



PICEANCE OPERATIONS EMERGENCY RESPONSE PLAN

Piceance Basin, CO

**743 HORIZON COURT - SUITE 220
GRAND JUNCTION, CO 81506**




**970-245-5233 Main Number
866-MOC-CERT (866-662-2378)**



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DISTRIBUTION LIST

PLAN NUMBER	ASSIGNED TO	NUMBER OF COPIES
1 	Bryan Beautz	1 hard copy
2 	Grand Junction Office	1 hard copy
3 	Parachute Office	1 hard copy

RECORD OF REVISIONS

REVISION DATE	PAGE(S)		REASON FOR REVISION
	REMOVED	INSERTED	
July 2009	Entire Plan	Entire Plan	New plan implemented
January 2010	Entire Plan	Entire Plan	Removed all references to Drunkards Wash and Wamsutter operations and issued entire new plan covering Piceance operations only.
March 2010	Entire Plan	Entire Plan	Changed title of document; updates to phone numbers in Section 2
January 2011	Entire Plan	Entire Plan	Updated title of document.
July 2011	Entire Plan	Entire Plan	Logo update, revision to Section 2 and Appendix A.
March 2013	Entire Plan	Entire Plan	Logo update, updates to Section 2, Appendix A; add Well Control Management Plan, Inland Spill Response Tactics Guide; updated response equipment listing.

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1.1 Purpose and Scope

This response plan contains information applicable to the Marathon operations and locations in the Piceance Operations Area, hereafter referred to as "Company".

The Marathon Piceance Operations Emergency Response Plan (ERP) is designed to provide Marathon company employees, and/or contractors, with information regarding specific systems, procedures, and operations, which will aid in the response to incidents. The plan covers emergencies that are global in nature and extend beyond a simple operational upset handled by operations personnel. While not designed as a "how to" manual, this document will serve as a resource tool for response to a variety of incidents.

It is the responsibility of each employee to be familiar with and to be able to initiate this plan. Also, these individuals are responsible for assisting visitors, contractors, and other persons to assure their welfare.

Printed copies may not reflect the most recent updates to this plan. Please refer to electronic versions on MOC CERT webpage located under Piceance Operations Emergency Response Plan section.

Specific objectives of this plan are to:	
✓	Define procedures and systems to help prevent emergencies.
✓	Define alert, notification, and accountability (both internal and external) procedures to be followed when an emergency incident occurs.
✓	Define the organizational structure within Marathon for responding to incidents occurring at the sites covered in this plan.
✓	Identify and list all available equipment and personnel resources for response to all facility incidents (both internal and external).
✓	Diagram response systems for use in emergencies.
✓	Outline general precautions to be taken in preparation for inclement weather.
✓	Describe the training requirements for Marathon response personnel.
✓	Identify sensitivities and protection strategies for response to spills within the geographic location boundaries of the plan.
✓	Satisfy requirements of regulatory agencies mandating written procedures to address response to emergencies occurring at Marathon sites in Colorado.

1.1 Purpose and Scope (Cont'd)

This plan, with the resources and equipment listed herein, is a planning document to demonstrate the potential response capability available to respond to a condensate or produced water spill, or other defined emergency from each site within Colorado. It is not a guarantee of what will occur or the equipment/deployment sequencing that will be used in an actual event. Nothing in this plan is intended to limit the discretion of Marathon company employees, and/or contractors, to select any sequence of actions or to take whatever time they deem necessary to maximize the effectiveness of the response, consistent with safety considerations.

This plan represents a planning standard, but is not and should not be regarded as a performance guarantee. Response operations in any event will be tailored to meet the actual circumstances.

1.2 Regulatory Compliance

The ERP is based on the National Incident Management System (NIMS) Incident Command System and applicable state regulations.

The **Operations Superintendent** is responsible for the implementation of this plan in coordination with the Incident Command System (ICS).

1.3 Plan Review

The Emergency Response Coordinator is responsible for enforcing the schedule of implementation of the requirements of the completed plan. The plan must also be revised prior to implementing a change to the practices identified, and updated with revisions and history after an incident occurs. In the event that the Company experiences a discharge or release, the effectiveness of the plan will be evaluated and updated as necessary.

If new information or different operating conditions would substantially effect implementation of the Plan, the Company will modify the Plan to address such a change.

Changes are defined as those that result in a change in:

✓	Company policy as it relates to crisis management operations.
✓	Structure of response organizations.
✓	Incident Management System.
✓	Training and exercise programs or requirements.

Documentation and Distribution

All revisions will be recorded on the Record of Revisions table in the Foreword. The Distribution List is also located in this section.

1.4 Operations Information / Description

Owner	Marathon Oil Company	Owner Address	5555 San Felipe Road Houston, TX 77263
Phone (24 HR):	866-MOC-CERT (866-662-2378)		
Location	Address: 743 Horizon Court – Suite 220 Grand Junction, CO 81506		
	County (ies)	Garfield and Mesa	
	State(s):	Colorado	

1.5 Diagrams

See Appendix D of this plan for Maps and Diagrams.

1.6 Person-in-Charge Responsibilities

The duties of the designated Person-In-Charge are specified below:

The minimum duties required of the Person-In-Charge include:	
✓	Activate internal alarms and hazard communications systems to notify all facility personnel
✓	Notify all response personnel, as needed
✓	Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification
✓	Notify and provide necessary information to appropriate Federal, State, and local authorities with the designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Commission
✓	Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene with results
✓	Assess the possible hazards to human health and the environment due as a result of the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any hazardous surface waters, runoffs from water or chemical agents used to control fire and heat-induced explosion)
✓	Assess and implement prompt removal actions to contain and then remove the substance released
✓	Coordinate rescue and response action as previously arranged with all response personnel
✓	Use authority to immediately access company funding to initiate clean up activities
✓	Direct clean up activities until properly relieved of this responsibility

Additional duties or responsibilities assigned to the Person-in-Charge as defined by Marathon Corporation may be added to reflect the full scope of activity required.

1.7 Person-in-Charge Contact Information

The Tier 1 Team Structure contact information is to be inserted into hard copies by local operations.

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The information provided throughout this section shall describe what will be needed in an actual emergency involving the discharge of condensate, produced water, or a combination of hazardous substances and condensate/produced water discharge. This same information will also aid in the assessment of the company's ability to respond to a worst case discharge while identifying additional assistance opportunities.

2.1 Initial Discovery / Response Actions

2.1.1 Spill Response Notification

The information provided in the Spill Response Notification Form creates a checklist of information that shall be provided to the National Response Center (NRC) and other response personnel. All information on this checklist must be known at the time of notification, or be in the process of being collected. The information contained in this form is similar to the form used by NRC.

Note: Do not delay spill notification to collect the information on the list.

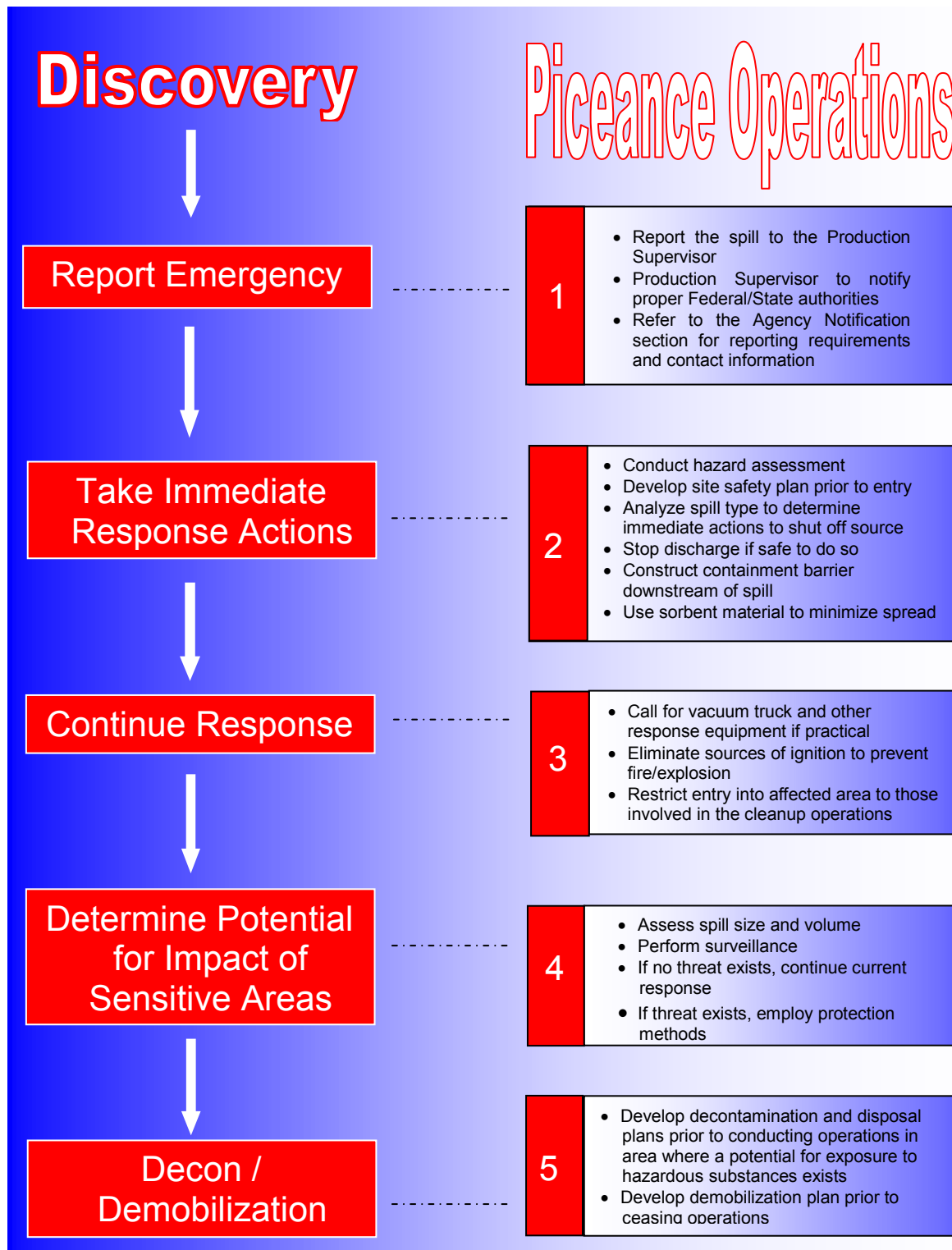
Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

Initial Discovery / Response Actions Checklist			
DISCOVERER		Initiate Initial Response Procedures and Notifications	
PERSON-IN-CHARGE RESPONSE GUIDELINES			
The appropriate response to a particular incident may vary depending on the nature and severity of the incident.			
✓		Action	Definition
1	<input type="checkbox"/>	Consider safety of personnel / call for medical assistance if needed.	Pull an alarm, push an evacuation button, use radio or call 911. EVACUATE IF NECESSARY.
2	<input type="checkbox"/>	Shut off ignition sources.	Motors, open flames, electrical circuits.
3	<input type="checkbox"/>	Secure the source.	Act quickly to shut-in source, close valves, etc. (IF SAFE TO DO SO, PROPERLY TRAINED & HAVE PROPER PPE).
4	<input type="checkbox"/>	Coordinate rescue and medical response actions.	Perform this task only if trained to do so (i.e., member of medical & rescue teams) Refer to hospital listings in local notifications section of Section 2.
5	<input type="checkbox"/>	Identify pollutant and assess possible hazards to human health and the environment.	Identify source and volume; characterize oxygen levels, explosive character, toxicity of air on scene, splash and ingestive hazards.
6	<input type="checkbox"/>	Initiate containment if necessary and safe to do so.	Contact OSROs as necessary.
7	<input type="checkbox"/>	Report all incidents.	Follow Notification Procedures, Section 2.

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.1 – Piceance Operations Spill Response Flowchart



2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.2 – NAPO Environmental Incident Report

2009 NAPO INITIAL ENVIRONMENTAL INCIDENT REPORT



☐ Uncontained Event
☐ Contained Event

☐ Onsite
☐ Offsite

The top section of this page must be completed for any incident and the bottom must be completed for any agency reportable incident. The boxes highlighted in green are linked to other spreadsheets and will be completed automatically, unless overwritten.

Ver 2.0/01-2009

INCIDENT INFORMATION						
Incident Date (mm/dd/yyyy)	Incident Time (hh:mm AM/PM)	Discovery Date (mm/dd/yyyy)	Discovery Time (hh:mm AM/PM)	Environmental Incident Category	Incident No.	
ASSET TEAM		FIELD OFFICE	Activity	Incident Investigation Category	Applicable Permit	
MATERIAL INFORMATION						
Fluid Type	Amount Released	Volume Recovered	Volume Contained	Volume Released to Water	Comments	
Oil	0.0000 bbl	0.0000 bbl	0.0000 bbl	0.0000 bbl		
Water	0.0000 bbl	0.0000 bbl	0.0000 bbl	0.0000 bbl		
	0.0000 bbl	0.0000 bbl	0.0000 bbl	0.0000 bbl		
Total Fluids	0.0000 bbl	0.0000 bbl	0.0000 bbl	0.0000 bbl		
Gas	0.0 mscf				Cleaned Up? <input type="radio"/> Yes <input checked="" type="radio"/> No	
Emissions if Flared						
Parameter	VOC	H ₂ S	NOx	CO	SO ₂	Emissions if Ventd
Emissions (lbs)	0	0	0	0	0	VOC H ₂ S
LOCATION INFORMATION						
Section	Township	Range	1/4	Nearest City	State	
Field		Facility or Well		Facility Type		
APPARENT CAUSE INFORMATION						
Equipment Which Leaked		Type of Failure	Location of the Leak on the Equipment		Cause of Failure/Leak	Probable Method of Repair
<input type="radio"/> Pipe <input type="radio"/> Pipeline <input type="radio"/> Gathering Line <input type="radio"/> Injection Line <input type="radio"/> Discharge Line <input type="radio"/> Rowline <input type="radio"/> Facility Piping <input type="radio"/> Vessels <input type="radio"/> Tank <input type="radio"/> Heater Treater <input type="radio"/> Separator PWKO <input type="radio"/> Heat Exchanger <input type="radio"/> Other Vessel Type <input type="radio"/> Heater	<input type="radio"/> Equipment <input type="radio"/> Flare Stack <input type="radio"/> Engine <input type="radio"/> Compressor <input type="radio"/> Pump <input type="radio"/> Valve <input type="radio"/> Well Head <input type="radio"/> Vent Stack <input type="radio"/> Pressure Relief Valve <input type="radio"/> Misc. <input type="radio"/> Transfer Hose <input type="radio"/> Tanker Truck <input type="radio"/> Vacuum Truck <input type="radio"/> Transfer Hose <input type="radio"/> Vehicle <input type="radio"/> Other	<input type="radio"/> Break <input type="radio"/> Cracked <input type="radio"/> Hole <input type="radio"/> Overfill <input type="radio"/> Split/Rupture <input type="radio"/> Other	<input type="radio"/> Associated Piping/Tubing <input type="radio"/> Bottom <input type="radio"/> Connection <input type="radio"/> Fire tube <input type="radio"/> Seal <input type="radio"/> Body (Pipe, Pump, etc) <input type="radio"/> Manway <input type="radio"/> Nozzle <input type="radio"/> Weld Girth <input type="radio"/> Weld Seam <input type="radio"/> Shell <input type="radio"/> Vent <input type="radio"/> Other		<input type="radio"/> Natural Forces/Weather <input type="radio"/> Internal Corrosion <input type="radio"/> External Corrosion <input type="radio"/> Equipment Malfunction <input type="radio"/> Vandalism <input type="radio"/> Material/Weld Failure <input type="radio"/> Excavation Damage <input type="radio"/> Over-Pressure <input type="radio"/> No PSP <input type="radio"/> PSP Not Understood <input type="radio"/> PSP Not Followed <input type="radio"/> Unknown	<input type="radio"/> Clamped <input type="radio"/> Coated <input type="radio"/> Replaced In Kind <input type="radio"/> Replaced New Design <input type="radio"/> Weld/Fuse Repair <input type="radio"/> Implement PSP <input type="radio"/> Re-train <input type="radio"/> Unknown
PSP = Policy, Standards, and Procedures						
Description of Incident and Containment/Prevention Actions:						
(Include information regarding property ownership, notifications, exposure precautions, impacted area, cleanup, disposal, etc., or where "Other" is selected above.)						
Note: Environmental Spills and Releases are subject to the Incident Investigation Standard, SAF-011-C. The corrective actions identified during the investigation of environmental incidents will be documented on the Incident Investigation Report Form.						
NOTIFICATION OF REGULATORY AGENCIES						
Complete the State and Federal Reporting Tables if required.						
Agency	Contact Name	Date and Time Contacted	Comments, Report No., and Written Follow-up			
Person Initiating Report / Date		Supervisor Review / Date		Supervisor Review / Date		
Distribution - Original :		Environmental Department - Houston (E-Mail to NAPO Houston within 48 hours of discovery)				
Copy:		Production Superintendent				
		Field Office Spill Report File				
		Area Environmental Professional				

Upon completion of this form, return to the Instructions Workbook

[Instructions](#)

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.3 – Oil Spill and Hazardous Substance Release Report Form

OIL SPILL AND HAZARDOUS SUBSTANCE RELEASE REPORT FORM

☒ Marathon Oil Company Region/Division/District _____

☐ Marathon Petroleum Company Division/District _____

☐ Marathon Pipe Line Company Division/District _____

☐ Other: _____

SPILL DATE MO DA YR	EST. SPILL TIME	AM PM	ESTIMATED SPILL VOLUME	TYPE OF MATERIAL SPILLED	SIGHTED BY	VOLUME RECOVERED
1/0/1900	12:00 AM		0			0

LOCATION OF SPILL: (Include State, County, Lease, Field, Rig/Platform)

Onshore Section _____ Township _____ Range _____
Offshore OCS-G-No. _____ Latitude _____ Longitude _____

DESCRIPTION OF SPILL AREA, LOCATION & DIRECTION OF MOVEMENT:

WATER/GROUNDWATER AFFECTED ☐ Yes ☐ No If Yes, Name of water body affected: _____
Sheen/Slick Appearance (Color: silvery, barely visible, rainbow, dark black, etc.)

Weather: ☐ Clear ☐ Cloudy ☐ Fog ☐ Rain ☐ Snow ☐ Ice Temperature _____
Wind: Velocity _____ mph Direction _____ (N, SE, etc., From)
Wave: Height _____ ft. Direction _____ (N, SE, etc., To)
Current: Velocity _____ mph Direction _____ (N, SE, etc., To)
Tides: _____ (ebb, flood, high, low, direction, velocity, etc.)

CAUSE OF SPILL: (Facts only, No Opinion or Speculation) _____

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.3 – Oil Spill and Hazardous Substance Release Report Form (Cont'd)

RESPONSE PROCEDURES: (Containment, recovery & cleanup procedures): _____

STEPS TAKEN TO PREVENT RECURRENCE: _____

APPARENT HAZARDS TO LIFE AND PROPERTY: _____

FACILITY DAMAGE OR INJURIES: _____

EMPLOYEE RESPONSIBLE FOR CLEANUP: _____

NOTIFICATION OF REGULATORY AGENCIES:

A. Agency _____ Telephone No. _____ Time _____
 Date _____ Person Contacted _____
 Comments _____

B. Agency _____ Telephone No. _____ Time _____
 Date _____ Person Contacted _____
 Comments _____

C. Agency _____ Telephone No. _____ Time _____
 Date _____ Person Contacted _____
 Comments _____

D. Agency _____ Telephone No. _____ Time _____
 Date _____ Person Contacted _____
 Comments _____

PERSON MAKING CONTACT WITH AGENCIES: _____

IF CORPORATE OFFICE NOTIFIED:

Person Contacted: _____ Time _____ Date _____

Person Filing
Report: _____
 Print Name Signature Date

Form 1487 Rev 9-88 (BACK)

Upon completion of this form, return to the Instructions

[Instructions](#)

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.3 – Oil Spill and Hazardous Substance Release Report Form (Cont'd)

OIL SPILL AND HAZARDOUS SUBSTANCE RELEASE REPORT FORM

☒ Marathon Oil Company Region/Division/District _____

☐ Marathon Petroleum Company Division/District _____

☐ Marathon Pipe Line Company Division/District _____

☐ Other: _____

SPILL DATE MO DA YR	EST. SPILL TIME	AM PM	ESTIMATED SPILL VOLUME	TYPE OF MATERIAL SPILLED	SIGHTED BY	VOLUME RECOVERED
1/0/1900	12:00 AM		0			0

LOCATION OF SPILL: (Include State, County, Lease, Field, Rig/Platform)

Onshore Section _____ Township _____ Range _____

Offshore OCS-G-No. _____ Latitude _____ Longitude _____

DESCRIPTION OF SPILL AREA, LOCATION & DIRECTION OF MOVEMENT:

WATER/GROUNDWATER AFFECTED ☐ Yes ☐ No If Yes, Name of water body affected: _____

Sheen/Slick Appearance (Color: Silvery, barely visible, rainbow, dark black, etc.)

Weather: ☐ Clear ☐ Cloudy ☐ Fog ☐ Rain ☐ Snow ☐ Ice Temperature _____

Wind: Velocity _____ mph Direction _____ (N, SE, etc., From)

Wave: Height _____ ft. Direction _____ (N, SE, etc., To)

Current: Velocity _____ mph Direction _____ (N, SE, etc., To)

Tides: _____ (ebb, flood, high, low, direction, velocity, etc.)

CAUSE OF SPILL: (Facts only, No Opinion or Speculation) _____

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.3 – Oil Spill and Hazardous Substance Release Report Form (Cont'd)

CAUSE OF SPILL: (Facts only, No Opinion or Speculation)

RESPONSE PROCEDURES: (Containment, recovery & cleanup procedures):

STEPS TAKEN TO PREVENT RECURRENCE:

APPARENT HAZARDS TO LIFE AND PROPERTY:

FACILITY DAMAGE OR INJURIES:

EMPLOYEE RESPONSIBLE FOR CLEANUP:

NOTIFICATION OF REGULATORY AGENCIES:

Agency _____	Telephone No. _____	Time _____
Date _____	Person Contacted _____	
Comments _____		

Agency _____	Telephone No. _____	Time _____
Date _____	Person Contacted _____	
Comments _____		

Agency _____	Telephone No. _____	Time _____
Date _____	Person Contacted _____	
Comments _____		

Agency _____	Telephone No. _____	Time _____
Date _____	Person Contacted _____	
Comments _____		

PERSON MAKING CONTACT WITH AGENCIES: _____

IF CORPORATE OFFICE NOTIFIED:

Person Contacted: _____ Time _____

Person Filing Report: _____	_____	Date _____
Print Name	Signature	

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.4 – CDPHE 5 Day Spill Reporting Form

Colorado Department of Public Health and Environment Water Quality Control Division		Incident / Spill / SSO Release Reporting Five (5) Day Reporting Form	
<input type="checkbox"/> Denver Field Engineering Unit 4300 Cherry Creek Dr. South, B2 Denver, Colorado 80246-1530 Phone: 303-692-3650 Fax: 303-782-0390 Contact email: annemarie.goolsby@state.co.us	<input type="checkbox"/> Southern Field Engineering Unit 4718 North Elizabeth St., Suite B Pueblo, CO 81008 Telephone: 719-545-4650 Fax: 719-543-8441 Contact email: carol.keever@state.co.us	<input type="checkbox"/> Western Field Engineering Unit 222 South 6th Street, Room 232 Grand Junction, CO 81501 Telephone: 970-248-7150 Fax: 970-248-7198 Contact email: michelle.thiebaud@state.co.us	
Reporting Form: Incident / Spill / Sanitary Sewer Overflow (SSO)			
<p>The Division distinguishes between reporting requirements for spills that occur with respect to activities that result in a discharge that is authorized under a CDPS permit and those that are not. Reporting and management of spills that occur with respect to activities resulting in a discharge authorized under a permit should be performed in accordance with the specific requirements of that permit. If the permit does not require a 5-day report, please provide the information below in writing. For non-permitted activities, or in the case of an activity where a permit does not address reporting of or response to a given spill, please submit a written response to the Water Quality Control Division within five (5) working days of the date of the event. If sufficient space is not provided then please attach other sheets. Please send the completed form including signature via fax or email to the Division's Field Engineering Unit office for the County that the incident / spill / SSO took place (see above). If you have any questions please contact the Division's Field Engineer at your earliest convenience. The Field Engineer County list is available at: http://www.cdphe.state.co.us/wq/engineering/techhom.html</p> <p>Prior to the five (5) working day deadline, you may request an extension to submit the report if sample analyses justifiably are going to require more time to analyze than the reporting time allows. To request an extension please send an email to the Division's Field Engineer for the County that the incident / spill / SSO took place or to the email listed above.</p>			
Incident Background Information			
County			
Incident / Spill Number (Division provided)			
Type of Incident / Spill / SSO (check one)	<input type="checkbox"/> Sanitary Sewer Overflow/Reuse	<input type="checkbox"/> Petroleum Product	<input type="checkbox"/> Chemical
	<input type="checkbox"/> WW Treatment Plant Bypass or Upset (through an authorized outfall point)	<input type="checkbox"/> Combined Sewer Overflow	<input type="checkbox"/> Biosolids
	<input type="checkbox"/> Unplanned potable water release (e.g., water line break)		<input type="checkbox"/> Other
Contact Information			
Potentially Responsible Party (PRP): Contact Name		Potentially Responsible Party (PRP): Company / Agency	
PRP Phone / Fax	Phone: Fax:	PRP email address	
CDPS Permit Number:		CDPS Permittee Name:	
Reported by (if not PRP): Contact Name		Reported by (if not PRP): Company / Agency	
Reported by (if not PRP): Phone / Fax	Phone: Fax:	Reported by (if not PRP): email address	
Incident Information: Please provide the following information.			
A	Incident / spill / SSO source, cause, and event description. Response:		
B	Material released (e.g., untreated wastewater, biosolids, specific chemicals or products) and estimated total quantity (e.g., gallons). Please attach MSDS for any and all chemicals or products involved in spill or release. Response:		
C	Actual or estimated dates and times of the event, including duration and actual date and time spill was fully controlled/stopped. If release is still occurring, the date and time the release is expected to be stopped. Response:		
<div style="display: flex; justify-content: space-between;"> Revised November 2011 Incident Reporting Hotline 1-877-518-5608 Page 1 of 2 </div>			

2.1 Initial Discovery / Response Actions (Cont'd)

2.1.1 Spill Response Notification (Cont'd)

Figure 2.4 – CDPHE 5 Day Spill Reporting Form (Cont'd)

Colorado Department of Public Health and Environment Water Quality Control Division		Incident / Spill / SSO Release Reporting Five (5) Day Reporting Form	
D	Location of release (e.g., address, lat/long, road name and mile marker). Response:		
E	Describe measures taken or planned to contain, reduce, and clean up spill or release. Response:		
F	Steps taken or planned to prevent reoccurrence of the event. Response:		
Incident Impact to State Waters (As defined in § 25-8-103(19), C.R.S.). <i>Examples of State waters include: perennial streams, intermittent or ephemeral gulches, ditches, ponds, lakes, reservoirs, irrigation canals, wetlands, stormwater conveyances (when they discharge to surface water), and groundwater.</i>			
G	Did flow or materials reach surface waters of the State? If so, please describe the path of flow to State waters and which State water body was impacted (e.g., spill impacted a storm drain which was directly connected to Cherry Creek, Colorado River, etc.). If yes, what quantity of material (e.g., gallons) reached the surface water and what was the resulting impact? Response:		
H	Were any water quality samples or other samples taken? If so, please describe sampling process and attached results. Response:		
I	Did flow or materials reach groundwater of the State? If so, please describe the path of flow to State waters and which State water body impacted (e.g., spill soaked into ground and wet soil was not excavated). If yes, what quantity of material (e.g., gallons) reached the ground or groundwater and what was the resulting impact? Response:		
J	Did the incident include any of the following (check if yes)? If so, please include additional details below. <input type="checkbox"/> Toxic Chemical Release <input type="checkbox"/> Fish Kill Response:		
Incident Impact to Areas or Water Users			
K	Did the incident / spill / SSO impact any areas (e.g., public use areas including parks or swim beaches) or downstream water users (e.g., public water suppliers, irrigation diversions)? Please list impacted areas and/or users, their location, and potential impacts. Response:		
L	How were the impacted area users (e.g., park patrons) and downstream water users notified (e.g., signs posted, list downstream users contact via phone). Response:		
I hereby certify that the information presented above is accurate and complete.			
Date	Company	Typed Name and Title	Signature

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2.2 Response Actions

2.2.1 Corporate Emergency Response Team (CERT)

Marathon Oil Company's Emergency Preparedness Policy and Plan outlines the Marathon company-wide policy on:

✓	Emergency preparedness
✓	The responsibilities of senior management, of the Emergency Preparedness Group, and of operating organizations; and
✓	The preparedness and response programs comprising Marathon's approach to crisis management.

To assure that total corporate manpower, resources, support, and response management are available to communicate, respond to, and manage an emergency, Marathon Oil Company maintains a Corporate Emergency Response Team (CERT).

CERT has three (3) responsibilities:

✓	To provide SUPPORT to Asset Team Management in an emergency
✓	To NOTIFY and ADVISE Executive Management concerning an emergency
✓	To provide response management team assistance, including the capability of a STRIKE TEAM taking command of the response operations.

One of the general provisions of Marathon's Emergency Preparedness Policy and Plan is local management's responsibility to notify CERT whenever an emergency is or may become a major emergency.

The CERT team leader is the person Asset Team Management must notify. In consultation with Asset Team Management, the CERT team leader will decide what level of CERT support is needed.

Support can take several forms including:

✓	Executive management notification;
✓	Providing support through any or all of the emergency support groups ;
✓	Activation of the Houston CERT situation rooms to coordinate response activities;
✓	Providing on-site response management assistance with the emergency strike team (EST).

The EST is a fully trained and prepared stand-alone response management team, capable of supplementing, relieving or taking command of an emergency. The EST has full access to and incorporates the support and resources available from the ESG. The EST is trained in the Incident Command System (ICS), which is used during drills, training, and emergency responses.

2.2 Response Actions (Cont'd)

2.2.2 CERT Notifications/Activations

To assure that total corporate manpower, resources, support, and response management are available to communicate, respond to, and manage an emergency, Marathon Oil Company maintains a Corporate *Emergency Response Team* (CERT).

As identified in the Emergency Policy and Plan document local management has a responsibility to notify CERT whenever an emergency is or may become a Major Emergency. Local Management must utilize their best judgment to notify CERT for potential involvement. One should err on the conservative side rather than not notifying CERT.

The following are examples of Major Emergency's:	
An event resulting in a fatality	An evacuation of five (5) or more residential homes or all or part of one or more public buildings.
An event resulting in the hospitalization of three (3) or more people	An event which receives more than passing local media coverage or any regional/national media attention.
An explosion /fire not immediately handled by local resources.	Whenever loss of well control occurs.
An explosion/fire which could result in substantial loss.	Any terrorist activities.
Any hydrocarbon spill in excess of 500 barrels or any spill in excess of 50 barrels that reaches fresh water	A natural disaster which may develop into a Major Emergency.
A hazardous substance spill/release in excess of three (3) times the U.S. Federally reportable quantity.	A situation-involving product recalls or tainted or contaminated merchandise.
A smaller spill or release of hazardous substance in environmentally or socially sensitive areas.	Any other event in which third-party damage could exceed \$100,000 or Company property damages or losses could exceed \$250,000.
NOTE: THIS LIST IS NOT TO BE CONSTRUED AS ALL-INCLUSIVE. LOCAL MANAGEMENT SHOULD UTILIZE THEIR BEST JUDGEMENT IN INFORMING CERT OF MAJOR EMERGENCIES.	

LOCAL MANAGEMENT is responsible for responding to emergencies that impact their facilities and operations. If the emergency is a **MAJOR EMERGENCY**, or if the emergency has the potential of developing into a **MAJOR EMERGENCY**, LOCAL MANAGEMENT MUST NOTIFY THE **CERT TEAM LEADER** IMMEDIATELY AFTER ACTIVATING THE LOCAL RESPONSE PLAN.

ACCESS TO, AND ACTIVATION OF THE EMERGENCY STRIKE TEAM (EST), INTERNATIONAL EMERGENCY STRIKE TEAM (IEST), OR EMERGENCY SUPPORT GROUP (ESG) IS ACCOMPLISHED THROUGH CONTACTING THE APPROPRIATE **CERT TEAM LEADER**.

2.2 Response Actions (Cont'd)

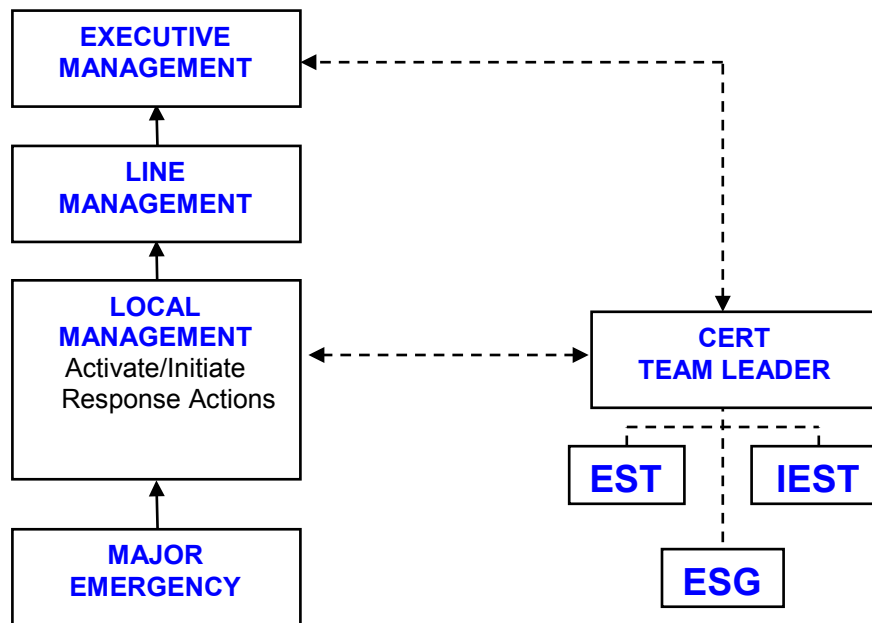
2.2.3 CERT Team Leader Notifications

A **CERT TEAM LEADER** (MOC) is available 24 hours a day and can be contacted as detailed below. The caller shall indicate that this is a corporate emergency and request to be connected with a **CERT TEAM LEADER**. (Use the CERT Notification/Activation Information sheet to record incident information)

MARATHON OIL
CERT TEAM LEADER -
1-866-MOC CERT (662-2378) OR 1-606-329-5701

Marathon Central Notification System will connect Local Management with a **CERT TEAM LEADER**.

Figure 2.5 Major Emergency Reporting Flowchart



The **CERT TEAM LEADER** in consultation with **Local Management**, will decide what level of CERT support is needed.

Activation can take several forms including:

- | | |
|---|--|
| ✓ | Executive Management Notification |
| ✓ | Support from the EST, IEST or ESG |
| ✓ | Activation of the Houston CERT Situation Rooms |

2.2 Response Actions (Cont'd)

2.2.4 Response Considerations

General Safety	
✓	Give careful consideration for containment actions conducted during inclement weather or adverse conditions, such as high winds or rapid currents.
✓	Eliminate all ignition sources and keep boats as far as possible from the spill area.
✓	Be aware of hazards such as fires, explosions and exposure to toxic chemicals at lethal or sublethal levels.
✓	Avoid contact with the spilled product and ensure that the area remains secure to boat and air traffic.
✓	Be aware of potential changes to position and movement of slick due to tidal action.
✓	The Safety Officer will be initially responsible to assure the safety of all people who may be impacted by the spill.
✓	The Safety Officer will be responsible for the preparation of the Health and Safety Plan and will establish safety zones, as appropriate.
✓	All response contractor Safety Officers will be advisors to the Company Safety Officer on health and safety issues.
✓	Consider using trained personnel equipped with supplied air respirators and air monitoring instruments (O ₂ , H ₂ S and combustible gas meters) to identify and mark/map unsafe areas.

Combustible Products	
✓	Identify source and stop discharge, if possible.
✓	Deploy Facility containment boom and skimmers if available, to attempt to isolate the slick and reduce the spread and potential impact area. Monitor the boom for effectiveness.
✓	If shorelines may be impacted, consider deploying exclusion boom to reduce the impact to shoreline.
✓	If there is still boom remaining, attempt to isolate pockets of condensate/produced water where possible to facilitate more efficient recovery.
✓	If product escapes, deploy sorbents along the shoreline to capture product during tidal cycles. Monitor the sorbents periodically for effectiveness and replace as needed.
✓	If product is ignited, Site Safety Officer should consider the need for responders to use respiratory protection.
✓	Activate response contractors to assist in containment efforts and begin recovery operations.
✓	Advise neighboring operators of any threat to their property or personnel.
✓	Determine the direction and expected duration of spill movement.
✓	Review the location of environmentally and economically sensitive areas.
✓	Determine which of these areas may be threatened by the spill and direct contractors to proceed with boom and skimmers to these specified locations.

2.2 Response Actions (Cont'd)

2.2.4 Response Considerations (Cont'd)

Flammable Products (ex: condensate)	
✓	Identify source and stop discharge, if possible.
✓	If shorelines may be impacted, consider deploying exclusion boom to reduce the impact to shoreline.
✓	If product escapes, deploy sorbents along the shoreline to capture product during tidal cycles. Monitor the sorbents periodically for effectiveness and replace as needed.
✓	If product is ignited, Site Safety Officer should consider the need for responders to use respiratory protection.
✓	Activate response contractors to assist in containment efforts and begin recovery operations.
✓	Advise neighboring operators of any threat to their property or personnel.
✓	Determine the direction and expected duration of spill movement.
✓	Review the location of environmentally and economically sensitive areas.
✓	Determine which areas may be threatened by the spill and evaluate deploying diversion/exclusion boom to these specified areas.

2.2.5 Initial Containment Actions

Initial Containment Actions	
Initial containment actions will focus on utilizing on-site containment boom to:	
✓	Limit the spread of condensate/produced water, thereby reducing the surface area and shoreline to be cleaned,
✓	Concentrate the condensate/produced water, when safe to do so, making physical recovery more efficient, and
✓	Limit the environmental impact to the immediate spill area.
Selection of the appropriate location and method will depend upon:	
✓	Whether the product spilled is produced water or condensate,
✓	Whether the spill occurs during an ebb or flood tide,
✓	Length of time spill occurs before being noticed,
✓	Amount of spill,
✓	Area of coverage,
✓	Environmental factors such as wind speed and direction, and
✓	Safety considerations.

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill

On Land

All spills, regardless of the quantity, shall be reported to the respective area Production Supervisor. The **Production Supervisor and/or their designee shall** then use the flowcharts contained in the Reporting Section(s) of this manual to determine if the spill is reportable.

If the spill is determined to be reportable, the **Production Supervisor will be responsible** for notifying the proper federal/state and local authorities, the area's Asset Team leader and HES Department of the spill. If additional Marathon Oil Company (MOC) resources are needed to respond to the spill, the **Production Supervisor shall inform** the Asset Team leader of this need. The **Asset Team leader will be responsible** for obtaining the additional MOC resources that are needed to respond to the spill (i.e. activating the Incident Command System).

Gas leaks and gas line breaks shall be reported in the same manner as condensate/produced water spills. All gas leaks (whether it is natural gas or casinghead gas) need to be reported to the appropriate state oil and gas regulatory agency. Venting of gas from tanks, pressure relief valves, etc. is not reportable under this section. However, these types of releases may be reportable under Federal regulations ([CERCLA/SARA](#)) or under the State Air Control Agency regulations. If the escaping gas or oil contains H₂S, consult the applicable H₂S Contingency Plan for that facility for additional guidance.

In the case of a condensate/produced water spill/gas leak from a producing well, a testing vessel, a tank, flow line or any other related oil field equipment, action should be designed to protect human life and control the spill as rapidly as possible. All steps should be considered carefully; however, the timing of these steps should be altered to fit the individual circumstances.

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

On Land

Actions to Respond to a Condensate/Produced Water Spill / Gas Leak	
✓	An employee sighting a spill shall identify the safety concerns and analyze the type of spill to determine the immediate action to be taken to shut off the source of the spill, and to contain the condensate / produced water released.
✓	Obtain labor and equipment from the nearest source to construct a containment barrier as rapidly as possible.
✓	If Item above is only a temporary measure and earth moving equipment is required, call out the necessary equipment from the source from which it is most readily available.
✓	Employ the use of the most readily available absorbent material (straw, dirt, lost circulation material, etc.). When the location is a heavy clay soil, dirt will be ineffectual.
✓	If practical, call for vacuum truck to pick up hydrocarbons.
✓	Collect lighters and matches from personnel working in the area to assure an explosion or fire does not occur.
✓	Restrict entry into affected area to persons involved in containment and cleanup operations.
✓	Notify Asset Team leader of spill and action being taken. The Asset Team leader will notify the Business Unit's upper management of the spill.
✓	Keep livestock away from affected area and if practical, notify the farmer or rancher of the situation.
✓	The Production Supervisor will notify the required regulatory agencies of the spill. Refer to Contact Information in Section 2.2 of this plan.
✓	In the event the spill results in curtailing deliveries, the Production Superintendent will notify the purchaser.
✓	The Duty Officer at the National Response Center must be notified immediately when a spill reaches "waters of the U.S.", or it appears certain that the spill will reach "waters of the U.S."

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

On Inland Water

All action should be designed to protect human life and control the spill as rapidly as possible. All steps listed should be considered; however, timing of these steps should be altered to the individual circumstances to best accomplish these objectives.

Any employee sighting a spill shall identify the safety concerns and analyze the type of spill to determine the immediate action to be taken to shut off the source of the spill, and to contain the condensate/produced water released.

The employee is responsible for notifying his supervisor or the Production Supervisor who will then advise the Asset Team leader of the spill.

The Production Supervisor shall notify immediately the appropriate state and federal agencies.

The employee and/or Production Supervisor will furnish their best estimate of the following information concerning the spill:

✓	Location of the spill
✓	Source and type of product spilled
✓	Is the source of the spill controlled?
✓	Area covered and approximate volume
✓	Direction and speed of movement of spill
✓	Currents (if applicable)
✓	Estimate of the area likely to be affected
✓	Other actions taken
✓	The Incident Commander or his/her designated representative shall keep a daily log of response activities. The log book shall be bound, not loose leaf. Entries shall be dated, time and signed.

Minor Spills

✓	If the spill is minor (5 to 25 bbls) and a boom is not immediately available, sorbent material should be spread on the spill and collected afterwards.
✓	Attempts should be made to clean up the shoreline and recover as much product as possible.

NOTE: *In the event of a spill, the HES Professional will contact the appropriate state regulatory agency to receive permission to dispose of spilt fluids to an injection location. If permission is NOT granted, the fluids must be collected and trucked off-site to be disposed of properly in an approved location.*

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

On Inland Water (Cont'd)

Major Spills	
In all probability, a major spill (greater than 25 bbls) will initially require two <u>basic</u> efforts: 1) stop the leak, and 2) contain the spill. Stopping the leak may require other outside services such as well control specialists, a drilling or workover rig, pipeline repair crew, etc. Requirements should be determined and action initiated as soon as possible.	
✓	To contain the spill, if a containment boom is readily available, order it out immediately and commence skimming operations as soon as possible.
✓	If a contract or coop-containment service is to be employed, it should be mobilized without delay.
✓	If weather and water conditions are such that the time required to implement containment will permit the spill to spread beyond possible containment; sorbent material should be spread on the spill.
✓	Shoreline work sites for each facility shall be pre-selected, marked as such and made known to the employees who will be involved in spill control activities for the facility.
✓	In shallow water, containment should be attempted by boom and the material hand-harvested.
✓	If sorbent material has been employed, the local air control agency should be contacted for permission to burn the collected material.
✓	When applicable, aircraft should be employed to discourage waterfowl from staying in the spill area.
✓	A photographic record of the spill movement, containment and cleanup operations, damage to property, fish kills, efforts to disperse waterfowl, waterfowl kills, and other relevant actions should be kept.
NOTE: <i>In the event of a spill, the HES Professional will contact the appropriate state regulatory agency to receive permission to dispose of spilt fluids to an injection location. If permission is NOT granted, the fluids must be collected and trucked off-site to be disposed of properly in an approved location.</i>	

CERT Reporting Requirements

In certain cases a spill or release may trigger reporting requirements under Marathon's Corporate Emergency Response Plan. Refer to the [CERT](#) section to make this determination. **Note: CERT notification is to be made by the Business Unit Manager or his/her designee.**

Regulatory Agencies to Be Notified

The flowcharts contained in the State and Federal Reporting sections provide guidance for determining when a spill is reportable and which regulatory agencies need to be notified. Phone numbers for all of these agencies are listed in the section entitled, "Agency Information."

