Vessel Cleaning Station 2:	Latitude:	28° 48′ 00.00″ N
	Longitude:	89° 26′ 30.00″ W

Vessels requiring cleaning shall contact the Mississippi Canyon Offshore Cleaning Station on Channel 16. The Team Leader will make individual arrangements with each vessel requesting to be cleaned.

Each vessel will slow to a minimum safe steerage while decon teams, comprised of two vessels, perform either a water wash or water and surface washing agent wash (if approved by the Regional Response Team). No containment boom will be deployed, but skimmers will be notified if skimmable oil is observed.

A third vessel cleaning station will be available between Mile Marker 11 and 17 on the Lower Mississippi River near Pilottown. The Associated Branch Pilots (Bar Pilots) will provide two vessels to assist in vessel movement.

Additional guidance and vessel coordination can be provided by the Maritime Transportation System Recovery Unit or Waterways Management Group. The Maritime Transportation System Recovery Unit will collect vessel particulars for all vessels requiring decontamination.

LARGE RESPONSE VESSELS

Any vessel larger than 65′ should remain in the water for decontamination. This may vary with consideration to size and type of vessel.

The following section is to provide operational guidance for the decontamination of large response and deep draft vessels that have been impacted by the incident.

Before cleaning begins, a vessel work plan will be developed and a personnel decon station will be established on the vessel or available on the dock side. The decon station will consist of a minimum sorbent rug, boot wash tubs, scrub brushes, cleaning solvent, hand wash station with soap, and a barrel for contaminated PPE.

The ship will remain inside standard contractor containment boom during the decontamination process. A scaffolding barge will be mobilized to the site and secured alongside the vessel. The scaffolding barge will be placed inside the containment boom, lined with adsorbent boom and anchored at least 25' from the vessels hull to ensure an adequate work area and to reduce the possibility of overspray outside of the containment area. Containment boom will be monitored and if necessary, removed to reduce sheening. If weather conditions permit, additional smaller vessels will be used as platforms to facilitate cleanup operations along the waterline, not to be used in between the vessel and the dock area.

Cleaning oiled hull surfaces will be accomplished by:

Option A

The hull of the vessel will be cleaned with a hot water pressure washer starting from the deck level working down to the water. Actual pressure washing, will utilize a hot/cold pressure washer with a temperature range up to 220° F and a pressure rating up to 3000 psi. Every attempt will be exercised to mitigate overspray to keep all rinsate water inside the bermed area.

All personnel involved in the cleaning operation will wear modified PPE Level D including rain gear, gloves, rubber boots, hearing protection, eye protection (goggles or face shield) and fall protection equipment.

Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross contamination. Floating oil will be minimized with sorbents as necessary to reduce potential loss outside the containment boom. Floating sorbent materials shall be utilized in natural collection points as needed to retain free-floating oil. These sorbents will be tended and replaced as necessary.

Option B

The hull of the vessel will be wiped by hand with cotton rags starting from the deck level working down to the water. If during decontamination it is found that any method other than water is necessary, the Team Leader and OSC shall coordinate with the Unified Command to submit a request to the Regional Response Team, for consideration to use surface washing agents. All oil will be wiped from the hull in this manner. All efforts will be made to eliminate the cleaning solution from reaching the water.

Personnel involved in this operation will wear modified PPE Level D including raingear, gloves, eye protection, fall protection equipment and floatation work vest.

Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross contamination. Floating oil from sheen-emanating vessels will be minimized with sorbents as necessary to reduce potential loss outside the containment boom. Floating sorbent materials shall be utilized in natural collection points as needed to retain free-floating oil. These sorbents will be tended and replaced as necessary.

SMALL RESPONSE VESSELS

The primary decontamination of oil spill response vessels will occur where a travelift or crane capability is available. Gross decontamination of vessels should occur before they are removed from the water for complete decontamination.

The hull of the vessel will be wiped by hand with cotton rags. On shore, a citrus-based cleaning solution will be used to remove residue oil from the hull. All oil will be wiped from the hull in this manner. All efforts will be made to eliminate the cleaning solution from reaching the water.

Personnel involved in this operation will wear modified PPE Level D including raingear, gloves, eye protection, and floatation work vest.

Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross contamination. Floating oil from sheen-emanating vessels will be minimized with sorbents as necessary to reduce potential loss outside the containment boom. Floating sorbent materials shall be utilized in natural collection points as needed to retain free-floating oil. These sorbents will be tended and replaced as necessary.

Each vessel will be placed inside standard contractor containment boom during the decontamination process. This decontamination zone may utilize a boom anchoring system to prevent the collapse of the perimeter protection during tidal changes and surges.

A decontamination work plan may be created for each response vessel. These plans may be added as appendices to this document. Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross contamination. Floating oil from sheen-emanating vessels will be minimized with sorbents as necessary to reduce potential loss outside the containment boom. Floating sorbent materials shall be utilized in natural collection points as needed to retain free-floating oil. These sorbents will be tended and replaced as necessary.