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

Definition of Watercourse or Waters of the U.S.

The term watercourse is defined as any spill which enters or threatens to enter the navigable waters of the United States and is reportable to the NRC. However, due to the complexity of the definition of navigable waters, in the event of a spill which threatens a waterway, the HES&S department should be consulted to make an initial determination as to whether or not navigable waters of the United States might be impacted.

CERCLA/SARA Reporting Requirements

In some cases a spill may trigger reporting requirements under EPA's CERCLA/SARA regulations. Reference the [CERCLA/SARA](#) document to determine when a spill is covered by these reporting requirements.

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

CERT Reporting Requirements

In certain cases a spill or release may trigger reporting requirements under Marathon's Corporate Emergency Response Plan. Refer to the [CERT](#) section of the Emergency Response Plan to make this determination.

Spill Volume Estimating

Early in a spill response, estimation of spill volume is required in order to:

✓	Report to agencies
✓	Determine liquid recovery requirements
✓	Assess manpower and equipment requirements
✓	Determine disposal and interim storage requirements

In the event that actual spill volumes are not available, it may be necessary to estimate this volume.

Spill Volume Estimation Methods

✓	Visual observation and calibration with the A.P.I. Task Force on Oil Spill Cleanup, Committee for Air and Water Conservation's Spill Size Estimation Matrix. This matrix is included as Figure 2.4.
✓	Other methods which can be used to determine size and volume of a spill include, but are not limited to: <ul style="list-style-type: none"> • Other methods which can be used to determine size and volume of a spill include, but are not limited to: • Vessel/line capacity formulas • Infra-red thermal imaging

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

Figure 2.6 – Spill Estimation Factors

Use this table to calculate the amount of condensate / produced water released.

Estimated Area* (sq ft)	Estimated Amount of Spill in GALLONS**					
	Barely Discernible	Silvery Sheen	Faint Colors	Bright Bands of Color	Dull Brown	Dark Brown
1,000	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8
5,000	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8	3/8
10,000	< 1/8	< 1/8	< 1/8	< 1/8	1/4	2/5
15,000	< 1/8	< 1/8	< 1/8	< 1/8	3/8	1/2
20,000	< 1/8	< 1/8	< 1/8	1/4	2/5	1
30,000	< 1/8	< 1/8	< 1/8	1/4	3/5	1
50,000	< 1/8	< 1/8	1/4	2/5	1	3
100,000	< 1/8	1/4	2/5	3/4	3	5
300,000	3/8	3/5	1	2	6	14
600,000	1/2	1	2	4	13	29
900,000	3/4	2	3	7	20	43
1,000,000	7/8	2	4	7	22	47
1,250,000	1	2	5	9	27	59
1,500,000	1	3	5	11	32	70
1,750,000	2	3	6	13	38	82
2,000,000	2	4	7	14	43	94
4,000,000	4	8	15	30	90	95
6,000,000	5	11	22	44	132	286
8,000,000	7	15	29	58	174	377
10,000,000	9	18	36	72	216	468
12,500,000	11	23	45	90	270	585
15,000,000	14	27	54	108	324	702
17,500,000	16	32	63	126	378	819
20,000,000	18	37	72	144	432	936
22,500,000	21	41	82	164	492	1,066
25,000,000	23	45	90	180	540	1,170
27,500,000	25	50	100	200	600	1,300

*Arrived at by multiplying estimated length of spill by estimated width. Round up to next highest value.

**Calculated from guide published by the API Task Force on Oil Spill Cleanup, Committee for Air and Water Conservation.

< Means less than

2.2 Response Actions (Cont'd)

2.2.6 Condensate/Produced Water Spill (Cont'd)

Estimating Spill Trajectories

Spill trajectories may initially be estimated in order to predict direction and speed of the slick movement. Trajectory calculations provide an estimate of where slicks may impact shorelines and other sensitive areas and provide an estimate of the most likely locations for protection, containment and recovery.

Marathon will utilize internal subject matter experts with consultants as necessary to perform trajectory analysis and fate & effect modeling.

Input variables for proper modeling include, but are not limited to:

✓	Spill location, volume, and time of spill
✓	Nature of the spill - continuous or single incident
✓	Wind speed & direction
✓	Water movement (current) speed & direction
✓	Water temperature
✓	Sea state
✓	Atmospheric temperature
✓	Characteristics of spilled material

This information can be obtained from many sources, including but not limited to:

✓	Reports from personnel at the spill site
✓	Commercial weather services
✓	National Oceanic and Atmospheric Administration (NOAA)
✓	Internal Marathon databases
✓	Marathon & commercial laboratories

Marathon utilizes an extensive communication infrastructure in its operations. This infrastructure includes telephone & radio networks. These networks will be used to connect all elements of the response. Back-up systems exist in the form of commercial VHF radios, cellular telephones, and couriers. Marathon Corporation and various contractors own and maintain mobile command centers with extensive communication capabilities.

Standard ICS Forms will be used wherever possible.

2.2 Response Actions (Cont'd)

2.2.7 Fire / Explosion

In case of a fire at any Marathon Oil Company facility, action should be designed to protect human life and control the emergency as rapidly as possible. All steps should be considered; however, timing of these steps may be altered to the individual circumstances to best accomplish these objectives.

Fire / Explosion Checklist	
<input type="checkbox"/>	Analyze the type of fire; call the local Fire Department(s) or 911 as appropriate for your area. If the fire is not beyond incipient stage, attempt to extinguish fire using appropriate equipment and methods, if trained to do so. If the fire is beyond incipient stage, evacuate and secure the area until fire department arrives.
<input type="checkbox"/>	Make sure that fire department(s) has adequate directions to the facility. Inform the fire fighters if sour gas is present.
<input type="checkbox"/>	Shut off all feeder lines into the facility/ installation.
<input type="checkbox"/>	Cut off all electrical power in area of fire.
<input type="checkbox"/>	Account for personnel who may have been in the area at the time. In the event of injury, call for medical and/or ambulance service.
<input type="checkbox"/>	Remove unauthorized personnel from the area and isolate area. Notify local law enforcement agency and request assistance, if necessary.
<input type="checkbox"/>	If liquid hydrocarbons or gas are in the storage tanks or gas plant, pump or flow from the affected installation when practical. If fluid being pumped is highly flammable, check temperature and remove hydrocarbons from installation as long as possible.
<input type="checkbox"/>	If condensate or produced water is flowing or spilling on the ground, call a service company to dig earthen pond at safe distance so that product can flow and collect in the pond. Make every reasonable effort to keep flowing product out of streams, draws and drainage ditches. Activate spill containment and cleanup procedures, if applicable.
<input type="checkbox"/>	Make arrangements for continuous water supply.
<input type="checkbox"/>	Maintain a safe working distance from fire at all times.
<input type="checkbox"/>	In the event the fire curtails sales or deliveries, the Asset Team leader, and/or his designee will notify the purchaser.

Secondary Action	
<input type="checkbox"/>	The Production Supervisor and/or their designee will notify the Asset Team leader and appropriate government agencies
<input type="checkbox"/>	Route all questions from the press or other sources concerning the situation to the Region's Public Affairs Officer and/or Incident Commander.
<input type="checkbox"/>	If fire suppression is not achieved within a reasonable period of time, call a conference with the Chief Fire Officer, Supervisor, Asset Team leader, service companies, and other Marathon personnel who may be present, and consider alternate methods to control the blaze.

2.2 Response Actions (Cont'd)

2.2.7 Fire / Explosion (Cont'd)

Prefire Preparations

Assign specific duties to the Field Operators, Field Technicians, Production Leaders, Production Supervisor and other personnel to execute in case of a fire.

CERT Reporting Requirements

A fire or explosion may result in an event that could trigger activation of Marathon's Corporate Emergency Response Plan. Refer to the CERT section of the Emergency Response Plan to make this determination.

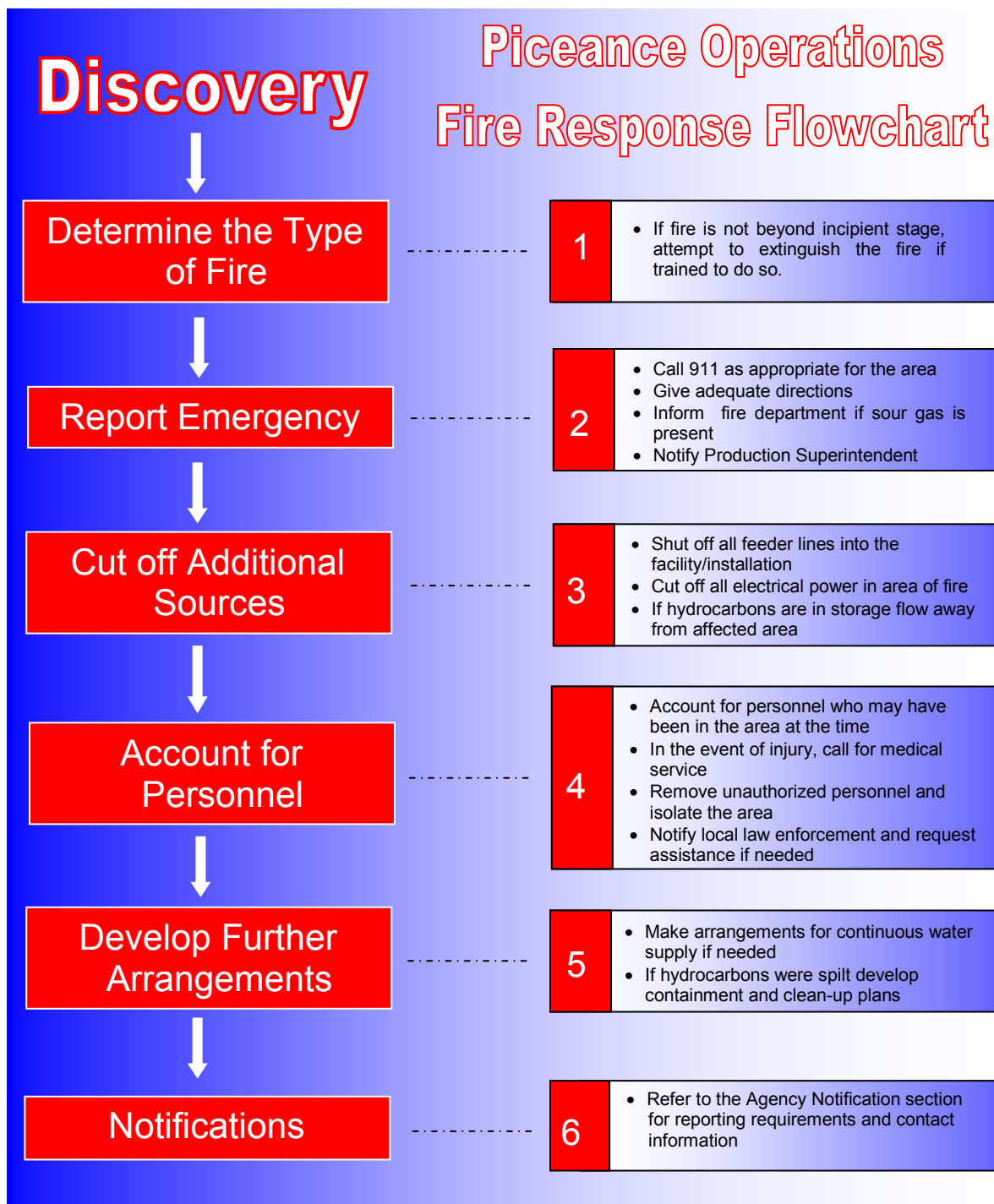
Regulatory Agencies to Be Notified

If it is a Federal lease, the proper federal agencies (i.e. Bureau of Land Management) must be notified as well. If as a result of the fire any condensate or produced water enters into a watercourse, the National Response Center (NRC) will also have to be notified. The burning of any natural gas containing H₂S may trigger reporting requirements under CERCLA/SARA Title III regulations. This determination can be made by consulting the CERCLA/SARA document or by contacting the HES Department.

If there is an H₂S Contingency Plan available for the area, consult it for additional guidance.

2.2 Response Actions (Cont'd)

2.2.7 Fire / Explosion (Cont'd)



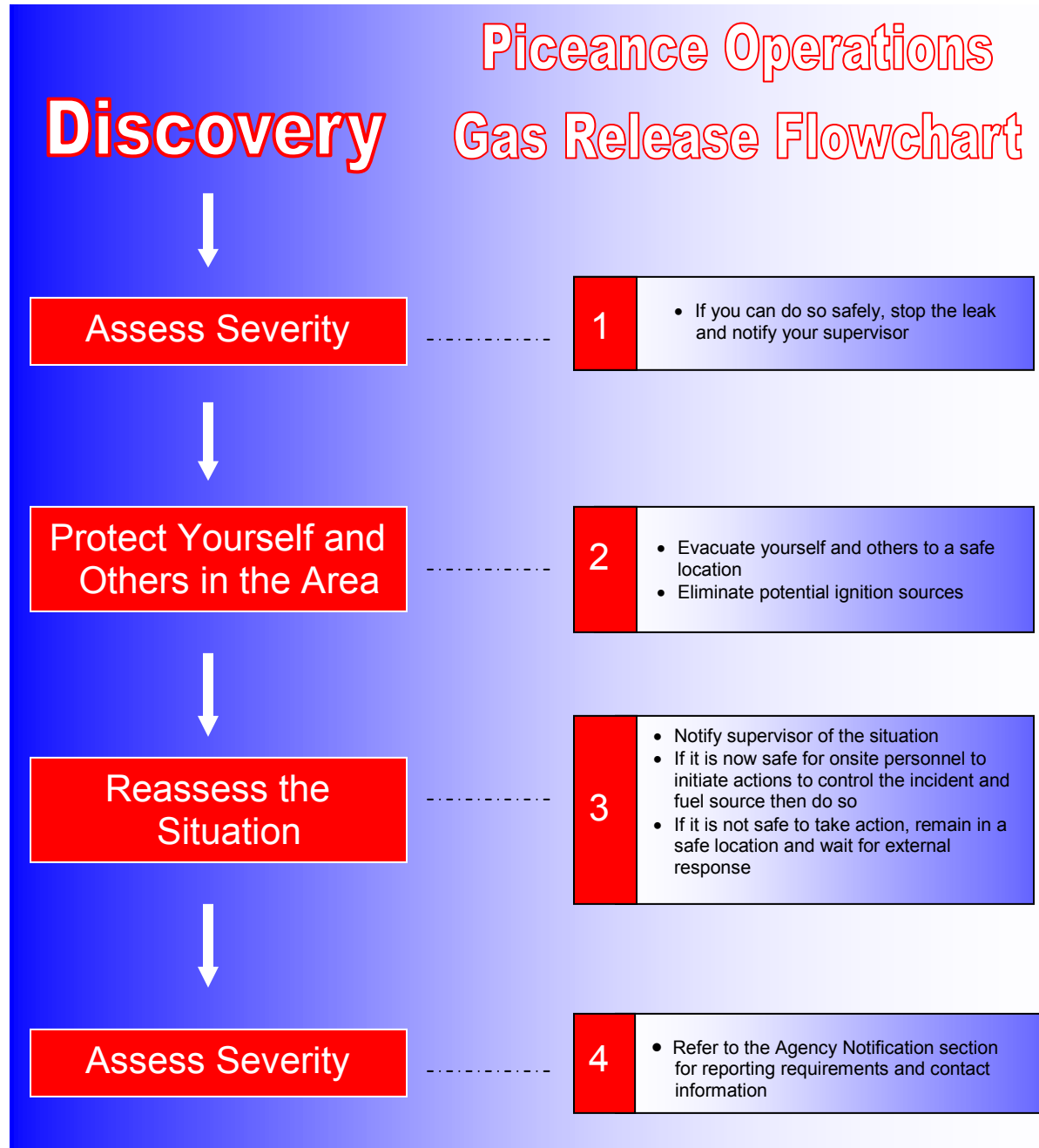
2.2 Response Actions (Cont'd)

2.2.8 Toxic/Flammable Gas Release

Gas Release Checklist	
<input type="checkbox"/>	When a gas release is noticed at any facility, secure the source if safe to do so.
<input type="checkbox"/>	Account for all personnel in the unit or area where the release occurred.
<input type="checkbox"/>	Evacuate all non-essential personnel from the Facility.
<input type="checkbox"/>	Establish communications.
<input type="checkbox"/>	Rescue missing or injured personnel as required.
<input type="checkbox"/>	Control the flow of source, if able to identify and possible.
<input type="checkbox"/>	Person in Charge should call 911 for outside assistance.
<input type="checkbox"/>	Conduct air monitoring to ensure safety of personnel and appropriate PPE is required to respond.
<input type="checkbox"/>	Disconnect the entire electrical system, if possible
<input type="checkbox"/>	Evacuate nearby residents if required.

2.2 Response Actions (Cont'd)

Figure 2.7 – Gas Release Emergency Flowchart



2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide

2.2.9.1 Pipeline Incidents

A pipeline incident exists when third-party damage, corrosion, material defects, worker error or natural events cause a fire, explosion, accidental release, or operational failure that disrupts normal operating conditions.

Pipeline incidents present some of the most dangerous situations an emergency responder may encounter. Pipelines contain flammable, hazardous and even deadly petroleum gases, liquids, and other chemical products that present emergency responders with a myriad of hazards and risks that vary depending on the topography, weather, and properties of the material involved. For the majority of pipeline incidents, you will have a limited number of options to actually stop the leak. In almost all cases, the pipeline operator will be required to resolve the incident safely. Consequently, your goal is to minimize the level of risk to other responders, the community and the environment.

Advance knowledge of where pipelines are located in your community and operations area, the products transported in them, and how to contact and work together with the pipeline operator in the event of an incident are key factors to an effective and safe response. Each pipeline operator maintains an emergency response plan that outlines the roles and responsibilities of company, contractor, and local response personnel.

To effectively respond to a pipeline leak, spill or fire, emergency responders need to understand the hazards and risks associated with the incident. You should seek additional information about the pipeline in question as soon as possible. Calling the 24-hour emergency phone number on a nearby pipeline marker sign, contacting the appropriate emergency response agency, and consulting the information in the DOT *Emergency Response Guidebook* or Emergency Response Plan may provide more detailed, situation-specific information.

Regardless of the nature of the pipeline incident, following standardized procedures will bring consistency to the response operation and will help minimize the risk of exposure to all responders.

Pipeline operators hope you never have to respond to a pipeline incident, but if you do, remember:

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Every incident is different – each will have special problems and concerns. |
| <input type="checkbox"/> | Carefully select actions to protect people, property and the environment. |
| <input type="checkbox"/> | Continue to gather information and monitor the situation until the threat is removed. |

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps

Following standardized procedures will bring consistency to each response operation and will help minimize the risk of exposure to all responders. The information in this guide provides a framework to discuss safety issues as they relate to the hazards and risks presented by pipeline emergencies in your community.

Assess the Situation

Approach with Caution from Upwind Location

To protect yourself and other responders from any hazards associated with the incident it is critical you approach cautiously from an upwind and/or crosswind location.

Situation Assessment	
<input type="checkbox"/>	Do not park over manholes or storm drains.
<input type="checkbox"/>	Do not approach the scene with vehicles or mechanized equipment until the isolation zones have been established. Vehicle engines are a potential ignition source.
<input type="checkbox"/>	Do not walk or drive into a vapor cloud or puddle of liquid.
<input type="checkbox"/>	Use appropriate air-monitoring equipment to establish the extent of vapor travel.
<input type="checkbox"/>	Because any number of fire and health hazards may be involved, it is important you resist the urge to rush in until you know more about the product and hazards involved in the incident.
<input type="checkbox"/>	Consider the following: <ul style="list-style-type: none"> • Is there a fire, spill or leak? • What are the weather conditions? • What direction is the wind blowing? • What is the terrain like? • Who and what is at risk: People, Property or Environment? • Is there a vapor cloud? • What actions should be taken: evacuation or diking? • What human/equipment resources are required and readily available? • What can be done immediately?

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Assess the Situation (Cont'd)

Secure the Scene

Without entering the immediate hazard area, you want to isolate the area and deny entry to unauthorized persons including other responders. It may be necessary to evacuate everyone in the danger area to a safe location upwind of the incident area.

Employ and Activate the Incident Command System

Developed by the Department of Homeland Security, the National Incident Management System (NIMS) integrates effective practices in emergency preparedness and response into a comprehensive national framework for incident management. The ICS enables responders at all jurisdictional levels and across all disciplines to work together – effectively and efficiently.

Because pipeline incidents require coordination of information and resources among all responders, the Incident Command System (ICS) is one of the most important 'best practices' in the NIMS. The ICS provides common terminology, organizational structure and duties, and operational procedures among operator personnel and various federal, state and local regulatory and response agencies that may be involved in response operations.

Identify an Incident Commander. The Incident Commander is the person responsible for the management of on-scene emergency response operations. In cooperation with the pipeline operator's person in charge, the Incident Commander determines when it is safe for the response teams to enter the area and access the pipeline. The Incident Commander must be trained to perform these responsibilities and not be automatically authorized by virtue of his/her normal position within the organization.

Establish a secured command post, lines of communication and a staging area for additional responding equipment and personnel.

NOTE: If other public safety units are on-scene, ensure operations are coordinated and unified command is established.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Assess the Situation (Cont'd)

Identify the Hazards

A product's physical and chemical properties determine how the product will behave and how it can cause harm. Emergency responders need to analyze the problem and assess potential outcomes based on the hazardous materials involved, type of container and its integrity, and the environment where the incident has occurred. Understanding the hazards will enable you to understand what risk you will be taking and how to select the best course of action with the least risk. Request the MSDS for the product or material.

Use caution as you may encounter:

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Flammable atmospheres |
| <input type="checkbox"/> | Hydrogen sulfide (H ₂ S) in pipelines |
| <input type="checkbox"/> | Oxygen deficient/enriched atmospheres |

Additional Actions

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Locate a pipeline marker sign to identify the pipeline product, operator and 24-hour emergency phone number. |
| <input type="checkbox"/> | Call the emergency phone number to report the incident to the pipeline operator's control center. Control center personnel may provide additional information about the pipeline product and its hazards. |
| <input type="checkbox"/> | Use the DOT <i>Emergency Response Guidebook</i> or <i>Material Safety Data Sheet</i> to initially analyze the key properties (flash point, explosive range, specific gravity, and vapor density). |
| <input type="checkbox"/> | Use air-monitoring equipment appropriate to the materials in the pipeline. Do NOT assume gases or vapors are harmless because of a lack of smell or quick desensitization to the strong odors of materials such as hydrogen sulfide. |
| <input type="checkbox"/> | Use the highest level of precaution and protection until you know the area is safe of flammable, toxic, mechanized and electrical hazards. |

NOTE: If natural gas is escaping inside a building, refer to Section 2.2.6.5 of this plan for additional precautions.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Respond to Protect People, Property and the Environment

Protective actions are those steps taken to preserve the health and safety of emergency responders and the public during a pipeline incident. While the pipeline operator concentrates on the pipeline, responders should concentrate on isolating and removing ignition sources and moving the public out of harm's way. Several response procedures can and should be pursued simultaneously. You will also need to continually reassess and modify your response accordingly.

Establish Isolation Zones and Set Up Barricades

Isolation zones and barricades prevent unauthorized people and unprotected emergency responders from entering the hazard area and becoming injured. The size of the containment area will be dictated by the location and size of the release. You also want to consider atmospheric conditions, as isolation distances change from daytime to nighttime due to different mixing and dispersion conditions in the air. Remember, gas odor or the lack of gas odor is not a sufficient measurement to establish safe isolation zones.

Additional Actions	
<input type="checkbox"/>	Based on the type of incident, use any or all of the following to calculate and establish isolation zones: <ul style="list-style-type: none"> • DOT <i>Emergency Response Guidebook</i> or Product MSDS • Information from the pipeline operator's representative • Heat intensity levels • Measurements from air-monitoring equipment
<input type="checkbox"/>	Use visible landmarks, barricade tape and traffic cones to identify hot/warm/cold zones.
<input type="checkbox"/>	Define entry and exit routes. Plan an escape route in case conditions deteriorate.
<input type="checkbox"/>	Be certain to allow enough room to move and remove your own equipment. The more time, distance and shielding between you and the material the lower the risk.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Respond to Protect People, Property and the Environment (Cont'd)

Rescue and Evacuate People

Any efforts made to rescue persons and protect property or the environment must be weighed against the possibility that you could become part of the problem.

Additional Actions	
<input type="checkbox"/>	Do not walk or drive into a vapor cloud or puddle of liquid.
<input type="checkbox"/>	Evacuate or shelter-in-place as necessary, providing instruction and frequent updates to the public while evacuated or sheltered-in-place.
<input type="checkbox"/>	Administer first aid and medical treatment, as needed.
<input type="checkbox"/>	Enter the area only when wearing appropriate protective gear, such as Structural Fire Fighters' Protective Clothing (SFPC) (helmet, coat, pants, boots, gloves and hood) and a Positive Pressure Self-Contained Breathing Apparatus (SCBA). Because no single protective clothing material will protect you from all dangerous pipeline materials, always use the highest level of caution. Refer to product MSDS for specific PPE requirements.

Eliminate Ignition Sources

Ignition sources include electrical motors, firearms, vehicles, telephones, emergency radios, cigarettes, construction equipment, static electricity, open flames or sparks.

Additional Actions	
<input type="checkbox"/>	Eliminate ignition sources, if possible without additional exposure or great risk.
<input type="checkbox"/>	Park all emergency vehicles at a safe distance beyond the isolation zone (upwind).
<input type="checkbox"/>	Do NOT light a match, start an engine, use a telephone or radio, switch lights on or off, or use anything that may create a spark.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Respond to Protect People, Property and the Environment (Cont'd)

Control Fires, Vapor and Leaks

Because there are many variables to consider, the decision to use water on fires or spills involving water-reactive materials should be based on information from an authoritative source, such as the pipeline operator, who can be contacted by calling the 24-hour emergency phone number listed on a nearby pipeline marker sign.

WARNING: Some products can react violently or even explosively with water. Water getting inside a ruptured or leaking container may cause an explosion or the product's reaction with water may be more toxic, corrosive, or otherwise more undesirable than the product of a fire without water applied. Consequently, it is best to leave a fire or leak alone except to prevent its spreading.

Fire Control

Extinguishing a primary fire can result in explosive re-ignition. Unless it is necessary to save human life, flammable gas fires should NOT be extinguished on flammable gas pipelines unless the fuel source has been isolated and the pipeline operator advises you to take this action! If the fuel source is not shut off and the fire is extinguished, leaking gas can migrate away from the pipeline and find an ignition source.

Additional Actions	
<input type="checkbox"/>	<u>Let the primary fire burn.</u> Eliminate potential ignition sources.
<input type="checkbox"/>	Cool surrounding structures, equipment and vessels. Because water is an inefficient and even dangerous way to fight fuel fires, use a fog pattern, NOT a straight stream of water. Please note some products are not compatible with water; refer to the DOT <i>Emergency Response Guidebook</i> or <i>MSDS sheet</i> .
<input type="checkbox"/>	Do not inhale fumes, smoke or vapors.
<input type="checkbox"/>	Once the primary fire is out, beware of hot spot re-ignition.
<input type="checkbox"/>	Do not operate pipeline equipment.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Respond to Protect People, Property and the Environment (Cont'd)

Control Fires, Vapor and Leaks

Vapor Control

Limiting the amount of vapor released from a pool of flammable or corrosive liquids requires the use of proper protective clothing, specialized equipment, appropriate chemical agents, and skilled personnel. For these reasons, it is best to contain the hazards and wait for the pipeline operator's representative to handle the pipeline and its product.

Additional Actions	
<input type="checkbox"/>	Do not inhale fumes, smoke or vapors.
<input type="checkbox"/>	Eliminate ignition sources! Flammable gases may escape under pressure from a pipeline, form a vapor cloud, and be ignited by an ignition source in the area. Explosions of unconfined vapor clouds can cause major structural damage and quickly escalate the emergency beyond responder capabilities.
<input type="checkbox"/>	Do NOT ignite a vapor cloud! Pipeline operators will perform this dangerous task if approved through the Unified Command.
<input type="checkbox"/>	Avoid forced ventilation of structures and excavations. Forced ventilation can actually increase the possibility of a flammable atmosphere.
<input type="checkbox"/>	Limited fog misting can be of some benefit if knocking down a vapor cloud, especially if such a cloud appears to be spreading beyond the containment site. Fog misting must be used carefully to prevent incompatible product/water mixing or the spread of product to other areas, as containment dikes may become overfilled.
<input type="checkbox"/>	Product-compatible foam can be used to suppress vapors or for rescue situations, however, be extremely cautious if fuel discharge is not yet stopped.

CAUTION: Before using water spray or foam to control vapor emissions or suppress ignition, obtain technical advice based on chemical name identification. Refer to the pipeline operator's product MSDS and DOT *Emergency Response Guidebook*.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Respond to Protect People, Property and the Environment (Cont'd)

Control Fires, Vapor and Leaks

Leak Control

In addition to hazards such as flammability, toxicity and oxygen deficiency, liquid pipeline leaks and ruptures can create major problems with spill confinement and containment. What seems like a minor spill may evolve into a major spill as liquid inside the pipeline continues to bleed out of the line. Even after line shut in the pipeline will continue to release material until the line has depressurized. Work with the pipeline operator to identify a way to depressurize the pipeline away from the response site.

Additional Actions	
<input type="checkbox"/>	Ask yourself where the spill will be in a few hours, how close the incident is to exposures or sensitive areas, and what can be done to confine the spill or divert it away from exposures.
<input type="checkbox"/>	Establish barriers to prevent the leak from spreading to water sources, storm drains or other sensitive areas. There are several basic containment devices that can be used to prevent the migration of petroleum products on land or on small streams, such as: <ul style="list-style-type: none"> • Storm sewer or manhole dam • Small stream containment boom • Pipe skimming underflow dam • Wire fence or straw filter dam
<input type="checkbox"/>	If a leak is accidentally ignited, firefighting should focus on limiting the spread of fire damage, but in NO circumstances should efforts be made to extinguish the fire until the source of supply has been cut off or controlled.
<input type="checkbox"/>	Do not walk into or touch spilled material.
<input type="checkbox"/>	Do not operate pipeline equipment.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Call for Assistance of Trained Personnel

Contact Your Organization

As soon as possible, contact your organization. This will set in motion a series of events ranging from dispatching additional trained personnel to the scene to activating the local emergency response plan. Ensure that other local emergency response departments have been notified.

Call the Pipeline Operator if not Operated by Marathon

Immediately call the 24-hour emergency phone number of the pipeline operator, which is listed on a marker sign located at a nearby road crossing, railroad or other point along the pipeline right-of-way. During the call, pipeline control center personnel will dispatch a representative to the scene. The control center will immediately act to shutdown the pipeline and isolate the emergency. The pipeline control center may also have the capability to remotely open and close manifold valves and to transfer products both to and from the main pipeline at marketing and distribution facilities.

Be prepared to provide pipeline control center personnel with the following information:

<input type="checkbox"/>	Call-back number, contact name (usually the Incident Commander)
<input type="checkbox"/>	Detailed location, including state, county, town, street or road
<input type="checkbox"/>	Type of emergency: fire, leak, vapor
<input type="checkbox"/>	When incident was reported locally
<input type="checkbox"/>	Any known injuries
<input type="checkbox"/>	Other officials on site: police, fire, medical, LEPCs, etc.
<input type="checkbox"/>	Surrounding exposures/sensitive areas
<input type="checkbox"/>	Any special conditions: nearby school, hospital, prison, railroad, etc.
<input type="checkbox"/>	Local conditions: weather, terrain

Obtain National Assistance

If the pipeline operator's 24-hour emergency phone number is not available, contact the appropriate emergency response agency listed in the DOT *Emergency Response Guidebook*, *operators' product MSDS* and *Emergency Response Plan*.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.2 Incident Response Steps (Cont'd)

Work Together with the Pipeline Operator

Pipeline operator personnel will establish product containment and drain barriers while working in concert with local emergency responders to limit or contain the spill, and avoid possible ignition of a leak or vapor cloud.

Pipeline Operator's Representative	
<input type="checkbox"/>	Serves as the primary contact for communication between the operator's team and emergency responders. They will be familiar with the Incident Command System and are normally HAZWOPER certified as well.
<input type="checkbox"/>	Establishes contact with the Incident Commander before and upon arrival to avoid accidental entry into isolation zones or ignition of the release.
<input type="checkbox"/>	Communicates which actions to take especially as they relate to containment and control of the pipeline product. The pipeline operator's representative(s) is trained to know: <ul style="list-style-type: none"> • How to shut off the supply of gas or liquid. Only the operator's representative is trained to operate pipeline equipment. • What potential hazards may be present at the location. • What additional complications may result from response activities as they relate to the pipeline and its product. • How to fight small fires with hand held extinguishers, administer basic first aid, perform CPR, and assist with evacuations or traffic control.

Emergency Responders	
<input type="checkbox"/>	Maintain site control and act as Incident Commander in coordination with pipeline operator.
<input type="checkbox"/>	Eliminate ignition sources. Provide standby fire-watch personnel.
<input type="checkbox"/>	Suppress vapor generation.
<input type="checkbox"/>	Provide standby rescue personnel to pipeline operator personnel entering the incident area to stop the release. Coordinate any search and rescue operations.
<input type="checkbox"/>	Help maintain containment dams and install more as needed.
<input type="checkbox"/>	Monitor the atmosphere in the repair and containment areas.

Together, Incident Commander and Pipeline Operator's Representative:	
<input type="checkbox"/>	Review whether it is safe for the operator's emergency response team and/or their equipment to enter the incident area.
<input type="checkbox"/>	Determine whether the zone of influence needs additional barricading and diking.
<input type="checkbox"/>	Decide when the area is safe for the affected public to re-enter.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.3 Damage Reporting

Report any damage or unusual and suspicious activities along a pipeline right-of-way to the pipeline operator. The operator will immediately investigate and repair any damage.

Improved communication and cooperation with local organizations are key components to protecting life, enhancing public safety, improving emergency preparedness, increasing protection of the environment, and preventing damage to pipeline property and facilities.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.4 Recommended Minimum Evacuation Distances for Natural Gas Pipeline Leaks and Ruptures

		Pipeline Size (inches)											
		4	6	8	10	12	16	20	22	24	30	36	42
Pressure (psog)	100	91	137	182	228	274	365	456	502	547	684	821	958
	200	129	193	258	322	387	516	645	709	774	967	1161	1354
	300	158	237	316	395	474	632	790	869	948	1185	1422	1659
	400	182	274	365	456	547	730	912	1003	1094	1368	1642	1915
	500	204	306	408	510	612	816	1020	1122	1224	1529	1835	2141
	600	223	335	447	558	670	894	1117	1229	1340	1675	2011	2346
	700	241	362	483	603	724	965	1206	1327	1448	1810	2172	2534
	800	258	387	516	645	774	1032	1290	1419	1548	1935	2322	2709
	900	274	410	547	684	821	1094	1368	1505	1642	2052	2462	2873
	1000	288	433	577	721	865	1154	1442	1586	1730	2163	2596	3028
	1100	302	454	605	756	907	1210	1512	1664	1815	2269	2722	3176
	1200	316	474	632	790	948	1264	1580	1738	1896	2369	2843	3317
	1300	329	493	658	822	986	1315	1644	1809	1973	2466	2959	3453
	1400	341	512	682	853	1024	1365	1706	1877	2047	2559	3071	3583
	1500	353	530	706	883	1060	1413	1766	1943	2119	2649	3179	3709
	1600	365	547	730	912	1094	1459	1824	2006	2189	2736	3283	3830
	1700	376	564	752	940	1128	1504	1880	2068	2256	2820	3384	3948
	1800	387	580	774	967	1161	1548	1935	2128	2322	2902	3482	4063
	1900	398	596	795	994	1193	1590	1988	2186	2385	2981	3578	4174
	2000	408	612	816	1020	1224	1631	2039	2243	2447	3059	3671	4283
	2100	418	627	836	1045	1254	1672	2090	2299	2508	3134	3761	4388
	2200	428	642	856	1069	1283	1711	2139	2353	2567	3208	3850	4492

*Not applicable for Butane, Propane or other Hazardous Liquids

The applicable leak or rupture condition is that of a sustained trench fire fueled by non-toxic natural gas escaping from two full bore pipe ends. Blast overpressure is not addressed. The distances shown in Table 1 are intended to provide protection from burn injury and correspond to a thermal heat flux exposure level of 450 Btu/hr ft². This is the accepted limit of heat exposure for unprotected outdoor areas where people congregate; as established by the US Department of Housing & Urban Development Code 24CFR51, Subpart C, Siting of HUD Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature. The formula used to calculate distance was taken from the Gas Research Institute Report GRI-00/0189, *A Model for Sizing High Consequence Areas Associated with Natural Gas Pipelines*, 2001, prepared by C-FER Technologies. That model does not take into account wind or other factors which may greatly influence specific conditions. Users are advised that the distances shown in Table 1 are considered to be "general information" only and are not intended to replace a site specific risk analysis. The Pipeline Association for Public Awareness makes no warranty with respect to the usefulness of this information and assumes no liability for any and all damages resulting from its use. Anyone using this information does so at their own risk.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.5 Natural Gas Escaping Inside a Building

Potential Hazards	
Fire or Explosion	
<input type="checkbox"/>	EXTREMELY FLAMMABLE
<input type="checkbox"/>	Will be easily ignited by heat, sparks or flames.
<input type="checkbox"/>	Will form explosive mixtures with air.
<input type="checkbox"/>	Vapors from liquefied gas are initially heavier than air and spread along ground.
<input type="checkbox"/>	CAUTION: Natural Gas / Methane (UN1971) is lighter than air and will rise. Natural Gas / Methane (UN1971) fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom, etc.)
<input type="checkbox"/>	Vapors may travel to source of ignition and flash back.
<input type="checkbox"/>	Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
<input type="checkbox"/>	Containers may explode when heated.
<input type="checkbox"/>	Ruptured cylinders may rocket.
Health	
<input type="checkbox"/>	Vapors may cause dizziness or asphyxiation without warning.
<input type="checkbox"/>	Some may be irritating if inhaled at high concentrations.
<input type="checkbox"/>	Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
<input type="checkbox"/>	Fire may produce irritating and/or toxic gases.

Public Safety	
<input type="checkbox"/>	Approach cautiously.
<input type="checkbox"/>	Establish an effective and safe perimeter.
<input type="checkbox"/>	Position apparatus out of danger zone (avoid front of building and over manhole covers and sewers). Keep unauthorized personnel away.
<input type="checkbox"/>	Secure the scene and deny entry.
Evacuation	
<input type="checkbox"/>	Evacuate the public to a safe distance
<input type="checkbox"/>	<p>As soon as possible, contact the gas operator and coordinate large scale evacuations with trained emergency responders.</p> <ul style="list-style-type: none"> • DOT ERG states 150-300 feet initially. Note: Area will depend on the material involved • Pipeline operators, however, upon assessment at arrival may recommend a greater evacuation distance.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.5 Natural Gas Escaping Inside a Building (Cont'd)

Emergency Response	
<input type="checkbox"/>	Wear positive pressure self-contained breathing apparatus (SCBA) as well as full structural firefighter protective clothing. <ul style="list-style-type: none"> Structural firefighters' protective clothing will only provide limited thermal protection. Listen for hissing sound, but use CAUTION as no noise may be heard.
<input type="checkbox"/>	Monitor the atmosphere, using multiple monitors where possible <ul style="list-style-type: none"> Action Criteria: 0 to 10% of the LEL - Use Extreme Caution Action Criteria: 10% of the LEL or greater - DO NOT ENTER THE BUILDING
<input type="checkbox"/>	If possible, determine the source of the release without risk to the responders. Multiple locations are possible due to damage or pullout at joints.
<input type="checkbox"/>	Monitor for natural gas traveling away from source toward exposures.
<input type="checkbox"/>	Control ignition sources (smoking, open flames, internal combustion engines and motors). Do not operate electric devices such as switches, etc. Sparks can cause ignition.
<input type="checkbox"/>	Be cautious of contacting the piping system; a static spark may occur and result in ignition.
<input type="checkbox"/>	Whenever possible, adopt a defensive or non-intervention mode and wait for the utility company to arrive.
<input type="checkbox"/>	Protect exposures from the radiant heat of the fire.
<input type="checkbox"/>	Never extinguish the fire until the leak can be shut off and controlled, unless there is immediate danger to life.
<input type="checkbox"/>	With any leak, always anticipate and expect that ignition will occur.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.5 Natural Gas Escaping Inside a Building (Cont'd)

Tactical Considerations	
<input type="checkbox"/>	Natural gas released inside buildings presents one of the greatest flammable hazards to emergency responders.
<input type="checkbox"/>	Building full of natural gas should only be approached when needed with extreme caution and with a minimum number of personnel. Air Monitor readings in excess of 10% LEL require evacuation of the building.
<input type="checkbox"/>	Stop or control the gas release at the appliance, or service meter valve.
<input type="checkbox"/>	<p>If possible to do safely, ventilate the area. If the flammable atmosphere is above the upper explosive limit (UEL), keep in mind that during ventilation the atmosphere will pass back through the flammable range of 4% to 16% gas to air. Also, remember that fans are a potential ignition source.</p> <ul style="list-style-type: none"> Natural gas, depending on the makeup, requires a minimum mixture of 4% to 16% in air to ignite (40,000 ppm. to 160,000 ppm) NOTE: Odor can be detected as low as 1 ppm. However, if underground migration occurs, odorant may be stripped from the gas. Not all gas has odor added
<input type="checkbox"/>	NORMALLY, DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. Extinguish surrounding fires, but not gas fed fire.
<input type="checkbox"/>	Use protective hose streams to approach if necessary.
<input type="checkbox"/>	<p>DO NOT CLOSE main valves or any other large transmission or distribution vales. This can lead to serious problems elsewhere in the system; pipeline operator will operate appropriate valves to isolate the system.</p> <ul style="list-style-type: none"> Closed valves should remain closed until opened by pipeline operations personnel. Apply correct lock out tag out procedures.