For cleaning, the vessels will be blocked using jack stands and wood cribbing. A decontamination team will be assigned to the bermed area. Most response vessels require the hull to be washed / wiped to remove residual oil. Some response vessels may also require cleaning of skimming units, tanks, decks and other ancillary equipment.

For final decontamination, the cargo tanks aboard response vessels are to be cleaned in compliance with all State of Louisiana and Federal regulations. All access plates and tank lids will be opened and secured by contract personnel.

Retained product will be removed from the cargo tanks. A citrus-based cleaner may be used on the surfaces of the cargo tanks to facilitate the cleaning process. Sludges and scale will be removed by vacuum truck when appropriate or by hand if necessary. The walls and floors of the cargo tanks will be sprayed with a hot water pressure washer. The ladder way into each tank and the expansion dome will be cleaned with hot water pressure washers.

HARD STRUCTURES

Bulkheads/Sea Walls

Every effort will be made to prevent overspray or additional contamination of surrounding areas due to the decontamination operations. The following procedures will be followed in the decontamination of bulkheads and sea walls:

1. A temporary plywood wall will be erected between the bulkhead/sea wall and the surrounding area.
2. Hard boom, lined with sausage boom, will be placed at the base of the bulkhead/sea wall.
3. A small area of the bulkhead/sea wall will be tested to determine the best technique for decontamination. The test will be carefully observed to determine if adjustments are necessary to prevent overspray.
4. As each area of the bulkhead/sea wall is decontaminated, all soiled sausage boom and other materials will be collected and disposed of in an approved manner. Dislodged contaminated material will be collected with sorbent pads as necessary. The temporary plywood wall will be moved along the bulkhead/seawall and the procedure repeated as necessary.

Floating/fixed dock structures

Every effort will be made to prevent overspray or additional contamination of surrounding areas due to the decontamination operations. The following procedures will be followed in the decontamination of floating/fixed dock structures:

1. Hard boom, lined with sausage boom, will be placed around the floating/fixed dock structure.
2. A small area of the floating/fixed dock structure will be tested to determine the best technique for decontamination. The test will be carefully observed to determine if adjustments are necessary to prevent overspray. In addition, the floatation will be carefully examined to prevent damage.
3. Particular attention shall be paid to the underside of the floating/fixed dock structure and connecting wiring and piping to prevent damage.
4. As each area of the floating/fixed dock structure is decontaminated, all soiled sausage boom and other materials will be collected and disposed of in an approved manner. Dislodged contaminated material will be collected with sorbent pads as necessary.
5. The procedures will be repeated as each section of floating/fixed dock structure is decontaminated.

Pilings

Every effort will be made to prevent overspray or additional contamination of surrounding areas due to the decontamination operations. The following procedures will be followed in the decontamination of the pilings:

1. Hard boom, lined with sausage boom, will be placed around the pilings.
2. A small area of the pilings will be tested to determine the best technique for decontamination. The test will be carefully observed to determine if adjustments are necessary to prevent overspray.
3. Particular attention shall be paid to rollers and sliding mechanisms on the pilings that move with the tide to insure that they are decontaminated and free of debris.
4. As each area of the pilings is decontaminated, all soiled sausage boom and other materials will be collected and disposed of in an approved manner. Dislodged contaminated material will be collected with sorbent pads as necessary.
5. The procedures will be repeated as each section of piling structure is decontaminated

SHORESIDE DECONTAMINATION

CONTAINMENT BOOM & PORTABLE EQUIPMENT

Decontamination areas will be identified for containment boom, oil skimmers and small equipment. A contractor will position a Shoreline Cleanup Trailer at this location to provide support for consumable supplies. Personnel involved in this operation will wear modified PPE Level D including raingear, gloves, eye protection, hearing protection (as necessary), and floatation work vest. An example site plan is available in Appendix D.

CLEANING PROCESS

A liner (secondary containment) will be placed under each decon pool with the perimeter sufficiently bermed to allow for wastewater and rainwater evacuation. All wastewater will be pumped to a storage tank or vacuum truck for disposal. All pumps, hoses and piping will be left in place to facilitate speedy evacuation of retain. The final disposal of wash water, oiled sorbents and materials will be accomplished in accordance with the Waste Management Plan.

A citrus-based cleaning solution may be utilized as a degreaser for **ONSHORE** decontamination and will be applied by a sprayer as applicable. Utilizing the citrus based degreaser product, which will not emulsify the oily water, it is possible to recycle / reclaim the rinsates. Because this cleaning solution is citrus based it does not leave a petroleum sheen on the equipment after the cleaning process.

Actual pressure washing, if required, will utilize a hot/cold pressure washer with a temperature range up to 220° F and a pressure rating up to 3000 psi. Every attempt will be exercised to mitigate noise-generating equipment by placing it in insulated areas.

All personnel involved in the cleaning operation will wear modified PPE Level D including rain gear, gloves, rubber boots, hearing protection (as needed e.g. pressure washer or vacuum truck operations), and eye protection (goggles or face shield). In addition, any personnel working within the arc of an overhead crane or travelift will wear a hard hat.

Once the asset has been determined clean to the designated representative standard, the equipment is transferred to the designated "clean" holding area for immediate return to the owners.

SURFACE WASHING AGENTS

Any approved use of the surface washing agents listed below shall be performed in accordance with the "RRT VI Emergency Response Pre-Approved Guidelines to Decontaminate Vessels and Hard Structures in Port Areas Using Surface Washing Agents" (January 2003). All information contained in this plan regarding surface washing agents, and their use for decontamination of vessels is intended for the spot cleaning of only those vessel surfaces that are completely non-responsive to water-based pressure washing in navigable waterways. The approved technique for application of either of these approved surface washing agents is to spray the agent onto a cotton rag that must be used to apply the agent to the contaminated surface area. Furthermore, once surface washing agents have been applied, additional water shall NOT be used to flush the affected area.

A representative of the Federal On-Scene Coordinator must be on hand during every stage of surface washing agent application in order to ensure that the approved application technique is being used and that the operation is being carried out in a safe and responsible manner. If any negative effects from application are observed, the use of surface washing agents shall cease immediately until a determination is made by the FOSC with regards to further use. At no point shall the dispersion of oil by either of the approved agents be used as a primary means of surface cleansing. At NO point shall surface washing agents be used for cleaning operations within 2000 yards of any public water intake.

Surface washing agents designated on the Environmental Protection Agency's National Contingency Plan Product Schedule may be evaluated for approval (e.g. PES-51 (Practical Environmental Solutions), Corexit 9580 (Nalco Energy Services L.P) or similar citrus based cleaning solution) and use during decontamination operations.

The larger vessels will require a mobile decontamination team to be assigned to its location. A mobile decon team will be comprised of a minimum of one supervisor, three laborers, an equipment operator and a designated representative. A vessel specific workplan must be developed for the each to ensure that skimming equipment, storage tanks, piping systems, deck gear and the vessel hull is cleaned to agreed-upon standards. A marine chemist or a shipyard competent person may be utilized to determine tank entry (if required) and the designated representative will certify cleanliness of affected equipment.

PERSONNEL DECONTAMINATION

A decontamination plan should be developed and set up before any personnel are allowed to enter areas where the potential for exposure to hazardous substances exists. Decon is carried out at a series of stations within the Warm Zone. The ground at each station will be covered with heavy diked PVC sheets to prevent contamination of the soil. These stations and the procedures at each are as follows:

- STATION 1 - Deposit contaminated equipment (tools, containers, etc). Use this station for cool down if needed.
- STATION 2 - While workers stand in shallow plastic tubs, remove tape, if worn, from gloves and boots. Scrub boots, outer gloves and protective clothing with decon solution (detergent in water). Rinse with water from hand-held sprayers as workers step from tubs.
- STATION 3 - Remove boots and outer gloves. Deposit in designated containers.
- STATION 4 - Remove protective clothing and deposit in designated contianers.
- STATION 5 - Wash hands and face with mild soap. Shower as soon as practical.

The plan should be revised whenever the type of personal protective clothing or equipment changes, the use conditions change, or the chemical hazards are reassessed based on new information.

The decontamination process should consist of a series of procedures performed in a specific sequence. For chemical protective ensembles, outer, more heavily contaminated items (e.g. outer boots and gloves) should be decontaminated and removed first, followed by decontamination and removal of inner, less contaminated items (e.g. jackets and pants). Each procedure should be performed at a separate station in order to prevent cross contamination in the decontamination line.

Stations should be separated physically to prevent cross contamination and should be arranged in order of decreasing contamination, preferably in a straight line. Separate flow patterns and stations should be provided to isolate workers from different contamination zones containing incompatible wastes. Entry and exit points to exposed areas should be conspicuously marked. Dressing stations for entry to the decontamination area should be separate from redressing areas for exit from the decontamination area. Personnel who wish to enter clean areas of the decontamination facility, such as locker rooms, should be completely decontaminated.

All equipment used for decontamination must be decontaminated and/or disposed of properly. Buckets, brushes, clothing, tools, and other contaminated equipment should be collected, placed in containers, and labeled. Also, all spent solutions and wash water should be collected and disposed of properly. Clothing that is not completely decontaminated should be placed in plastic bags, pending further decontamination and/or disposal.