2.2 Response Actions (Cont'd)

2.2.9 Gas Pipeline Response Guide (Cont'd)

2.2.9.5 Natural Gas Escaping Inside a Building (Cont'd)

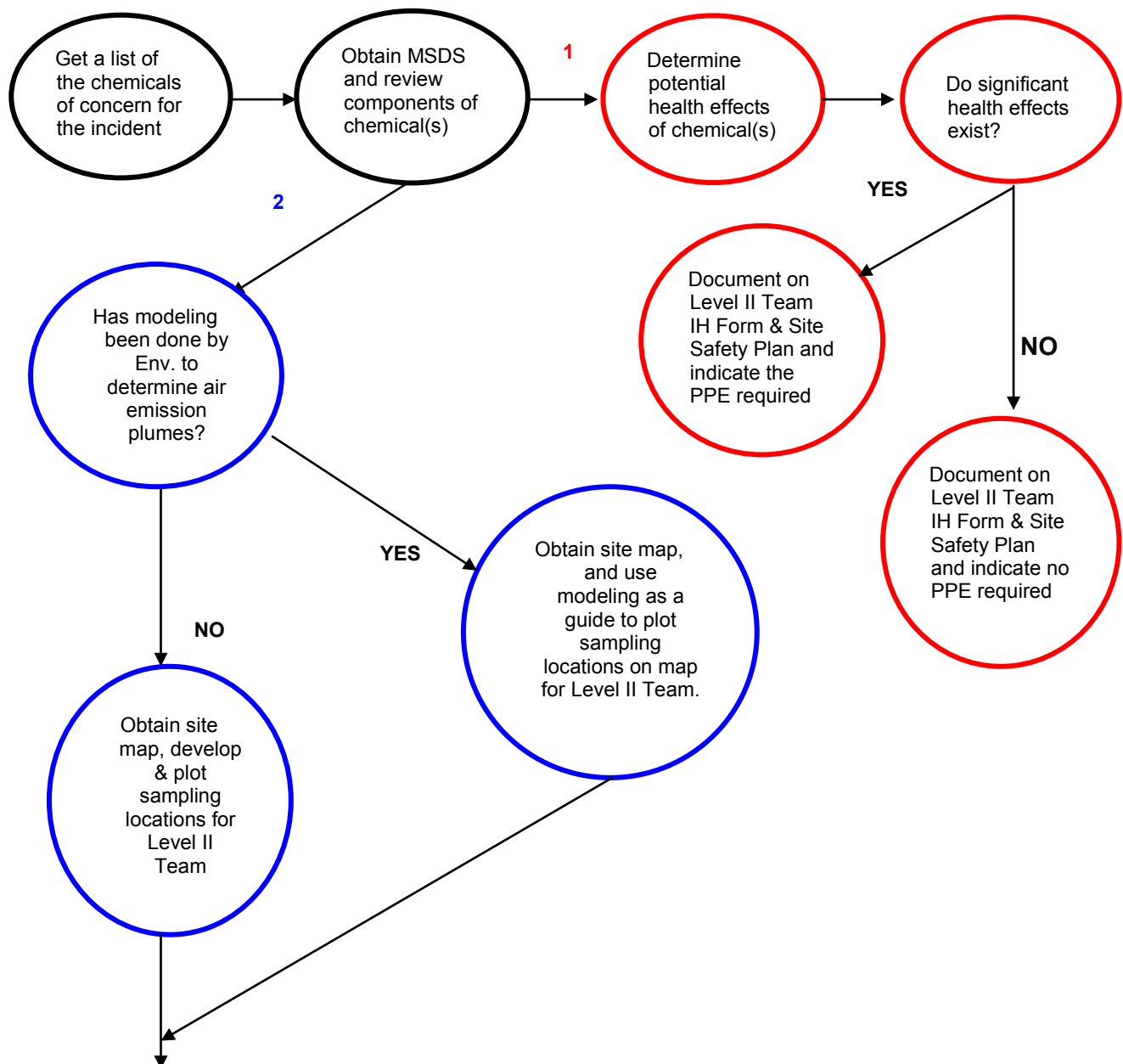
First Aid	
<input type="checkbox"/>	Move victim to fresh air.
<input type="checkbox"/>	Call 911 or emergency medical service.
<input type="checkbox"/>	Assess the victim to determine if he/she is breathing normally. The level of treatment provided should be based on your level of individual training. <ul style="list-style-type: none"> Professional Rescuers will provide artificial respirations if the victim is in respiratory distress. Non-Professional Rescuers begin CPR (if correctly trained and certified) if the victim is not breathing normally Administer oxygen if breathing is difficult.
<input type="checkbox"/>	Remove and isolate contaminated clothing and shoes.
<input type="checkbox"/>	In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
<input type="checkbox"/>	Keep victim warm and quiet.
<input type="checkbox"/>	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Other Considerations	
<input type="checkbox"/>	Decontaminate if necessary to remove the odorant and materials prior to treatment and transport.
<input type="checkbox"/>	Debrief all responders and schedule a critique with all involved.
<input type="checkbox"/>	Document and save all information, notes and communications.

2.2 Response Actions (Cont'd)

2.2.10 Air Monitoring

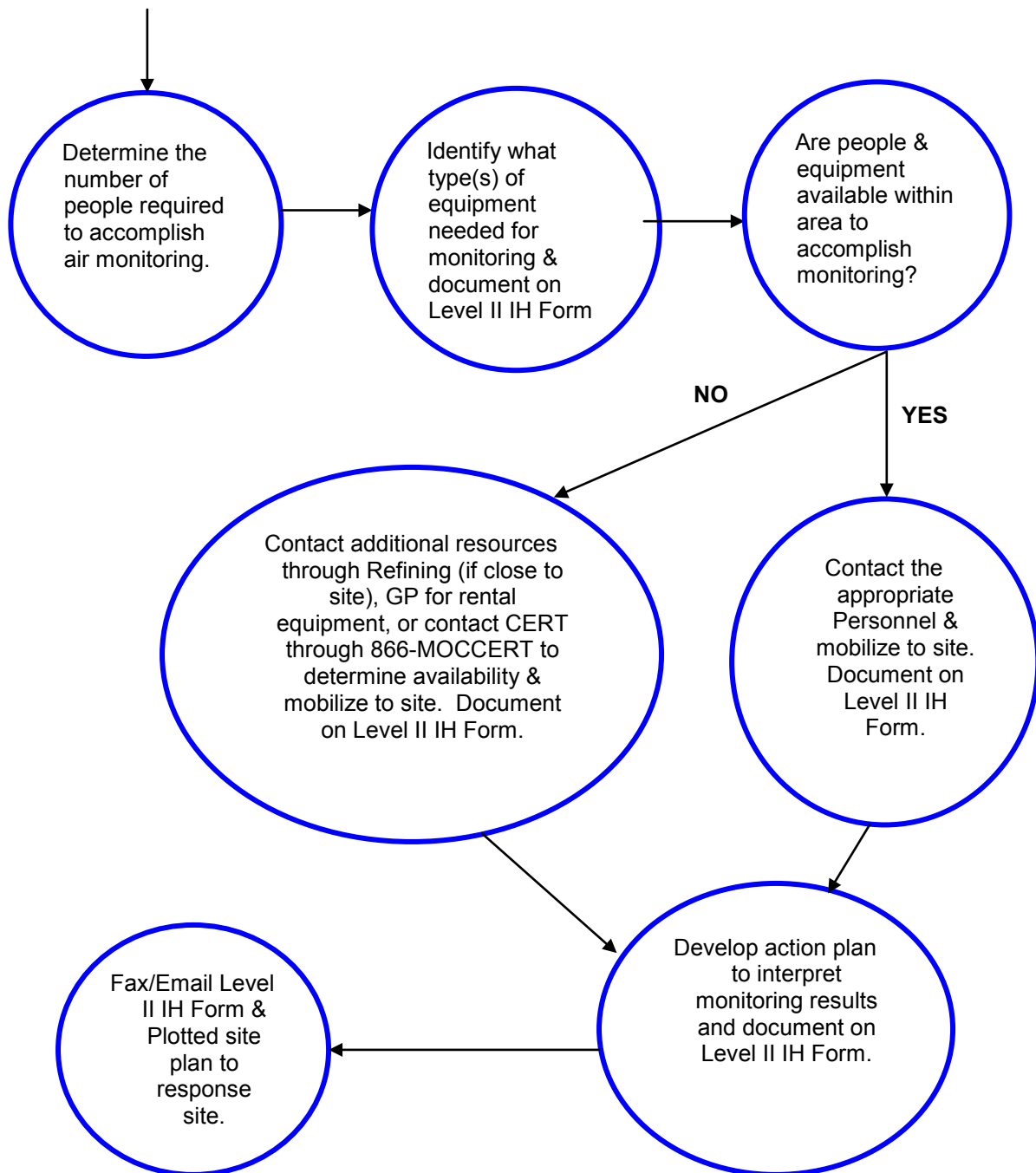
Figure 2.8 – Air Monitoring Decision Flowchart



2.2 Response Actions (Cont'd)

2.2.10 Air Monitoring (Cont'd)

Figure 2.8 – Air Monitoring Decision Flowchart (Cont'd)



2.2 Response Actions (Cont'd)

2.2.10 Air Monitoring (Cont'd)

IH AIR Monitoring Information Form for Level II Team

Product(s) Of Concern
Product Component(s) of Concern
Probable Exposure Health Effects of Product
PPE Required
Number of People Required to Monitor (including Names & Organization)

2.2 Response Actions (Cont'd)

2.2.10 Air Monitoring (Cont'd)

Level II Response Air Monitoring Log

Sampler Name:	Date:	Facility Name:
Monitoring For:	Equipment Used (Circle all equipment used):	
	Direct Reading	Detector Tubes Other
For Direct Reading Equip:	For Detector Tubes:	For Other
Mfg & Model: _____	Mfg: _____	Describe Monitoring Equipment:
Serial No.: _____	Tube Type: _____	
Calibration Date: _____	Tube Range: _____	
Monitoring Results		
Location	Time (include am or pm)	Reading (include units)

2.2 Response Actions (Cont'd)

2.2.11 Well Control/Drilling/Completions Emergency Measures

The on-site **Drilling Supervisor/Engineer is responsible** for immediate actions to be taken at the well site. As soon as possible, he should notify the Drilling/Completions Superintendent to request assistance in calling out the necessary support services. The Drilling/Completions Superintendent will also be responsible for activating Marathon's Incident Command System, notifying NAPO Asset Team Production Supervisor and ensuring that applicable regulatory agency notifications are made.

In the case of the loss of well control, spill or release at an oil or gas well, action should be designed to protect human life and control the disaster as rapidly as possible. All steps should be considered; however, the timing of these steps should be altered to fit individual circumstances.

Well Control Checklist	
<input type="checkbox"/>	If a rig is on location, shut down all engines and evacuate all personnel to a safe distance. Account for all personnel.
<input type="checkbox"/>	Move all vehicles out of the immediate area and clear location of all other equipment that can be safely moved provided there is no danger of explosion.
<input type="checkbox"/>	Call out needed firefighting equipment as available.
<input type="checkbox"/>	Alert medical and ambulance services, and call out what is deemed necessary.
<input type="checkbox"/>	Notify the nearest law enforcement agency; request their assistance to seal off the area from sightseers.
<input type="checkbox"/>	If loss of well control does occur within a populated area, immediately dispatch the necessary personnel to evacuate the area with the help of local law enforcement personnel.
<input type="checkbox"/>	Make arrangements to obtain a continuous water supply.
<input type="checkbox"/>	If the well is blowing out liquid formation fluids, call out the equipment and personnel necessary to construct barriers to contain these fluids.
<input type="checkbox"/>	Notify the D&C Superintendent, or highest level of operations supervision, which can be contacted. Request they notify the NAPO Asset Team Management, Government Agencies, well control specialists, CERT, other working interest owners, the landowner and the contractor's management.
<input type="checkbox"/>	Order the necessary safety equipment, such as air tanks and masks in case of sour gas, brass tools, etc.
<input type="checkbox"/>	Order the necessary mud materials, and mixing and pumping equipment.
<input type="checkbox"/>	Lay kill lines from a safe location to the well.
<input type="checkbox"/>	Mix mud if required to kill well.
<input type="checkbox"/>	Cooperate with the professional well control specialists to secure all necessary special tools and services as rapidly as possible.
<input type="checkbox"/>	Once the well is brought under control, install the appropriate wellhead equipment and/or plug the well with cement after securing permission from the appropriate responsible company management and regulatory agencies.

2.2 Response Actions (Cont'd)

2.2.11 Well Control/Drilling/Completions Emergency Measures (Cont'd)

Preliminary Precautions

All on-site drilling/completions supervisors/engineers should have updated kill sheets prepared on a location during the drilling of the well.

All BOP equipment should be tested on a regular basis to insure that they are operable. H₂S monitors and personal protective equipment (SCBA's, air lines etc) shall be on location prior to drilling into any formation known or suspected to contain H₂S. Rig personnel shall be trained in the use and operation of this equipment. If an H₂S Contingency Plan is available for this particular field or area, consult it for additional guidance.

CERT Reporting Requirements

A loss of well control, spill or release may result in certain events that could cause Marathon's Corporate Emergency Response Plan to be activated. Refer to the CERT section of the Emergency Response Plan to make this report.

Regulatory Agencies to Be Notified

The appropriate state regulatory agencies to be contacted are listed in Section 2.2.1 of this plan.

In addition to these agencies, if any fluid enters into a watercourse, the National Response Center (NRC) will also have to be notified. Telephone numbers for all of these agencies are listed under the section entitled, "Government Agencies."

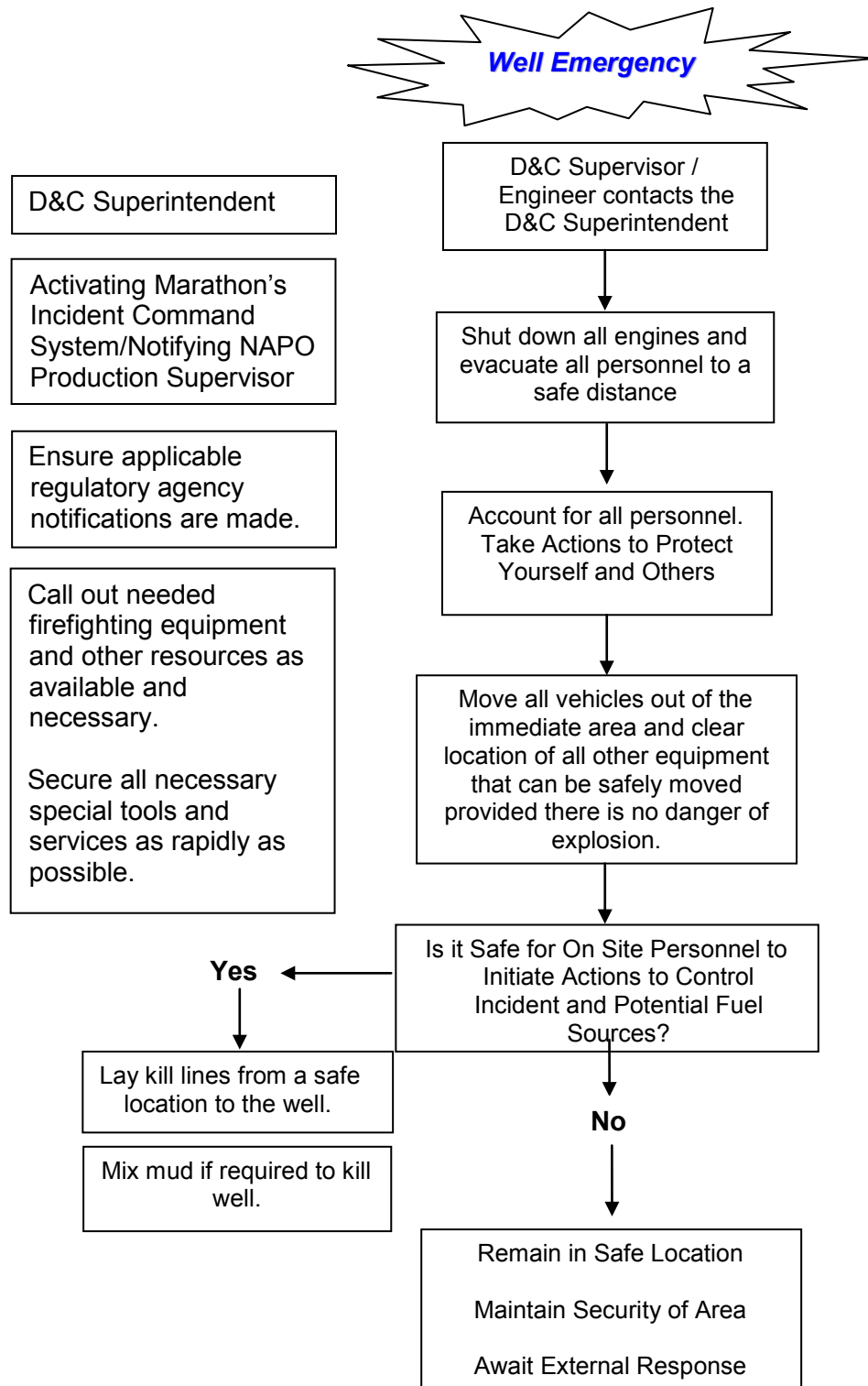
The release of H₂S gas during a loss of well control may trigger additional reporting requirements under the CERCLA/SARA Title III regulations. This determination can be made by reviewing the [CERCLA/SARA](#) document or by contacting the Health, Environment, and Safety Department.

Area Specific SPCC plan

For additional drilling and completions spill prevention countermeasures and control information, refer to MOC Area Specific SPCC Plan.

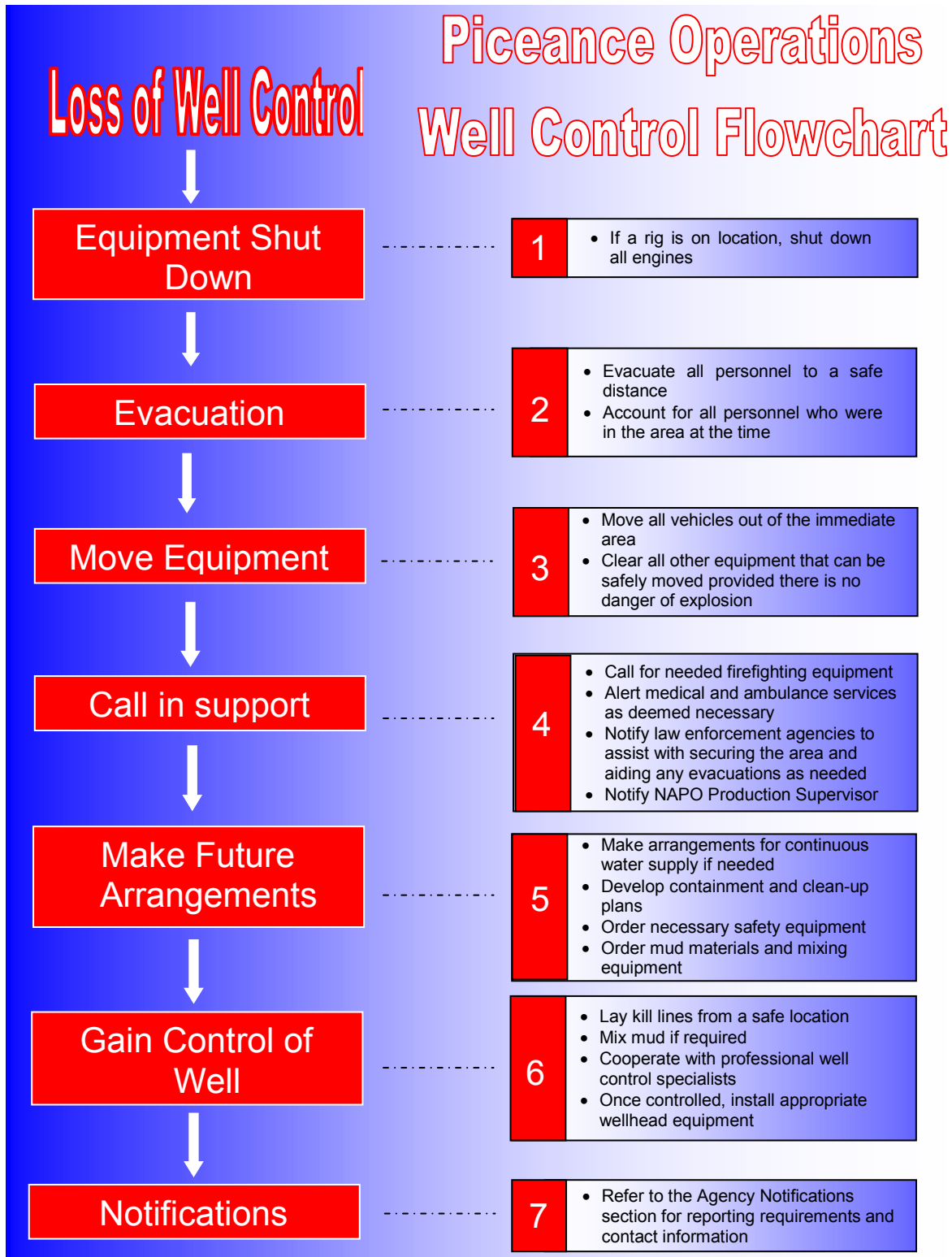
2.2 Response Actions (Cont'd)

Figure 2.9 – Well Control/Drilling/Completions Emergency Flowchart

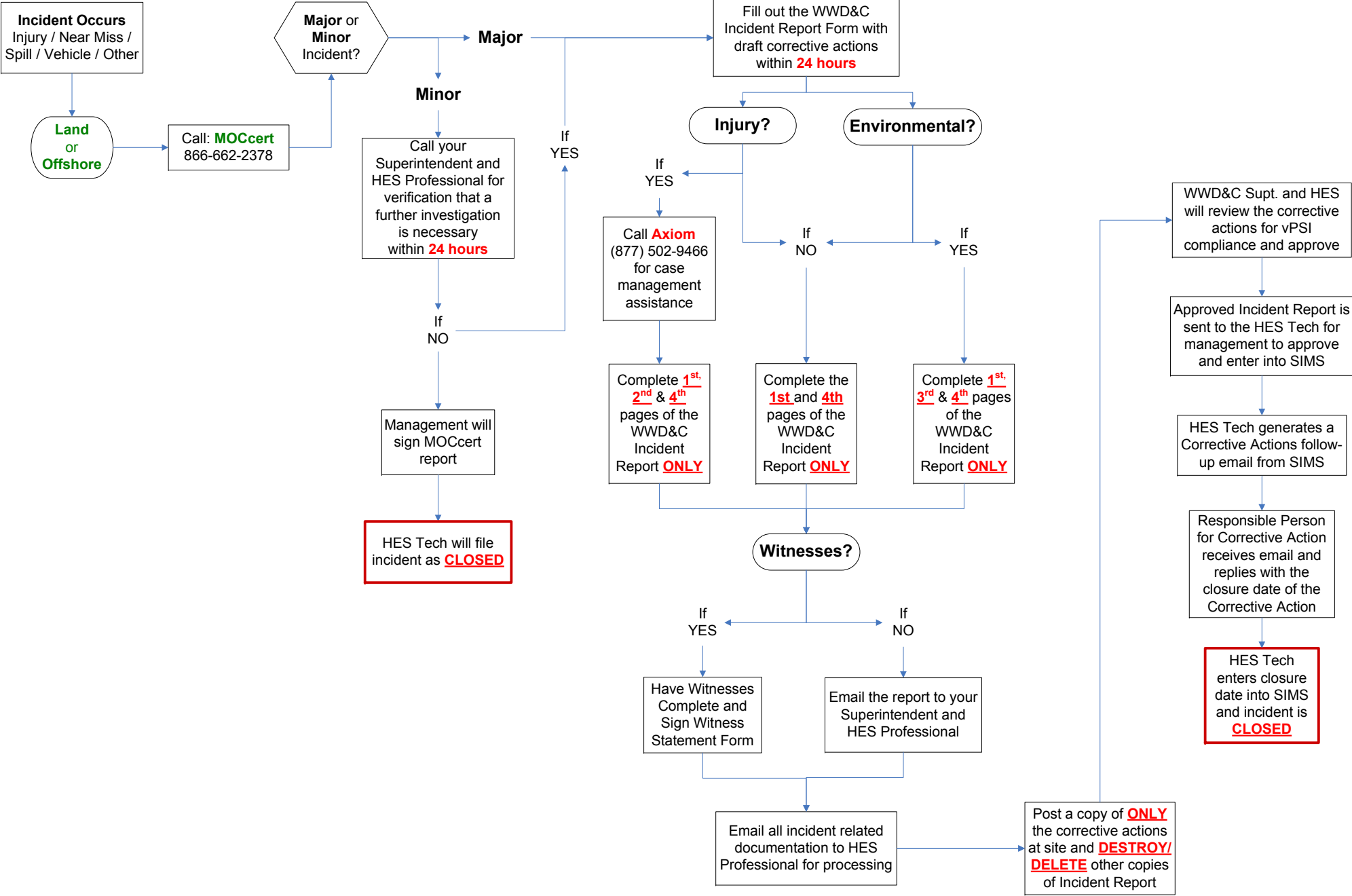


2.2 Response Actions (Cont'd)

2.2.11 Well Control/Drilling/Completions Emergency Measures (Cont'd)



WWD/C Incident Reporting Flowchart



2.2 Response Actions (Cont'd)

2.2.12 Severe Weather

All actions should be designed to protect human life and safeguard against the disaster. All steps listed should be considered; however, timing of these steps may be altered to fit the individual circumstances.

Tornadoes are a real threat in the Piceance Operations Area. It is difficult to prepare in advance for a tornado since its frequency, location and direction is unpredictable. When an area is threatened, protection of the employee is the primary concern.

When sufficient notice is available, take whatever steps possible to minimize property damage such as:

<input type="checkbox"/>	Store and/or secure all drums, buckets, signs and other small objects which might blow away.
<input type="checkbox"/>	Remove equipment easily moved from low areas easily, which might be damaged by flooding.
<input type="checkbox"/>	Board up windows, secure doors in buildings, and remove window type air condition units.
<input type="checkbox"/>	Evacuate unnecessary mobile equipment and personnel to a safe location.
<input type="checkbox"/>	If time permits, start filling tanks and thin-walled vessels with water, shut-in wells and associated facilities.

Thunderstorms / Lightning / High Winds Checklist

This checklist identifies actions to be taken when the Facility is threatened by thunderstorms, producing lightning or high winds.

<input type="checkbox"/>	Upon notification by weather monitoring of impending severe weather conditions, notify the Production Supervisor or the Field Office of the situation.
<input type="checkbox"/>	Personnel will be instructed to shut down all nonessential activities and take shelter where available until the storm has passed.
<input type="checkbox"/>	Immediately bring personnel off vessels, tanks, pipe racks, and other elevated work areas. Suspend product loading operations and close all tank openings.
<input type="checkbox"/>	Take shelter until the storm has passed.

2.2 Response Actions (Cont'd)

2.2.12 Severe Weather (Cont'd)

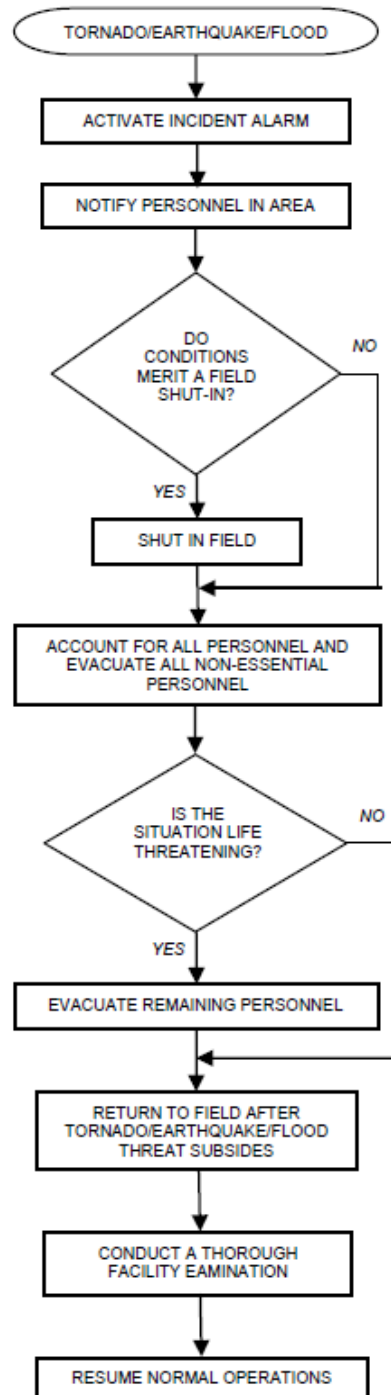
Post Disaster Activities	
<input type="checkbox"/>	Make contact with CERT, local Civil Defense, law enforcement, Red Cross or other disaster agencies.
<input type="checkbox"/>	Make available to the community the equipment, materials, and manpower to restore essential services and to accomplish rescue work.
<input type="checkbox"/>	Survey damage to Company properties and report to the Production Superintendent and/or Asset Team Manager.
<input type="checkbox"/>	If necessary, implement spill containment and cleanup activities.
<input type="checkbox"/>	Make photographic record of damage to Company facilities for insurance purposes.
<input type="checkbox"/>	Restore undamaged properties to production.
<input type="checkbox"/>	Through Business Unit Management, establish procedures to be followed, with respect to possible insurance claims, in restoring damaged facilities to production.
<input type="checkbox"/>	Prepare a complete report covering damage.

2.2 Response Actions (Cont'd)

2.2.12 Severe Weather (Cont'd)

Figure 2.10 – Tornado/Earthquake/Flood Emergency Flowchart

TORNADO/EARTHQUAKE/FLOOD EMERGENCY FLOWCHART



2.2 Response Actions (Cont'd)

2.2.12 Severe Weather (Cont'd)

CERT Reporting Requirements

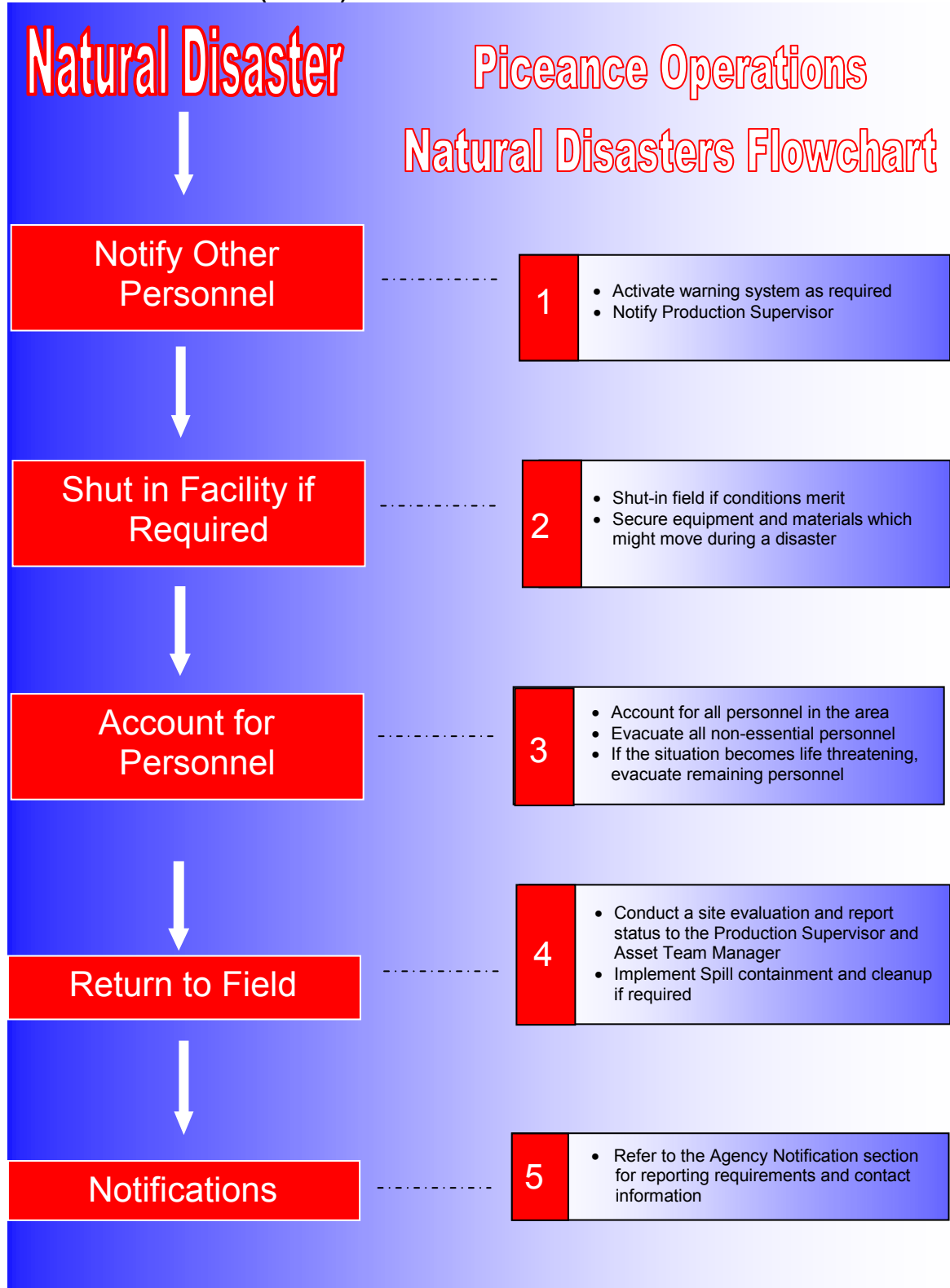
A natural disaster may result in an event which could trigger the activation of Marathon's Corporate Emergency Response Plan. Refer to the [CERT](#) section of the Emergency Response plan to help make this determination.

Regulatory Agencies to Be Notified

If a natural disaster causes the release or spill of products, various state or Federal agencies may need to be contacted. Refer to the state and federal reporting sections of this plan to determine the reporting requirements or contact the HES Department.

2.2 Response Actions (Cont'd)

2.2.12 Severe Weather (Cont'd)



2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency

Medical Emergency Checklist	
The following checklist identifies key items to consider during a medical emergency at a company facility.	
<input type="checkbox"/>	Stabilize the victim. Provide <u>BASIC LIFE SUPPORT</u> at the scene if necessary by: <ul style="list-style-type: none"> <input type="checkbox"/> Maintain airway/breathing – administer CPR <input type="checkbox"/> Control bleeding <input type="checkbox"/> Treat for shock
<input type="checkbox"/>	Activate professional medical care for the victim by: <ul style="list-style-type: none"> <input type="checkbox"/> Call 911 to arrange for ground or air ambulance support. Provide the 911 dispatch the following information: <ul style="list-style-type: none"> ✓ Your name and location ✓ Type of medical emergency ✓ Name and location of the injured ✓ Condition of injured ✓ Contact phone number <input type="checkbox"/> Contact drilling rig paramedic, if applicable. <input type="checkbox"/> Transport the victim to a local hospital or physician.
Note: Evacuation of seriously ill or injured persons should be conducted by ground or air ambulance only. Transportation by company or private vehicle should be discouraged, unless advised to do so by medical authorities. All medical emergencies should be documented on appropriate company reports.	

Injury / Illness Checklist	
<i>The following checklist identifies key items to consider during a minor injury or illness occurring at a company facility:</i>	
<input type="checkbox"/>	Assess the situation and contact Field Office or Safety Department.
<input type="checkbox"/>	Determine the level of medical attention needed - first aid or outside professional assistance. (Contact Axiom Case Management.)
<input type="checkbox"/>	Administer first aid if necessary.
<input type="checkbox"/>	Transport or activate professional medical care to provide medical support at local hospital or physician if necessary.
Note: Evacuation of seriously ill or injured persons should be conducted by ground or air ambulance only. Transportation by company or private vehicle should be discouraged, unless advised to do so by medical authorities. All medical emergencies should be documented on appropriate company reports.	

2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency (Cont'd)

MARATHON OIL COMPANY - NAPO		
HES Procedure: INJURY CASE MANAGEMENT	Document No. 006	Process No. SAF-011-P

Overview

Effective case management provides for consistent, timely, and proper medical diagnosis and treatment for work-related injuries and illnesses.

Reporting

This procedure will be followed for case management of all work-related injuries or illnesses (Marathon or contractor):

Step	Action
1	Work-related injury/illness is reported immediately to the supervisor or Marathon Person in Charge (PIC) / HES Representative.
2	If injury/illness is critical or life threatening, call 911.
3	Contact Axiom (877-502-9466) for all work-related injuries/illnesses regardless of the severity.

Axiom Response

Axiom will use the following procedure for all injuries/illnesses:

Step	Action				
1	The Axiom Case Manager will call back within 5 minutes to discuss the incident and injury with the employee.				
2	Axiom will assist in determining if the employee requires evaluation at a medical facility. <table border="1"> <tr> <th>If ...</th><th>Then ...</th></tr> <tr> <td>Medical Treatment Recommended</td><td>Axiom will direct the employee to a medical facility and provide the initial information on the case to the health care provider. The employee's supervisor or designee should accompany the employee to the facility. Note: Final decisions on contractor medical treatment and locations of treatment remain with the contractor. Axiom representatives provide professional consultation /advice only.</td></tr> </table>	If ...	Then ...	Medical Treatment Recommended	Axiom will direct the employee to a medical facility and provide the initial information on the case to the health care provider. The employee's supervisor or designee should accompany the employee to the facility. Note: Final decisions on contractor medical treatment and locations of treatment remain with the contractor. Axiom representatives provide professional consultation /advice only.
If ...	Then ...				
Medical Treatment Recommended	Axiom will direct the employee to a medical facility and provide the initial information on the case to the health care provider. The employee's supervisor or designee should accompany the employee to the facility. Note: Final decisions on contractor medical treatment and locations of treatment remain with the contractor. Axiom representatives provide professional consultation /advice only.				

2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency (Cont'd)

(continued)

Step	Action	
2	If ...	Then ...
	No Medical Treatment Recommended	Axiom will provide telephonic treatment recommendations and monitor the employee's condition.
3	Axiom will speak with the examining physician before the employee leaves the medical facility.	
4	Axiom will follow-up with the injured employee following the injury until their company's worker compensation case manager is assigned (typically within 72 hours following the incident).	

Case Management Exemption

Contractor companies may apply for an exemption from the requirement to use Axiom for their case management. This exemption is subject to approval and Marathon retains the right to remove this exemption at any time if the company's case management procedures and/or services are deemed ineffective during testing, auditing, or as a result of an incident.

The following are the minimum case management criteria necessary to apply for an exemption:

- Case managers are available by phone 24 hours/day, 7 days/week, 365 days/year,
- Case manager telephone response time is 10 minutes or less,
- Case managers are registered nurses, physicians assistants, or board-certified physicians,
- Case manager is licensed in all states where the contractor's work on behalf of Marathon is being performed, and
- Case Managers are contacted for all work-related injuries/illnesses regardless of severity.

A contractor company requesting an exemption from using Axiom should complete the Case Management Exemption form and submit it to the HES Department in Houston.

References

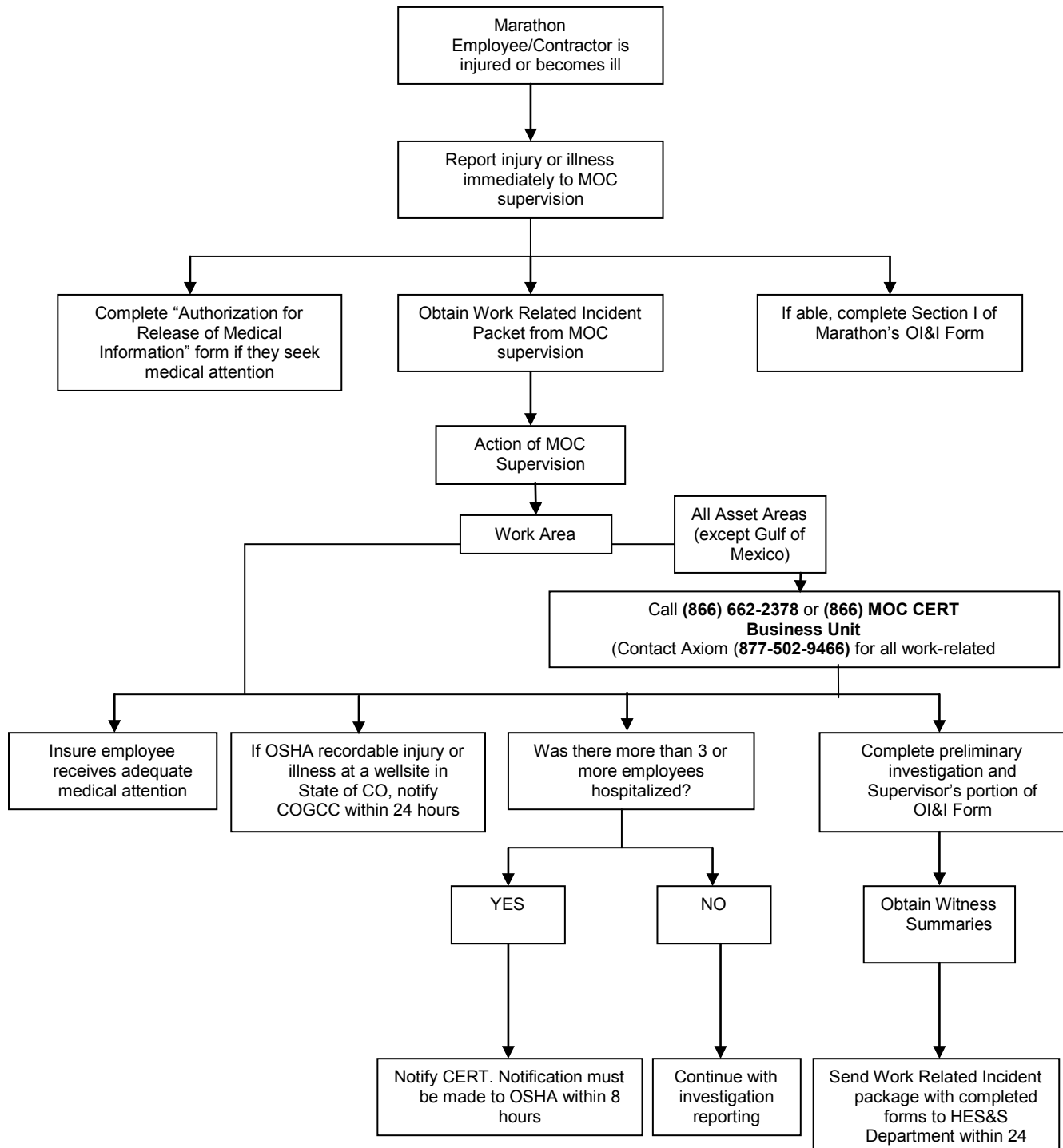
The following are references and other documentation that apply to this procedure:

- Case Management Exemption Form

2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency (Cont'd)

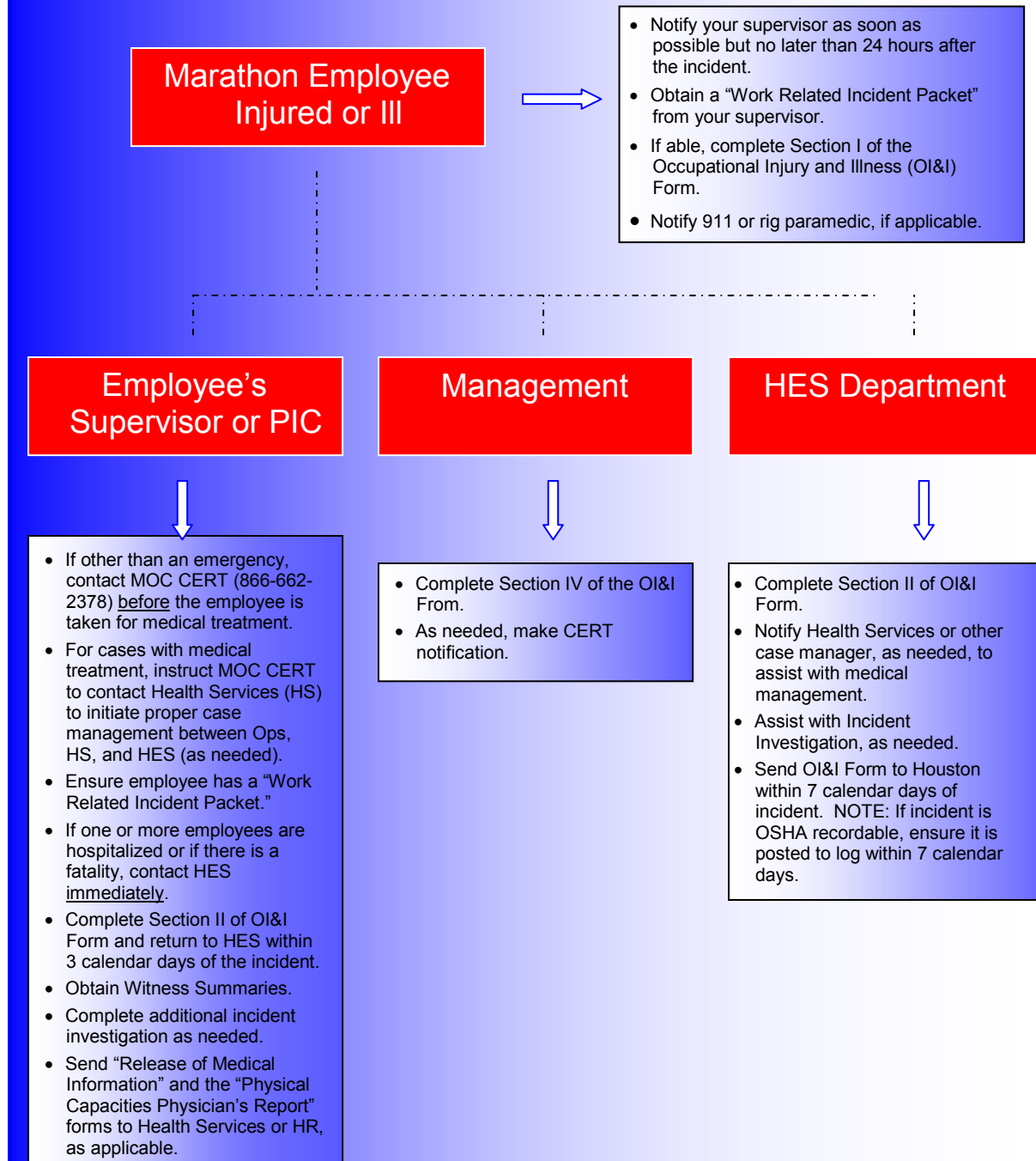
Figure 2.11 – Medical Emergency Flowchart



2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency (Cont'd)

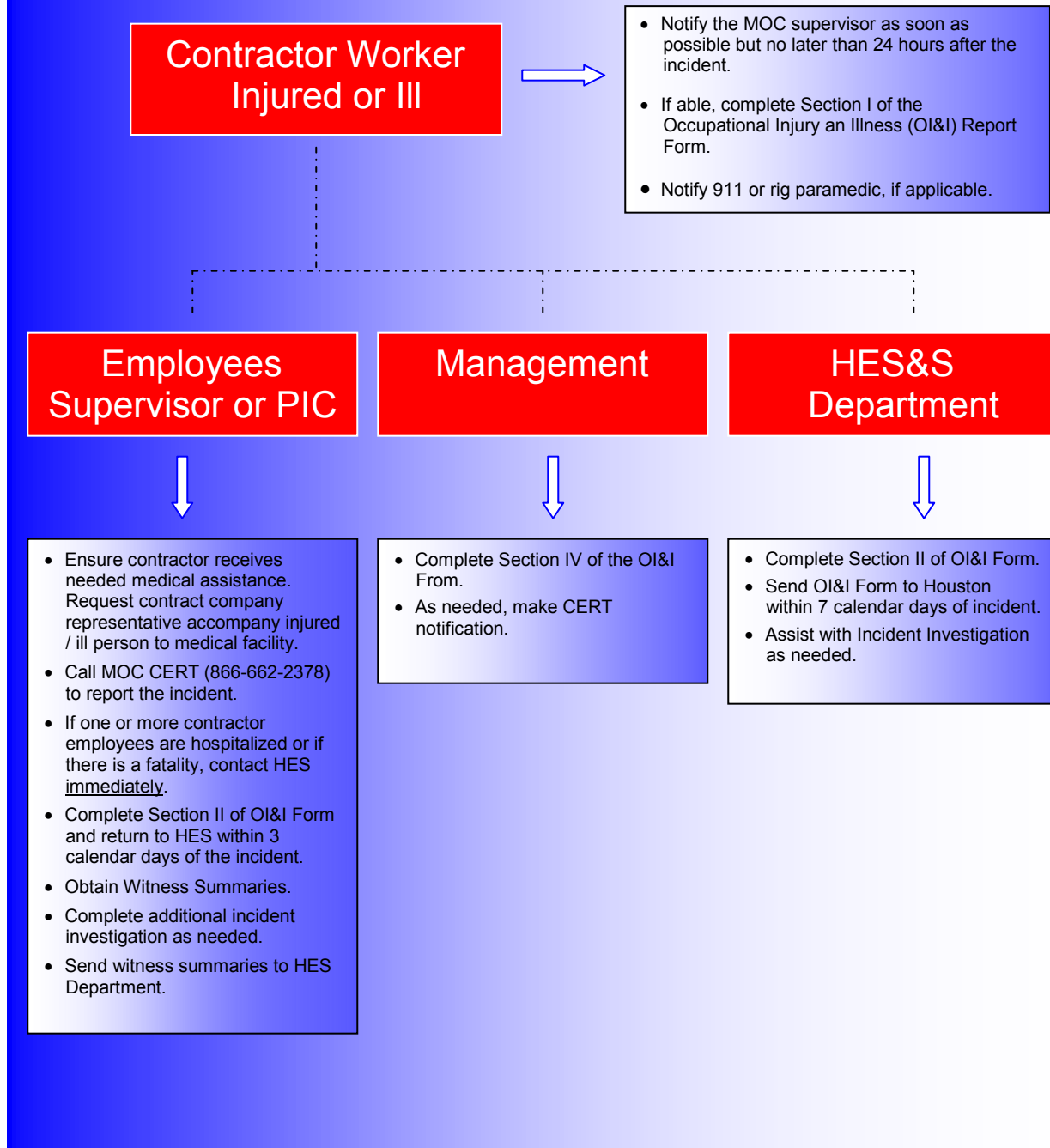
Marathon Employee Injury/Illness Flowchart



2.2 Response Actions (Cont'd)

2.2.13 Medical Emergency (Cont'd)

Contractor Employee Injury/Illness Flowchart



2.2 Response Actions (Cont'd)

2.2.14 Failure of Transfer Equipment

Failure of Transfer Equipment	
<input type="checkbox"/>	Terminate transfer operations and close block valves.
<input type="checkbox"/>	Drain product into containment areas, if possible.
<input type="checkbox"/>	Notify vessel personnel.
<input type="checkbox"/>	Eliminate sources of vapor cloud ignition by shutting down all engines and motors.
<input type="checkbox"/>	Keep all vessels and marine traffic out of the area.