Decontamination of workers who initially come in contact with personnel and equipment leaving exposure or contamination areas will require more protection from contaminants than decontamination workers who are assigned to the last station in the decontamination line. In some cases, decontamination personnel should wear the same levels of protective clothing as workers in the

exposure or contaminated areas. In other cases, decontamination personnel may be sufficiently protected by wearing one level lower protection.

EMERGENCY DECONTAMINATION

In addition to routine decontamination procedures, emergency decontamination procedures must be established. In an emergency, the primary concern is to prevent the loss of life or injury to personnel. If immediate medical treatment is required to save a life, decontamination should be delayed until the victim is stabilized. If decontamination can be performed without interfering with essential life-saving techniques or first aid, or if a worker has been contaminated with a toxic or corrosive material that could cause severe injury or loss of life, decontamination should be continued.

The decontamination line and emergency decontamination procedures shall be thoroughly explained by the Decontamination Group Supervisor/Team Leader in a walkthrough demonstration for all entry personnel.

If an emergency due to a heat-related illness develops, protective clothing should be removed from the victim as soon as possible to reduce the heat stress. During an emergency, provisions must also be made for protecting medical personnel and disposing of contaminated clothing and equipment.

EQUIPMENT PRIORITY

A priority assessment will be attached to each piece of equipment to ensure a timely flow of equipment through the cleaning process. The Project Manager will prioritize the spill response equipment to be cleaned.

EQUIPMENT TAGGING AND TRACKING

In order to ensure that all equipment is properly accounted for and returned to its proper owner, tag in / tag out procedures will be utilized. Equipment will be tagged to document owner information, time of arrival and any damage that is noted upon arrival.

Equipment that has been decontaminated will be moved to a designated clean area for inspection by an owner representative. The representative must verify cleanliness, material condition and sign for custody of the equipment.

WASTE MANAGEMENT

DISPOSAL

Recovered oil in liquid state will be transferred to storage tanks pending quantification for recovery efficiency calculations. Ultimate disposal destinations will be dependent on the location of the decontamination site, available staging areas, approval by BP, and are identified in the Waste Management Plan.

WASTE SEGREGATION

Solid Waste Disposal

Recovered tank solids are to be placed in storage containers or drums. Solid Waste from cleaning operations, (rags, PPE, sorbents) will be placed in rolloff boxes for storage and transportation to an approved disposal facility.

Clean Waste Disposal

All clean waste will be segregated from any contaminated waste (i.e. food wastes, garbage, etc) and is not to be mixed with any contaminated waste. This waste will be stored in roll off boxes or bins and marked as such.

WASTE QUANTIFICATION

Waste quantification will be performed to provide a uniform approach prior to final release of oiled materials or assets used in the response: i.e. boom, boats, skimmers, decon pools, etc.

Liquids: All recovered liquids will be stored in approved tanks or vacuum trucks until transported to an approved disposal facility. The volume of oil in storage tanks and vacuum trucks will be measured before tanks are transported from staging for disposal. A manifest should be obtained from the disposal facility that reflects the volume of oil recovered from the storage tank or vacuum truck.

Solids: The contents of bins containing sorbent materials such as absorbent boom, pads, sweep and snare will be visually inspected to determine degree of oiling as follows:

- A specified number of bags will be extracted randomly from each bin
- Each of the bags contents will be inspected visually by the Inspection Team.
- Team members agreed on a visual estimate of the amount of oil in ach bag, in the categories of "Heavy", "Medium", "Light", and "Not Oiled"
- The Team will develop a consensus definition of what the terms, Heavy, Medium, and Light represent in terms of average number of gallons per bin of oil

Vegetation: Vegetation and/or wildlife removed in the cleanup operation will be bagged and weighed separately.

FINAL Disposal: When quantification is final, the waste may be disposed in accordance with all federal, State, and Local laws. A copy of the manifest and associated documents may be requested as proof of disposal.

HOW CLEAN IS CLEAN

As with other areas of response operations, the degree of decontamination or level to which a vessel or structure is cleaned is a joint determination typically by consultation or negotiation with the response agencies. This process will normally also include consideration of the degree of difficulty in meeting a particular cleanliness standard as well as the cost and time involved in achieving that end point. Determinations will be coordinated with the agencies and the Environmental Unit if necessary to reach an appropriate cleanup end point.

CERTIFICATE OF DECONTAMINATION

For this incident, a vessel owner's representative must obtain the State and Coast Guard Verifying Officer's final verification of decontamination. In the event of a dispute, the FOSC representative shall provide final certification of decontamination.

Additionally, the FOSC Representative shall maintain a log capturing the vessels name being decontaminated, the date and time the operation begins and is completed, and signature by the FOSC Representative, State, and vessel representative acknowledging completion of the decontamination for each vessel.

APPENDIX A: Contractor Recommended Plan List

The following is a list of plans that may be required for Mississippi Canyon 252 Incident response contractors depending on the operation. This list is based on regulatory requirements, BP requirements, industry best practices, field experience, and lessons learned.