2.2.15 Tank Overfill / Failure

Tank Overfill / Failure	
<input type="checkbox"/>	Shut down or divert source of incoming flow to tank.
<input type="checkbox"/>	Transfer fluid to another tank with adequate storage capacity, if possible.
<input type="checkbox"/>	Ensure that dike discharge valves are closed.
<input type="checkbox"/>	Monitor barge curbing for leaks and potential capacity limitations.
<input type="checkbox"/>	Begin transferring spilled product to another tank as soon as possible.

2.2.16 Piping Rupture/Leak (under pressure and no pressure)

Piping Rupture/Leak (under pressure and no pressure)	
<input type="checkbox"/>	Shut down pumps. Close the closest block valves on each side of the rupture.
<input type="checkbox"/>	Drain the line back into vessels or contained areas, if possible. Alert nearby personnel of potential safety hazards.
<input type="checkbox"/>	If piping is under pressure, and there is a leak in piping, relieve pressure by draining into containment area or back to a tank, if possible, then repair line according to established procedures. Shut down sources of vapor cloud ignition and evacuate personnel, if necessary, until the leak is controlled.

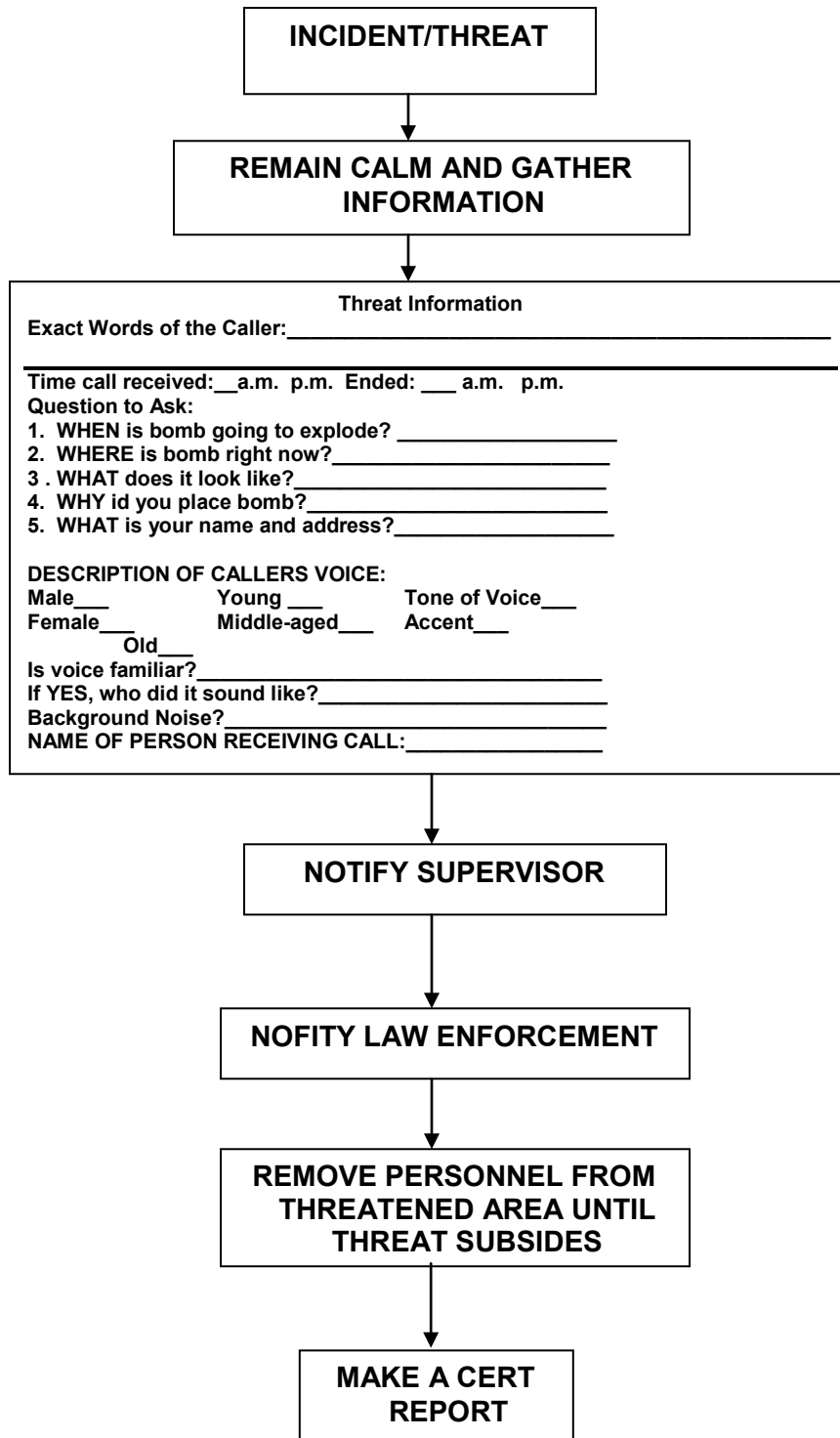
2.2.17 Manifold Failure

Manifold Failure	
<input type="checkbox"/>	Terminate transfer operations immediately.
<input type="checkbox"/>	Isolate the damaged area by closing block valves on both sides of the leak/rupture.
<input type="checkbox"/>	Shut down engines and motors. Eliminate sources of vapor cloud ignition.
<input type="checkbox"/>	Drain fluids back into containment areas, if possible.

2.2 Response Actions (Cont'd)

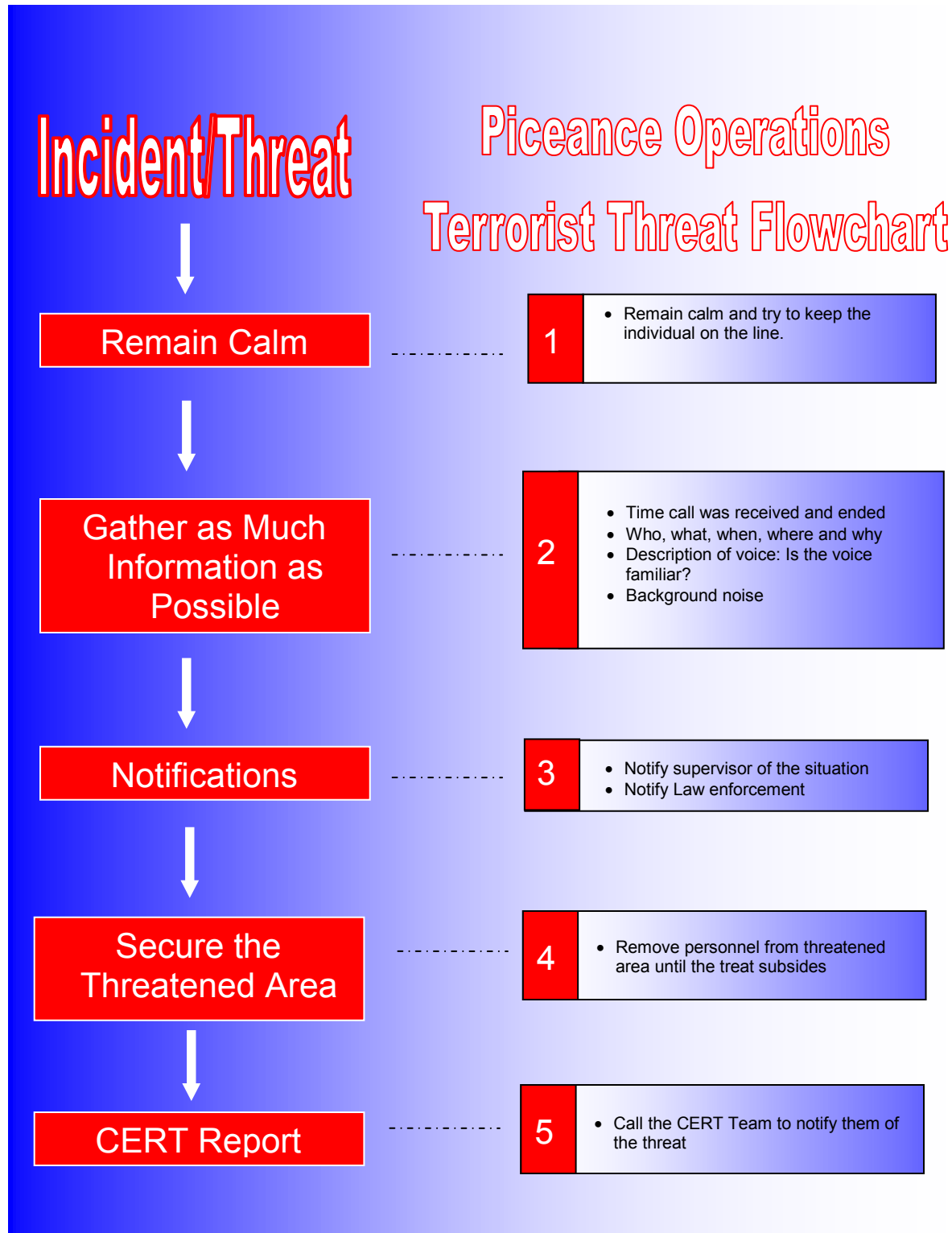
2.2.18 Bomb Threat

Figure 2.12 – Bomb Threat Flowchart



2.2 Response Actions (Cont'd)

2.2.18 Bomb Threat (Cont'd)



2.2 Response Actions (Cont'd)

2.2.19 Evacuation

Based on analysis of the sites as discussed elsewhere in the plan, an evacuation plan shall be developed.

In addition, plans to evacuate parts of the facility that are at a high risk of exposure in the event of a discharge or other release must be developed.

Evacuation routes must be shown on a diagram of the facility (refer to diagrams). Local evacuation plans and diagrams are maintained at the local operations level.

When developing evacuation plan, consideration must be given to the following factors, as appropriate:

✓	Location of stored materials
✓	Hazard imposed by discharge material
✓	Discharge flow direction
✓	Prevailing wind direction and speed
✓	Water currents, tides, or wave conditions (if applicable)
✓	Arrival route of emergency response personnel and response equipment
✓	Evacuation routes
✓	Alternative routes of evacuation
✓	Transportation of injured personnel to the nearest emergency medical facility
✓	Location of alarm/notification systems
✓	The need for a centralized check-in area for evacuation validation (roll call)
✓	Selection of a mitigation command center
✓	Location of shelter at the facility as an alternative to evacuation

One resource that may be helpful to owners/operators in preparing this section of the response plan is The Handbook of Chemical Hazard Analysis Procedures by the Federal Emergency Management Agency (FEMA), Department of Transportation (DOT) and EPA. The Handbook of Chemical Hazard Analysis Procedures is available from FEMA, Publication Office, 500 C. Street S.W. Washington D.C 20472, (202) 646-3484.

2.2 Response Actions (Cont'd)

2.2.19 Evacuation (Cont')

Evacuation Checklist	
When the alarm or is sounded or a signal to evacuate is given all personnel should:	
<input type="checkbox"/>	Immediately stop work activities.
<input type="checkbox"/>	Check the wind direction.
<input type="checkbox"/>	Move upwind or cross wind towards boat dock.
<input type="checkbox"/>	Check the wind again.
<input type="checkbox"/>	Person-in-Charge will conduct a head count to account for all personnel known to be at the facility.
<input type="checkbox"/>	Person-in-Charge will assist in alerting and escorting personnel, including visitors and contractors to the appropriate evacuation point.
<input type="checkbox"/>	Person-in-Charge will notify the Piceance Operations office or Production Supervisor, and make all other appropriate notifications, as necessary.
<input type="checkbox"/>	Person-in-Charge will assist in hazard control activities as requested.
<input type="checkbox"/>	Person-in-Charge will initiate search and rescue of missing persons.
<input type="checkbox"/>	All other personnel will remain at the evacuation point until the "All Clear" signal is given, or until instructed to board the operations boat to evacuate.
Note: Evacuation should be carried out in an orderly manner. Personnel should WALK, not run or panic. Never attempt a water-entry evacuation unless it is the final feasible evacuation option.	

2.3 Emergency Response Equipment

2.3.1 Facility Owned Response Equipment

This section provides a description of the facility's list of emergency response equipment and location of the response equipment.

Piceance Operations Spill Trailer Inventory				
			Date:	
			Inspected By:	
Quantity	UOM	Size	Description	Condition
2	ea	1000 Watt	halogen work lights	
15	ea	4'	steel fence posts	
2	rolls	4' x 50'	temporary fencing (plastic snow fence, chicken wire, etc)	
SHOVELS AND MISC				
4	ea		square nose shovel	
2	ea		round nose shovel	
1	ea		post driver	
1	ea	10 lb	sledge hammer	
1	ea		push broom	
3	ea		steel tine rake	
1	ea		pitch fork	
1	ea		scoop shovel - non sparking	
1	ea	20'	chain with hooks	
TOOLS				
1	122 piece		tool set	
1	ea	18"	pipe wrench	
1	ea	24"	pipe wrench	
1	ea	1/2	breaker bar	
1	ea	2 pound	sledge hammer	
1	ea	24 oz	ball peen hammer	
3	roll		electrical tape	
2	ea		hacksaw	
1	ea		pkg hacksaw blades	
1	ea	25'	tape measure	
1	ea		nut driver set	
1	ea	12"	crescent wrench	
1	ea	15"	crescent wrench	
1	ea		fine file	
1	ea		coarse half round file	
1	ea	6"	pliers	
1	ea	12"	pliers	
1	ea	6"	side cutters	
1	ea	6"	needle nose pliers	
1	ea		sheet metal cutters	
2	ea		standard set allen wrench	
2	ea		metric set allen wrench	
1	ea	14 piece	punch/chisel set	
2	ea		utility knife	
1	ea	9 piece	screwdriver set	
1	ea		wire brush	
2	ea		tool bag	

Piceance Operations Spill Trailer Inventory
Date: _____

Inspected By: _____

Quantity	UOM	Size	Description	Condition
SORBANTS AND CLEAN UP				
1	ea	25 foot	Mega Dam Portable Underflow Dam	
1	Canister	8" x 1000 ft	Roc Barrier First Response Boom	
1	100 Ft	12"	Contractor Boom	
1	ea	3 "	Manta Ray Skimmer 5142	
1	ea	3" x 20 Ft	EDRC/Derated 1028 bpd	
6	100 pre box	15"x19"	Suction hose and hose floats	
1	box		oil absorbent pads	
4	ea	8" x10'	rags, 25 pounds	
15	ea	25 pound sack	absorbent booms	
5	ea	10' X 4"	granular absorbent (floor dri, kitty litter, etc)	
5	box	30 per box	PVC pipe for under flow dam drain	
2	rolls	6 mil	absorbent socks (3" x 4')	
2	ea	55 gal	plastic sheeting (24' x 100')	
1	ea	32 gal	over pack drums with lids	
2	box	55 gal	trash can with lid	
1	box	32 gal	garbage bags - 3 mil	
5	ea	5 gal	garbage bags - 3 mil	
6	ea		plastic pails	
2	rolls		reflective cones	
5	ea	250'	plastic survey tape (minimum 200' x 2")	
1	box	200 sheet rolls	braided 1/2" nylon rope	
24	rolls		heavy paper towels	
			bath tissue	
PERSONNEL PROTECTIVE EQUIP				
1	box	L	tyvek coveralls	
1	box	XL	tyvek coveralls	
1	box	XXL	tyvek coveralls	
1	box	XXXL	tyvek coveralls	
7	bottle		eye and skin wash solution	
2	ea		cold packs	
1	ea	lg	half face mask respirator	
1	ea	med	half face mask respirator	
1	ea	small	half face mask respirator	
12	ea		respirator filters dust and voc	
6	pair		chemical gloves	
1	pair	XL	nitrile gloves	
1	pair	L	nitrile gloves	
1	pair	Med	nitrile gloves	
2	boxes	XL	disposable nitrile gloves	
1	pair	Small	nitrile gloves	
12	pair		safety glasses	
3	ea		orange safety vests	
2	rolls	100'	caution tape	
6	pair		safety goggles	
3	ea		face shields	
1	box	20 each box	side shields	

Piceance Operations Spill Trailer Inventory
Date: _____

Inspected By: _____

Quantity	UOM	Size	Description	Condition
PERSONNEL PROTECTIVE EQUIP (Cont'd)				
1	box		ear plugs	
1	ea	XL	safety harness	
1	ea	L	safety harness	
1	ea		energy absorbing rope	
1	ea		deceleration stretch	
2	pair	XL	slicker suit	
2	pair	XXL	slicker suit	
2	pair	XXXL	slicker suit	
2	pair	Med	slicker suit	
1	ea		large first aid kit (FAC-3)	
1	ea		blood borne pathogen kit	
1	ea		eye wash station	
2	ea	20 pound	ABD extinguisher	
1	bottle		skin cream	
1	container		waterless skin cleaner - GOJO	
6	ea		hard hats	
1	dozen		cotton gloves	
1	dozen		leather gloves various sizes	
3	pair		steel toed overshoes various sizes 7-12	
1	box		dust masks	
1	box		sun screen wipes	
1	box		bug repellent wipes	
LOTO SUPPLIES				
12	ea		LOTO hasps	
12	ea		Locks with keys - color coded	
25	ea		LOTO tags	
1	ea		LOTO Box	
1	box		permanent markers - sharpie med point	
1	ea		ball valve LOTO	
1	pkg		11" zip ties	
1	pkg		15" zip ties	
MISC				
1	ea		GFCI	
1	ea	50'	HD outdoor extension cord	
1	ea	100'	HD outdoor extension cord	
5	ea		CI1 Div1 Flashlights	
4	pkg		D cell batteries	
6	ea		Duct tape roll	
1	ea	3 gal	hand sprayer	
1	bottle		Dawn detergent	
1	ea		White board and markers	
1	ea		Wind Sock	
1	box	13 gallon	plastic trash bags	

Piceance Operations Spill Trailer Inventory**Date:** _____**Inspected By:** _____

Note any damaged or defective materials and notify supervisor to schedule replacement:

- - -

2.3 Emergency Response Equipment (Cont'd)

2.3.1 Facility Owned Response Equipment (Cont'd)

There are three (3) 65-gallon spill kits at the following locations:

1. Laydown yard
2. 1C wellpad
3. 18C wellpad
4. 18A wellpad
5. 26A wellpad

There is one (1) 30-gallon spill kits at the following location:

1. Valley Pump Station

2.3.2 Contractor Owned Response Equipment

This section provides a list of emergency response equipment and the location of the response equipment for Ecos Environmental and Disaster Restoration, CES, Clean Harbors and Veolia.

2.3 Emergency Response Equipment (Cont'd)

2.3.3 Letters of Intent

Ecos Letter of Intent



Environmental & Disaster Restoration, Inc.

January 3, 2013

Bryan F. Beautz
North American Operations
Emergency Preparedness Coordinator
Marathon Oil Company
743 Horizon Ct. #220
Grand Junction, Colorado 81506

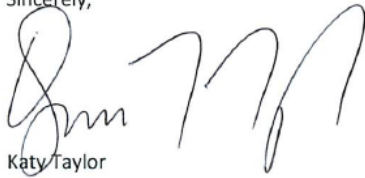
Re: Letter of Intent

Mr. Beautz,
ECOS Environmental & Disaster Restoration, Inc. (ECOS) is please to supply timely emergency response for spill mitigation and clean up to the Marathon Oil Company in Colorado, Utah and Wyoming.

ECOS has the experience, knowledge of applicable regulations, and the supplies and equipment necessary to respond to oil and chemical spills. ECOS personnel are 40-hr HAZWOPER, confined space entry and pipeline safety trained.

Should you have any questions please contact our offices at 970-945-4407.

Sincerely,

A handwritten signature in black ink, appearing to read 'Katy Taylor'.

Katy Taylor
Chief Administrative Officer



CES Letter of Intent



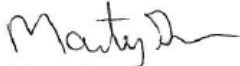
8041 W. 1-70 Frontage Road, Unit #11
Arvada, Colorado 80002
303-423-9949 • Fax 303-423-1854
24hr Response (800) 310-7445

Marathon Oil
Attn: Bryan Beautz
Major Service Contract No. 1110680

6-30-11

Custom Environmental Services, Inc. (CES) is available to provide emergency response services to Marathon Oil CO (MOC) on a 24 hour basis under the existing contract between Marathon Oil and Custom Environmental Services, Inc. CES can provide emergency response resources, expertise and personnel to assist in containment, clean up and remediation of any emergency response incident for MOC in its areas of operation. CES is available to respond to any MOC incident on a 24/7 basis.

Sincerely,

A handwritten signature in dark ink, appearing to read "Marty Green", is positioned above the typed name and title.

Marty Green,
General Manager
Custom Environmental Services, Inc.

Office 303-423-9949
24 hour emergency number 1-800-310-7445

www.customsvcs.com

Clean Harbors Letter of Intent



Clean Harbors
42 Longwater Drive
P.O. Box 9149
Norwell, MA 02061-9149
781.792.5000
800.282.0058
www.cleanharbors.com

November 18, 2011

Mr. Bryan Beautz
Marathon Petroleum
5555 San Felipe Street
Houston, Texas 77056

Dear Mr. Beautz:

Please let this letter serve as evidence that the Emergency Response Services Contract executed in 2008 in conjunction with the Addendums executed in May of 2011 by Clean Harbors Environmental Services (CHES), with corporate offices in Norwell, Massachusetts and Marathon Oil is an "evergreen" agreement and, as such, remains in force on this date, and will remain in force until January 27, 2013.

The purpose and intent of the SERA was, and continues to be, to provide Marathon Oil with emergency oil spill response resources and response capabilities, as required under the Oil Pollution Act of 1990, according to the terms and conditions of the 2008 agreement and in accordance with the USCG OSRO Ratings on file with the USCG for Clean Harbors.

CHES holds all necessary permits to perform this type of emergency response, and has regular training programs in place for all of its responders, including, but not limited to, 40 hour OSHA "Hazwoper" training and annual 8 hour refresher.

Corporate Office-1.800.OIL.TANK
Virgil Blanchard-Vice President-337.319.2194
TJ Engstrom-Field Operations Manager-406.370.6565

Sincerely,



TJ Engstrom

"People and Technology Creating a Better Environment"

Veolia Letter of Intent

Prepared for:

**Marathon Oil Company
North American Production Operations
Emergency Response and Security**

Letter of Intent

Date Issued: July 15th, 2011

**Marathon Oil Company
Bryan F. Beautz
(P) 713-296-3548
bfbeautz@marathonoil.com**

Prepared by:



**VEOLIA ES SPECIAL SERVICES, INC.
N 104 W 13275 DONGES BAY ROAD
GERMANTOWN, WI 53022**

July 15th, 2011



Marathon Oil Co.

I. INTRODUCTION

Veolia ES Special Services, Inc. (VES-SS) is pleased to present our response to the request for emergency response services for Marathon Oil Company's drill site operations in the states of Colorado, Wyoming, and Nebraska. Outlined below is how VES-SS can meet the specifications to provide service for 24/7 HAZMAT emergency response services as needed for the various Marathon Oil Company's operations drill sites under the Marathon Oil Company and VES-SS Emergency Response nationwide Master Service Agreement.

1. Company Overview

Veolia Environnement (VE)

Veolia Environnement (VE) is a \$46 Billion Fortune Global 150 Company that is made up of four (4) divisions: Veolia Water, Veolia Energy, Veolia Transportation, and Veolia Environmental Services. VE employs 317,000 employees, operates in 77 countries, and is ranked number one (1) in environmental services worldwide. VE is the only global company providing entire range of environmental services to municipal, industrial, commercial and government customers.

Veolia Environmental Services (VES) Worldwide

Veolia Environmental Services (VES) operates across a wide range of waste management technologies, from initial collection to final recycling or recovery. Our global company of the waste management sector enables us to optimize the performance of each stage of the cycle so to best prepare for the next stage. The objective is to continuously move towards sustainable development.

Key Facts - Veolia Environmental Services (VES) Worldwide

- ⊕ #2 worldwide in waste management services and a world leader in hazardous industrial waste management
- ⊕ 2010 revenue of \$12.4 billion
- ⊕ 105,000+ employees

Veolia Environmental Services North America (VESNA) Corporation

Veolia Environmental Services North America Corp. (VESNA), headquartered Chicago, IL, provides integrated solution to industrial, commercial, government, municipal and residential sectors. Established in May 2000, VESNA's services include environmental, industrial, and solid waste. VESNA is working to keep the environment clean and sustainable for future generations by striving to be on the leading edge of environmental protection, maintenance and stewardship.

As a part of Veolia Environment, VESNA offers customers a multi-service approach. The affiliation between VESNA companies results in an unmatched combinations of experience, financial resources and technologies. The formula combines the different aspects of all specialties and provides a full spectrum of collection and treatment processes, including the management of hazardous and solid wastes, industrial maintenance and cleaning services and wastewater management and treatment.

VESNA is comprised of three (3) decentralized business activities:

- ⊕ **Veolia ES Technical Solutions, L.L.C (VES-TS)**
VES-TS offers the most comprehensive hazardous waste services in the industry. These services are built upon a support structure of transportation, processing facilities and customer service field offices located throughout the United States, Puerto Rico and Canada. VES-TS owns and operates an integrated, nationwide network of facilities providing thermal destruction, fuels blending, solvent recovery, electronics recycling and technical services.
- ⊕ **Veolia ES Industrial Services, Inc. (VES-IS)**



Marathon Oil Co.

VES-IS provides comprehensive industrial cleaning solutions to its customers, specializing in place equipment cleaning, surface preparation and hydro-blasting. At the core of VESNA's experience, VES-IS' expertise, equipment and range of services have development this company as the number one industrial cleaning company in North America. For more than 30 years, VES-IS has continued to combine the best technological capabilities and services with a focused, business-plan approach. VES-IS has the most efficient fleet of equipment in its field, and is capable of servicing customers throughout North America.

VES-IS has a fully owned subsidiary that specializing in inland services and offshore marine services, Veolia ES Special Services, Inc. (VES-SS).

• **Veolia ES Special Services, Inc. (VES-SS)**

VES-SS is broken down into two divisions: Inland Services and Offshore Marine. The Inland Services group is made up of **24/7 emergency response services**, abatement services, year around diving services, hydrographic survey services, confined space rescue and standby services, high hazard decontamination services, and USCG certified **oil spill response organization services**.

• **Veolia ES Solid Waste, Inc. (VES-SW)**

VES-SW is one of the largest solid waste management organizations in North America providing a full range of services. VES-SW operates seventy-two (72) collection facilities and thirty-two (32) solid waste sanitary landfill facilities in the United States. VES-SW works in partnership with communities to preserve valuable resources and extend landfill capacity by focusing on the waste reduction, curbside collection, and the processing and marketing of recyclables.

2. Letter of Intent

Per the request for 24/7 emergency response services for the various Marathon Oil Company's drill sites in the states of Colorado, Wyoming, and Nebraska, Veolia ES Special Services, Inc. (VES-SS) is capable of providing the services needed to properly respond. Listed below is an overview of our emergency response program.

• **Emergency Response Program**

VES-SS has several locations that maintain personnel dedicated to emergency response. This staff responds to spills in their respective operating areas, support large scale events outside their normal area and manage all spill responses conducted by other VES locations and subcontractors. These dedicated ER locations maintain vehicles to respond and tow fully stocked response trailers and other spill cleanup related equipment and supplies as needed.

Our emergency response services include the initial response; follow up remediation/excavation, disposal, sampling and site restoration. Initial response will include personnel and equipment as required for the event. Follow up remediation and restoration if required is also tailored for the event.

VES-SS is Oil Spill Response Organization (OSRO) rated for spills on water in several Midwest operating areas as well as California. Our OSRO contractor number is 0014. Seventeen (17) VES locations have personnel and equipment listed in the USCG database (RRI) for OSRO' contractors. Support for major spills on water can also come from many additional VES offices. We provide OSRO training/boom deployment classes in addition to supporting our clients during annual/bi-annual/as-needed table top exercises.

A final spill report is provided suitable for submittal to local, state and federal agencies to satisfy closure. The report will contain a record of the event, the actions taken; follow up actions, photographs, transportation paper work, waste receipts and any other pertinent information.



Marathon Oil Co.

Agreements with various rental companies maintained nationwide allow fast acquisition of additional equipment such as portable storage tanks, material handling and excavation equipment, generators, light plants and more. These support suppliers have provided storage tanks long and short term for emergency sulfuric acid transfers due to a tank leak, storage of collected spilled material and excavation equipment for small one day jobs to multi month disaster recovery projects.

The following is a brief listing of the types of emergency response services provided by VES-SS:

- 24/7 nation-wide spill response network and cleanup
- Biological and chemical response
- Natural disaster response
- Confined space rescue/standby
- Customer training programs
- Oil spill response contractor land/water (OSRO rated)
- Handling and neutralizing reactive chemicals
- Emergency and non-emergency man hole clean-out
- Hwy/rail/air transportation spill response
- Radioactive response

Subcontractor (s)

Subcontractors performing work for VES-SS complete an audit form which is reviewed to determine capabilities, safety performance and rate structure. The majority of the subcontractors used reciprocates and use VES-SS for clients of theirs that require services from our locations.

The subcontractors operate in the same manner as VES-SS and will be managed by us from beginning to end of an event. Follow up remediation services are approved first by VES-SS and reviewed to insure the plan meets the site objectives. Communication between Client Name and the VES-SS subcontractor will occur on the site for immediate direction and answers to questions arising during an event. The same communication is required of the subcontractor to update VES-SS so we can understand the situation, offer advice, seek client approval if needed and be informed to address client questions and concerns later.

A final spill report is also provided for subcontract work performed. A simply narrative is requested from the subcontractor and VES-SS Response Managers assemble the data provided and learned directly into the same VES-SS report format.

Industrial Services

Veolia ES offers an expansive portfolio of industrial cleaning services including high-pressure water blasting, vacuum and pneumatic transfer services and tank cleaning to name a few. The industrial services group performs work at power plants cleaning a tube bundles, tanks and boilers. Many of the methods employed are highly specialized high pressure cleaning systems including some engineered and fabricated in our custom fabrication shop.

Highlights of VES Industrial Services are listed below:

- 89 Locations in the US and Canada
- Headquartered in Baytown, TX
- Over 500 hydro blasters (10,000-20,000 PSI)
- Over 80 ultra-high pressure units (35,000-55,000 PSI)
- Over 500 dry and liquid vacuum trucks
- 50 chemical circulators
- \$130 M in equipment



Marathon Oil Co.

- 40 sewer cleaner/combo units
- Skid pumps, foam generators, specialized tank cleaning equipment, mobile laboratories, explosion proof and TV camera trucks, filtering units, flow meters

We bring a combination of skill, experience, commitment to safety and on-site performance to deliver unmatched productivity and reliability. Our highly trained and skilled personnel, coupled with our large and diverse fleet of equipment, can be utilized to provide a wide variety of environmental and industrial cleaning services.

Disposal

Veolia ES Technical Solutions (VES-TS) will provide for disposal of hazardous and non-hazardous materials managed by VES-SS. This continues the single source concept, uses the resources of VES and simplifies ordering services.

Disposal handled through Veolia ES Technical Solutions is covered by the protection of our Pollution Legal Liability (PLL) insurance. PLL insurance is an essential asset management tool for businesses that have environmental exposures. Whether hazardous or not, sudden or gradual, practically any substance can cause pollution, given the right circumstances. It includes coverage for third party claims of off-site bodily injury and property damage including legal defense costs and the cost of cleaning up the off-site contamination. A limit of liability of \$50,000,000 per occurrence and in the aggregate is provided and includes coverage for such exposures to on-site third party bodily injury, and pollution related transportation risk exposures. This policy satisfies the financial responsibility requirement under the Resource Conservation and Recovery Act (RCRA).

Highlights of VES Technical Solutions are listed below:

- 47 facility and service locations
- 14 company-operated TSDFs
- 2 incinerators
- 4 solvent recovery and fuels blending
- 1 Ethanol Recovery
- 4 Electronic waste recycling
- 5 part B permitted for bulking
- 1 low-level radioactive
- 35 (10) day in transit facilities
- Serving US, Canada and Puerto Rico
- 10 service districts supporting multiple satellite offices
- Comprehensive audited and approved third party TSDF and transporter network
- Regional and national service offering
- 1,600 employees

Universal Waste

VES-TS offers recycling services for light ballasts, bulbs, batteries, and computer CRT's and mercury devices. These universal waste materials can be managed in small quantities through our RECYCLEPAK program. This program is a prepaid recycling solution for designed for small quantities. This and other programs to assist customers in tracking shipments, inventories are all offered as part of the service for waste disposal.



Marathon Oil Co.

VES-SS Nationwide Spill Network Map



● Veolia Response Location

● Veolia Subcontract Response Location

Veolia Environmental Services North America (VESNA) Map



2.3 Emergency Response Equipment (Cont'd)

2.3.4 Response Contractor Equipment Lists

Ecos



Environmental & Disaster Restoration, Inc.

EQUIPMENT INVENTORY			
Equipment Type	Manufacturer	Make / Description	Quantity
SPILL RESPONSE			
Hand Tools	(Rakes/Shovels/Brooms/etc)	Non-Sparking	30
T Packs	Clean Earth Systems		50 packs
Traffic Control Cones	Reflective	36 inch	100
Oil Adsorbent Booms	Skim Response	Large 10 foot Boom	600 ft
Universal Adsorbent Sweeps	Skim Response	100'L x 19"W	4 rolls
Oil & Water Adsorbent Pads	Skim Response	19"Lx15"W	1800 pads
Oil & Water Adsorbent Pads	Skim Response	30"L x 30"W	150 pads
Shredded Adsorbent	Skim Response		10 bags
Hard Boom	Spill Master	20 foot Bantam Boom	2
Clay Granular Adsorbent	UltraSorb	Safety Sorbent	60 bags
Oil Skimmer	Megator		1
Overpack Drums	ENPAC	95 gallon Poly	10
Metal Drums		55 gallon Steel	25
EQUIPMENT			
Abrasive Soda Blaster	SurfaceTek		1
Sodium Bicarbonate		50 lb Bags	45 bags
Temporary Heater	Fostoria	15KW Single Phase	2
Temporary Heater	Fostoria	30KW Three Phase 480v	7
Backhoe	John Deere	Wheel Loader Backhoe 310 G	1
Excavator/Track hoe	Kobelco	Excavator 150 Blade Runner	1
Mini Excavator	Caterpillar	Excavator 303.5 LR	1
Skidsteer	Caterpillar	Skidsteer Loader 226 B	1
Telehandler	Caterpillar	Telescopic Handler 2TH460B	1
Hot Water/Steam Pressure Washer	Shark	SGP353037	1
Generator	MQ Equipment	2500 kw	2
Generator	MQ Equipment	6000 kw	3
Portable Tanks		1500 gallon	4
Transfer Pump	Explosion Proof	Variable Medium	1
Submersible Pump	Goodwin Pumps	GSP10 86 gallons/min 110v	4
Trash Pump	MQ Equipment	Trash Pump 2"	6
Trash Pump	MQ Equipment	Trash Pump 3"	2
Trash Pump	MQ Equipment	Trash Pump 4"	1
Utility Pump	WaterAce	Gas Utility Pump	1
Utility Pump	Wayne Pump	Gas Utility Pump	1
Suction Hose		4 inch, 3 inch, 2 inch	100 ft/each
Discharge Hose		4 inch, 3 inch, 2 inch	300 ft/each
Temp. Power Dist. Box	CEP		1
Extension Cords	Misc. Types		1000 ft
Jumping Jack Compactor	Mikasa	Jumping Jack Compactor	1
Vibratory Plate Compactor	MQ Equipment	Plate Compactor	1
Flat Bed Trailer	14,000 lb weight class		2
Flat Bed Trailer	25,000 lb weight class		1
Spill Response Trailer	Hallmark	24 foot Enclosed	1
Semi Tractor	Freightliner	1983 Enclosed	1
Equipment Trailer	Load King	50 ton	1
ANALYTICAL EQUIPMENT			
GPS / Mapping Software	Magellan / ArcView	Triton 1500 / CS 4.0	1
Boroscope	ProVision	300	1
Four Gas Meters	RAE Systems	Qrae	2
RAE Hand Pump	RAE Systems	Benzene, H2S, & Chlorine	10 / each
		Glycol, Gluderaldehyde, Water Filter, TPH-X, H2S, Colorimetry	
HACH Testing Kits	HACH		1
Hand Auger	Ben Meadows		4 ft
Infrared Thermometer	ExTech Instruments		2
pH, TDS, SC, & Salinity Meter	Eutech Instruments	Oakton Multi Parameter / PCSTestr 35	1
Photo Ionization Detector	RAE Systems	MiniRAE 2000	1
Photo Ionization Detector	RAE Systems	MiniRAE 3000	1
Sampling Supplies	Water & Soil	Evergreen Analytical	1
Thermal Imaging Camera	Flir	b40	2
Well Bailleurs	Ben Meadows	2 in well diameter	24
Well Bailleurs	GeoTech	4 in well diameter	12
Well Water Level Meter	Solinst	P6 Probe - 300 feet	1
SAFETY			
Fall Protection Harness	FP Pro Harness		2
First Aid Kits	Every Vehicle	Misc.	10
Portable Eyewash Station			1
Personal Protective Equip.	Misc (Hard Hats/Vests/Suits)	Levels A, B, C, & D	1 per person
SCBA	Airgas (*rental per occasion)	Level A	1
Safety Fence		CDOT Orange	300 ft
**Have Rental Accounts with Wagner Rents, United Rentals, & Honnen Equipment for other short term use equipment (ie. Large Volume Air Compressors, Light Plants, Large Excavation Equipment, Compactors, etc.)			