Contractors involved with the Mississippi Canyon 252 Incident must evaluate all decontamination activities and all of the jobs and situations encountered in such operations. Please check with your supervisor, local management, or safety representative for additional site-specific procedures and requirements.

PLAN or POLICY

Company Substance Abuse Policy
Confined Space Entry Plan
Confined Space Entry Training Documentation
Crane Operator Certification
Critical Lift Plan
Driving Safety
Drug & Alcohol Supervisor Awareness
Equipment Calibration Evidence
Equipment Inspection Policy/Evidence
Evidence of Qualified Person for Excavations
Fall Protection Equipment Inspection
Fall Protection Policy
Flammable/Combustible Liquids Storage and Handling
Forklift Operator Certification
Ground Disturbance
Hazardous Communication Plan (provide MSDS)
Hearing Conservation/Protection Plan
Heat Stress
Incident Reporting Policy
Lifting and Rigging Plan
Lock out/Tag out plan
Personal Protective Equipment
PPE Policy
Respiratory Protection Plan
Spill Response Plan
Trenching and Shoring Plan

APPENDIX B: MSDS

MATERIAL SAFETY DATA SHEET

CRUDE OIL

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

1. PRODUCT and COMPANY IDENTIFICATION

Material Identity	Crude Oil	
Trade Name(s)	Oriente, Cano Limon, Line 63, Shell-Ventura, SJV Light, Rainbow, West Texas Inter-Cushing, Peace River-Canadian, Federated Crude-Canadian, Pembina Crude-Canadian, Forcados, Cabinda, Basrah Light, Basrah, Arab Medium, Elang Crude, Girassol	
Other Name(s)	Earth Oil, Petroleum Oil, Rock Oil, Zafiro	
Chemical Description	This material is a C1 to C50 hydrocarbon liquid which contains approximately .9 to 2.8 wt% sulfur compounds	
Manufacturer's Address	BP West Coast Products LLC Carson Business Unit 1801 E. Sepulveda Boulevard Carson, California 90749-6210	BP West Coast Products LLC Cherry Point Business Unit 4519 Grandview Road Blaine, Washington 98230
Telephone Numbers	Emergency Health Information:	1 (800) 447-8735

2. COMPONENTS and EXPOSURE LIMITS

Component[1]	CAS No.	% Composition By Volume[2]		ACGIH TLV	OSHA PEL[3]	Units	Type
				Exposure Limits			
CRUDE OIL, PETROLEUM	8002-05-9	EQ	100	N/AP	N/AP		
which contains:							
BUTANE	106-97-8	AP	0.8 to 1	800	800	pm	TWA
HEXANE (N-HEXANE)	110-54-3	AP	0.3 to 1	50 skin	50	ppm	TWA
ISOPENTANE	78-78-4	AP	0.3 to 1.5	N/AP 600	750 600	ppm ppm	STEL TWA
PENTANE	109-66-0	AP	1.5 to 2.5	N/AP 600	750 600	ppm ppm	STEL TWA
Other applicable exposure guidelines:							
COAL TAR PITCH VOLATILES, AS BENZENE SOLUBLES [(4)]	65996-93-2			0.2	0.2	mg/m3	TWA
OIL MIST, MINERAL	8012-95-1			10 5	N/AP 5	mg/m3 mg/m3	STEL TWA
STODDARD SOLVENT	8052-41-3			100	100	ppm	TWA

Stoddard Solvent exposure limits are listed as an exposure guideline for hydrocarbon vapors that may be similar to those derived from crude oil.

Summary of Chronic Hazards and Special Health Effects

Personnel with preexisting central nervous system (CNS) disease, skin disorders, or chronic respiratory diseases should be evaluated by an appropriate health professional before exposure to this material.

Prolonged/repeated skin exposure, inhalation or ingestion of this material may result in adverse dermal or systemic effects. Avoid prolonged or repeated exposure.
May be harmful if absorbed through the skin. Prolonged or repeated contact may create cancer risk, organ damage, and adversely affect reproduction, fetal development and fetal survival. Avoid all skin contact.

Neurotoxic effects have been associated with n-hexane, a component of this material. Avoid prolonged or repeated exposure.

See Section 11 for Additional Toxicological Information.

4. EMERGENCY and FIRST AID

Inhalation Immediately remove personnel to area of fresh air. For respiratory distress, give oxygen, rescue breathing, or administer CPR (cardiopulmonary resuscitation) if necessary. Obtain prompt medical attention.

Eye Contact Flush eyes with clean, low-pressure water for at least 15 minutes, occasionally lifting the eyelids. If pain or redness persists after flushing, obtain medical attention.

Skin Contact Immediately remove contaminated clothing. Wash affected skin thoroughly with soap and water. If irritation persists, obtain medical attention.