CES

Spill Response, Containment and Recovery Equipment Inventory Custom Environmental Services Inc. Denver, Colorado

CODE LEGEND

OWNER CODES	
C	Company Owned
S	Contractor
OT	Other

HEAVY EQUIPMENT/RESPONSE VEHICLES /TRAILERS

DATE AND NAME OF MANUFACTURER	TYPE/UNIT #	NUMBER OF UNITS	WIDE LOAD PERMIT NEEDED?	HAZ WASTE PERMITS LICENSED	STORAGE LOCATION	OWNER CODE
2001 Ford	Explorer, 100				Denver	
1999 Mitsubishi	Box Van, 101	1	NO	YES	Colorado Springs	C
2010 Ford	Explorer, 102	1	NO	YES	Grand Junction	C
2002 Ford	F-250, 103	1	NO	NO	Colorado Springs	C
2002 Ford	Ranger, 104	1	NO	NO	Denver	C
2009 Ford	Explorer, 105	1	NO	YES	Denver	C
2009 Ford	Explorer, 106	1	NO	NO	Denver	C
2002 Ford	F-550 107	1	NO	YES	Colorado Springs	C
2002 Ford	F-550 108	1	NO	YES	Grand Junction	C
2002 Ford	Explorer, 110	1	NO	NO	Denver	C
2002 Ford	E-450, 111	1	NO	YES	Denver	C
2002 Ford	Ranger, 112	1	NO	NO	Colorado Springs	C
2009 Ford	Explorer, 113	1	No	No	Denver	C
2003 Ford	E-450, 114	1	NO	YES	Denver	C
2003 Ford	Taurus, 115	1	NO	NO	Colorado Springs	C
2003 Ford	Sport Trac, 116	1	NO	NO	Denver	C
2003 Ford	Sport Trac, 117	1	NO	No	Denver	C
2003 Ford	F-550, 118	1	NO	YES	Colorado Springs	C
2004 Ford	F-250, 119	1	NO	NO	Colorado Springs	C
2004 Ford	Chevy G3500, 120	1	NO	NO	Denver	C

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

2006 Ford	F-350, 121	1	NO	YES	Grand Junction	C
2006 Ford	F-550, 122	1	NO	YES	Denver	C
2007 Ford	F-250, 123	1	NO	NO	Denver	C
2007 Ford	F-250, 124	1	NO	NO	Denver	C
2007 Ford	Expedition, 125	1	NO	NO	Colorado Springs	C
2008 Ford	F-250, 126	1	NO	NO	Colorado Springs	C
2008 Ford	F-550, 127	1	NO	YES	Denver	C
2009 Ford	F-550, 128	1	NO	YES	Denver	C
2009 Ford	Explorer, 129	1	NO	NO	Denver	C
2010 Ford	Explorer, 130	1	NO	NO	Colorado Springs	C
2003 Chevy	C4500, 131	1	NO	NO	Denver	C
1999 Intl	Sewer, 132	1	NO	NO	Denver	C
2010 Ford	Explorer, 133	1	NO	NO	Denver	C
2010 Ford	Expedition, 134	1	NO	NO	Denver	C
2010 Ford	F-350, 135	1	NO	NO	Colorado Springs	C
2010 Ford	F-350, 136	1	NO	NO	Denver	C
2010 Ford	F-550, 137	1	NO	NO	Denver	C
2004 Vactor	7600, 138	1	NO	NO	Grand Junction	C
2000 Vactor	Tandem, 139	1	NO	NO	Grand Junction	C
1990 Vactor	359 2045, 140	1	NO	NO	Grand Junction	C
1992 Guzzler	Tandem 2102, 141	1	NO	NO	Grand Junction	C
1993 Volvo	Tandem, 142	1	NO	NO	Grand Junction	C
1993 Ford	Supercab, 143	1	NO	NO	Grand Junction	C
1992 ford	Supercab, 144	1	NO	NO	Grand Junction	C
2000 Chevy	Crew cab, 145	1	NO	NO	Grand Junction	C
1999	Water Response Trailer, 201	1	NO	NO	Colorado Springs	C
1999 Vactron	500 gallon Vac Unit, 202	1	NO	NO	Colorado Springs	C

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

1994 IR	185 Air Compressor, 203	1	NO	NO	Denver	C
2000	Equipment Trailer, 204	1	NO	NO	Denver	C
1999 Vactron	800 gallon Vac Unit Gas, 206	1	NO	NO	Denver	C
1992 Modec	Decon Trailer, 207	1	NO	NO	Denver	C
Cat	Forklift, 208	1	NO	NO	Denver	C
1999	16' Cargo Trailer, 209	1	NO	NO	Colorado Springs	C
1994 IR	185 Air Compressor, 210	1	NO	NO	Colorado Springs	C
2003 Jackson	Water Response Trailer, 211	1	NO	NO	Denver	C
2004 Interstate	Response Trailer, 212	1	NO	NO	Denver	C
Bobcat	Skidsteer #863 with Fork Attachments, 213	1	NO	NO	Denver	C
2008 Frontier	Decon Trailer, 214	1	NO	NO	Denver	C
2008 Cargo, Exp	Equipment Trailer, 215	1	NO	NO	Denver	C
2009 SPO	Pressure Washer Trailer, 216	1	NO	NO	Denver	C
2008 Vactron	800 gallon Vac Unit Diesel, 217	1	NO	NO	Denver	C
2005 Almond Bros.	Nite Pro Light Plant, 218	1	NO	NO	Denver	C
2003 Cargo	Lonestar, 219	1	NO	NO	Grand Junction	C
2003 Trailer	M&M 18' Trailer, 220	1	NO	NO	Grand Junction	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT
	** EPA ID Number COR000013375
	** RSPA DOT Registry # 070899 701 013H
	Note 1 - Units are pre-stocked with equipment and supplies necessary to respond to and cleanup chemical and petroleum spills. One unit is equipped for land or water borne releases of petroleum, including containment and recovery equipment. One unit is equipped for land or water borne releases of chemicals, including Level A, B, and C capability, and other PPE, recovery, transfer, neutralizing agents, and instrumentation for stabilization and cleanup of most acids, caustics, organics, inorganics, PCBs, etc.

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

PUMP CODES	HOUSING/LINER MATERIAL		DRIVE CODES	OWNER CODES
C Centrifugal	C Cast Iron	V Viton	E Electric	C Company Owned
D Double Diaphragm	A Aluminum	R Rubber	G Gasoline	S Contractors
OT Other	S Stainless Steel	T Teflon	P Pneumatic	OT Other
	K Kynar	B Buna	OT Other	

PUMP EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	QUANTITY	HOUSING/ LINER MATERIAL	PUMP TYPE CODE	DRIVE TYPE CODE	SUCTION/DISCH SIZE (INCHES)	MFG PUMP RATE (GPM)	STORAGE LOCATION	OWNER CODE
ARO	244C1	2	S/T	D	P	1"	40	Denver, Colo. Spgs.	C
ARO	344C1.5	2	K/T	D	P	1.5"	100	Denver, Colo. Spgs.	C
ARO	PD20A	2	A/B	D	P	2"	170	Denver, Colo. Spgs.	C
Multi - Quip	D305R	2	C/B	D	G	3"	200	Denver, Colo. Spgs.	C
ARO	2444C1	2	S/T	D	P	1"	40	Grand Junction	C

USAGE & OPERATIONAL RESTRICTIONS

PUMP TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH PUMP TYPE

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

BOOM TYPE	END CONNECTOR CODES	OWNER CODES
RW Rough Water	ASTM ASTM STD (D962-86)	C Company Owned
FW Fast Water	BOLT Bolt Connect	S Contractor
OT Other	OT Other	OT Other

BOOM EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	BOOM TYPE CODE	INVENTORY LENGTH FEET	SKIRT SIZE INCHES	FLOAT SIZE INCHES	END CONNECTOR	STORAGE LOCATION	OWNER CODE
Containment Systems	R3612100	R, RW	1,000	12	8	ASTM	Denver	C
Containment Systems	R3612100	R, RW	1,500	4	4	ASTM	Denver	C
Containment Systems	R3612100	R, RW	500	4	4	ASTM	Colo. Spgs.	C
Containment Systems	R3612100	R, RW	500	4	4	ASTM	Grand Junction	C

USAGE & OPERATIONAL RESTRICTIONS

BOOM TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH BOOM TYPE

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES	
C	Company Owned
S	Contractors
OT	Other

SKIMMER EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	SKIMMER TYPE	NUMBER OF UNITS	MFG. RECOVERY RATE (BBL/DAY)	HOSE SIZE SUCTION/DISCH (INCHES)	STORAGE LOCATION	OWNER CODE
Skim Pack	2200	Weir	1	3,428	1.5	Grand Junction	C
Skim Pack	4300	Weir	1	3,428	1.5	Grand Junction	C
Skim Pack	4300	Weir	2	3,428	1.5	Denver	C

USAGE AND OPERATIONAL RESTRICTIONS

SKIMMER TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH SKIMMER TYPE.

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES
C Company Owned
S Contractors
OT Other

RESPONSE BOATS

NAME OF MANUFACTURER	MODEL NUMBER	BOAT TYPE	HORSE POWER	NORMAL CREW SIZE	LENGTH/ BEAM (FEET)	DRAFT LIMITATIONS (INCHES)	TRANSPORTATION METHOD CODE	STORAGE LOCATION	OWNER CODE
Duracraft	1518	Johnboat	5hp	2	12	12"	Normal Trailer	Denver	C

USAGE & OPERATIONAL RESTRICTIONS

BOAT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH BOAT TYPE
JB	Severe Weather Conditions, Water Depth Min. 1'

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc. Denver, Colorado

CODE LEGEND

OWNER CODES	
C	Company Owned
S	Contractor
OT	Other

SUPPORT EQUIPMENT

NAME OF MANUFACTURER	EQUIPMENT TYPE	NUMBER OF UNITS	STORAGE LOCATION	OWNER CODE
Husky	HEPA Filtered Negative Air - 2000 cfm	1	Denver	C
Abatement Technology, Aero American	HEPA Filtered Negative Air - 2000 cfm	50	Denver	C
Abatement Technology, Aero American	HEPA Filtered Negative Air - 2000 cfm	6	Colo. Spgs.	C
ACSI	Portable Shower	18	Denver, Colo. Spgs.	C
Honda	Portable Generator, 6.5 KW	5	Denver, Colo. Spgs., Grand Junction	C
Sears	Portable Air Compressor, 10 gal.	1	Colo. Spgs., Grand Junction	C
1994 Ingersoll-Rand	Air Compressor, Diesel, 185 cfm	1	Denver	C
1994 Ingersoll-Rand	Air Compressor, Diesel, 185 cfm	1	Colo. Spgs.	C
BobCat Skidsteer	Skidsteer #863 with Fork Attachments	1	Denver	C
Portable Speedair	Gas compressor 90 PSI	1	Colo. Spgs.	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES
C Company Owned
S Contractor
OT Other

MONITORING/TESTING EQUIPMENT

NAME OF MANUFACTURER	EQUIPMENT ITEM	NUMBER OF UNITS	STORAGE LOCATION	OWNER CODE
Micro Max	Multi-Gas, CGI/O ₂ /CO/H ₂ S	2	Denver, Colo. Spgs.	C
RAE Systems	MiniRAE Plus PID, 10.6 eV	3	Denver, Colo. Spgs., Grand Junction	C
Jerome	431X Mercury Vapor Analyzer	1	Denver	C
Omniguard III	Manometer	12	Denver, Colo. Spgs.	C
Escort	Personal Pump	5	Denver, Colo. Spgs.	C
Gilian	Personal Pump	21	Denver, Colo. Spgs.	C
Drager	Colorimetric Tube	1	Denver	C
Custom	HAZCAT Kit	3	Denver, Colo. Spgs.	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES
C Company Owned
S Contractor
OT Other

PERSONAL PROTECTIVE EQUIPMENT

NAME OF MANUFACTURER	EQUIPMENT ITEM	NUMBER OF UNITS	STORAGE LOCATION	OWNER CODE
MSA	Cascade Breathing Air System	3	Denver, Colo. Spgs.	C
MSA	SCBA, 5 minute egress w/150 feet of airline	8	Denver, Colo. Spgs.	C
MSA	SCBA, 30 minute	12	Denver, Colo. Spgs., Grand Junction	C
MSA	Ultra Twin Respirators	50	Denver, Colo. Spgs., Grand Junction	C
Life-Guard	Level A Chemical Suit - Responder	7	Denver, Colo. Spgs.	C
Life Guard	Level A Chemical Suit - Responder	4	Grand Junction	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES	
C	Company Owned
S	Contractor
OT	Other

CONFINED SPACE EQUIPMENT

NAME OF MANUFACTURER	EQUIPMENT ITEM	NUMBER OF UNITS	STORAGE LOCATION	OWNER CODE
DBI/Sala	Quadpod, fall arrest and retrieval block, 100 foot spool	1	Denver	C
DBI/Sala	Tripod, fall arrest and retrieval block, 60 foot spool	1	Colo. Spgs., Grand Junction	C
Copus	Venturi Ventilator, 2,000 cfm	2	Denver, Colo. Spgs.	C
Pelsue	Ventilator, electric, 1,325 cfm	4	Denver, Grand Junction	C
One Air Systems International	Ventilator, electric, 1395 cfm	1	Colo. Spgs.	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

OWNER CODES
C Company Owned
S Contractor
OT Other

DECONTAMINATION EQUIPMENT

NAME OF MANUFACTURER	EQUIPMENT ITEM	NUMBER OF UNITS	STORAGE LOCATION	OWNER CODE
HAKO	Mercury/HEPA Vacuum, wet and dry	3	Denver, Colo. Spgs.	C
HAKO	HEPA Vacuum, wet and dry	2	Denver, Colo. Spgs.	C
Nilfisk	Mercury Vacuum, Portable	1	Denver, Colo. Spgs.	C
Euroclean	HEPA Vacuum	52	Denver, Colo. Spgs.	C
Alkota	Pressure Washer, 3,500 psi, steam, dual wand	2	Denver, Colo. Spgs.	C
Tuff Manufacturing	Pressure Washer, 3,000 psi	2	Denver, Colo. Spgs.	C

USAGE & OPERATIONAL RESTRICTIONS

EQUIPMENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EQUIPMENT

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

SORBENT TYPE CODE	COMPOSITION CODES	OWNER CODES
B Boom	M Mineral	C Company Owned
PAD Pad	NO Natural Organic	S Contractor
PT Particulate	S Synthetic	OT Other
ST Sheet	OT Other	
SW Sweep		
OT Other		

SORBENTS

NAME OF MANUFACTURER	MODEL NUMBER	SORBENT TYPE CODE	COMPOSITION CODES	NORMAL INVENTORY	SPECIAL APPLICATION EQUIPMENT NEEDED? YES/NO	SPECIAL RECOVERY EQUIPMENT NEEDED? YES/NO	STORAGE LOCATION	OWNER CODE
Allied (17" x 19")	WP9	PAD	S	3,500 Pads	No	No	Denver, Colo. Spgs.	C
Allied 8" X 10'	Mark II	B	S	2,000 Feet	No	No	Denver, Colo. Spgs.	C
Allied 5" X 10'	Mark II	B	S	2,000 Feet	No	No	Denver, Colo. Spgs.	C
UltraSorb	8833	ST	M	1,500 Pounds	No	No	Denver, Colo. Spgs.	C
Allied (17" x 19")	WP9	PAD	S	1000 Pads	No	No	Grand Junction	C
Allied 5" x 10'	Mark II	B	S	1000 Feet	No	No	Grand Junction	C

USAGE AND OPERATIONAL RESTRICTIONS

SORBENT TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH SORBENT TYPE
	None

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

COMMS TYPE CODES			OWNER CODES	
AF Aviator Frequency	MF Marine Frequency		C Company Owned	
CP Cellular Phone	PAG Pager		S Contractors	
COM	Command Post	PHH	OT Other	
MOD	Computer w/Modem	SSB		
FAX Facsimile	TP Telephone			
FBS Fixed Base Station	OT Other			

COMMUNICATIONS EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	COMM TYPE	# OF UNITS	FREQUENCY	BAND	RANGE (MILES)	FIELD YES/NO	STORAGE LOCATION	OWNER CODE
Panasonic	Video Camera	OT	2				Yes	Denver, Colo. Spgs.	C
Canon	Digital Camera	OT	3				Yes	Denver, Colo. Spgs.	C
Kodak	Digital Camera	OT	10				Yes	Denver, Colo. Spgs., Grand Junction	C
AT & T	Mobile Phones	CP	52			Indef.	Yes	Denver, Colo. Spgs.	C

USAGE & OPERATIONAL RESTRICTIONS

COMM CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH COMMS TYPE

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

SYSTEM TYPE CODE	DRIVE CODES	OWNER CODES
PU Portable Vacuum Pump Units	D Diesel	C Company Owned
SS Super Sucker	E Electric	S Contractors
VT Vac Truck	G Gasoline	OT Other
OT Other	H Hydraulic	
	P Pneumatic	
	OT Other	

VACUUM SYSTEM EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	SYSTEM TYPE CODE	DRIVE TYPE CODE	SUCTION (INCHES)	NUMBER OF UNITS	RECOVERY RATE (Barrels per Day)	HOSE INVENTORY (FEET)	STORAGE CAPACITY (BBL/DAY)	STORAGE LOCATION	OWNER CODE
MD	Trailer	OT	D	8"	4	18,720	200'	130	Ft. Lupton, Colorado	S
Doonan Trailer	Trailer	OT	D	8"	4	18,720	150' (ea)	130	Fort Lupton, Colorado	S
Doonan Trailer	Trailer	OT	D	8"	2	9,360	150'	130	Fort Lupton, Colorado	S
A&W Manufactured	Trailer	OT	D	8"	4	18,720	150'	130	Fort Lupton, Colorado	S

USAGE AND OPERATIONAL RESTRICTIONS

VACUUM TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT REALISTIC USAGE OF EACH VACUUM SYSTEM TYPE
OT	Key Energy, Leed Tool, A&W Water Service
OT	Large Debris
	Total Capacity (DeRated Value) =13,104 BBL/DAY

Spill Response, Containment and Recovery Equipment Inventory

Custom Environmental Services Inc.
Denver, Colorado

CODE LEGEND

CB Compartment Barge	SV Skimmer Vessel	C Company Owned
D Dracone	TT Tank Truck	S Contractors
F Fast Tank	OF Oil Field Tank	OT Other
HB Hopper Barge	OT Other	
PL Plastic Swimming Pads		

LIQUID RECOVERY STORAGE EQUIPMENT

NAME OF MANUFACTURER	MODEL NUMBER	DESIGN TYPE CODE	NUMBER OF UNITS	CAPACITY (BBLs)	STORAGE LOCATION	OWNER CODE
Key Energy	Frac Tanks	OF	20	476	Fort Lupton, Colorado	S
Baker Tanks	Frac Tanks	OF	15	476	Denver, Colorado	S
A&W	Frac Tanks	OF	15	476	Fort Lupton, Colorado	S
1999 Vactron Vacuum Trailer	500 gallon		1	500 gallon	Colo. Spgs.	C
1999 Vactron Vacuum Trailer	800 gallon		1	800 gallon	Denver	C
2008 Vactron Vacuum Trailer	800 gallon		1	800 gallon	Denver	C

USAGE & OPERATIONAL RESTRICTIONS

STORAGE TYPE CODE	DESCRIBE CONDITIONS THAT WOULD AFFECT USAGE OF EACH LIQUID STORAGE DEVICE
OT	Large Debris

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

MATERIAL INVENTORY

MATERIAL ITEM	NORMAL INVENTORY	STORAGE LOCATION	OWNER CODE
Citric Acid	100 Lbs.	Denver, Colo. Spgs	C
Soda Ash	1000 Lbs.	Denver, Colo. Spgs	C
Lime	100 Lbs.	Denver, Colo. Spgs	C
Floor Dry	1500 Lbs.	Denver, Colo. Spgs	C
Vermiculite	100 Lbs.	Denver, Colo. Spgs	C
Sorbent Pads, 19" X 17"	3,500 Each	Denver, Colo. Spgs	C
Sorbent Boom, 8" X 10'	600 Feet	Denver, Colo. Spgs	C
Sorbent Boom, 5" X 10'	600 Feet	Denver, Colo. Spgs	C
Drum, 15 Gallon, Open Top, Steel	10 Each	Denver, Colo. Spgs	C
Drum, 15 Gallon, Closed Top, Poly	10 Each	Denver, Colo. Spgs	C
Drum, 25 Gallon, Open Top, Steel	10 Each	Denver, Colo. Spgs	C
Drum, 30 Gallon, Open Top, Steel	10 Each	Denver, Colo. Spgs	C
Drum, 30 Gallon, Open Top, Poly	10 Each	Denver, Colo. Spgs	C
Drum, 55 Gallon, Open Top, Steel	20 Each	Denver, Colo. Spgs	C
Drum, 55 Gallon, Closed Top, Steel	20 Each	Denver, Colo. Spgs	C
Drum, 55 Gallon, Open Top, Poly	10 Each	Denver, Colo. Spgs	C
Drum, 55 Gallon, Closed Top, Poly	10 Each	Denver, Colo. Spgs	C

Drum, 85 Gallon Salvage Overpack, Steel	10 Each	Denver, Colo. Spgs	C
Drum, 95 Gallon Salvage Overpack, Poly	10 Each	Denver, Colo. Spgs	C
Drum Liners	200 Each	Denver, Colo. Spgs	C
Visqueen, 6 mil, Clear, 20' X 100'	50 Rolls	Denver, Colo. Spgs	C
Visqueen, 4 mil, Clear, 20 X 100'	25 Rolls	Denver, Colo. Spgs	C
Rags	200 Lbs.	Denver, Colo. Spgs	C
Banner Guard, Red	10 Rolls	Denver, Colo. Spgs	C
Banner Guard, Yellow	10 Rolls	Denver, Colo. Spgs	C

MATERIAL ITEM	NORMAL INVENTORY	STORAGE LOCATION	OWNER CODE
Boot Covers, PVC	50 Pair	Denver, Colo. Spgs.	C
Respirator Cartridges, GMC-H Combination	96 Each	Denver, Colo. Spgs.	C
Respirator Cartridges, Mercksorb HEPA	24 Each	Denver, Colo. Spgs.	C
Respirator Cartridges, HEPA	96 Each	Denver, Colo. Spgs.	C
Gloves, Latex	150 Pair	Denver, Colo. Spgs.	C
Gloves, Nitrile	150 Pair	Denver, Colo. Spgs.	C
Gloves, PVC	150 Pair	Denver, Colo. Spgs.	C
Gloves, Cotton Liners	144 Pair	Denver, Colo. Spgs.	C
Suit, Tyvek	200 Each	Denver, Colo. Spgs.	C
Suit, Saranex	50 Each	Denver, Colo. Spgs.	C
Suit, PVC	20 Each	Denver, Colo. Spgs.	C
Suit, Level A Responder	4 Each	Denver, Colo. Spgs.	C

Spill Response, Containment and Recovery Equipment Inventory
Custom Environmental Services Inc.
Denver, Colorado

Duct Tape	100 Rolls	Denver, Colo. Spgs.	C
Sample Jar, 32 Ounce	48 Each	Denver, Colo. Spgs.	C
Sample Jar, 8 Ounce	96 Each	Denver, Colo. Spgs.	C
Sample Jar, 40 ml VOA	144 Each	Denver, Colo. Spgs.	C
Drum Thieves	100 Each	Denver, Colo. Spgs.	C

Clean Harbors

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

NORTH DAKOTA SERVICE CENTER	48° 10' 35.48" N 103° 37' 43.85" W	24-Hr. #	800.645.8265
310 Airport Rd. Suite 500/600		24-Hr. #	701.774.2201
Williston, ND 58801		Fax #	

Ralph Vicente, General Manager

EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Ralph Vicente
Virgil Blanchard
Stephen Sheppard

40-Hour OSHA Trained Personnel:

Supervisor	2
Foreman	2
Equipment Operator	3
Field Technician	9

Equipment List							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V423	1	Y	Y	N	N
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V421	1	Y	Y	N	N
Landing Craft	NDSC	LCM / 28 Ft. / # V364	1	Y	Y	N	N
Boat Trailer	NDSC	BT421, BT419	2	Y	Y	N	N
Vessel Transport Trailer	NDSC	CH742	1	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Mobile Command Trailer	NDSC	6202	1	Y	Y	N	N
High Powered Vacuum Truck/Cusco	NDSC	JDS5226, JDS4868, JDS5240, JDS5234, 7910771	5	Y	Y	N	N
Cyclone Vactor/Guzzler	NDSC	4188, 4256	2	Y	Y	N	N
Straight Box Trucks	NDSC	4305, 4262	2	Y	Y	N	N
6 Wheel Dump Truck	NDSC	United Rental (1168637)	1	Y	Y	N	N
Trailer (Skid Vac)	NDSC	CH2157	1	Y	Y	N	N
Crew Cab Pickup	NDSC	8791, 8957, 8531, 8533, 80076	5	Y	Y	N	N
Roll-off frames	NDSC	CH552, CH595, CH633, CH634, 2334T, 4294, CH2328, United Rentals (1201088)	7	Y	Y	N	N
Equipment List Cont.							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(3) Pumps and Pressure Equipment							
Hot water Hotsy	NDSC		2	Y	Y	N	N
Vactor Hose	NDSC		200'	Y	Y	N	N
Discharge Hose	NDSC	6"	500'	Y	Y	N	N
Discharge Hose	NDSC	4"	1000'	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	NDSC	8" Yellow Slide Pin	10000'	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
MSA Gas Indicator	NDSC	Sirius 5 Gas	1	Y	Y	N	N
Draeger Pump	NDSC	Gas Tech	2	Y	Y	N	N

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

(6) Recovery Equipment							
Skidmount Vacuum Unit	NDSC	CH2157	1	Y	Y	N	N
Drum Skimmer	NDSC		2	Y	Y	N	Y
Vac Box Containers	NDSC		16	Y	Y	N	Y
Roll-Off Containers	NDSC		13	Y	Y	N	N
Drums	NDSC	55 Gallon	88	Y	Y	N	N
Totes	NDSC	250 Gallon	12	Y	Y	N	N
(7) Beach or Earth Cleaning and Excavating Equipment							
Backhoe	NDSC	John Deere 410	1	Y	Y	N	N
Equipment List Cont.							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(8) Generators / Compressors / Light Towers							
Sullair Portable Compressor	NDSC	185 Diesel	5	Y	Y	N	N
Winco Generator	NDSC	K4800/A	3	Y	Y	N	N
Coppus Blower	NDSC	4" Pneumatic	3	Y	Y	N	N
Coppus Blower	NDSC	8" Pneumatic	1	Y	Y	N	N
Coppus Blower	NDSC	10" Pneumatic	1	Y	Y	N	N
Coppus Fan	NDSC	RF-20	2	Y	Y	N	N
(9) Health and Safety Equipment							
MSA S.C.B.A.	NDSC	1 Hour/4500	10	Y	Y	N	N
Spare Air Cylinders	NDSC	4500 PSI (1 HR)	8	Y	Y	N	N
MSA SAR	NDSC	Pressure Demand	4	Y	Y	N	N
MSA Escape Units	NDSC	5 Minutes	7	Y	Y	N	N
Mustang Suits	NDSC	Foul Weather PFD	6	Y	Y	N	N
Breathing Air Hose	NDSC		400'	Y	Y	N	N
Hydraulic Hose	NDSC		800'	Y	Y	N	N
Personal Floatation Devices	NDSC		40	Y	Y	N	N
PFD Survival Suits	NDSC		6	Y	Y	N	N
(10) Communications							
(11) Miscellaneous							
Outboard Motor	NDSC	Yamaha	2	Y	Y	N	N
UTV	NDSC	Polaris Ranger 4-Seater	2	Y	Y	N	N

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

SALT LAKE CITY, UT SERVICE CENTER	40.54N - 112.29W	24-Hr. #	435-841-4713
2150 North 470 East		24-Hr. #	800.645.8265
Tooele, UT 84074		Fax #	435-843-5612

JB Mclamore, DOSS
Jacob Wilcox, Field Service Specialist

EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Michael Gray
Leif Hammond

Jacob Wilcox
Shawna Franceschini

40-Hour OSHA Trained Personnel:

Supervisor	1
Foreman	2
Equipment Operator	5
Field Technician	3

Equipment List							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
(2) Motor Vehicles & Vacuum Equipment							
Crew Cab & Non Crew Cab Pickup, Ford	Tooele	F250/150	3	Y	Y	N	N
Stake Body/Utility Truck	Tooele	F350/F450	1	Y	Y	N	N
High Powered Vacuum Truck, Cusco	Tooele	3000 G STRAIGHT VAC.	1	Y	Y	N	N
High Powered Vacuum Truck, Cusco	Tooele	5000 G STRAIGHT VAC	1	Y	Y	N	N
Air Mover, Guzzler	Tooele		1	Y	Y	N	N
Roll Off Trailer	Tooele	Single Can	1	Y	Y	N	N
ER Trailer	Tooele	Fully Stocked	1	Y	Y	N	N
(3) Pumps and Pressure Equipment							
Hydroblaster	Tooele	10K, 50 GPM	1	Y	Y	N	N
Hot/Cold Water Pressure Washer	Tooele	3000 psi, electric, portable	1	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil containment boom/ Storage	Tooele	6"	1500	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
MSA Gas Indicator	Tooele	Sirius 5 Gas	1	Y	Y	N	N
(6) Recovery Equipment							
(7) Beach or Earth Cleaning and Excavating Equipment							
(8) Generators / Compressors / Light Towers							
(9) Health and Safety Equipment							
MSA S.C.B.A.	Tooele	1 Hour/4500	2	Y	Y	N	N
4 Man Breathing Air Set Up	Tooele	Level B Capability	1	Y	Y	N	N
(10) Communications							
(11) Miscellaneous							

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

LAS VEGAS, NV SERVICE CENTER	36.26 N - 115.08W	24-Hr. #	702.419.1306
4910 Donovan Way Suite A		24-Hr. #	800.645.8265
Las Vegas, NV 89081		Fax #	480.393.5532

Alec Gonzales, Field Service Specialist

EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Michael Gray
Michael Delatorre

Alec Gonzales

40-Hour OSHA Trained Personnel:

Supervisor	1
Foreman	1
Equipment Operator	3

Equipment List							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
(2) Motor Vehicles & Vacuum Equipment							
Crew Cab & Non Crew Cab Pickup, Ford	Las Vegas	F250/150	1	Y	Y	N	N
Stake Body/Utility Truck	Las Vegas	F350/F450	1	Y	Y	N	N
Roll Off Frame	Las Vegas	Dual Bin	2	Y	Y	N	N
ER Trailer	Las Vegas	Fully Stocked	1	Y	Y	N	N
Tractor	Las Vegas	3 axle Power Unit	2	Y	Y	N	N
(3) Pumps and Pressure Equipment							
Hot/Cold Water Pressure Washer	Las Vegas	3000 psi, electric, portable	1	Y	Y	N	N
(4) Oil Spill Containment Booms							
	Las Vegas	500' x 18"	1	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
(6) Recovery Equipment							
(7) Beach or Earth Cleaning and Excavating Equipment							
(8) Generators / Compressors / Light Towers		4KW	1	Y	Y	Y	N
(9) Health and Safety Equipment							
(10) Communications							
(11) Miscellaneous							

Land Assets – Rifle, CO

Description	Quantity
Hydrovac	7
Straigh vac	4
100 bbl fluid transporters	2

Veolia



Marathon Oil Co.

Emergency Response Fee Schedule

LABOR - Central	Regular Per Hour	Overtime Per Hour	Premium Per Hour
Section 1.1 Environmental/Administrative Personnel			
Administrative Assistant/Field Clerk	\$49.00	\$73.50	\$98.00
Health & Safety Specialist	\$103.00	\$103.00	\$103.00
Field Chemist	\$77.00	\$115.50	\$154.00
Field Technician	\$48.00	\$72.00	\$96.00
Heavy Equipment Operator	\$64.00	\$96.00	\$128.00
Truck Driver (Commercial License - Haz Mat)	\$71.00	\$106.50	\$142.00
Foreman	\$71.00	\$106.50	\$142.00
Superintendent	\$85.00	\$127.50	\$170.00
Response Manager	\$114.00	\$114.00	\$114.00
Engineer/ Scientist/Hydrogeologist	\$114.00	\$114.00	\$114.00
Principal Oversight/Technical Oversight	\$146.00	\$146.00	\$146.00
Disposal Coordinator	\$53.00	\$79.50	\$106.00
Biohazard/Reactive/Explosive Technician	\$117.00	\$175.50	\$234.00
Biohazard/Reactive/Explosive Supervisor	\$175.00	\$175.00	\$175.00
Railcar Specialist	\$80.00	\$120.00	\$160.00
Firefighter	\$69.00	\$103.50	\$138.00

Central Region consists of projects performed in: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Arkansas, Louisiana, Missouri, Illinois, Indiana, Mississippi.



Marathon Oil Co.

LABOR - North and East	Regular Per Hour	Overtime Per Hour	Premium Per Hour
Section 1.1 Environmental Personnel/Administrative			
Administrative Assistant/Field Clerk	\$49.00	\$73.50	\$98.00
Health & Safety Specialist	\$107.00	\$107.00	\$107.00
Field Chemist	\$78.00	\$117.00	\$156.00
Field Technician	\$57.00	\$85.50	\$114.00
Truck Driver (Commercial License - Haz Mat)	\$70.00	\$105.00	\$140.00
Equipment Operator	\$70.00	\$105.00	\$140.00
Foreman	\$70.00	\$105.00	\$140.00
Superintendent	\$89.00	\$133.50	\$178.00
Response Manager	\$115.00	\$115.00	\$115.00
Engineer/Scientist/Hydrogeologist	\$115.00	\$115.00	\$115.00
Principal Oversight/Technical Oversight	\$146.00	\$146.00	\$146.00
Disposal Coordinator	\$53.00	\$79.50	\$106.00
Biohazard/Reactive/Explosive Technician	\$117.00	\$175.50	\$234.00
Biohazard/Reactive/Explosive Supervisor	\$175.00	\$175.00	\$175.00
Railcar Specialist	\$80.00	\$120.00	\$160.00
Firefighter	\$71.00	\$106.50	\$142.00

North and East Regions consist of projects performed in: Minnesota, Wisconsin, Michigan, Ohio, Pennsylvania, New York, New Jersey, Delaware, Connecticut, New Hampshire, Vermont, Maine, Maryland, Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Alabama, Georgia, Iowa, Florida, Rhode Island, Massachusetts.



Marathon Oil Co.

LABOR - West	Regular Per Hour	Overtime Per Hour	Premium Per Hour
Section 1.1 Environmental/Administrative Personnel			
Administrative Assistant/Field Clerk	\$49.00	\$73.50	\$98.00
Health & Safety Specialist	\$103.00	\$103.00	\$103.00
Field Chemist	\$78.00	\$117.00	\$156.00
Field Technician	\$54.00	\$81.00	\$108.00
Heavy Equipment Operator	\$66.00	\$99.00	\$132.00
Truck Driver (Commercial License - Haz Mat)	\$60.00	\$90.00	\$120.00
Foreman	\$78.00	\$117.00	\$156.00
Superintendent	\$89.00	\$133.50	\$178.00
Response Manager	\$125.00	\$125.00	\$125.00
Engineer/Scientist/Hydrogeologist	\$115.00	\$115.00	\$115.00
Principal Oversight/Technical Oversight	\$146.00	\$146.00	\$146.00
Disposal Coordinator	\$53.00	\$79.50	\$106.00
Biohazard/Reactive/Explosive Technician	\$117.00	\$175.50	\$234.00
Biohazard/Reactive/Explosive Supervisor	\$175.00	\$175.00	\$175.00
Railcar Specialist	\$80.00	\$120.00	\$160.00
Firefighter	\$69.00	\$103.50	\$138.00

West Region consists of projects performed in: Washington, Oregon, Idaho, Montana, Wyoming, California, Nevada, Arizona, Utah, Colorado, New Mexico.



Marathon Oil Co.

Equipment (All Regions)

2.1 Other Services			
	Expert Witness Testimony		2 times list rates
	Subcontract/Rental Equipment		cost plus 20%
2.2 Personal Protection and Safety Equipment			
	Level A Protection – Trelleborg Viking NFPA Suite	\$2,500.00	Change
	Level A Protection or Equivalent	\$1,200.00	Change
	Level B Protection w/Responder	\$975.00	Change
	Level B Protection w CPF 1-2-3	\$550.00	man/day
	Level B Protection w CPF 4	\$600.00	man/day
	Level B Protection w Goretex Turnout Gear	\$500.00	man/day
	Level C Protection w/CPF 1-Proshield	\$72.00	man/day
	Level C Protection w/CPF 2	\$136.00	man/day
	Level C Protection w/CPF 3	\$175.00	man/day
	Level D Protection w/CPF 1-Proshield	\$47.00	man/day
	Cascade Manifold Breathing Air System w T Bottles	\$85.00	man/day
	Breathing Air Hose (50ft Section)	\$18.00	sect/day
	Air Cascade Trailer	\$360.00	Day
	Self Contained Breathing Apparatus (standby)	\$190.00	Day
	Portable Eye Wash	\$36.00	Day
	Rope Rescue kit (standby)	\$52.00	Day
	Confined Space Entry Kit w/ Tripod	\$154.00	Day
	Confined Space Entry OSHA Rope Kit	\$1.00	Foot
	Proximity Suits(W/SCBA)	\$825.00	man/day
	USCG Floation Vest	\$21.00	Ea/day
	Nomex Suits	\$25.00	Day
	Cold Weather Deck Suit	\$52.00	Day
	CPF 1 Suits/Poly coated Tyvek	\$17.00	Each
	CPF 2 Suits	\$47.00	Each
	CPF 3 Suits	\$79.00	Each
	CPF 3 Suits, Expanded back	\$146.00	Each
	CPF 4 Suits	\$79.00	Each
	CPF 4 Suits-Encapsulated, expanded back	\$156.00	Each
	Responder - Level A	\$1,240.00	each
	EOD Suits (Turn-out gear)	\$500.00	Day
	Tyvek Suit	\$16.00	each
	Rain/Splash Gear	\$26.00	set
	PVC Acid Suit	\$31.00	set



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2.3 Transport Equipment

Automobile	\$55.00	day
Pick-up Truck	\$93.00	day
Response Managers Pick-up Truck	\$190.00	day
Four Wheel Drive Vehicle	\$137.00	day
Utility Truck (1 ton payload)	\$115.00	day
Utility Truck (1 ton payload) w Lift Gate / Box Van	\$154.00	day
Stake Bed Truck (5 ton payload) / Box Van	\$300.00	day
Emergency Response Trailer (14 to 16 ft.)	\$224.00	day
Emergency Response Trailer (18 to 25 ft.)	\$308.00	day
Emergency Response Trailer (> 25 ft)	\$325.00	day
ER Command Center Trailer	\$1,030.00	day
Semi-Tractor	\$48.00	hour
Rolloff Trailer	\$33.00	hour
Rolloff Truck	\$43.00	hour
Rolloff Box (20 yd)	\$13.00	day
Rolloff Drop Charge	\$250.00	each
Dump Truck	\$37.00	hour
Dump Trailer	\$129.00	day
Flat Bed Trailer (40 ft)	\$52.00	day
Low Boy	\$206.00	day
Office Trailer	\$57.00	day
Equipment Trailer (Skidsteer)	\$52.00	day
Utility Trailer (enclosed) (14 - 18)	\$52.00	day
Semi-van Trailer (40 ft.)	\$62.00	day
Tanker Trailer (non vacuum) (7,000 gal.)	\$33.00	day
Tanker Trailer (non vacuum) (5,000 gal.)	\$22.00	day
Sludge Tanker Trailer	\$21.00	day



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2.4 Vacuum Equipment

Vacuum Trailer Non-regulated waste, Hourly	\$57.00	hr
Vacuum Trailer Regulated waste, Hourly	\$72.00	hr
Straight Truck < 3,500 gallon capacity Non-regulated waste, Hourly	\$77.00	hr
Straight Truck < 3,500 gallon capacity Regulated waste, Hourly	\$99.00	hr
Straight Truck > 3,500 gallon capacity Non-regulated waste, Hourly	\$82.00	hr
Straight Truck > 3,500 gallon capacity Regulated waste, Hourly	\$104.00	hr
High Velocity Vacuum Truck (i.e. supersucker, guzzler, hivac)	\$98.00	hr
Cyclone Separator for High Velocity Vacuum Truck	\$31.00	hr
Vacuum Unit (800 gal.; w/50 ft hose) (mini-vacuum)	\$46.00	hr
Vacuum Box	\$52.00	day
Vacuum Box Drop	\$250.00	each
Portable HEPA Vacuum units w/o Filter	\$77.00	day
Mercury HEPA Vacuum w/o Filter	\$360.00	day
HEPA Drum Vacuum w/o Filter	\$221.00	day
Mercury HEPA Vacuum Filter	Replacement cost & 20%	
HEPA Vacuum Filter	\$135.00	each
Explosive Proof HEPA Vacuum	\$155.00	day
Drum Vacuum (Air)	\$62.00	day
Tornado Drum Vac (Electric)	\$155.00	day
Utility Vacuum	\$35.00	day
Vapor Scrubber Unit	\$1,020.00	day
Pneumatic Vacuum Transfer Trailer	\$258.00	hr

2.5 Waste Excavation and Handling Equipment

Rubber-Tired Loader (CAT 930 or Equivalent)	\$546.00	day
Crawler Dozer (CAT D-5 or Equivalent)	\$655.00	day
Trackhoe Excavator (CAT 330 or Equiv.)	\$2,000.00	day
Trackhoe Excavator (CAT 320 or Equiv.)	\$1,200.00	day
Backhoe (Case 580 or Equivalent)	\$500.00	day
Fork Truck	\$329.00	day
Bobcat(Skidsteer)	\$400.00	day
Skidsteer Sweeper	\$82.00	day



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2.6 Mobile Treatment and Recovery Equipment

		Priced per project	
Hydraulic Dredge			
Holding Tank (> 5,000 gal.) (5 day Minimum, plus mob/demob)	\$52.00		day
Frac Tank (21,000 gal) (5 day Minimum plus mob/demob)	\$82.00		day
Poly Storage Tanks (<500 gals) (5 day min)	\$16.00		day
Poly Storage Tanks (>500- 5000 gals) (5 day min)	\$41.00		day
Bag Filter Unit (Filters extra)	\$28.00		day
Mobile oil/water separator/air stripper trailer	\$1,290.00		day

2.7 Pumping Equipment

1",2",3" Air Diaphragm Pump	\$155.00		day
2" Hydraulic chemical pump w/Power Pack	\$360.00		day
2" Submersible Electric Pump	\$98.00		day
3" and 4" Trash Pump	\$206.00		day
3" Submersible Electric Pump	\$165.00		day
4" Air Diaphragm Pump	\$258.00		day
4" Electric Centrifugal Sludge Pump	\$128.00		day
4" Hydraulic Sludge Pump w/ Power Pack	\$465.00		day
4" Submersible Electric Pump	\$232.00		day
6" Hydraulic Sludge High Head Pump w/Power Pack	\$1,030.00		day
6" Hydraulic Sludge Pump w/ Power Pack	\$1,030.00		day
6" Trash Pump	\$309.00		day
8" Hydraulic Sludge Pump w/ Power Pack	\$1,545.00		day
10" Trash Pump	\$515.00		day
Utility pump / 12 Volt Transfer Pump	\$52.00		day
Explosion proof electric Drum Pump	\$155.00		day
Drum siphon pump	\$16.00		each
Corken Compressor	\$1,000.00		per day plus rebuild
Blackmer Pump w Power Pack	\$450.00		day
Diaphragm Pump Rebuilding Kit 1", 2", 3"	\$360.00		ea
Diaphragm Pump Rebuilding Kit 4"	\$515.00		ea



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2.8 HOSE			
	Fittings Charge	\$320.00	Per transfer
	Suction 2" (20 ft section) (Non Chem)	\$11.00	day
	Suction 3" (20 ft section) (Non Chem)	\$16.00	day
	Suction 4" (20 ft section) (Non Chem)	\$22.00	day
	Suction 6" (20 ft section) (Non Chem)	\$32.00	day
	Fire 1.5" (50 ft section)	\$27.00	day
	Fire 2.5" (50 ft section)	\$37.00	day
	Fire 3.0" (50 ft section)	\$43.00	day
	2" Solvent/petroleum/ ft	\$1.00	or cost & 20%
	2" Acid/caustic/ ft	\$3.00	or cost & 20%
	2" Disposable Flex hose	\$30.00	100' roll
	4"- 6" Disposable Flex hose	\$2.00	foot/day
	8" Disposable Flex hose	\$2.00	foot/day
	1", 2", 3" Chemical hose w/appropriate fittings	\$3.00	foot/day
	2", 3" Discharge (100' section) (non-chemical) additional	\$37.00	day
	Hydraulic hose (50' section) additional	\$52.00	ft/day
2.9 Industrial Services Equipment			
	Sewer Cleaning Truck / Jetter Water Truck 85 gpm, 2000 psi	\$90.00	hr
	Intrinsically Safe Sewer Inspection Unit	\$165.00	hr
	Non-Intrinsically Safe Sewer Inspection Unit	\$110.00	hr
	Skid Mounted Jetter Water Unit(240 gpm, 2500psi)	\$143.00	hr
	Sewer Jetter Water Truck 85 gpm,1500 psi	\$55.00	hr
	Comb Jetter/Vac Truck (65 gpm, 3000 cfm)	\$95.00	hr
	Comb Jetter/Vac Truck (85 gpm, 3500 cfm)	\$111.00	hr
	Comb Jetter/Vac Truck (138 gpm, 4500 cfm)	\$133.00	hr
	Easement Reel w/ Trailer	\$40.00	hr
	Pump Trailer/Heat Exchanger	\$230.00	hr