Ingestion Do not induce vomiting since aspiration into the lungs may cause lipoid pneumonia. Obtain prompt medical attention.

Emergency Medical Treatment Procedures See above procedures. Personnel with pre-existing central nervous system disease, skin disorders, chronic respiratory diseases, or impaired liver of kidney function should avoid exposure to this product.

5. FIRE and EXPLOSION

Flash Point (Method)* Based on NFPA Petroleum, Crude		AP 20°F to 90°F	
Autoignition Temperature (Method)*		N/DA	
Flammable Limits (% Vol. in Air*	**Lower**	AP 1 +	
	Upper	AP 8 +	

* At Normal Atmospheric Temperature and Pressure

+ Based on NFPA 325

NFPA Hazard Rating:

Health:	2 = Moderate
Fire:	3 = High
Reactivity:	0 = Insignificant
Special:	

Fire and Explosion Hazards

HIGHLY FLAMMABLE! This material releases flammable vapors at or below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, these vapors can burn in the open or explode in confined spaces.

Flammable vapors may travel long distances along the ground before reaching a point of ignition and flashing back.

Open top tanks involved in a fire have a potential for "boil-over" if water or water-in-oil emulsion is at the bottom of the tank. Boil-over may result in a large expulsion of burning oil from the tank, greatly increasing the fire area.

Extinguishing Media

Foam, Dry chemical, Carbon dioxide (CO_2)

Water and water fog can cool the fire but may not extinguish the fire.

Special Firefighting Procedures

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. Cool tanks and containers exposed to fire with water. If firefighters cannot work upwind to the fire, respiratory protective equipment must be worn unless and until atmospheric monitoring indicates that such protection is not required. Improper use of water and extinguishing media containing water may cause frothing which can spread the fire over a larger area. Water fog or spray are of value for cooling tank shells and surfaces exposed to fire, but may not achieve extinguishment.

6. ACCIDENTAL RELEASE MEASURES

Precautions if Material is Spilled or Released

Contain spill, evacuate non-essential personnel, and safely stop flow. On hard surfaces, spilled material may create a slipping hazard. Equip cleanup crews with proper protective equipment (as specified in Section 8) and advise of hazards. Clean up by recovering as much spilled or contaminated materials as possible and placing into closed containers. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.

7. HANDLING and STORAGE

Handling, Storage and Decontamination Procedures

Store and transport in accordance with all applicable laws. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! KEEP CONTAINERS CLOSED, PLAINLY LABELED AND OUT OF CLOSED VEHICLES! Containers should be able to withstand pressures expected from warming or cooling in storage. Ground all drums and transfer vessels when handling. Store in cool (80°F or below), well-ventilated location. All electrical equipment in storage and/or handling areas should be installed in accordance with applicable requirements of the National Electrical Code (NEC).

KEEP OUT OF REACH OF CHILDREN!

Empty containers retain some liquid and vapor residues, and hazard precautions must be observed when handling empty containers.

For determining National Electrical Code (NEC) Hazardous (Classified) location requirements for electrical installations, consider this material Class 1, Group D.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Where possible, use adequate ventilation to keep vapor and mist concentrations of this material below the Occupational Exposure Limits shown in Section 2. Electrical equipment should comply with National Electrical Code (NEC) standards (see Section 7).

Respiratory

Where there is potential for exposure to hydrogen sulfide gas in excess of the permissible exposure limit, a NIOSH/MSHA-approved supplied-air respirator operated in positive pressure mode should be worn.

If hydrogen sulfide gas is not present in excess of permissible exposure limits, a NIOSH/MSHA-approved air-purifying respirator with an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations of hydrocarbon vapor may exceed the exposure limits in Section 2. Where work conditions may generate airborne mists of the material, also use a high-efficiency particulate pre-filter. Consult a health and safety professional for guidance in respirator selection. Respirator use should comply with OSHA 29 CFR 910.134.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of the air-purifying respirator.

Eyes

Eye protection should be worn. If there is potential for splashing or spraying, chemical protective goggles and/or a face shield should be worn. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

Skin

Avoid all skin contact with this material. If conditions of use present any potential for skin contact, clean and impervious clothing such as gloves, apron, boots, and facial protection should be worn. Neoprene, Nitrile, Butyl Rubber or Viton glove material is recommended. When working around equipment or processes which may create the potential for skin contact, full body coverage should be worn, which consist of impervious boots and oil-resistant coated Tyvek suit or other impervious jacket and pants.

Non-impervious clothing which accidentally becomes contaminated with this material should be removed promptly and not reworn until the clothing is washed thoroughly and the contamination is effectively removed. Discard soaked leather goods.

Other Hygienic and Work Practices	Use good personal hygiene practices. If skin contact should occur, material should be removed from the skin with a waterless hand cleaner, and the affected area should then be washed with a mild soap and water. Wash hands and other exposed areas thoroughly before eating, drinking, smoking or using toilet facilities.