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2.10 Oil Spill Equipment

Drum Skimmer-Hydraulic w/Power Pack	\$740.00	day
Drum Skimmer-Pneumatic w/o Power Pack	\$432.00	day
Skim-Pac 2200 Weir Skimmer	\$155.00	day
2" Weir Skimmer	\$103.00	day
Boom Boat - 18'-20'	\$464.00	day
Boom Boat - 24'	\$567.00	day
Jon Boat (12-14'; with motor)	\$110.00	day
Jon Boat (12 - 14' without motor)	\$75.00	day
Containment Boom - 18"	\$2.00	ft/day
Containment Boom - 18" (standby)	\$1.00	ft/day-Stby
Containment Boom - 36"	\$4.00	ft/day
Containment Boom - 36" (standby)	\$2.00	ft/day-Stby
Boom Anchor System	\$77.00	day
Boom Lights	\$21.00	each
USCG Floatation Vests	\$21.00	day
VHF-FM Hand Held Radio	\$21.00	Ea/day
Floto-pump	\$82.00	day
Oil Blower, Gas Powered	\$51.00	day

2.12 Compression Equipment

Diesel Air Compressor < 300 cfm	\$305.00	day
Air Compressor, < 300 cfm	\$191.00	day
Hot Water Press. Wash Unit (2,500 - 3,000 PSI)	\$220.00	day
Pressure Wash Unit (2,500 - 3,000 PSI)	\$154.00	day
Pressure Wash Unit (1,000 - 1,500 PSI)	\$103.00	day
Air Blower/Air Evacuator	\$26.00	day
Waterblaster (10,000 PSI)	\$66.00	hr
Waterblaster (20,000 PSI)	\$131.00	hr
Air Hose (3/4", 50' section)	\$16.00	sect/day
Graco Wash Unit	\$103.00	day



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2.13 Sampling and Analytical Equipment			
	Photoionization Detector (PID Meter)	\$155.00	day
	O2/LEL/Toxic Meter (Quad Gas Monitor)	\$103.00	day
	Radiation Meter	\$103.00	day
	Laser temperature meter	\$36.00	day
	Jerome Mercury Monitor	\$360.00	day
	VM 3000 Mercury Monitor / Lumex	\$515.00	day
	Field Characterization Kit	\$30.00	Per Sample
	Megger Meter	\$52.00	day
	GPS Unit	\$25.00	day
	UHRA First Defender	\$500.00	day
	Cyanide Meter	\$103.00	day
	Chlorine Meter	\$103.00	day
	pH Paper	\$8.00	roll
	BTA Guardian Analyzer	\$675.00	day
	Ultraviolet Germicidal Lighting	\$103.00	day
	Draeger Air Monitoring Pump w/o tubes	\$16.00	day
	Draeger Tubes	\$10.00	each
	Asbestos Monitoring Pump	\$26.00	day
	Personal Air Sampling Pump	\$33.00	day
	Clor-n-oil test kit	\$21.00	each
	Clor-n-soil test kit	\$26.00	each
	Rocket Fuel Test Kit	\$5.00	Each sample
	X Spray Sample Kit	\$3.00	Each sample
	Smart II Biological Detection Tickets	\$113.00	each
	BTA Test Biological Test Strip (Agent Specific)	\$135-450	each
	Wipe Sample Kit	\$77.00	each
	ColiWasa	\$23.00	each
	Glass Sampling Tubes (4')	\$3.00	each
	Sample Thief, 75 ml	\$3.00	each
	Split Barrel Hand Sampler	\$41.00	day
	Hand Auger	\$16.00	day



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2.14 Specialized Tools and Equipment			
	Drum Cart	\$21.00	day
	Glove Box	\$100.00	day
	Tank Tap Machine		Priced per project
	Non-Sparking Tool Set	\$103.00	day
	Pressurized Gas Overpack Containers	\$825.00	day
	Plug & Patch kit	\$160.00	each
	Tank Truck Rollover Trans Kit/Hot tap kit	\$1,030.00	day
	Betz Valve-Tank Truck Rollover	\$258.00	day
	Forklift Drum Holder	\$16.00	day
	Evacuation Fan	\$77.00	day
	HEPA Negative Air Machine (w/o Filter replacement)	\$155.00	day
	Portable Flare Stack	\$206.00	day
2.15 Miscellaneous Equipment			
	Generator (5 kW)	\$82.00	day
	Generator (15 kW)	\$180.00	day
	Generator (100 kW - 200 kW)	\$360.00	day
	Portable Light Set	\$30.00	day
	Intrinsically Safe Portable Lights, Portable	\$103.00	day
	Hammer Drill	\$52.00	day
	Air Hammer (bits extra)	\$51.00	day
	Chop Saw (Concrete/Metal) (Portable) (1 blade incl.)	\$51.00	day
	Cutting Torch (Oxygen/Acetylene Not Included)	\$41.00	day
	Hand tool allowance / Small tools	\$67.00	day
	Portable Welder	\$155.00	day
	Pneumatic Pipe Plugs	\$103.00	day
	Phone - Mobile	\$35.00	day
	SAT Phone	\$80.00	Call
	Field Printer/Copier	\$31.00	day
	Field Computer	\$21.00	day
	Photo Documentation	\$30.00	day
	Chain Saw	\$51.00	day
	Portable Heater (Salamander)	\$51.00	day



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3.1 Containers

2-5 gal. Plastic Pails	\$14.00	each
5 gal. metal drum	\$16.00	each
14 Gallon Plastic Drum	\$46.00	each
20 gal Fiber Drum	\$21.00	each
30 gal. Plastic Drums	\$48.00	each
30 gal. Fiber Drums	\$32.00	each
55 Gallon Metal Open Top Drum (Reconditioned)	\$53.00	each
55 Gallon Metal Closed Top Drum	\$33.00	each
55 gal. Plastic Drums	\$75.00	each
85 gal. Overpack Drums (Metal)	\$175.00	each
95 gal. Overpack Drums (Plastic)	\$206.00	each
Poison pack, 12A10	\$36.00	each
Asbestos Bag / Drum Liner 6 ml	\$3.00	each
Cubic Yard Box - Gaylord	\$115.00	each
IBC Container Tote (Reconditioned)	\$180.00	each

3.2 Packaging

Drum Liner (Heavy Duty Corragated)	\$18.00	each
Shrink Wrap	\$26.00	roll
Rolloff Box Liner (20 yd)	\$65.00	each

3.3 Gloves

4H Chemical Gloves	\$7.00	pair
Acid Gloves.(Milled Neoprene)	\$16.00	pair
Cloth Gloves	\$2.00	pair
Gloves, Winter Poly Liners	\$4.00	pair
Leather Work Gloves	\$6.00	pair
Nitrile Interior Gloves (NDEX) (50 pair/box)	\$14.00	box
PVA Gloves	\$36.00	pair
PVC Gloves	\$8.00	pair
Solvex Gloves	\$16.00	pair
Viton Gloves	\$145.00	pair

3.4 Boots

Neoprene Boots	\$26.00	pair
PVC/Latex Disposable Boots (Nuke boots)	\$7.00	pair
Rubber/PVC Boots/Beta	\$125.00	pair



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3.5 Respirator Cartridges

Respirator Cartridges - GME	\$15.00	pair
Respirator Cartridges - GME - P100	\$23.00	pair
Respirator Cartridges - P100	\$10.00	pair
Respirator Cartridges - Mersorb	\$26.00	pair
Respirator Cartridges - Mersorb - P100	\$41.00	pair

3.6 Face/Eye Protection

Face Shields	\$9.00	each
Goggles	\$4.00	each
Safety Glasses	\$6.00	pair
Welding Goggles	\$20.00	each

3.7 Cleaning Supplies

Alconox (4lb box)	\$26.00	each
Brute Force (1 gal)	\$17.00	each
Mercury Decontamination Solution (HGX)	\$11.00	pound
Micro Blaze (5 gal)	\$250.00	each
Micro Blaze Application Kit	\$315.00	day
Paper towels (reinforced) (box)	\$14.00	box
PCB Decontamination Solution (10 gal)	\$270.00	each
Simple Green	\$18.00	Gal.
Trash Bags (100/box)	\$5.00	box
Decon Pools (100 gals)	\$515.00	each
DIRS BioChem Decon Kit	\$925.00	kit

3.8 Sorbents/Neutralizing Agents

Citric Acid	\$100.00	bag
Gap Seal	\$21.00	each
Gypsum	\$16.00	bag
Oil dry / Floor dry / Grand sorb	\$16.00	bag
Sand bags	\$2.00	each
Soda Ash	\$36.00	bag
Super Absorbent Powder (S.A.P.) (25gal pail)	\$47.00	each
Vermiculite	\$20.00	bag
Absorbent Pads (17" X 19")	\$95.00	Bale
Absorbent Boom (8" x 10')	\$65.00	each
Absorbent roll (4'x150' / Roll)	\$125.00	roll



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3.9 Miscellaneous

	Barrier Tape/Hazard Tape	\$21.00	roll
	Chest Waders	\$77.00	pair
	Fence Post	\$5.00	each
	Waste Manifests	\$5.00	each
	Drum Labels	\$1.00	each
	Plastic Snow Fence (50 ft)	\$36.00	roll
	Poly Rope (3/8")	\$0.20	foot
	Poly Rope, Nylon (1/2')	\$0.30	ft
	Sample Jar (4oz)	\$3.00	each
	Sample Jars (1 qt.)	\$3.00	each
	Disposable Bailer	\$10.00	each
	Duct Tape	\$7.00	roll
	Visqueen, 6ml, 20" x 100'	\$115.00	roll
	Visqueen, 6ml, 40" x 100'	\$270.00	roll



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Explanatory Notes

For the calculation of fees and providing service for emergency response services

1. All work performed shall be in accordance with Veolia ES Special Services Emergency Response Agreement (long or short form) or other applicable written contract.
2. The hourly rates in Section A apply to personnel performing labor in support of a project whether performed on site or off site.
3. All labor rates in Section A are for personnel trained in accordance with 29 CFR 1910-120
4. STANDARD HOURS - Labor rates listed as Standard are for work performed between the hours of 7:00am and 4:00pm Monday through Friday, in any calendar week, exclusive of holidays named below. Standard hours also apply to the first forty (40) hours worked by a particular employee in a week on a given project. All non-local personnel who are on standby and receiving Per Diem will be billed a minimum of 8 hrs.
5. OVERTIME HOURS - Labor performed as indicated below. Will be billed at 1.5 times the regular rate.
 - a) All hours worked before 7:00 am and/or after 4:00pm, Monday through Friday
 - b) Time worked after 8 hours based upon the actual start time of the employee.
 - c) All hours worked on a given project between 7:00am and 4:00pm, Monday through Friday, which are in excess of either eight (8) hours worked in a calendar day, or forty (40) hours worked in a calendar week.
 - d) All hours worked on Saturday
6. PREMIUM HOURS - Labor performed as indicated below. Will be billed at 2 times the regular rate.
 - a) All hours worked on a holiday named below
 - b) All hours worked on Sunday
 - c) California Only: When an individual employee is required to work in excess of twelve hours in a twenty four hour cycle.
7. Named Holidays, including:

New Years Eve day, New Years Day, Good Friday, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, Day after Thanksgiving Day, Christmas Eve Day and Christmas Day. If any work performed is subject to a collective bargaining agreement, or is performed by union employees, Veolia ES shall include any additional holidays provided for in the applicable collective bargaining agreement
8. In the event any Veolia ES personnel are engaged to provide expert testimony in any court or administrative proceeding, the rate for such person will be two (2) times the hourly rate specified in Section A above.
9. A minimum per diem rate of \$125.00 per day, per employee, will be billed for each overnight stay to cover lodging and subsistence, unless lodging and substance is directly provided by the customer. Per Diem for travel in higher cost areas shall be in accordance with current Federal Government Joint Travel Guidelines. Other miscellaneous travel expenses (e.g. airfare, taxi, parking, etc.) will be billed at cost plus a handling charge of fifteen percent (15%). Veolia ES's per diem rates are charged for subcontractors whose expenses are paid by Veolia ES Special Services, Inc.
10. All equipment rates are on a daily basis, unless otherwise noted. The daily rate is for a ten (10) hour day. Equipment used more than 10 hours in a calendar day will be prorated by the hour. Weekly, rates, where applicable, will be charged after five (5) days in a seven-day period. Monthly rates, where applicable, will be charged after three and one-half (3.5) weeks in a thirty-day period.
11. All equipment and labor is billed on a portal-to-portal basis, including mileage unless otherwise noted.
12. Any equipment or supplies not listed, and all subcontract costs will be billed on a cost plus twenty percent (20%) basis.
13. A (4) four-hour minimum charge for **each responder** will be assessed on all responses. Equipment will be billed at the minimum one-day rate.



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14. An additional callout fee of \$400.00 can be billed **to capture non direct cost associated with the response.**
15. A minimum surcharge of fifteen percent (15%) will be billed for work performed on navigable waters as defined by the United States Coast Guard to cover the additional insurance requirements for such work including United States Longshoreman's and Harbor worker's Act (USL&H) and Jones Act. This surcharge will be quoted on a job-specific basis. Labor rates for diving personnel are minimum rates for shallow water, non-penetration, and non-extreme temperature dive operations. Fees shall be adjusted to meet the requirements of the job.
16. Equipment damaged in unusual or high risk situations will be billed at repair cost or replacement cost plus twenty percent (20%). Rates for all equipment listed in the fee schedule do not include expendable supplies (fuel, treatment chemicals, etc.) or replacement parts, which shall be billed at Veolia ES's cost plus a handling charge of twenty percent (20%). Equipment and equipment parts damaged or rendered expendable due to contamination will be billed at replacement cost plus twenty percent (20%).
17. Invoices are due net 15 days, **regardless of insurance proceeds or refunds.** All accounts are subject to an eighteen percent (18%) annual financial charge on the unpaid balances.
18. For vehicles subject to a daily rental rate, mileage will be charged per the following schedules:
Cars/Pickup - \$0.50/mile or equal to IRS allowable
Utility trucks and Response Manager Vehicles - \$0.60/mile
MC Licensed and Transport Vehicles - \$0.95/mile
19. Based on the national average price of diesel, a fuel oil surcharge may apply. Fuel surcharges will be applied in accordance with the daily rate based on the US Department of Energy's national average. Invoices will show the surcharge as a separate line item.
20. In the event the nature of the work, in Veolia ES's sole discretion, requires use of Level A, B, C, or D personal protection and safety equipment, Veolia ES shall use the appropriate personal protection and safety equipment and the client shall reimburse Veolia ES this additional cost(s) in accordance with the attached fee schedule. The daily rate for PPE is for a maximum of 2 suits used per day. Additional suits will be charged in accordance with the unit rate. All levels include one set of disposable supplies.
21. Major non-rental equipment items required on site, but temporarily not being used, will be billed at a stand-by charge of one-half (1/2) the standard daily rate. In the event Veolia ES personnel cannot work due to factors beyond the control of Veolia ES and client (e.g. unusually inclement weather rendering it unsafe to work), personnel will be billed at a rate of the full per diem charge for personnel. On non-work days, personnel will incur a full per diem charge for each day.
22. Skirted boom rates apply on a 24/hr/day basis with a new day commencing at 12:00 AM. Non-water deployed boom on standby or in travel shall be charged at fifty percent (50%) of the daily rate. Any damaged boom is subject to a replacement cost plus twenty percent (20%).
23. The fee schedule includes the cost of Veolia ES's basic medical monitoring program. Any special medical monitoring required by the Client, or the nature of the work, will be added to the project scope and the client shall reimburse Veolia ES Special Services, Inc. at cost plus twenty percent (20%).
24. Rates are exclusive of federal, state and local sales or use taxes, permits/licenses, easements or rights of ingress/egress to perform work. These costs will be billed at cost plus 20%.



Marathon Oil Co.

Major Oil Spill Equipment and Personnel List by Location**Neenah, WI****Personnel**

Seven Response Managers
Ten Foreman and Technicians

Equipment

One Emergency Response trailer with full equipment
Two Response Manager Trucks
One five ton stake trucks
One 1 ton stake truck
Two Hydrographic survey boats
Hydraulic power packs and pumps
Two weir Skimmers- SKIMPAC 4300, 50 gpm
400' absorbent boom
25 bale absorbent pads
One 20' boom boat with 90hp outboard

Green Bay, WI**Equipment**

2200 feet 18" Containment Boom
One Boom Trailer
One 14' boat w/ 9.9 hp motor
One zodiac boat w/40 hp motor
1000' absorbent boom
13 absorbent rolls
25 bale absorbent pads

Sheboygan, WI**Personnel**

Three Response Managers
Twelve Foreman/Technicians/Drivers

Equipment

One Emergency Response Trailer with full equipment
Five Pick-up Trucks
Ten Vacuum Trucks/Trailers*
100' 18" Containment boom
250' absorbent boom
10 bale absorbent pads

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

Germantown, WI (Milwaukee)**Personnel**

Six Response Managers
Thirty-two Foreman/Technicians

Equipment

One Emergency Response Truck and Trailer with full equipment
Ten Pick-up Trucks
One Vacuum Truck, 2500 gallons- 50-60 gpm w/ 4" hose
Ten Vacuum Trucks/Trailers*
Four Boom Trailers
One Water Treatment Trailer
One Dual drum oil skimmer- Elastec TDS-136, 70 gpm
Two Weir skimmers- SKIMPAC 4300, 50 gpm



Marathon Oil Co.

One 19' foot boom boat with 115hp outboard
Four 12 to 18' jon boat w/ 15-25 hp outboards
Fifteen – Rolloff Trucks
Thirty Sealed Roll off Boxes
15,400' 18" containment boom
1000' 36" containment boom
2000' absorbent boom
85 bale absorbent pads

Fort Atkinson, WI**Personnel**

One Response Manager
Seven Drivers/Technicians

Equipment

Five vacuum trucks or trailers*
250' Absorbent boom
10 Bale absorbent pads

Wausau, WI**Personnel**

One Response Managers
Three Foreman and Technicians

Equipment

One Emergency Response Truck and Trailer
One Response Managers Truck
One Pick-up Truck
Two vacuum trucks or trailers*
One Jon Boat w/15 hr motor
One Power Pack with Three Pumps
500' Absorbent Boom
20 Bale Absorbent Pads

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

Norway, MI**Personnel**

Three Response Managers
Four Foreman and Technicians

Equipment

One Emergency Response Truck and Trailer
One Vacuum Truck- 3000 gallon, 50-60 gpm w/ 4" hose
One Roll off Truck
Four Sealed Rolloff Boxes- 25 yard
One Frac Tank, 18000 gallon Capacity
600' Absorbent Boom
5 Bale Absorbent Pads

New Lenox, IL (Southwest Chicago)**Personnel**

Three Response Managers
Fifteen Foreman and Technicians

Equipment

One Emergency Response Trailer (Full Equipment)
One Emergency Response Truck w/lift-gate- 4x4
Four Vacuum Trucks*
One roll-off truck



Marathon Oil Co.

Four Sealed Roll off Boxes
One 18' Response Boat w/60 hp motor
One 14' jon boat- w/10 hp motor
Six Pick-up Trucks
One Cube Van
One Elastec TDS-118 Skimmer, 35 GPM Recovery
2200' 18 containment boom
600' Absorbent Boom
20 Bale of Absorbent Pads

Whiting, IL (BP Amoco)**Personnel**

Two Response Managers
Thirty-six Foreman and Technicians

Equipment

Eleven Vacuum Trucks*
Two Trailer Mounted Pressure Washers
One 14' boat w/10 hp motor
500' Absorbent Boom
10 Bale Absorbent Pads

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

Mitchell, IL (St. Louis)**Personnel**

3 Response Managers
27 Foreman and Technicians

Equipment

One Emergency Response Trailer – Full Equipment
One Emergency Response Truck- 4x4
Seventeen Support Trucks
Seventeen Vacuum Trucks*
Four Combination Jet/Vac Trucks
Eight 10k+ Hydro Blasters
Two Steam Pressure Washers
One 18' Boat w/40 hp motor
One Elastec TDS-118 Skimmer, 35 GPM Recovery
One Intrinsically Safe Sewer Inspection Unit
400' Absorbent Boom
1000' 18" Containment Boom
15 Bale Absorbent Pads

Dayton, OH**Personnel**

Five Response Managers
45 Foreman and Technicians

Equipment

Twenty Five Vacuum Trucks*
Two Jet/Vac Combination Units
One Intrinsically Safe Sewer Inspection Unit
Thirty Two Support Trucks
One 4x4 Emergency Response truck w/liftgate
One Emergency Response Trailer (Full Equipment)
One Emergency Response Rehab/Office Trailer
Three Rolloff Trucks
Twelve Semi Tractor/Tanker/Roll off Units*



Marathon Oil Co.

Thirty Five Water Blaster Units
Six Frac Tanks – Avg 18,000 gallons each
Thirty Sealed Rolloff Boxes
One 20' Pontoon/Boom Boat w/90 hp motor
One Jon Boat w/15 hr motor
One Elastec Magnum 100 Skimmer w/hydraulic power-pack, 100 gpm Recovery Rate
One Elastec TDS-118 Skimmer, 35 GPM Recovery
One Half-Disk Mantaray Skimmer, 56" w/ 3' coupling, 80 gpm
One Weir Skimmer- SKIMPAC 4300, 50 gpm
2,200' 18" Containment Boom
50' 8" Containment Boom
800' Absorbent Boom
20 Bale of Absorbent Pads

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

Nitro, WV (Charleston)

Personnel

2 Response Managers
25 Foreman and Technicians

Equipment

Six Vacuum Trucks*
Four Transport Tankers*
Two Roll off Trucks
Twelve Support Trucks
Twenty-five Sealed Rolloff Boxes
200' of Absorbent Boom
20 bale of Absorbent Pads

Louisville, KY

Personnel

3 Response Managers
22 Foreman and Technicians

Equipment

Five Vacuum Trucks*
One Emergency Response Trailer – Full Equipment
Fifteen Water Blaster Units
100' of Absorbent Boom
Four Bale Absorbent Pads

Long Beach, CA

Personnel

5 Response Managers
82 Foreman and Technicians

Equipment

One Emergency Response Trailer – Full Equipment
2000 feet – 18" Containment Boom
One Boom Trailer
Thirty-two Vacuum Trucks*
Fourteen Tanker-Trucks*
Twelve 130-bbl Vacuum Tankers*
One Drum Skimmer- Elastec TDS-118, 35 gpm
Two 14' jon boats w/ 15 hp motor
Five 10k Hydro Blasters
2000' Absorbent Boom
15 Bales Absorbent Pad



Marathon Oil Co.

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

Fremont, CA

Personnel

3 Response Managers

6 Foreman and Technicians

Equipment

1 – Emergency Response Trailer – Full Equipment

Two Pickup Trucks with lift-gates

Two Pickup Trucks

Two 4x4 SUV's

One- 1-ton truck

500' Absorbent boom

17 Bale Absorbent pads

Denver, CO

Personnel

2 Response Managers

10 Foreman and Technicians

Equipment

One Emergency Response Trailer- Full Equipment

One 4x4 Emergency Response truck w/liftgate

One Vacuum Truck*

One 14' Jon Boat- no motor

One 3" Trash Pump

25 Bale Absorbent Pads

100' Absorbent Boom

Jacksonville, FL

Personnel

2 Response Managers

10 Foreman and Technicians

Equipment

One Emergency Response Trailer- Full Equipment

One Vacuum Truck*

One Emergency Response Truck w/lift-gate- 4x4

One 14' Jon Boat- no motor

One 3" Trash Pump

25 Bale Absorbent Pads

100' Absorbent Boom

1500' 18" containment boom

*Vacuum Truck pumping capacities range from 50-120 gpm w/ 4" hose

*Vacuum trucks range in size from 2000-6000 gallons

2.4 Demobilization

2.4.1 Equipment Demobilization

The Company can reduce response costs and maintain on-going preparedness by developing a Demobilization Plan. Therefore, emphasis must be placed on establishing efficient demobilization procedures. A Demobilization Checklist is provided.

DEMOBILIZATION CHECKLIST	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Assign personnel to identify surplus resources and probable release times.			
Establish demobilization priorities.			
Develop decontamination procedures.			
Initiate equipment repair and maintenance.			
Develop a Disposal Plan.			
Identify shipping needs.			
Identify personnel travel needs.			
Develop impact assessment and statements.			
Obtain concurrence of Planning and Operations Group Leaders before release of personnel or equipment.			

SPILL DEMOBILIZATION PLAN

GENERAL INFORMATION
PERSONNEL
EQUIPMENT
RESPONSIBILITIES
 Command
 Operations Section Chief
 Planning Section Chief
 Logistics Section Chief
 Finance Section Chief
RESOURCES FOR DEMOBILIZATION
GENERAL PLAN FOR DEMOBILIZATION

Project Name: _____ Spill

Project Date: _____

FOSC: _____

SOSC: _____

RPIC: _____

Prepared By: _____, Operations Section Chief

General Information

Personnel and Equipment will be demobilized from the incident in accordance with this plan.

Demobilization is an orderly and cost effective process for the release and return of all response resources and personnel to their respective home destinations.

The demobilization of the resources and personnel from the _____ incident is a team effort involving all personnel working on the incident. It is the responsibility of the Planning Section Chief to ensure that a systematic plan is established and implemented by the Demobilization Unit. This demobilization plan will be implemented upon approval of the Unified Command.

Resources no longer required for the response to the incident will be demobilized as rapidly as is feasible. They will be released in the following general priority.

Priority I -- Resources required to be returned to emergency services.

Priority II -- Resources mobilized from off-site

Priority III -- Local resources

A Demobilization Check-Out Form will be used to facilitate the process and to provide resource accountability. As resources are identified which are available for demobilization, the demobilization form will be initiated by the section chief responsible for that resource. The Check-Out Form will then be reviewed by the Operations Section Chief and the Planning Section Chief to verify that the resource is not planned for another task. After their approval and the communicating to the Unified Command the intended reduction in resources, the resource will be demobilized from the incident. The

RP Planning Section Chief will be responsible for distribution of information of released resources to other sections.

Personnel:

1. As appropriate, personnel demobilizing from the incident should check with their OSRO, RP or Agency logistics contact for return of the radios, vehicles, materials, etc., that have been issued to them for use on the incident.
2. When necessary, notify their respective OSRO, RP or Agency Logistics of their checkout from hotel/accommodations.
3. Direct all persons who maintained incident documentation during the event to provide copies to the Documentation Unit Leader for file.

Equipment:

1. Rental Vehicles – Clean out and refuel. Return to OSRO, Agency, or appropriate rental company if individually rented.
2. Contractor equipment, as required, will be decontaminated at the appropriate decontamination facility. Once decontamination is completed the equipment will be returned to the contractor/owner.
3. Local equipment will be the responsibility of the contractor to remove from the site upon signing the demobilization checkout form.
4. Resources requiring transport from _____ to other locations will be coordinated through Operations and Logistics. Resources will normally be transported via the most cost effective means as appropriate.
5. Agency equipment, as required, will be decontaminated at the appropriate decontamination facility. Agency equipment will then be returned to the appropriate agency and transportation support will be provided by logistics as necessary.

RESPONSIBILITIES:

Command:

1. Approve overall Demobilization Plan
2. Approve Release of Resources

Operation Section Chief:

1. Identify surplus section personnel and equipment resources for release.
2. Notify Planning Section Chief of surplus personnel and equipment resources ready for demobilization
3. Provide required paperwork and information
4. Demobilize Section when appropriate

Planning Section Chief:

1. Demobilization Plan development, initiation and implementation.
2. Review all demobilization requests with Operations Section Chief against overall response plan to ensure appropriateness for release from incident.
3. Request/Receive approval from Unified Command for release of resources.
4. Identify adequate section personnel and resources required to implement Demobilization Plan.
5. Identify surplus section personnel and resources for release and demobilization.

6. Provide required paperwork and information to Documentation Unit for inclusion in the final incident document.
7. Demobilize Section when appropriate.

Logistics Section Chief:

1. Identify adequate section personnel and equipment resources required to implement demobilization plan
2. Identify surplus section personnel and resources for demobilization.
3. Notify Planning Section Chief of surplus personnel and resources for demobilization.
4. Provide transportation for personnel and resources being demobilized as necessary.
5. Coordinate ETA's of released personnel and equipment resources with owners.
6. Provide paperwork and information to Documentation Unit Leader for record file.
7. Demobilize Section when appropriate.

Finance Section Chief:

1. Identify adequate section personnel and resources required to implement Demobilization Plan.
2. Identify surplus section personnel and resources for demobilization.
3. Notify Planning Section Chief of surplus personnel and resources available for demobilization.
4. Provide required paperwork and information to Documentation Unit Leader for record file.

Resources for Demobilization

The following resources will be required to implement the Demobilization Plan:

Personnel: (1) Planning Section Chief
 (1) Documentation Unit Leader
 (1) Operations Section Chief
 (1) Boat Decontamination Supervisor
 (1) Boom Decontamination Supervisor
 (#) Laborers

Equipment: (#) Decon Pools
 (#) Skiffs
 (#) Forklift
 (#) Pressure Washers
 Miscellaneous cleaners and expendable gear

A general plan for the demobilization of this incident is attached.

GENERAL PLAN FOR DEMOBILIZATION OF THE _____ SPILL INCIDENT

Month										
W	T	F	S	S	M	T	W	T	F	
#	#	#	#	#	#	#	#	#	#	#

Activities

Ship Cleaning	_____
Containment Booming	_____
Passive Snare Ops	_____
Boom/Log Cleaning	_____
Boat Cleaning	_____
Vehicle Cleaning	_____

Personnel

Contractor Personnel	#
Spill Management	#
Federal	#
State	#

Equipment

Skiffs	#
FRV	#
FE Loader	#
Vac Truck	#
Press. Washer	#
Decon Pools	#

2.5 Incident Documentation Procedures and Response Critique

Documentation of a spill response provides a historical record, keeps management information, serves as a legal instrument, and provides a means to account for the clean-up costs.

Documentation should begin immediately and continue until termination of all operations.

Documentation should include the following:	
✓	Spill origin and characteristics
✓	Sampling surveys
✓	Photographic surveys
✓	Climatological data
✓	Personnel and equipment accounting
✓	Copies of all logs, contracts, contacts, and plans prepared for the incident

2.5.1 Post Incident Review

All facility personnel involved in the incident shall be debriefed by the Incident Commander. The primary purpose of the post-incident review is to identify actual or potential deficiencies in the Plan and determine the changes required to correct the deficiencies. The post-incident review is also intended to identify which response procedures, equipment and techniques were effective and which were not and the reason(s) why. This type of information is very helpful in the development of a functional Plan by eliminating or modifying those response procedures that are less effective and emphasizing those that are highly effective. This process should also be used for evaluating training, drills or exercises. Key agency personnel that were involved in the response will be invited to attend the post-incident review.

Section 3: Pollution Prevention Measures

3.1	Hazard Evaluation	1
3.1.1	Hazard Identification	1
3.1.2	Tank Table	2
	Table 3.1 – Container and Potential Spills Table: Piceance Operations	3
3.1.3	Hazard Identification Surface Impoundments (SI)	3
3.2	Vulnerability Analysis	16
3.2.1	Threatened, Endangered and Special Concern Species in Colorado	17
3.3	Environmental Sensitivity Information	25
	Figure 3.1 Sensitive Area Protection Implementation Sequence	26
3.4	Spill Containment and Recovery	27
	Figure 3.2 Response Techniques for Produced Water or Condensate	28
	Figure 3.3 Response Tactics for Various Shorelines	29
	Figure 3.4 Summary of Shoreline and Terrestrial Clean Techniques	31
	Figure 3.5 Water Flushing Guidelines	34
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3.1 Hazard Evaluation

This section requires Marathon Corporation to closely review operations, and to anticipate where discharges could occur. Hazard evaluation is a widely used and accepted industry practice that allows a company to develop a complete understanding of potential hazards and the response actions necessary to address these hazards.

Hazard identification and evaluation supports planning needs for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future.

The evaluation process may also help company personnel identify and then correct potential sources of discharges.

Additionally, specialized hazards for workers and emergency response personnel's health and safety should be evaluated in conjunction with condensate / produced water spill history.

3.1.1 Hazard Identification

Following is a list of each tank at each site with a separate and distinct identifier. Aboveground tanks are identified with "A" and belowground tanks with "B".

3.1 Hazard Evaluation (Cont'd)

3.1.2 Tank Table

Units of measure: Use gallons for the maximum capacity of a tank and use square feet for the area.

Using the appropriate identifiers and the following instructions, fill in the separate forms

✓	Tank or SI number-Identify each tank or SI at the facility that stores oil or hazardous materials
✓	Substance stored-For each tank or SI identified, record the material stored. If more than one substance is stored, list all identified
✓	Quantity Stored-For each material stored in each tank or SI, report the average volume of material stored on any day
✓	Tank Type or Surface Area/Year-For each tank, report the type and year the tank was originally installed. If the tank has been re-fabricated, the year that the latest re-fabrication was completed must be recorded in parentheses next to the year installed. For each SI, record the surface area of the impoundment and the year it went into service.
✓	Maximum Capacity-Record the operational maximum capacity for each tank and SI. If maximum capacity is seasonally variable, record the upper and lower limits
✓	Failure/Cause-Record the cause and date of any tank or SI failure which has resulted in a loss of tank or SI contents

3.1 Hazard Evaluation (Cont'd)

3.1.2 Tank Table (Cont'd)

Table 3.1 – Container and Potential Spills Table: Piceance Operations

Piceance Operations				
Well pads	Condensate Tanks	Size (bbl)	Water Tanks	Size (bbl)
596-35D	1	400	1	400
697-1C	1	400	2	400
697-1C	1	300		
697-11X	1	400	1	400
697-12A	1	400	2	400
697-13C	1	400	2	400
696-18A	1	400	5	400
696-18C	1	400	2	400
596-34D	1	400	1	400
596-33C	1	400	2	400
596-31C	1	400	2	400
696-5C	1	400	2	400
596-32C	1	400	3	400
596-32C			1	500
596-29C	1	400	2	400
697-26A	1	400	2	400
596-31A	1	400	2	400
596-19C	1	400	2	400
596-20C	1	400	2	400
697-1X	1	400	1	400
697-1X	1	300		
697-2C	1	400	2	400
697-28C	1	400	1	400
697-21A	1	400	2	400
697-23X	1	400	1	400

3.1.3 Hazard Identification Surface Impoundments (SI)

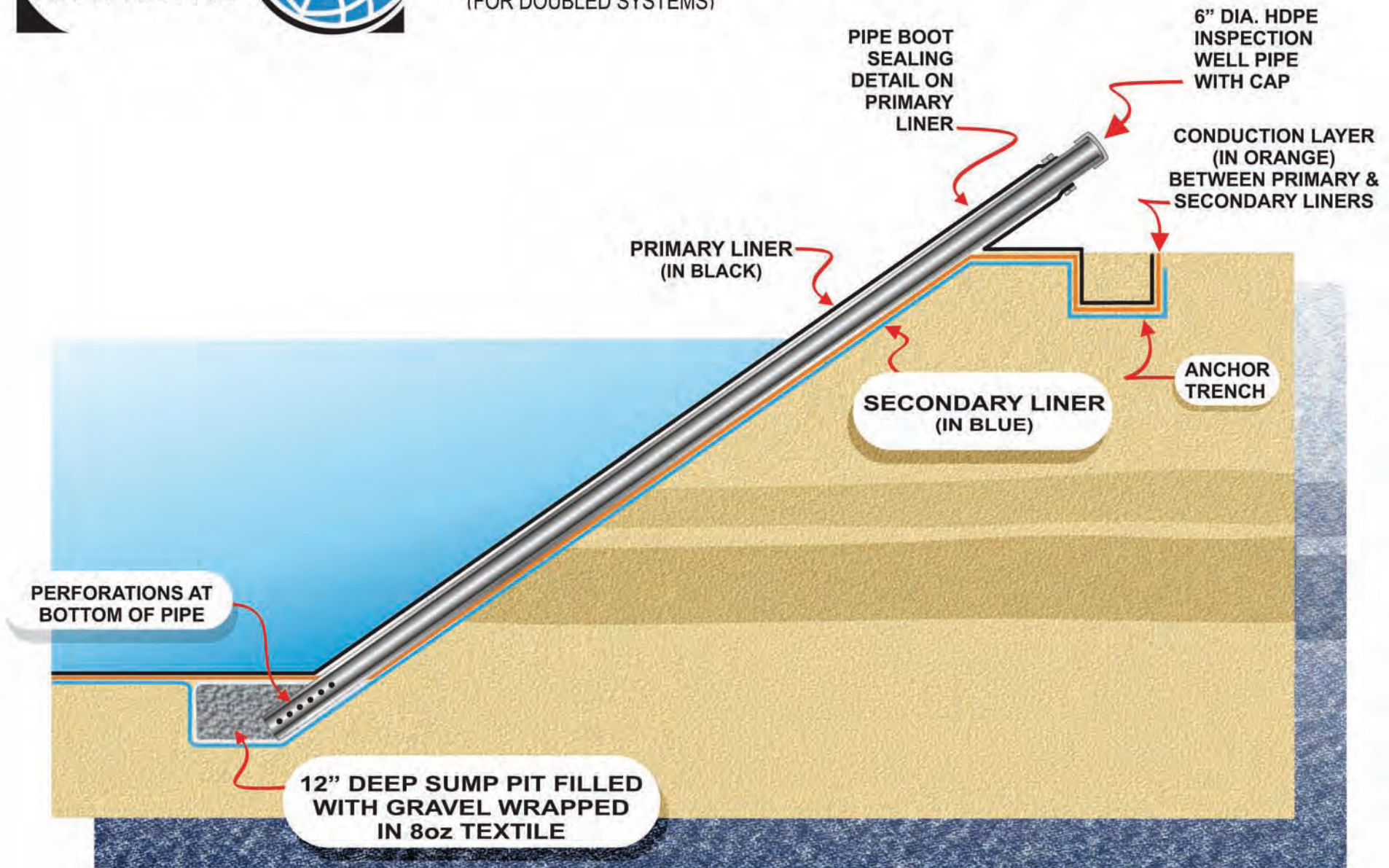
Surface impoundments are located at the Latham Laydown yard for fresh water supply, and at Well Pad 32C for well flow back and water storage. Refer to the table and pages below for SI design information.