9. PHYSICAL and CHEMICAL PROPERTIES

Boiling Point:	AP -54°F to 1100°F
Viscosity Units, Temp. (Method):	N/DA
Dry Point:	N/AP
Freezing Point:	N/DA
Vapor Pressure, Temp. (Method):	AP 1 to 2 at 100°F (REID-PSIA)
Volatile Characteristics:	Appreciable
Specific Gravity (H_2O = 1 @ 39.2°F):	AP 0.88
Vapor Sp. Gr. (Air = 1.0 @ 60°F - 90°F):	N/DA
Solubility in Water:	Negligible
PH:	N/AP
Appearance and Odor:	Thick light yellow to dark black colored liquid. Petroleum hydrocarbon odor.
Other Physical and Chemical Properties:	Total sulfur = approx. 1.1% - 2.8% Hydrogen sulfide content is less than 5 ppm dissolved in liquid Vanadium = approx. 210 ppm

10. STABILITY and REACTIVITY

Stability	Stable
Hazardous Polymerization	Not expected to occur.
Other Chemical Reactivity	N/AP

Conditions to Avoid	Heat, sparks, and open flame.
Materials to Avoid	Strong acids, alkalis, and oxidizers such as liquid chlorine and oxygen.
Hazardous or Decomposition Products	Burning or excessive heating may produce carbon monoxide and other harmful gases or vapors including oxides of sulfur and nitrogen.

11. TOXICOLOGICAL INFORMATION

Toxicological Information	The information found in this section is written for medical, toxicology, occupational health and safety professionals. This section provides technical information on the toxicity testing of this or similar materials or its components. If clarification of the technical content is needed, consult a professional in the areas of expertise listed above.
Prolonged/ Repeated Exposures	IARC has determined there is "limited evidence for the carcinogenicity in experimental animals of crude oil" and "inadequate evidence for the carcinogenicity in humans of crude oil." IARC concludes that "crude oil is not classifiable as to its carcinogenicity to humans (Group 3)." Crude oil administered orally to pregnant rats during gestation produced increased number of resorptions and decrease in fetal weight and length.

Exposure to N-hexane at concentrations considerably higher than the current permissible exposure limit has reportedly been associated with peripheral neuropathy.

12. ECOLOGICAL INFORMATION

Not Available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Maximize recovery for reuse or recycling. Consult environmental professional to determine if state or federal regulations would classify spilled or contaminated materials as a hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

14. TRANSPORT INFORMATION

UN Proper Shipping Name	Petroleum crude oil
UN Hazard Class	3
UN Number	UN1267
UN Packing Group	PGI

15. REGULATORY INFORMATION

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III

Section 311/312 Hazard Categories:
Immediate (acute) health hazard
Delayed (chronic) health hazard
Fire hazard

No chemicals in this product exceed the threshold reporting level established by SARA Title III, Section 313 and 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA)
All components of this product are listed on the TSCA Inventory.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)
This material is covered by CERCLA's PETROLEUM EXEMPTION.

(Refer to 40 CFR 307.14)
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65

PROP 65 WARNING LABEL:
Chemicals known to the State to cause cancer, birth defects, or other reproductive harm are found in gasoline, crude oil, and many other petroleum products and their vapors, or result from their use. Read and follow label directions and use care when handling or using all petroleum products.

WARNING:
This product contains the following chemical(s) listed by the state of California as known to cause cancer or birth defects or other reproductive harm.

MINERAL OILS, UNTREATED [C]

Other Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including carbon monoxide, a Prop 65 reproductive toxin.

[C] = Carcinogen

16. OTHER INFORMATION

General Comments The information and conclusions herein reflect normal operating conditions and may be from sources other than direct test data on the mixture itself.

Abbreviations:			
	EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
	LT = Less Than	UK = Unknown	N/AP = Not Applicable
	GT = Greater Than	TR = Trace	N/DA = No Data Available

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

MATERIAL SAFETY DATA SHEET ADDENDUM
Material Identity
Mississippi Canyon 252 Weathered Crude Oil (Light Sweet Crude)
Components
• Low molecular weight, highly volatile components are not present
• Lowest molecular weight hydrocarbon detected in the whole oil analysis was the alkane n-C_{14}
• Naphthalene, a semi-volatile PAH compound, was not detected
• More volatile compounds, including benzene, toluene, ethylbenzene, and xylenes were also undetected
• Hydrogen sulfide or sulfur dioxide was not detected in air above weathered oil
Hazards
• Potential for toxic vapor exposures is very low: with the loss of the highly volatile components, weathered oil does not present a flammability or inhalation hazard
• Skin and eye irritant
• Avoid activities that may aerosolize or create a mist of crude oil during cleanup
Exposure control
• Nitrile or polyethylene gloves
• Tyvek suit
• Safety glasses or goggles
• Rubber boots
• Wash hands and skin with soap and water if contact with crude oil
• Nitrile or polyethylene gloves

APPENDIX C: Site Specific Decontamination Plans

Site specific decontamination plans are available for the following sites upon request.