Piceance Operations	
Surface Impoundment	Capacity (bbls)
Pond – 32C	53,549
Pond – A	99,667
Pond – C	50,035



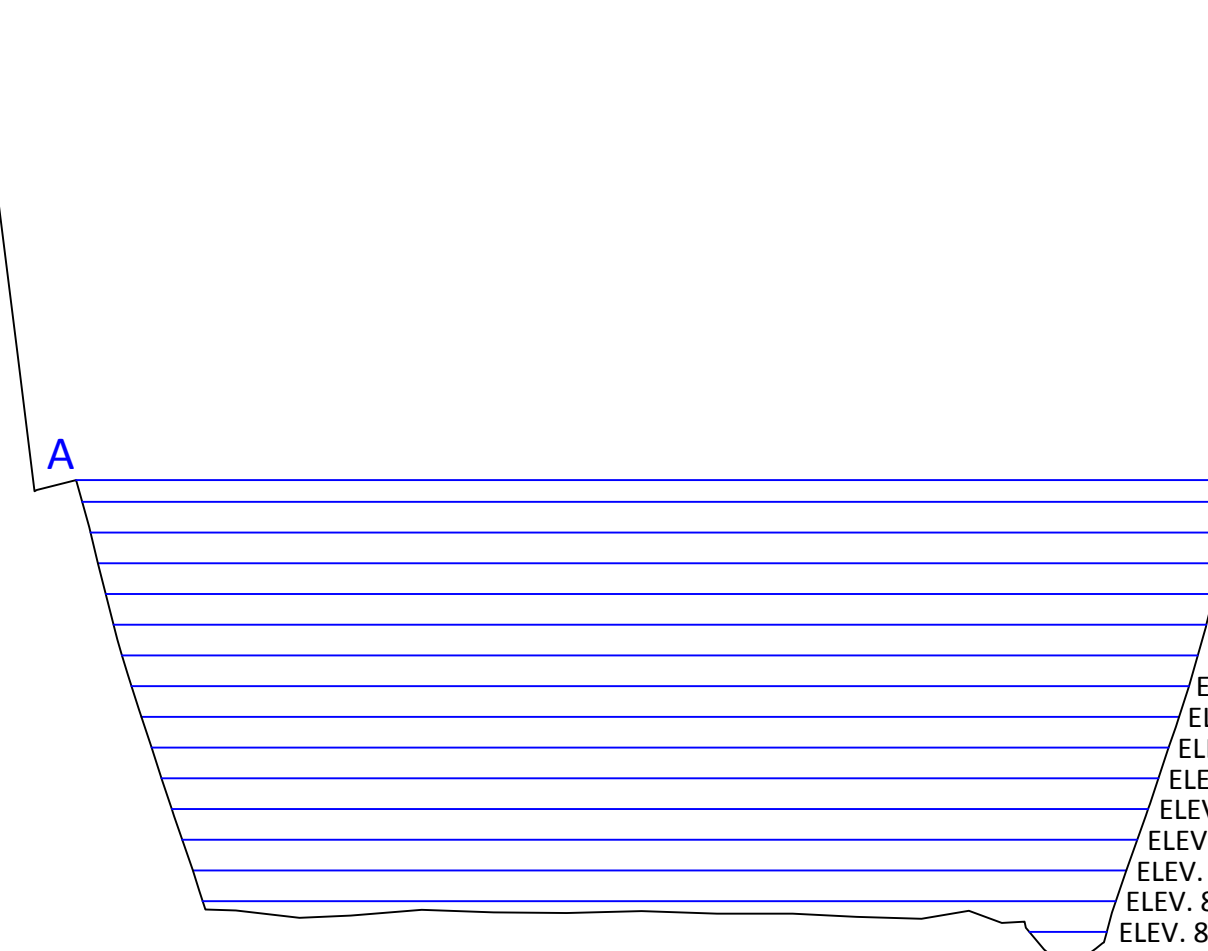
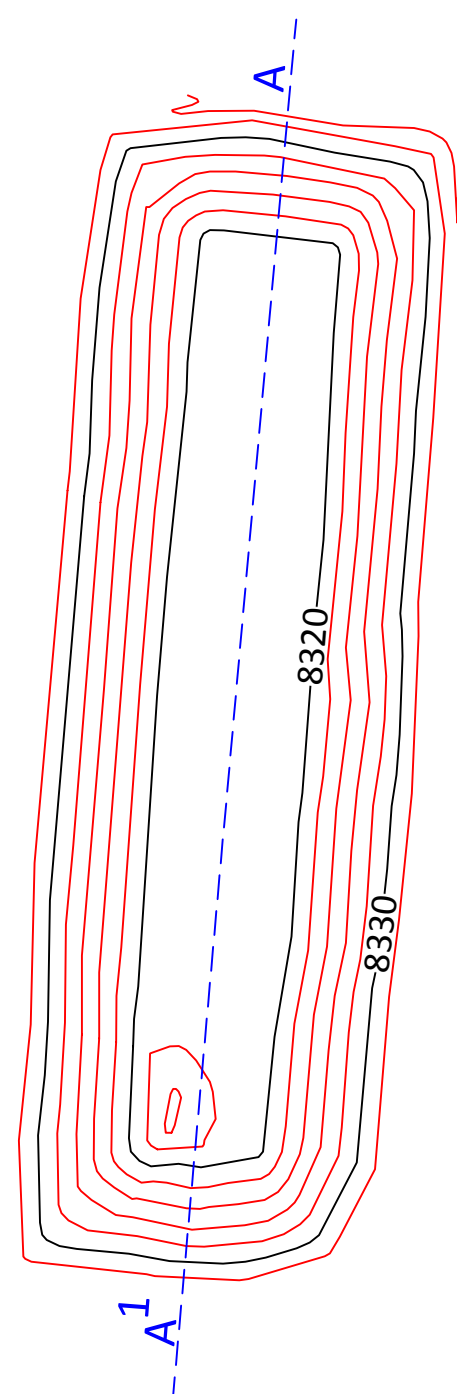
"STANDARD" LEAK DETECTION WELL DETAIL WITH PIPE RESTING ON SLOPE GRADE

(FOR DOUBLED SYSTEMS)



NOTE: POND BOTTOM TO BE SLOPED TOWARDS SUMP PIT

32C ASBUILT POND INFORMATION



ELEV. 8332.7 - 42,272bbls - 237,340.6 CU. FT.
ELEV. 8332 - 40,714bbls - 228,592.8 CU. FT.
ELEV. 8331 - 35,962bbls - 201,911.9 CU. FT.
ELEV. 8330 - 31,497bbls - 176,841.5 CU. FT.
ELEV. 8329 - 27,324bbls - 153,412.8 CU. FT.
ELEV. 8328 - 23,439bbls - 131,600.9 CU. FT.
ELEV. 8327 - 19,838bbls - 111,384.0 CU. FT.
ELEV. 8326 - 16,521bbls - 92,756.2 CU. FT.
ELEV. 8325 - 13,477bbls - 75,667.9 CU. FT.
ELEV. 8324 - 10,699bbls - 60,072.6 CU. FT.
ELEV. 8323 - 8,184bbls - 45,949.6 CU. FT.
ELEV. 8322 - 5,927bbls - 33,277.6 CU. FT.
ELEV. 8321 - 3,921bbls - 22,016.4 CU. FT.
ELEV. 8320 - 2,160bbls - 12,128.3 CU. FT.
ELEV. 8319 - 644bbls - 3,616.5 CU. FT.
ELEV. 8318 - 61bbls - 345.0 CU. FT.
ELEV. 8317



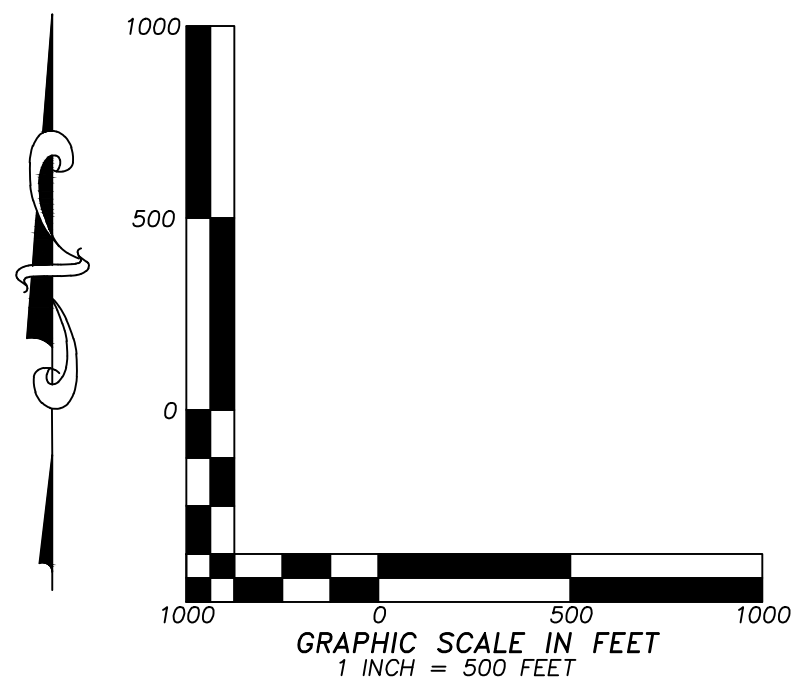
**WILLIAM H. SMITH
& ASSOCIATES P.C.**
SURVEYING CONSULTANTS
550 EAST SECOND NORTH PHONE: 307-875-3638
GREEN RIVER, WY 307-875-3639
www.whsmithpc.com

MARATHON OIL COMPANY
596-32C PRODUCED WATER POND

SECTION 32 T5S, R96W,
GARFIELD CO., COLORADO
MARATHON OIL COMPANY
P.O. Box 3128 5555 San Felipe
Houston, TX 77253 Houston, TX 77056

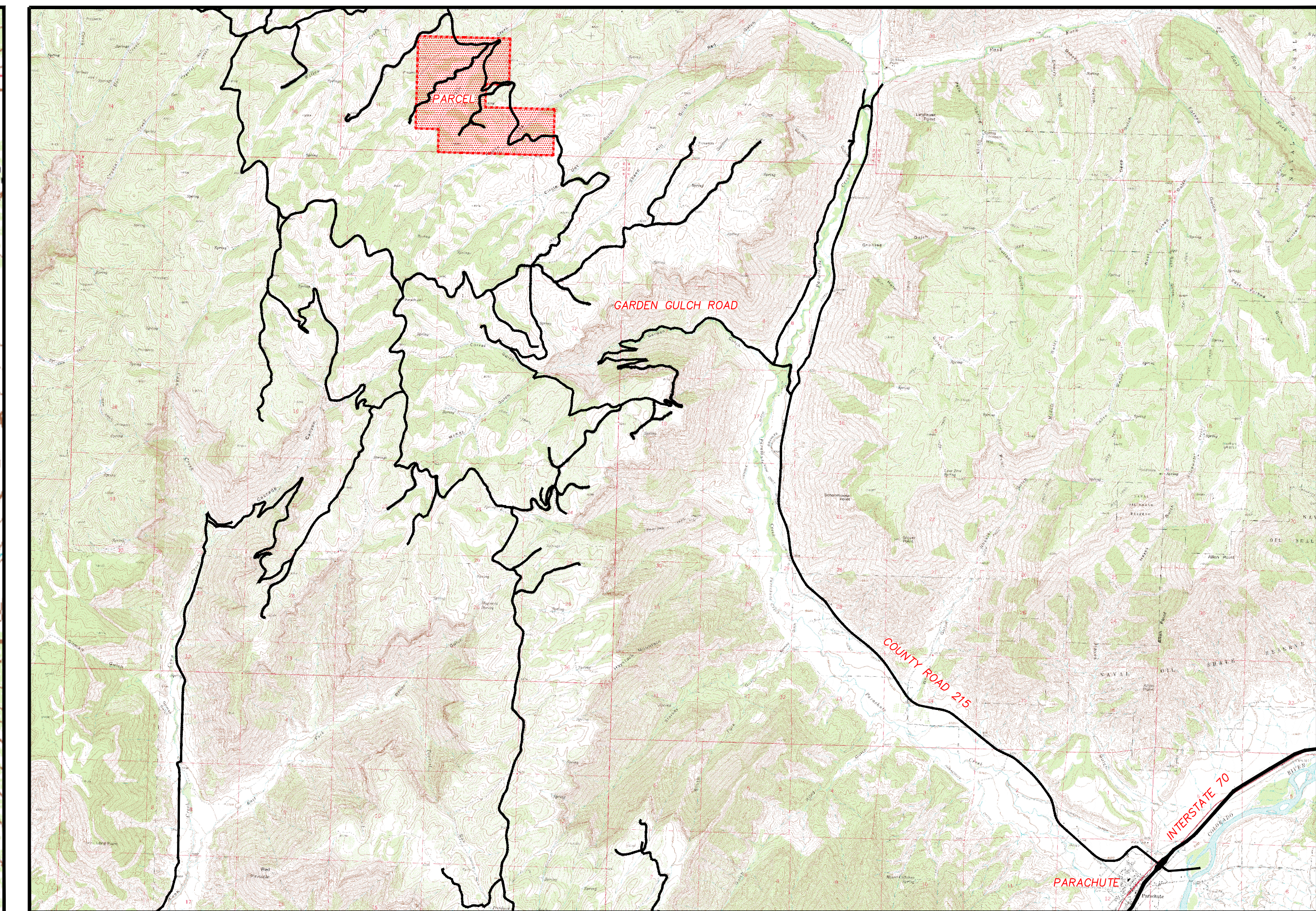
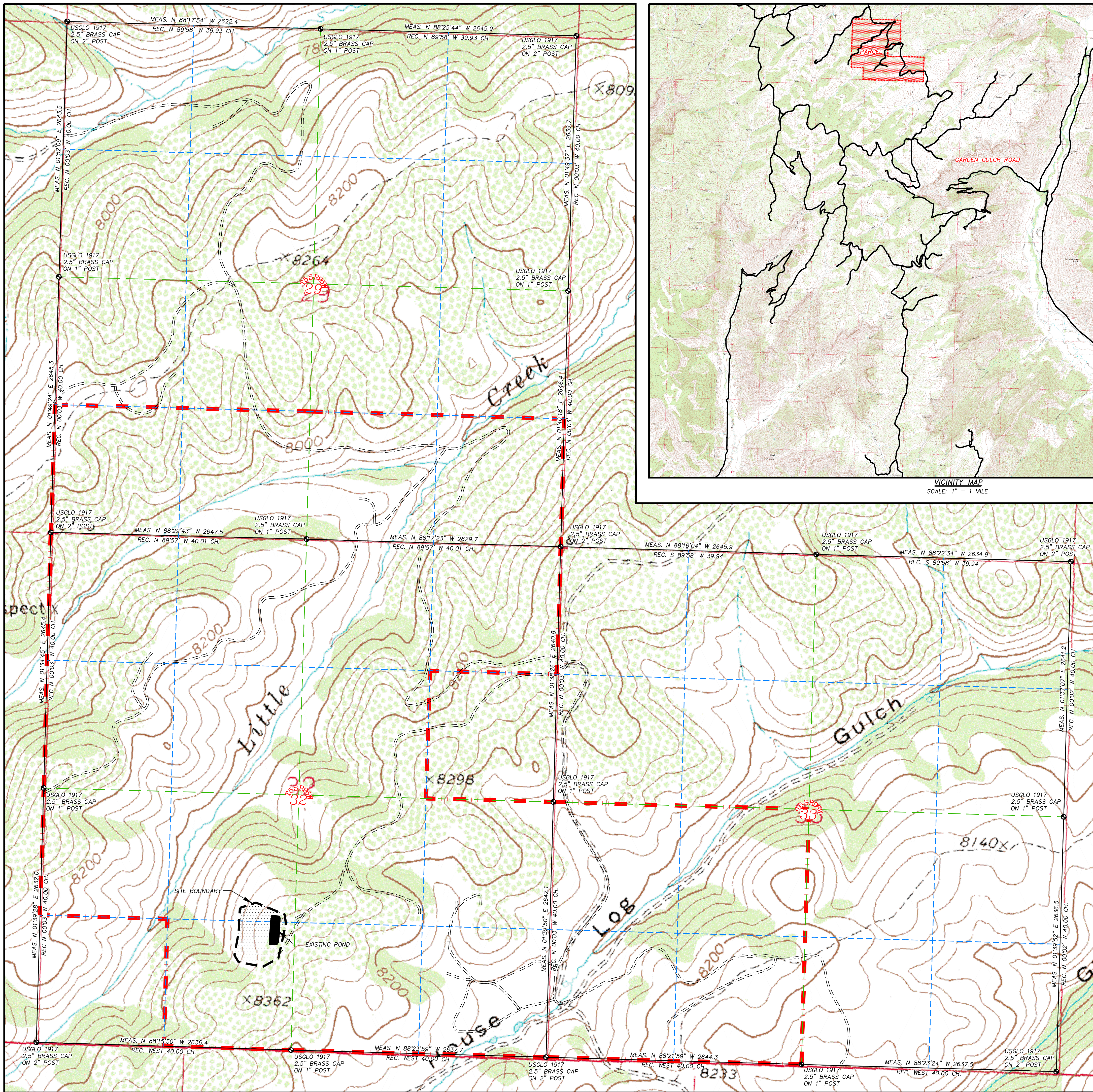
DRAWN BY: DTW	CHECKED BY: WHD	SCALE: 1"=50'
DATE: 03/15/2013	JOB NO: 26099	SHEET 1 OF 1
REVISIONS:		

MARATHON OIL COMPANY
596-32C PRODUCED WATER POND
CENTRALIZED
E & P WASTE MANAGEMENT FACILITY
SECTIONS 29, 32 AND 33, TOWNSHIP 5 SOUTH,
RANGE 96 WEST OF THE 6TH PRINCIPAL MERIDIAN
GARFIELD COUNTY, COLORADO



EXISTING POND DATA

324'x120'x14.5'±
SLOPE = 2:1±
PIT CAPACITY
42,940 BBLs FULL (5.53 ACRE FT.)



VICINITY MAP
SCALE: 1" = 1 MILE

NOTES:

1. PARCEL SIZE: 38,354,377± SQ. FT. OR 880.495± ACRES
2. ZONE DISTRICT: RESOURCE LANDS: PLATEAU
3. RECORD BEARINGS AS SHOWN ARE BASED ON THE GENERAL LAND OFFICE SURVEY, AS APPROVED ON APRIL 10, 1919.
4. ALL BEARINGS SHOWN ARE GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983 USING A COMBINED SCALE FACTOR OF 1.000446031. THE BASIS OF THE GRID BEARINGS IS THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 5 SOUTH, RANGE 96 WEST, 6TH PRINCIPAL MERIDIAN, GARFIELD COUNTY, STATE OF COLORADO, THAT BEARING BEING N 88°15'50" W (MONUMENTS DESCRIBED ON PLAT).
5. THE LINEAR UNIT IN THE PREPARATION OF THIS PLAT IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

LEGEND

- FOUND SECTION MONUMENTS
- PARCEL BOUNDARY
- SITE BOUNDARY
- EXISTING ROADS

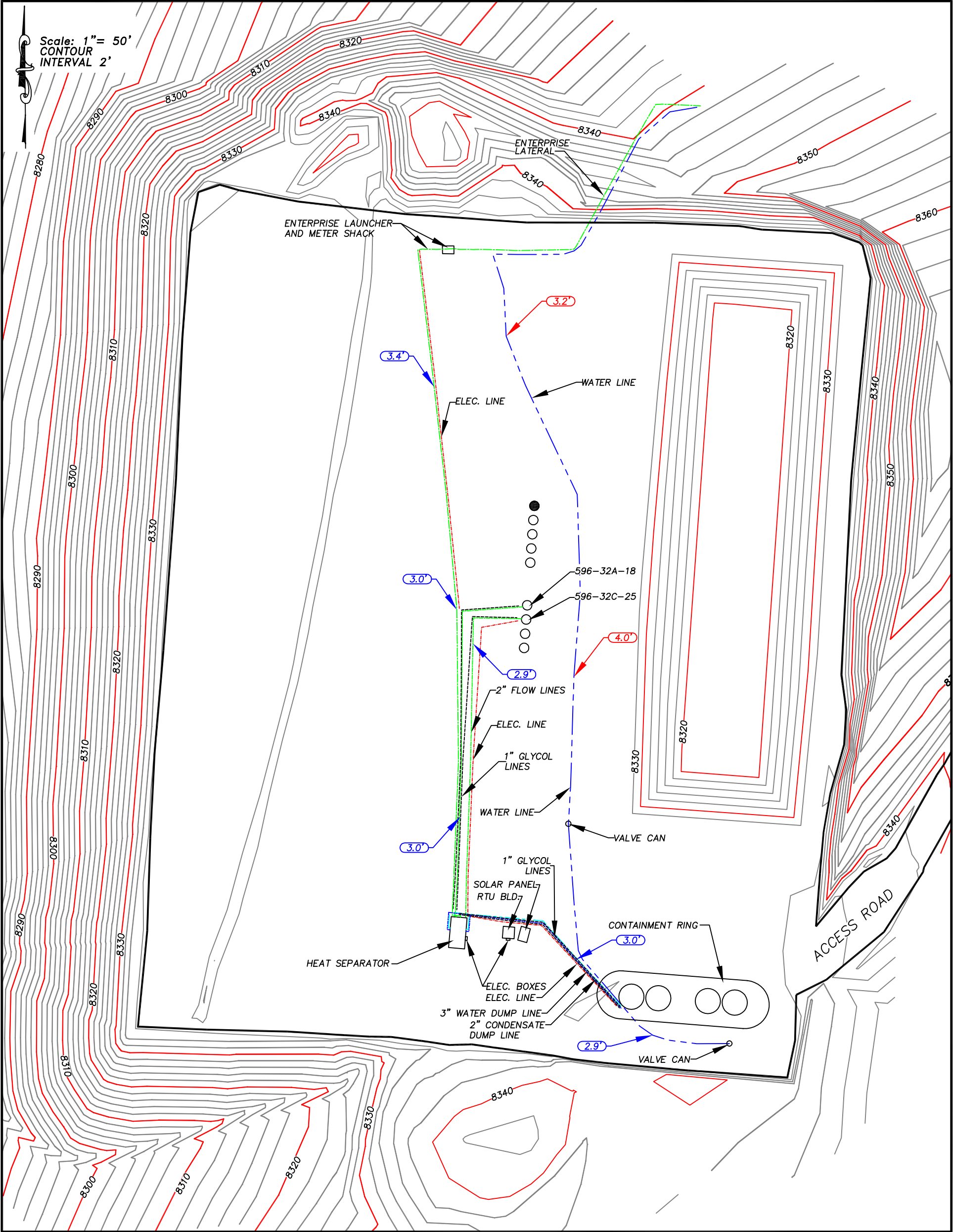
LEGAL DESCRIPTION


BOOK 1863 PAGE 984
GARFIELD COUNTY RECORDS
TOWNSHIP 5 SOUTH, RANGE 96 WEST OF THE 6TH P.M.
SECTION 29: S/2S/2
SECTION 32: N/2NE/4, SW/4NE/4, NW/4,
N/2SW/4, SE/4SW/4, AND SE/4
SECTION 33: SW/4



WILLIAM H. SMITH
& ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
HOUSTON, TX 77055
PHONE: 307-875-3638
307-875-3639
www.williamhsmith.com

MARATHON OIL COMPANY 596-32C PRODUCED WATER POND CENTRALIZED E & P WASTE MANAGEMENT FACILITY SURVEY PLAT SECTIONS 29, 32 AND 33, T5S, R96W, GARFIELD CO., COLORADO MARATHON OIL COMPANY P.O. Box 3128 Houston, TX 77255		
DRAWN BY: CED	CHECKED BY: WHD	SCALE: NOTED
DATE: 10/15/2012	JOB NO: 26099	SHEET 1 OF 2
REVISIONS:		



DESCRIPTION	SIZE	SCHEDULE	NOTE	<div>(4.5') PIPE DEPTH DERIVED FROM DATA COLLECTED FROM PIPE IN THE GROUND</div> <div>(4.5') PIPE DEPTH DERIVED FROM ABOVE GROUND DATA COLLECTED USING METROTECH DEVICE</div> <div>NOTE: PIPE DEPTHS MAY VARY FROM SHOWN DEPTHS BASED ON CONTINUED CONSTRUCTION & EROSION</div>	
SALES LINE PIPE	4"	40	PIPE COATED SA106 GR B (SEAMLESS)		
WATER DUMP LINE	3"	80	PIPE COATED SA106 GR B (SEAMLESS)		
CONDENSATE DUMP LINE	2"	40	PIPE COATED SA106 GR B (SEAMLESS)		
FLOW LINES	2"	80	PIPE COATED SA106 GR B (SEAMLESS)		
GLYCOL LINES	1"	80	PIPE - EXTERNALLY COATED		
<div><div>WILLIAM H. SMITH & ASSOCIATES P.C. SURVEYING CONSULTANTS 550 EAST SECOND NORTH GREEN RIVER, WY PHONE: 307-875-3638 307-875-3639 www.whsmithpc.com</div></div>			<div><div><div>2" FLOW LINES</div><div>4" SALES LINE PIPE</div><div>GAS FLARE STACK</div><div>3" WATER DUMP LINE</div><div>WATER VALVE CAN</div><div>1" GLYCOL LINE</div><div>ELECTRICAL LINE</div><div>2" CONDENSATE D.L.</div></div></div>	LOCATION: 596-32C WITHIN THE SW/4 SECTION 32, T 5 N, R 96 W, 6TH PM. GARFIELD COUNTY, COLORADO	MARATHON OIL COMPANY P.O. Box 3128 Houston, TX 77253 5555 San Felipe Houston, TX 77056
DRAWN BY: DTW/JJ	CHECKED BY: CED	SCALE: 1" = 50'	ASBUILT FLOWLINE DIAGRAM		
DATE: 11/16/2011	JOB NO: 26099	SHEET 1 OF 1			

3.2 Vulnerability Analysis

The vulnerability analysis addresses potential effects (i.e., human health, property, or the environment) of a condensate / produced water discharge.

This analysis has been prepared for each site and, as appropriate, discusses the following

✓	Water intakes (drinking, cooling, or other)
✓	Schools
✓	Medical Facilities
✓	Residential Areas
✓	Businesses
✓	Wetlands or other sensitive environments
✓	Fish and wildlife
✓	Lakes and streams
✓	Endangered flora and fauna
✓	Recreational Areas
✓	Transportation Routes (air, land, and water)
✓	Utilities
✓	Other areas of economic importance (e.g., beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats.

Refer to the RRT8 Regional and Area Contingency Plan and Sub-Area planning initiative for the Colorado River Sub-Area Emergency Response Action Plan for area specific information pertaining to sensitive populations, hospitals, schools, child care facilities, listed sensitive areas and unique features and additional details on threatened and endangered species particular to this operational area.. <http://www.rrt8.nrt.org/>

Below is a list of municipal water intakes and contact information for the operational area.

Names	Business Phone
Utilities	
UNCC: One-Call Notification (including emergency)	811
Enterprise	713-381-7661
Colorado River Municipal Water Intakes	
Mesa County	
Town of De Beque*	970-283-5475, ext 106
Clifton Water District	970-434-7328
City of Grand Junction	970-242-7491 or 970-464-5563
Ute Water District	970-464-5563
Garfield County	
Battlement Mesa Metro District	270-285-9050
Town of Parachute	970-285-7630

* Denotes mandatory notification. All other jurisdictions listed request a courtesy notification.

3.2 Vulnerability Analysis (Cont'd)

3.2.1 Threatened, Endangered and Special Concern Species in Colorado

Common Name	Scientific Name	Status*
Amphibians		
Boreal Toad	Bufo boreas boreas	SE
Northern Cricket Frog	Acris crepitans	SC
Great Plains Narrowmouth Toad	Gastrophryne olivacea	SC
Northern Leopard Frog	Rana pipiens	SC
Wood Frog	Rana sylvatica	SC
Plains Leopard Frog	Rana blairi	SC
Couch's Spadefoot	Scaphiopus couchii	SC
Birds		
Whooping Crane	Grus Americana	FE, SE
Least Tern	Sterna antillarum	FE, SE
Southwestern Willow Flycatcher	Empidonax traillii extimus	FE, SE
Plains Sharp-Tailed Grouse	Tympanuchus phasianellus jamesii	SE
Piping Plover	Charadrius melodus circumcinctus	FT, ST
Bald Eagle	Haliaeetus leucocephalus	SC
Mexican Spotted Owl	Strix occidentalis lucida	FT, ST
Burrowing Owl	Athene cunicularia	ST
Lesser Prairie-Chicken	Tympanuchus pallidicinctus	ST
Western Yellow-Billed Cuckoo	Coccyzus americanus	SC
Greater Sandhill Crane	Grus Canadensis tabida	SC
Ferruginous Hawk	Buteo regalis	SC
Gunnison Sage-Grouse	Centrocercus minimus	SC
American Peregrine Falcon	Falco peregrines anatum	FE – Proposed
Greater Sage Grouse	Centrocercus urophasianus	SC
Western Snowy Plover	Charadrius alexandrinus	SC
Mountain Plover	Charadrius montanus	SC
Long-Billed Curlew	Numenius americanus	SC
Columbian Sharp-Tailed Grouse	Tympanuchus phasianellus columbianus	SC

***Status Codes**

FE = Federally Endangered

FT = Federally Threatened

SE = State Endangered

ST = State Threatened

SC = State Special Concern (not a statutory category)

3.2 Vulnerability Analysis (Cont'd)

3.2.1 Threatened, Endangered and Special Concern Species in Colorado (Cont'd)

Common Name	Scientific Name	Status*
Fish		
Bonytail	<i>Gila elegans</i>	FE, SE
Razorback Sucker	<i>Xyrauchen texanus</i>	FE, SE
Humpback Chub	<i>Gila cypha</i>	FE, ST
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	FE, ST
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	FT, ST
Rio Grande Sucker	<i>Catostomus plebeius</i>	SE
Lake Chub	<i>Couesius plumbeus</i>	SE
Plains Minnow	<i>Hybognathus placitus</i>	SE
Suckermouth Minnow	<i>Phenacosius mirabilis</i>	SE
Northern Redbelly Dace	<i>Phoxinus eos</i>	SE
Southern Redbelly Dace	<i>Phoxinus erythrogaster</i>	SE
Brassy Minnow	<i>Hybognathus kankinsoni</i>	ST
Common Shiner	<i>Luxilus cornutus</i>	ST
Arkansas Darter	<i>Etheostoma cragini</i>	ST
Mountain Sucker	<i>Catostomus playtrhynchus</i>	SC
Plains Orangethroat Darter	<i>Etheostoma spectabile</i>	SC
Iowa Darter	<i>Etheostoma exile</i>	SE
Rio Grande Chub	<i>Gila Pandora</i>	SC
Colorado Rountail Chub	<i>Gila robusta</i>	SC
Stonecat	<i>Noturus flavus</i>	SC
Colorado River Cutthroat Trout	<i>Oncorhynchus clarki pleuriticus</i>	SC
Rio Grande Cutthroat Trout	<i>Oncorhynchus clarki virginalis</i>	SC
Flathead Chub	<i>Platygovio gracilus</i>	SC
Mammals		
Gray Wolf	<i>Canis lupis</i>	FE, SE
Black-Footed Ferret	<i>Mustela nigripes</i>	FE, SE
Grizzly Bear	<i>Ursus arctos</i>	FT, SE
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	FT, ST
Lynx	<i>Lynx Canadensis</i>	FT, SE
Wolverine	<i>Gulo gulo</i>	SE
River Otter	<i>Lontra Canadensis</i>	ST
Kit Fox	<i>Vulpes macrotis</i>	SE
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii pallescens</i>	SC
Black-Tailed Prairie Dog	<i>Cynomys ludovicianus</i>	SC
Botta's Pocket Gopher	<i>Thomomy bottae rubidus</i>	SC
Northern Pocket Gopher	<i>Thomomys talpoides macrotis</i>	SC
Swift Fox	<i>Vulpes velox</i>	SC

***Status Codes**

FE = Federally Endangered

FT = Federally Threatened

SE = State Endangered

ST = State Threatened

SC = State Special Concern (not a statutory category)

3.2 Vulnerability Analysis (Cont'd)

3.2.1 Threatened, Endangered and Special Concern Species in Colorado (Cont'd)

Common Name	Scientific Name	Status*
Reptiles		
Triplois Checkered Whiptail	Cnemidophorus neotesselatus	SC
Midget Faded Rattlesnake	Crotalus viridis concolor	SC
Longnose Leopard Lizard	Gambelia wislizenii	SC
Yellow Mud Turtle	Kinosternon flavescens	SC
Common King Snake	Lampropeltis getula	SC
Texas Blind Snake	Leptotyphlops dulcis	SC
Texas Horned Lizard	Phrynosoma cornutum	SC
Roundtail Horned Lizard	Phrynosoma modestum	SC
Massasauga	Sistrurus catenatus	SC
Common Garter Snake	Thamnophis sirtalis	SC
Mollusks		
Rocky Mountain Capshell	Acroloxus coloradensis	SC
Cylindrical Papershell	Anodontoides ferussacianus	SC
Plants -- 13		
✓ Milk-vetch, Mancos (Astragalus humillimus)		
✓ Milk-vetch, Osterhout (Astragalus osterhoutii)		
✓ Wild-buckwheat, clay-loving (Eriogonum pelinophilum)		
✓ Mustard, Penland alpine fen (Eutrema penlandii)		
✓ Butterfly plant, Colorado (Gaura neomexicana coloradensis)		
✓ Bladderpod, Dudley Bluffs (Lesquerella congesta)		
✓ Cactus, Knowlton (Pediocactus knowltonii)		
✓ Beardtongue, Penland (Penstemon penlandii)		
✓ Phacelia, North Park (Phacelia formosula)		
✓ Twinpod, Dudley Bluffs (Physaria obcordata)		
✓ Cactus, Unita Basin hookless (Sclerocactus glaucus)		
✓ Cactus, Mesa Verde (Sclerocactus mesae-verdae)		
✓ Ladies'-tresses, Ute (Spiranthes diluvialis)		

***Status Codes**

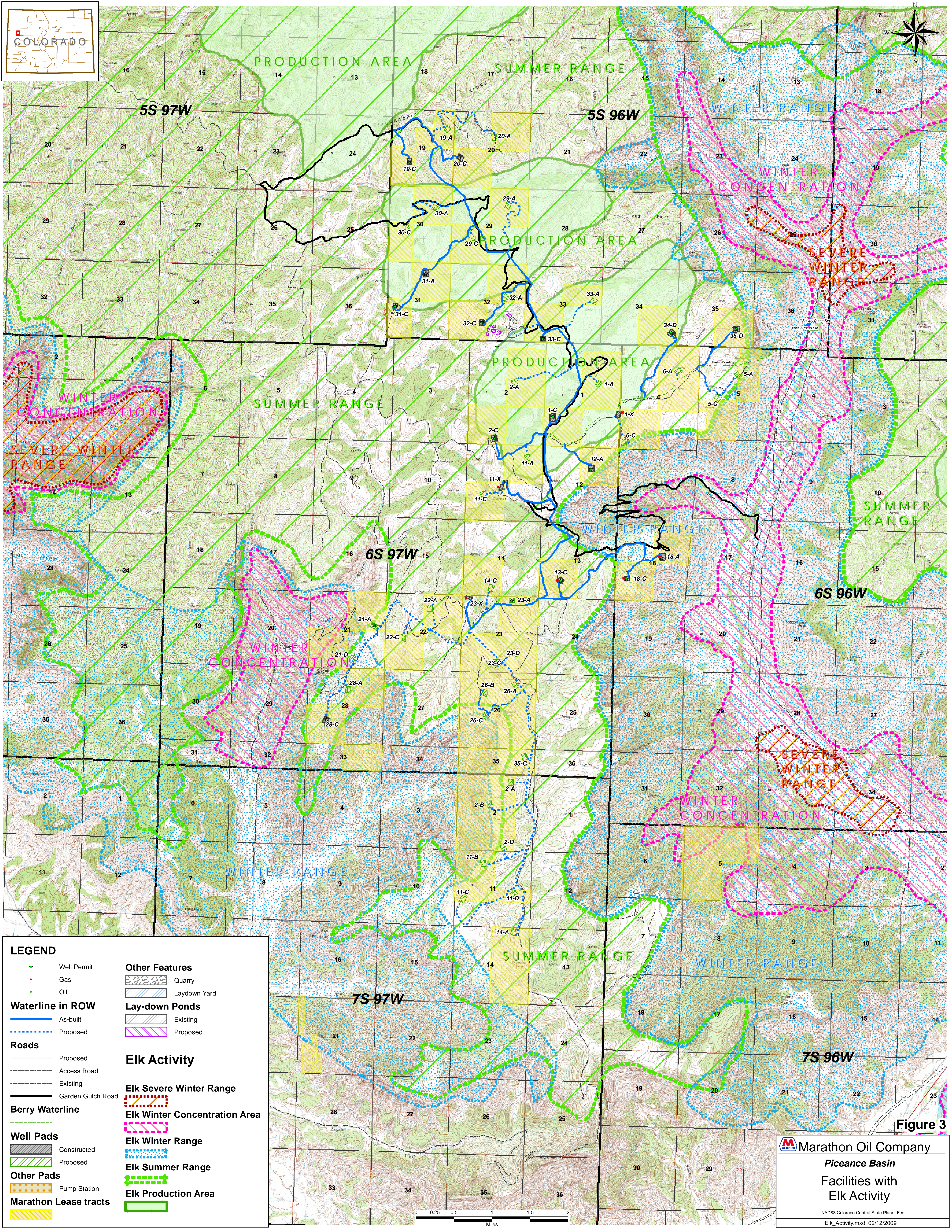
FE = Federally Endangered

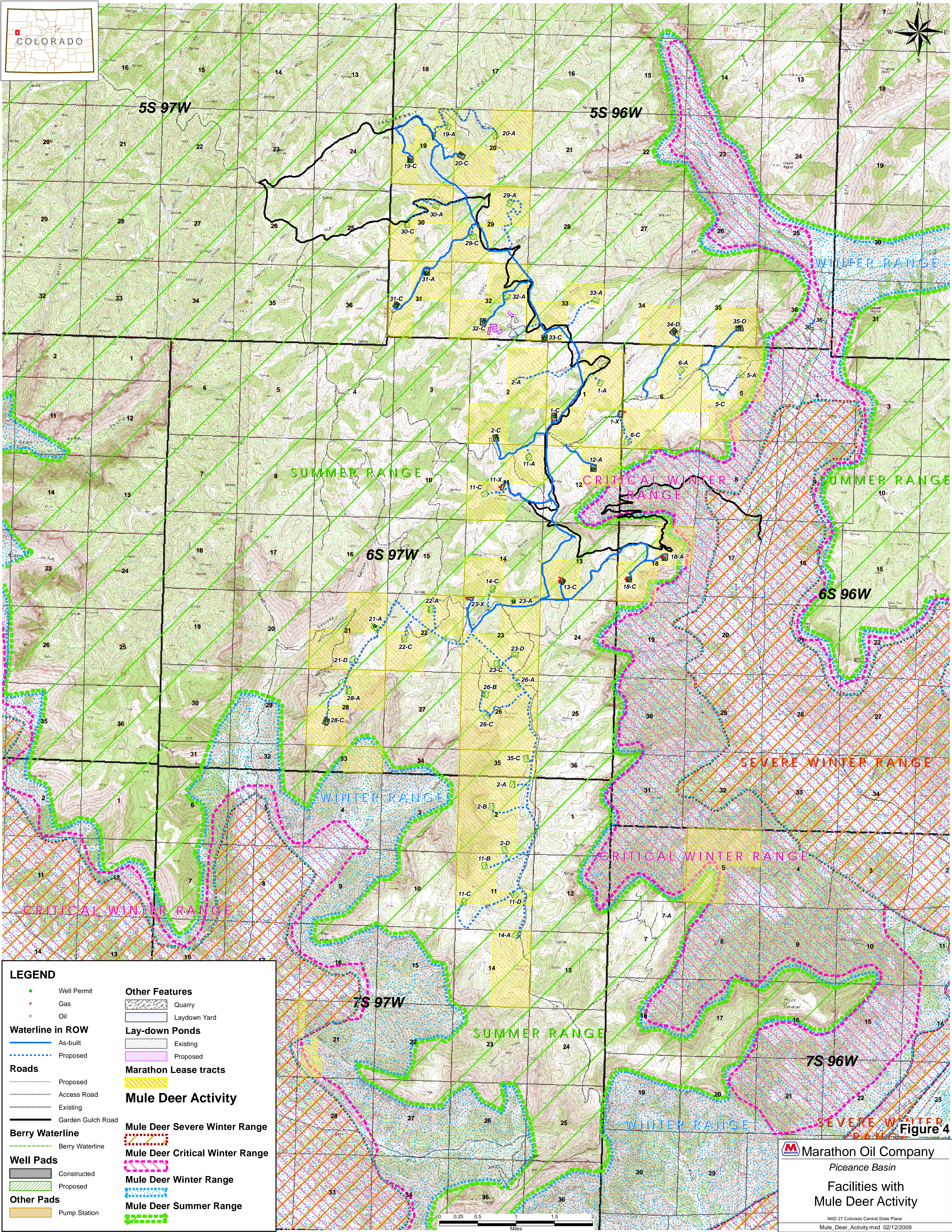
FT = Federally Threatened

SE = State Endangered

ST = State Threatened

SC = State Special Concern (not a statutory category)





LEGEND

- | | |
|-------------------------|--|
| ★ Well Permit | Quarry |
| ★ Gas | Laydown Yard |
| ★ Oil | |
| Waterline in ROW | Lay-down Ponds |
| As-built | Existing |
| Proposed | Proposed |
| Roads | Marathon Lease tracts |
| Proposed | Marathon Lease tracts |
| Access Road | Mule Deer Activity |
| Existing | Mule Deer Severe Winter Range |
| Garden Gulch Road | Mule Deer Severe Winter Range |
| Berry Waterline | Mule Deer Critical Winter Range |
| Berry Waterline | Mule Deer Critical Winter Range |
| Well Pads | Mule Deer Winter Range |
| Constructed | Mule Deer Winter Range |
| Proposed | Mule Deer Summer Range |
| Other Pads | Mule Deer Summer Range |
| Pump Station | |

Figure 4

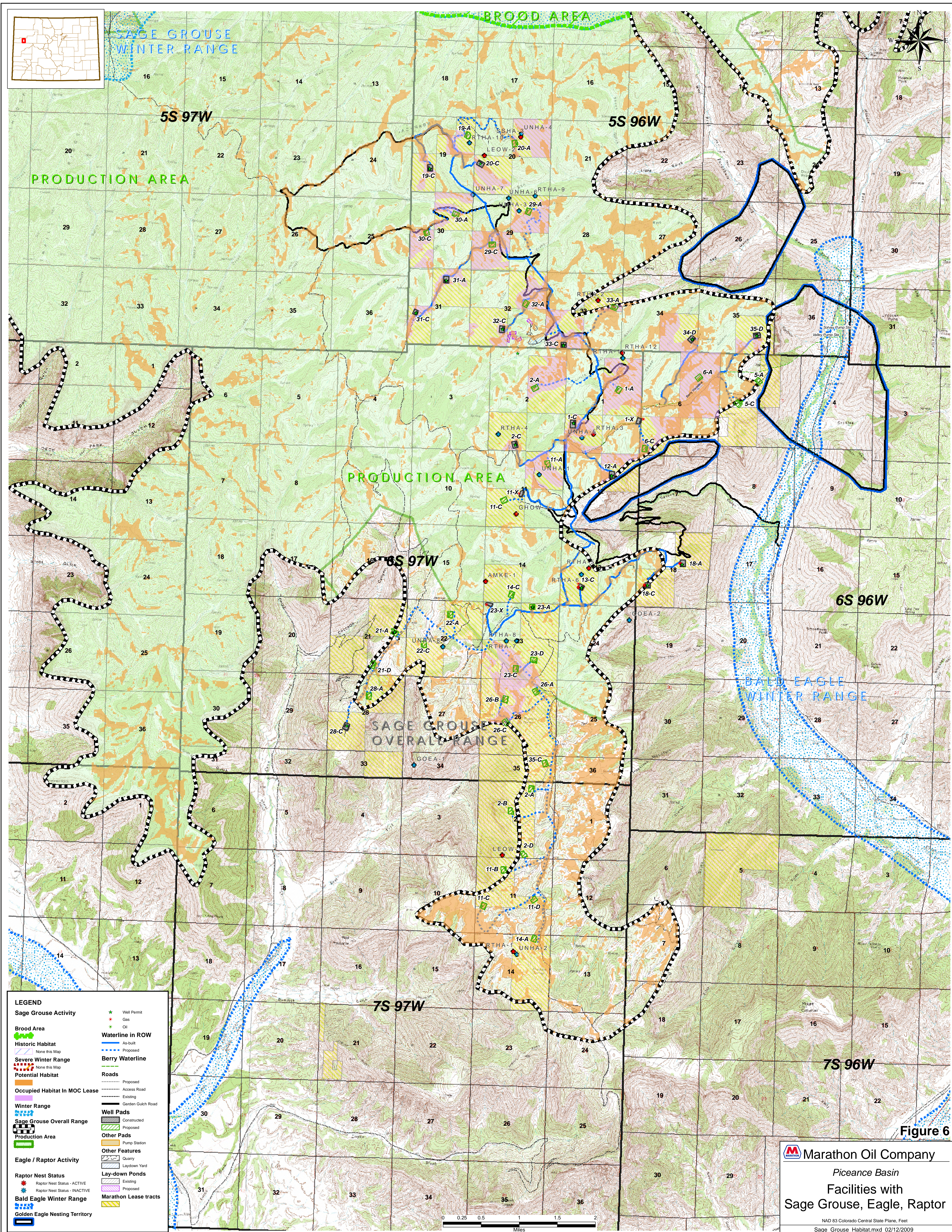
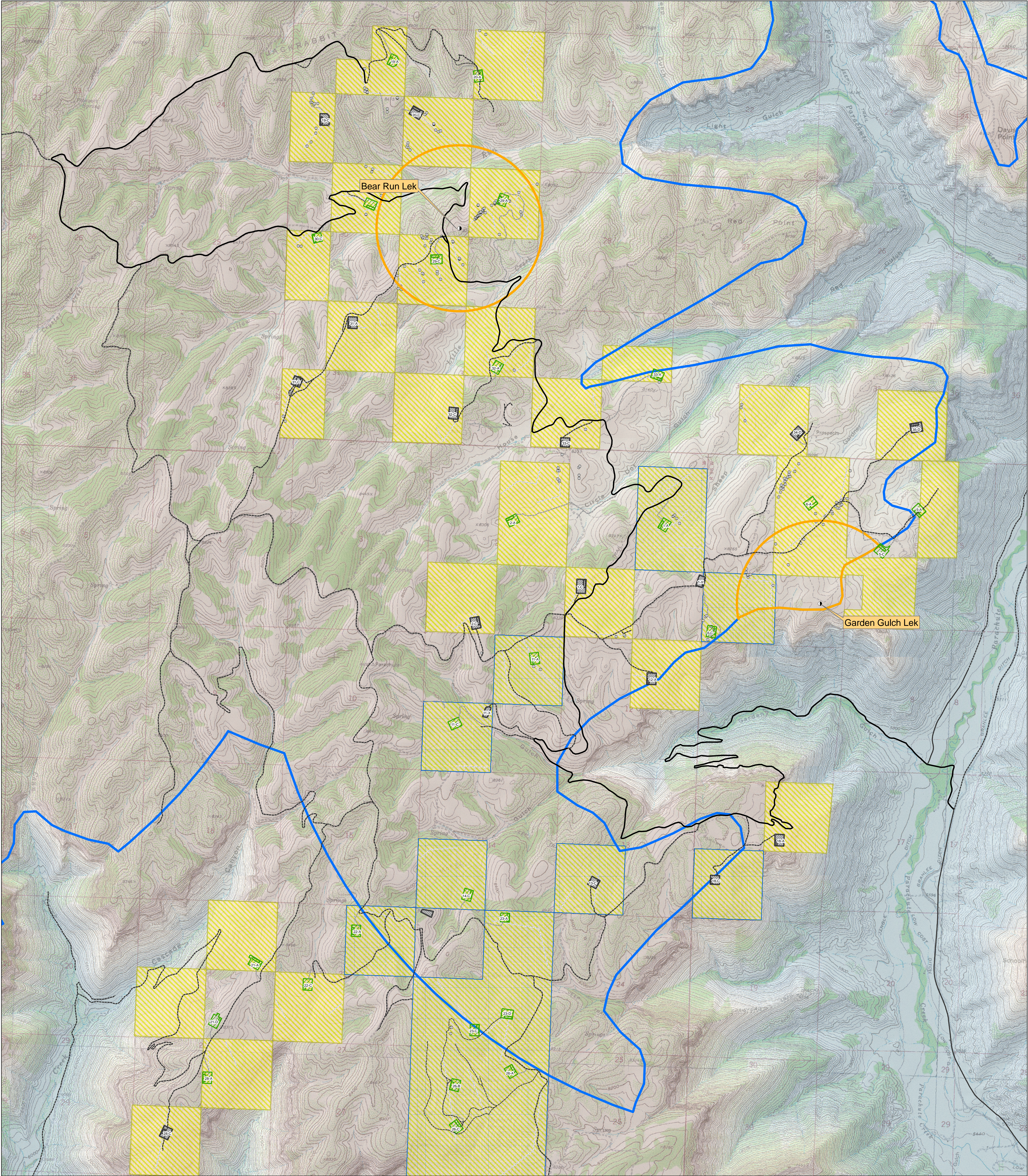