ONSHORE:

Venice, LA

Hopedale, LA

Fourchon, LA

Slidell, LA

Grand Isle, LA

OFFSHORE:

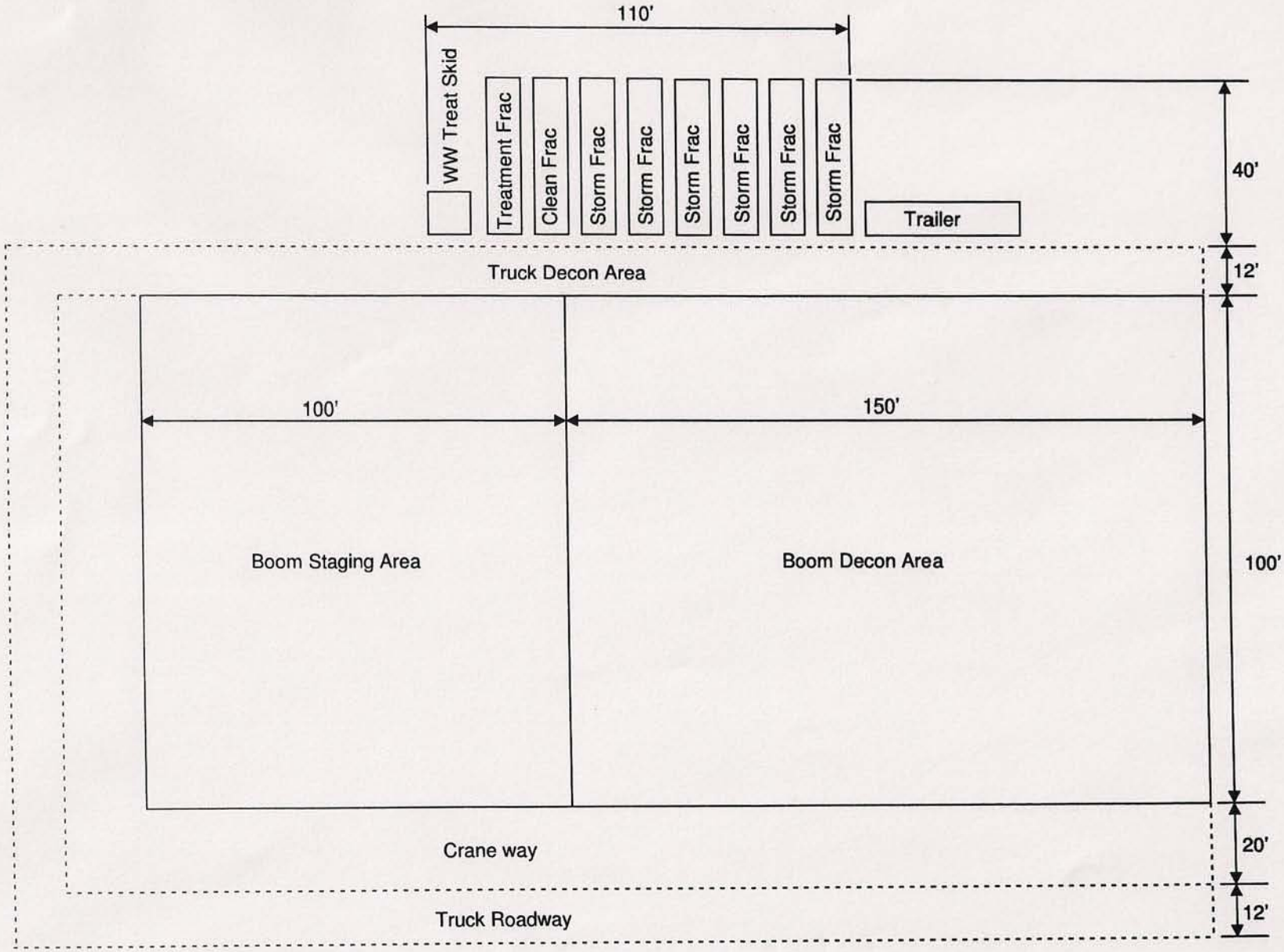
Offshore

Pilottown, LA

Rabbit Island, LA

The sites listed above have been identified as suitable locations for vessel decontamination. Should safety, environmental conditions or logistical concerns arise that would preclude operations at these sites, additional sites shall be identified and approved by the Unified Command, in order to avoid interruption to the decontamination process. If the need for alternate locations is necessary, the methodology for decontamination must remain in accordance with the procedures identified in this plan.

APPENDIX D: Example Site Layout



Example Decontamination Area Layout