Figure 6

Z:\4332E_Marathon\MXD\4332E-20 MOC_PiceanceBasin_Grouse_Habitat.mxd



LEGEND

- | | | |
|--|---------------------|-----------------------|
| — Sage Grouse Survey Transects (WW) | Roads | Constructed |
| • Sage Grouse Leks (WW) | ----- Proposed | Proposed |
| o Sage Grouse Sign (WW) | ----- Access Road | Producing Lease |
| Nesting Habitat -Active Lek (0.6 Mile) | ----- Existing | Marathon Lease tracts |
| Nesting Habitat -Active Lek (4 Mile) | — Garden Gulch Road | |

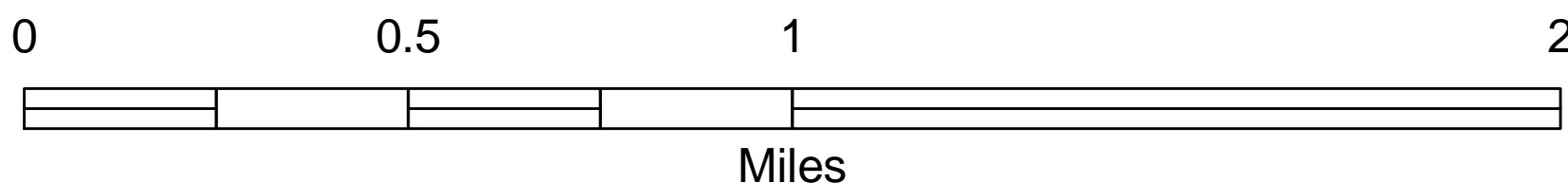
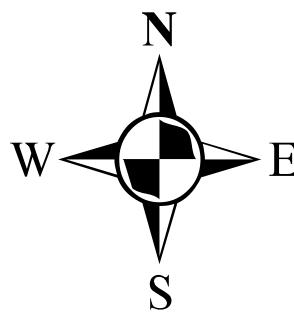
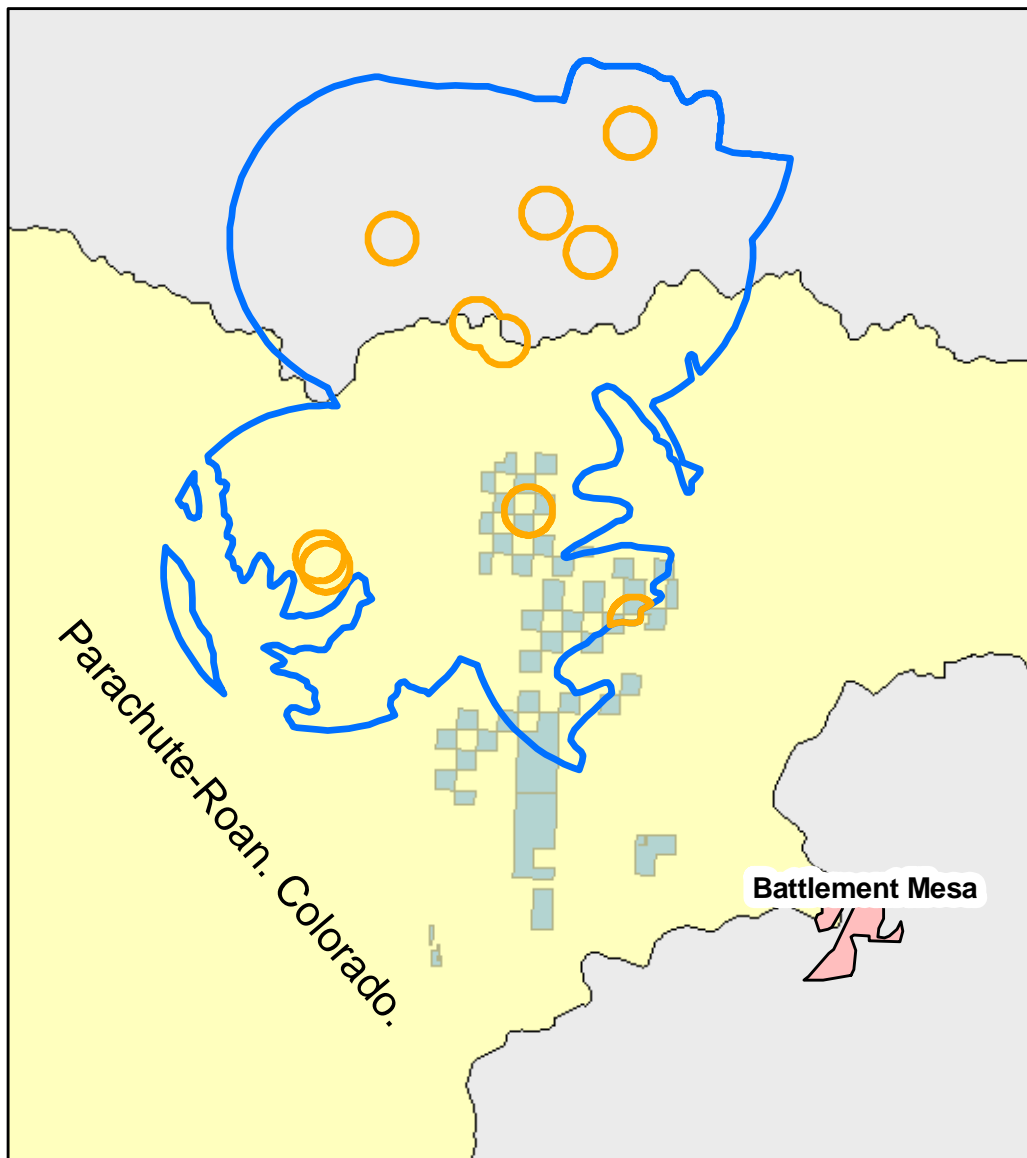


Figure 7A
**Piceance Basin
Sage Grouse Areas**



Marathon Oil Company
Piceance Basin



Overview Map

C-K Associates, LLC
17170 Perkins Road
Baton Rouge, Louisiana
(225) 755-1000

3.3 Environmental Sensitivity Information

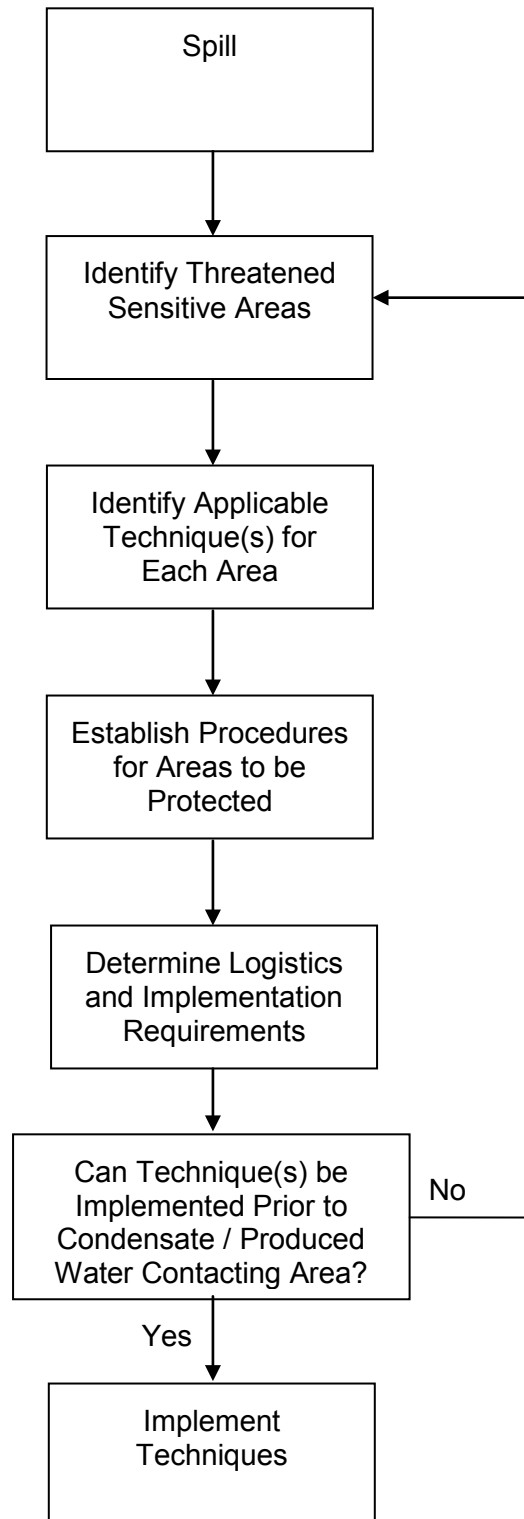
Protection refers to the implementation of techniques or methods to prevent condensate or produced water from making contact with a shoreline or aquatic area that is determined to be sensitive for environmental, economic, cultural, or human use reasons. Implementation of sensitive area protection techniques must consider a number of factors such as sensitive features, priorities for areas to be protected, and potential degree of impact. In the event a product spill reaches a major area waterway, it may be necessary to protect downstream sensitive areas if it appears that local containment and recovery efforts will not be sufficient to control the entire spill.

Protection strategies will be to immediately boom off canals and other inlets. Additionally, potentially impacted vegetative shorelines will be protected before non-vegetative shorelines, and natural shorelines will be protected before modified shorelines. In general, habitat will be protected before species, in consultation with the U.S. Fish and Wildlife Service.

The Area Contingency Plans (ACPs) for Colorado provide information regarding biologically sensitive areas. The following is a link to the ACPs: <http://www.rrt8.nrt.org/>.

3.3 Environmental Sensitivity Information (Cont'd)

Figure 3.1 Sensitive Area Protection Implementation Sequence



3.4 Spill Containment and Recovery

Containment and recovery refer to techniques that can be employed to contain and recover terrestrial and aquatic petroleum spills.

Terrestrial spills typically result from pipeline or tank leaks. The Company is equipped with secondary containment systems for areas with non-pressurized breakout tanks. Spills occurring within the secondary containment area or along the pipeline areas should be contained at or near their source to minimize the size of the cleanup area and quantity of soil affected.

Containment is most effective when conducted near the source of the spill, where the condensate or produced water has not spread over a large area and the contained product is of sufficient thickness to allow effective recovery and/or cleanup. The feasibility of effectively implementing containment and recovery techniques is generally dependent upon the size of the spill, available logistical resources, implementation time, and environmental conditions or nature of the terrain in the spill area.

For terrestrial spills, trenches and earthen berms or other dams are most often used to contain product migration on the ground surface. Recovery of free condensate or produced water is best achieved by using pumps, vacuum sources, and/or sorbents.

Spills that reach water spread faster than those on land. They also have greater potential to contaminate water supplies, to affect wildlife and populated areas, and to impact manmade structures and human activities. Responses on water should therefore emphasize stopping the spill, containing the product near its source, and protecting sensitive areas before they are impacted.

Sorbents are used to remove minor on-water spills. For larger spills, booming is used to protect sensitive areas and to position the condensate or produced water so it can be removed with skimmers or vacuum trucks.

Due to entrainment, booming is not effective when the water moves faster than one knot or waves exceed 1.5 feet in height. Angling a boom will minimize entrainment. Using multiple, parallel booms will also improve recovery in adverse conditions. Given below is a summary of response techniques for produced water / condensate.

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.2 Response Techniques for Produced Water or Condensate

Response Techniques for Produced Water or Condensate	
Containment / Diversion Berming	<ul style="list-style-type: none"> Berms are constructed ahead of advancing surface spills to contain spill or divert spill to a containment area. May cause disturbance of soils and some increased soil penetration. Effective for produced water
Blocking/Flow- Through Dams	<ul style="list-style-type: none"> Construct dam in drainage course/stream bed to block and contain flow of spill. Cover with plastic sheeting. If water is flowing install inclined pipes during dam construction to pass water underneath dam. May increase soil penetration. Effective for produced water
Culvert Blocking	<ul style="list-style-type: none"> Block culvert with plywood, sandbags, sediments, etc. to prevent oil from entering culvert. Effective for produced water
Interception Trench	<ul style="list-style-type: none"> Excavate ahead of advancing surface spill to contain spill and prevent further advancement; cover bottom and gradients with plastic. May cause disturbance of soils and increased soil penetration. Effective for produced water
Containment Booming	<ul style="list-style-type: none"> Boom is deployed around free oil. Boom may be anchored or left to move with the oil.
Diversion Booming	<ul style="list-style-type: none"> Boom is deployed at an angle to the approaching oil. Oil is diverted to a less sensitive area. Diverted oil may cause heavy oil contamination to the shoreline downwind and down current. Anchor points may cause minor disturbance to the environment.
Exclusion Booming	<ul style="list-style-type: none"> Boom is placed around a sensitive area or across an inlet, a river mouth, a creek mouth, or a small bay. Approaching oil is contained or deflected (diverted) by the boom. Anchor points may cause minor disturbance to the environment.
Sorbent Booming	<ul style="list-style-type: none"> Used only on quiet water with minor oil contamination. Boom is anchored along a shoreline or used in a manner described above. May use boom made of sorbent material or may pack sorbent material between multiple booms placed parallel to each other

Other cleanup methods include: natural recovery, manual removal/scraping, low-pressure flushing, warm water washing, and burning. Berms and dams are also used in shallow waterways to protect areas. Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See <http://response.restoration.noaa.gov> for the latter two.)

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.3 Response Tactics for Various Shorelines

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Developed/ Unforested land	<ul style="list-style-type: none"> This class includes towns, cities, farms, pastures, fields, reclaimed wetlands, and other altered areas Organisms and algae may be common in riprap structures and on pilings 	<ul style="list-style-type: none"> Oil would percolate easily between the gravel and boulders of riprap structures Oil would coat the intertidal areas of solid structures Biota would be damaged or killed under heavy accumulations 	<ul style="list-style-type: none"> May require high pressure spraying: <ul style="list-style-type: none"> To remove oil To prepare substrate for recolonization of barnacle and oyster communities For aesthetic reasons
Freshwater Flat	<ul style="list-style-type: none"> Mud or organic deposits located along the shore or in shallow portions of nontidal freshwater lakes and ponds They are exposed to low wave and current energy They are often areas of heavy bird use 	<ul style="list-style-type: none"> Oil is expected to be deposited along the shoreline Penetration of spilled oil into the water-saturated sediments of the flat will not occur When sediments are contaminated, oil may persist for years 	<ul style="list-style-type: none"> These areas require high priority for protection against oil contamination Cleanup of freshwater flats is nearly impossible because of soft substrate Cleanup is usually not even considered because of the likelihood of mixing oil deeper into the sediments during the cleanup effort Passive efforts, such as sorbent boom can be used to retain oil as it is naturally removed
Fresh Marsh	<ul style="list-style-type: none"> Found along freshwater ponds and lakes These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, needle and broad-leaved deciduous scrubs and shrubs, and broad-leaved evergreen scrubs and shrubs Birds and mammals extensively use fresh marshes for feeding and breeding purposes 	<ul style="list-style-type: none"> Small amounts of oil will contaminate the outer marsh fringe only; natural removal by wave action can occur within months Large spills will cover more area and may persist for decades Oil, particularly the heavy fuel oils, tends to adhere readily to marsh grasses 	<ul style="list-style-type: none"> Marshes require the highest priority for shoreline protection Natural recovery is recommended when: <ul style="list-style-type: none"> A small extent of marsh is affected A small amount of oil impacts the marsh fringe The preferred cleanup method is a combination of low-pressure flushing, sorption, and vacuum pumping performed from boats Any cleanup activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots Oil wrack and other debris may be removed by hand
Swamp	<ul style="list-style-type: none"> Swamps are freshwater wetlands having varying water depths with vegetation types ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include: scrubs, shrubs, evergreen trees, and hardwood forested woodlands Birds and mammals use swamps during feeding and breeding activities 	<ul style="list-style-type: none"> Even small amounts of spilled oil can spread through the swamp Large spills will cover more area and may persist for decades since water-flushing rates are low Oil, particularly the heavy fuel oils, will adhere to swamp vegetation Unlike mangroves, the roots of swamp forest trees are not exposed; thus, little damage to trees is expected. Any underbrush vegetation, however, would be severely impacted 	<ul style="list-style-type: none"> No cleanup recommended under light conditions Under moderate to heavy accumulations, to prevent chronic oil pollution of surrounding areas placement of sorbent along fringe swamp forest (to absorb oil as it is slowly released) may be effective under close scientific supervision Proper strategic boom placement may be highly effective in trapping large quantities of oil, thus reducing oil impact to interior swamp forests Oil trapped by boom can be reclaimed through the use of skimmers and vacuums

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.3 Response Tactics for Various Shorelines (Cont'd)

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Open water	<ul style="list-style-type: none"> Have ocean like waves and currents Weather changes effect on-water conditions River mouths present problems Thermal stratification occurs 	<ul style="list-style-type: none"> Most organisms are mobile enough to move out of the spill area Aquatic birds are vulnerable to oiling Human usage (such as transportation, water intakes, and recreational activities) may be restricted 	<ul style="list-style-type: none"> Booming, skimming, vacuuming, and natural recovery are the preferred cleanup methods Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills Cleanup options include physical herding, sorbents, and debris/vegetation removal
Large rivers	<ul style="list-style-type: none"> May have varying salinities, meandering channels, and high flow rates May include manmade structures (such as dams and locks) Water levels vary seasonally Floods generate high suspended sediment and debris loads 	<ul style="list-style-type: none"> Fish and migratory birds are of great concern Under flood conditions, may impact highly sensitive areas in floodplains Human usage may be high When sediments are contaminated, oil may persist for years 	<ul style="list-style-type: none"> Booming, skimming, and vacuuming are the preferred cleanup methods Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills Cleanup options include natural recovery, physical herding, sorbents, and debris/vegetation removal
Small lakes and ponds	<ul style="list-style-type: none"> Water surface can be choppy Water levels can fluctuate widely May completely freeze in winter Bottom sediments near the shore can be soft and muddy Surrounding area may include wet meadows and marshes 	<ul style="list-style-type: none"> Wildlife and socioeconomic areas likely to be impacted Wind will control the oil's distribution 	<ul style="list-style-type: none"> Booming, skimming, vacuuming, and sorbents are the preferred cleanup methods Should not use containment booming, vacuuming, sorbents, and skimming on gasoline spills Cleanup options include physical herding, sorbents, and debris/vegetation removal
Small rivers and streams	<ul style="list-style-type: none"> Wide range of water bodies - fast flowing streams to slow moving bayous with low muddy banks and fringed with vegetation May include waterfalls, rapids, log jams, mid-channel bars, and islands Weathering rates may be slower because spreading and evaporation are restricted 	<ul style="list-style-type: none"> Usually contaminate both banks and the water column, exposing a large number of biota to being oiled Water intakes for drinking water, irrigation, and industrial use likely to be impacted 	<ul style="list-style-type: none"> Booming, skimming, vacuuming, sorbents, barriers, and berms are the preferred cleanup methods Should not use containment booming, sorbents, vacuuming, and skimming on gasoline spills Cleanup options include physical herding, natural recovery, debris removal, vegetation removal, and in-situ burn
Salt marshes	<ul style="list-style-type: none"> The saltwater marsh classification describes shoreline types that are wet grasslands vegetated by salt-tolerant species. This shoreline type includes saline, brackish, and intermediate marsh types. Saltwater marshes are extensive throughout the outer fringe of the Chenier and delta plains. 	<ul style="list-style-type: none"> The environmental sensitivity is high for salt marsh because of the presence of wetland habitat. Oil usually coats and covers the sediment and vegetation with low sediment penetration. The sediment penetration potential is low/moderate due to the high water table and water content of the sediment. 	<ul style="list-style-type: none"> A major environmental concern is that the cleanup may be more damaging than the oil itself. The transmissibility of salt marsh is poor. Access is typically poor in Louisiana. Booming, skimming, vacuuming, and sorbents are the preferred cleanup methods Cleanup options include natural recovery, physical herding, sorbents, and debris/vegetation removal.

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.4 Summary of Shoreline and Terrestrial Clean Techniques

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Removal				
1. Manual Removal	Hand tool (scrapers, wire brushes, shovels, cutting tools, wheel barrows, etc.) are used to scrape oil off surfaces or recover oiled sediments, vegetation, or debris where oil conditions are light or sporadic and/or access is limited.	<u>Equipment</u> misc. hand tools <u>Personnel</u> 10-20 workers	<ul style="list-style-type: none"> Can be used on all habitat types Light to moderate oiling conditions for stranded oil or heavy oils that have formed semi-solid to solid masses In areas where roosting or birthing animals cannot or should not be disturbed 	<ul style="list-style-type: none"> Sediment disturbance and erosion potential
2. Mechanical Removal	Mechanical earthmoving equipment is used to remove oiled sediments and debris from heavily impacted areas with suitable access.	<u>Equipment</u> motor grader, backhoe, dump truck elevating scrapers <u>Personnel</u> 2-4 workers plus equipment operators	<ul style="list-style-type: none"> On land, wherever surface sediments are accessible to heavy equipment Large amounts of oiled materials 	<ul style="list-style-type: none"> Removes upper 2 to 12 inches of sediments
3. Sorbent Use	Sorbents are applied manually to oil accumulations, coatings, sheens, etc. to remove and recover the oil.	<u>Equipment</u> misc. hand tools <u>Personnel</u> 2-10 workers	<ul style="list-style-type: none"> Can be used on all habitat types Free-floating oil close to shore or stranded on shore, secondary treatment method after gross oil removal Sensitive areas where access is restricted 	<ul style="list-style-type: none"> Sediment disturbance and erosion potential Trampling of vegetation and organisms Foot traffic can work oil deeper into soft sediments
4. Vacuum/Pumps/Skimers	Pumps, vacuum trucks, skimmers are used to remove oil accumulations from land or relatively thick floating layers from the water.	<u>Equipment</u> 1-2 50- to 100-bbl vacuum trucks w/hoses 1-2 nozzle screens or skimmer heads <u>Personnel</u> 2-6 workers plus truck operators	<ul style="list-style-type: none"> Can be used on all habitat types Stranded oil on the substrate Shoreline access points 	<ul style="list-style-type: none"> Typically does not remove all oil Can remove some surface organisms, sediments, and vegetation
Washing				
5. Flooding	High volumes of water at low pressure are used to flood the oiled area to float oil off and out of sediments and back into the water or to a containment area where it can be recovered. Frequently used with flushing.	<u>Equipment</u> 1-5 100- to 200-gpm pumping systems 1 100-ft perforated header hose per system 1-2 200-ft containment booms per system 1 oil recovery device per system <u>Personnel</u> 6-8 workers per system	<ul style="list-style-type: none"> All shoreline types except steep intertidal areas Heavily oiled areas where the oil is still fluid and adheres loosely to the substrate Where oil has penetrated into gravel sediments Used with other washing techniques 	<ul style="list-style-type: none"> Can impact clean downgradient areas Can displace some surface organisms if present Sediments transported into water can affect water quality

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.4 Summary of Shoreline and Terrestrial Clean Techniques (Cont'd)

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Washing, Continued				
6. Flushing	Water streams at low to moderate pressure, and possibly elevated temperatures, are used to remove oil from surface or near-surface sediments through agitation and direct contact. Oil is flushed back into the water or a collection point for subsequent recovery. May also be used to flush out oil trapped by shoreline or aquatic vegetation.	<u>Equipment</u> 1-5 50- to 100-gpm/ 100-psi pumping systems with manifold 1-4 100-ft hoses and nozzles per system 1-2 200-ft containment booms per system 1 oil recovery device per system <u>Personnel</u> 8-10 workers per system	<ul style="list-style-type: none"> Substrates, riprap, and solid man-made structures Oil stranded onshore Floating oil on shallow intertidal areas 	<ul style="list-style-type: none"> Can impact clean downgradient areas Will displace many surface organisms if present Sediments transported into water can affect water quality Hot water can be lethal to many organisms Can increase oil penetration depth
7. Spot (High Pressure Washing)	High pressure water streams are used to remove oil coatings from hard surfaces in small areas where flushing is ineffective. Oil is directed back into water or collection point for subsequent recovery.	<u>Equipment</u> 1-5 1,200- to 4,000-psi units with hose and spray wand 1-2 100-ft containment booms per unit 1 oil recovery device per unit <u>Personnel</u> 2-4 workers per unit	<ul style="list-style-type: none"> Bedrock, man-made structures, and gravel substrates When low-pressure flushing is not effective Directed water jet can remove oil from hard to reach sites 	<ul style="list-style-type: none"> Will remove most organisms if present Can damage surface being cleaned Can affect clean downgradient or nearby areas
In Situ				
8. Passive Collection	Sorbent/snare booms or other sorbent materials are anchored at the waterline adjacent to heavily oiled areas to contain and recover oil as it leaches from the sediments.	<u>Equipment</u> 1,000-2,000 ft sorbent/snare boom 200-400 stakes or anchor systems <u>Personnel</u> 4-10 workers	<ul style="list-style-type: none"> All shoreline types Calm wave action Slow removal process 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time
9. Sediment Tilling	Mechanical equipment or hand tools are used to till lightly to moderately oiled surface sediments to maximize natural degradation processes.	<u>Equipment</u> 1 tractor fitted with tines, dicer, ripper blades, etc. or 1-4 rototillers or 1 set of hand tools <u>Personnel</u> 2-10 workers	<ul style="list-style-type: none"> Any sedimentary substrate that can support heavy equipment Sand and gravel beaches with subsurface oil Where sediment is stained or lightly oiled Where oil is stranded above normal high waterline 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time Disturbs surface sediments and organisms

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.4 Summary of Shoreline and Terrestrial Clean Techniques (Cont'd)

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
In Situ, Continued				
10. In Situ Bioremediation	Fertilizer is applied to lightly to moderately oiled areas to enhance microbial growth and subsequent biodegradation of oil.	<u>Equipment</u> 1-2 fertilizer applicators 1 tilling device if required <u>Personnel</u> 2-4 workers	<ul style="list-style-type: none"> Any shoreline habitat type where nutrients are deficient Moderate to heavily oiled substrates After other techniques have been used to remove free product on lightly oiled shorelines Where other techniques are destructive or ineffective 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time Can disturb surface sediments and organisms
11. Log/Debris Burning	Oiled logs, driftwood, vegetation, and debris are burned to minimize material handling and disposal requirements. Material should be stacked in tall piles and fans used to ensure a hot, clean burn.	<u>Equipment</u> 1 set of fire control equipment 2-4 fans 1 supply of combustion promoter <u>Personnel</u> 2-4 workers	<ul style="list-style-type: none"> On most habitats except dry muddy substrates where heat may impact the biological productivity of the habitat Where heavily oiled items are difficult or impossible to move Many potential applications on ice 	<ul style="list-style-type: none"> Heat may impact local near-surface organisms Substantial smoke may be generated Heat may impact adjacent vegetation
12. Natural Recovery	No action is taken and oil is allowed to degrade naturally.	None required	<ul style="list-style-type: none"> All habitat types When natural removal rates are fast Degree of oiling is light Access is severely restricted or dangerous to cleanup crews When cleanup actions will do more harm than natural removal 	<ul style="list-style-type: none"> Oil may persist for significant periods of time Remobilized oil or sheens may impact other areas Higher probability of impacting wildlife
13. Dispersants	Dispersants are used to reduce the oil/water interfacial tension thereby decreasing the energy needed for the slick to break into small particles and mix into the water column. Specially formulated products containing surface-active agents are sprayed from aircraft or boats onto the slick.	Dispersants Boat or aircraft	<ul style="list-style-type: none"> Water bodies with sufficient depth and volume for mixing and dilution When the impact of the floating oil has been determined to be greater than the impact of dispersed oil on the water-column community 	<ul style="list-style-type: none"> Use in shallow water could affect benthic resources May adversely impact organisms in the upper 30 feet of the water column Some water-surface and shoreline impacts could occur
1 - Per 1000 feet of shoreline or oiled area				

Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See <http://response.restoration.noaa.gov> for the latter two.)

3.4 Spill Containment and Recovery (Cont'd)

Figure 3.5 Water Flushing Guidelines

MARATHON OIL COMPANY
_____ **INCIDENT**

WATER FLUSHING GUIDELINE

DATE

Valid until _____

1. Stream banks, rock, vegetation and other creek features will be flushed with water until sheen coming off is slight or nonexistent.
2. Flushing will be done in such a way that stream bank erosion is minimized.
3. No geologic features (sinkholes, springs, fractures etc.) are to be disturbed. No water is to placed in sinkholes.
4. Oil-soaked vegetation is to be removed and placed in the oily debris rolloff boxes. Large vegetation should be cut rather than pulled out by the roots.
5. Avoid disturbing clean stream bank areas. Flushing will be done in such a way to avoid spreading oil onto non-contaminated areas.
6. Appropriate PPE and safety precautions will be followed during flushing. The current Incident Site Safety Plan must be followed.

Marathon

State Agency

Federal Agency

3.5 Analysis of the Potential for a Condensate or Produced Water Spill

The company has analyzed the probability of a discharge occurring at the 32C site covered in this plan. The analysis provided information to develop discharge scenarios for a worst case discharge and the small to medium discharges while aiding the development of techniques to reduce the size and frequency of discharges.

Factors to be considered when conducting an analysis for the potential of a condensate or produced water discharge:

✓	Discharge history
✓	Horizontal range of a potential discharge
✓	Natural disaster vulnerability
✓	Other factors, such as tank age, that may contribute to an increase for the potential for an oil discharge

Potential Spill Sources: An inventory of the equipment from which a potential spill could occur as the result of a failure is provided on the Tank Data table in this Section. It is assumed that the total quantity of oil that could be discharged from each source based on a 'worst-case' spill would be the entire contents of the container. Tank age is also considered when evaluating the potential sources. The bulk storage tanks are inspected per the minimum requirements of API 653.

Potential Failures: Major tank spills could occur from seam, fitting, valve or foundation failures, vandalism and/or corrosion. Minor spills from tanks may be caused by overfilling, excessive draw-off when releasing water from secondary containment areas, vandalism and/or corrosion leaks. Spills from loading racks and pumps may be caused by tank overfill, loading arm failure, operator error, pump failure, hose failure and/or truck leakage. Spill quantities and rates of flow associated with the above failures would depend upon which equipment failed and the phase of operation during which the spill occurred. Tank age and spill history are also taken into consideration when determining the potential for a spill. This data is found on the Tank Data table in this Section.

Direction of Flow: The direction of flow from the identified sources is given in the source and quantity table as well and is also illustrated on facility diagrams in this section. The horizontal range of a potential spill is dependent upon the topography and distance to the nearest water body and is provided in more detail in the planning distance calculations and vulnerability analysis following in this section.

The probability of a spill occurring at one of these Facilities is minimal for the following reasons:

✓	Tanks and the Surface Impoundment (SI) are constructed in accordance with applicable engineering standards and regulations.
✓	Facility is inspected frequently for evidence of corrosion and leaks.
✓	Personnel are trained in procedures to prevent pollution.

3.6 Product Characteristics and Hazards

Facilities described in this plan may utilize/transport various types of commodities including but not limited to:

✓	Produced Water
✓	Natural Gas Condensate
✓	Methanol
✓	Diesel Fuel
✓	Gasoline
✓	Lube Oil
✓	Corrosion Inhibitor

The key chemical and physical characteristics of each of these oils and/or other small quantity products/chemicals are identified in the MSDS, which can be found in this section, or provided on request by local Marathon Oil Company representative.

3.6 Product Characteristics and Hazards (Cont'd)

Figure 3.6 Summary of Commodity Characteristics

Common Name	MSDS Name	Health Hazard	Fire Hazard	Reactivity	Special Hazard	Health Hazard Warning Statement
Produced Water	Produced Water	2	3	1	C, H ₂ S	Produces skin irritation upon prolonged contact. May have harmful concentrations of hydrogen sulfide which can cause respiratory irritation and asphyxiation.
Natural Gas Condensate	Natural Gas Condensate	2	3	1	C	High concentrations can cause dizziness, headache. Prolonged / repeated liquid contact can cause dermatitis.
Methanol	Methanol	1	3	0	N/A	Moderately irritating to eyes and skin.
Diesel Fuel	Diesel Fuel	0	2	0	C	Long term, repeated exposure may cause skin cancer.
Gasoline	Appropriate product name	1	3	0	C	Long term, repeated exposure may cause cancer, blood, kidney and nervous system damage, and contains benzene.
Lube Oil	Lubricating Oil	0	1	0	C	Prolonged exposure or repeated inhalation of oil mist may cause respiratory irritation.
Corrosion Inhibitor	Corrosion Inhibitor	2	2	0	N/A	Harmful if swallowed, irritating to mouth, throat, stomach. Irritating to eyes and skin.
Health Hazard		4 = Extremely Hazardous 3 = Hazardous 2 = Warning 1 = Slightly Hazardous 0 = No Unusual Hazard		Fire Hazard (Flash Point)		4 = Below 73°F, 22° C 3 = Below 100°F, 37°C 2 = Below 200° F, 93° C 1 = Above 200° F, 93° C 0 = Will not burn
Special Hazard		A = Asphyxiant C = Contains Carcinogen W = Reacts with Water Y = Radiation Hazard COR = Corrosive OX = Oxidizer H ₂ S = Hydrogen Sulfide P = Contents under Pressure T = Hot Material		Reactivity Hazard		4 = May detonate at Room Temperature 3 = May detonate with Heat or Shock 2 = Violent Chemical Change with High Temperature or Pressure 1 = Not Stable if Heated 0 = Stable

3.6 Product Characteristics and Hazards (Cont'd)

Figure 3.7 Material Safety Data Sheets

Material Safety Data Sheet

MSDS ID NO.: 0347MAR003
Revision date: 12/02/2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: MOC Natural Gas - Condensate C2-C20
Synonyms: Natural Gas Condensate; Nautilus Condensate - Stabilized; Stabilized Condensate; Unstabilized Condensate
Chemical Family: Aliphatic Hydrocarbon
Formula: Mixture

Supplier:
Marathon Oil Company
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Natural Gas Condensate is a complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons predominantly in the range of C2-C20. It is a liquid at atmospheric temperature and pressure.

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Natural Gas - Condensate C2-C20	64741-47-5	100			

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
C11+ Hydrocarbons	Mixture	12-18			
C8 Hydrocarbons	Mixture	13-17			
C9 Hydrocarbons	Mixture	8-12			
Normal Butane	106-97-8	4-11	= 800 ppm TWA	= 1900 mg/m³ TWA = 800 ppm TWA	
C10 Hydrocarbons	Mixture	6-10			
Iso-heptane	31394-54-4	6-9			
Normal Pentane	109-66-0	5-7	= 600 ppm TWA	= 1800 mg/m³ TWA = 2250 mg/m³ STEL = 600 ppm TWA = 750 ppm STEL	
Iso-hexane	107-83-5	4-7	= 1000 ppm STEL = 500 ppm TWA	= 1000 ppm STEL = 1800 mg/m³ TWA = 3600 mg/m³ STEL = 500 ppm TWA	
Normal Hexane	110-54-3	3-6	= 1000 ppm STEL = 50 ppm TWA = 500 ppm TWA skin - potential for cutaneous absorption	= 1000 ppm STEL = 180 mg/m³ TWA = 1800 mg/m³ TWA = 3600 mg/m³ STEL = 50 ppm TWA = 500 ppm TWA	
Normal Heptane	142-82-5	4-6	= 400 ppm TWA = 500 ppm STEL	= 1600 mg/m³ TWA = 2000 mg/m³ STEL = 400 ppm TWA = 500 ppm STEL	
Iso-Pentane	78-78-4	4-6	= 600 ppm TWA listed under Pentane, all isomers		
Iso-Butane	75-28-5	1-5	=800 ppm TWA		
Xylene	1330-20-7	2-4	= 100 ppm TWA = 150 ppm STEL	= 100 ppm TWA = 150 ppm STEL = 435 mg/m³ TWA = 655 mg/m³ STEL	
Toluene	108-88-3	1-3	= 50 ppm TWA skin - potential for cutaneous absorption	= 100 ppm TWA = 150 ppm STEL = 375 mg/m³ TWA = 560 mg/m³ STEL	
Cyclohexane	110-82-7	1-2	= 100 ppm TWA	= 1050 mg/m³ TWA = 300 ppm TWA	
Propane	74-98-6	0-1.5	= 2500 ppm TWA	= 1000 ppm TWA = 1800 mg/m³ TWA	
Ethyl Benzene	100-41-4	0.2-0.5	= 100 ppm TWA = 125 ppm STEL	= 100 ppm TWA = 125 ppm STEL = 435 mg/m³ TWA = 545 mg/m³ STEL	
Benzene	71-43-2	0.2-0.4	= 0.5 ppm TWA = 2.5 ppm STEL skin - potential for cutaneous absorption	= 10 ppm TWA unless specified in 1910.1028 = 25 ppm Ceiling unless specified in 1910.1028 = 50 ppm STEL 10 min, unless specified in 1910.1028	OSHA Exposure Limit as specified in 1910.1028: =1.0 ppm TWA = 5 ppm STEL = 0.5 ppm Action Level

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

NATURAL GAS CONDENSATE IS A COLORLESS MIXTURE OF LIQUID AND GASEOUS HYDROCARBONS. IT IS A VOLATILE AND EXTREMELY FLAMMABLE LIQUID THAT MAY CAUSE FLASH FIRES. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. THIS PRODUCT CONTAINS BENZENE WHICH MAY CAUSE CANCER OR BE TOXIC TO BLOOD-FORMING ORGANS. CONTAINS ETHYL BENZENE THAT HAS PRODUCED CANCER IN LABORATORY ANIMALS. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH. PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.

OSHA WARNING LABEL:

DANGER!
FLAMMABLE LIQUID.

CONTAINS BENZENE WHICH MAY CAUSE CANCER OR BE TOXIC TO BLOOD-FORMING ORGANS.
CONTAINS ETHYL BENZENE THAT HAS CAUSED CANCER IN LABORATORY ANIMALS.
ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA
OR EVEN DEATH.
PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation: Components of this product are anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere. At extremely high concentrations and excessive exposure conditions some components of this product may produce cardiac sensitization.

Ingestion: Ingestion not likely. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin contact: Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact: Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Natural Gas - Condensate C2-C20 64741-47-5	NE			

Notes: The International Agency for Research on Cancer (IARC) has determined that there is limited evidence for the carcinogenicity of naphtha (light straight run and light catalytic cracked) in experimental animals.

Component Information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Xylene 1330-20-7			A4 - Not Classifiable as a Human Carcinogen	
Toluene 108-88-3			A4 - Not Classifiable as a Human Carcinogen	
Ethyl Benzene 100-41-4	Monograph 77, 2000		A3 - Animal Carcinogen	

Benzene 71-43-2	Supplement 7, 1987; Monograph 29, 1982	Known Carcinogen Reasonably Anticipated To Be A Carcinogen	A1 - Confirmed Human Carcinogen	Present
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Notes:

The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA have determined that there is sufficient evidence for the carcinogenicity of benzene in humans (Group 1A).

The International Agency for Research on Cancer (IARC) has concluded that ethyl benzene is possibly carcinogenic to humans (Group 2B).

4. FIRST AID MEASURES

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

Skin contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

Ingestion:

If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.

Eye contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Preexisting skin conditions and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Keep run-off water out of sewers and water sources.

Flash point:

<100 F

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

HMIS classification:

Health: 2
Flammability: 3
Reactivity: 1
Other: -

Health: 2
Flammability: 3
Reactivity: 1
Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Product should never be used as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal. Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:

Local or general exhaust required in an enclosed area or when there is inadequate ventilation.

Respiratory protection:

Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TLV or STEL. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.

Skin and body protection:

Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.

Eye protection:

No special eye protection is normally required. Use goggles or face-shield if there is a potential for splashing.

Hygiene measures:

No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Yellow to Brown Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Yellow-brown
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	No data available.
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.3-0.7 Liquid
Density:	2.5-5.8 lbs/gal
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide and carbon dioxide
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Natural Gas - Condensate C2-C20	64741-47-5	No data available	n/a	n/a

This product contains aliphatic naphtha at a level of >1.0%. Lifetime skin painting studies in mice with similar naphthas have shown weak or no carcinogenic activity following prolonged and repeated exposure. Similar naphthas/distillates, when tested at nonirritating dose levels, did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chronic irritation and not to dose. The mutagenic potential of naphthas has been reported to be largely negative in a variety of mutagenicity tests. The exact relationship between these results and human health is not known.

Some components of this product, have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of a alpha-2μ-globulin, a mechanism unique to the male rat. Humans do not form alpha-2μ-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans.

No deaths or treatment related signs of toxicity were observed in rats exposed to light alkylate naphtha (paraffinic hydrocarbons) at concentrations of 668, 2220 and 6646 ppm for 6 hrs/day, 5 days/wk for 13 weeks. Increased liver weights and kidney toxicity (male rats) was observed in high dose animals. Exposure to pregnant rats at concentrations of 137, 3425 and 6850 ppm did not adversely affect reproduction or cause maternal or fetal toxicity.

This product contains benzene at a level of >0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

A water accommodated fraction (WAF) of two light straight run naphthas induced a 96 hr LL50 (nominal loading rate) of 15 & 18 mg/l in fathead minnow and rainbow trout and a 48 hr EL50 of 18 & 4.5 mg/l in Daphnia magna. The algal 96 & 72 hr EL50 was 6.4 and 3.6 mg/l, respectively. This product does not concentrate or accumulate in the food chain.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information:

This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name: UN/Identification No:

Hydrocarbons, Liquid, N.O.S. (Natural Gas Condensate)
UN 3295

Hazard Class: 3
Packing group: II
DOT reportable quantity (lbs): Not applicable.

TDG (Canada):

Proper shipping name: Hydrocarbons, Liquid, N.O.S. (Natural Gas Condensate)
UN/Identification No: UN 3295
Hazard Class: 3
Packing group: II
Regulated substances: Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
C11+ Hydrocarbons	NA
C8 Hydrocarbons	NA
C9 Hydrocarbons	NA
Normal Butane	NA
C10 Hydrocarbons	NA
Iso-heptane	NA
Normal Pentane	NA
Iso-hexane	NA
Normal Hexane	NA
Normal Heptane	NA
Iso-Pentane	NA
Iso-Butane	NA
Xylene	NA
Toluene	NA
Cyclohexane	NA
Propane	NA
Ethyl Benzene	NA
Benzene	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
C11+ Hydrocarbons	NA
C8 Hydrocarbons	NA
C9 Hydrocarbons	NA
Normal Butane	NA
C10 Hydrocarbons	NA
Iso-heptane	NA
Normal Pentane	NA
Iso-hexane	NA
Normal Hexane	= 2270 kg final RQ = 5000 lb final RQ
Normal Heptane	NA
Iso-Pentane	NA
Iso-Butane	NA
Xylene	= 100 lb final RQ = 45.4 kg final RQ
Toluene	= 0.454 kg final RQ = 1 lb final RQ = 10 lb final RQ = 100 lb final RQ = 1000 lb final RQ = 4.54 kg final RQ = 45.4 kg final RQ = 454 kg final RQ
Cyclohexane	= 1000 lb final RQ = 454 kg final RQ
Propane	NA
Ethyl Benzene	= 100 lb final RQ = 1000 lb final RQ = 45.4 kg final RQ = 454 kg final RQ
Benzene	= 0.454 kg final RQ = 0.454 kg statutory RQ = 1 lb final RQ = 1 lb statutory RQ = 10 lb final RQ = 10 lb final RQ receives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule = 100 lb final RQ = 4.54 kg final RQ = 4.54 kg final RQ receives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule = 45.4 kg final RQ

SARA Section 311/312:

The following EPA hazard categories apply to this product:

Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Sudden Release Of Pressure

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
C11+ Hydrocarbons	None
C8 Hydrocarbons	None
C9 Hydrocarbons	None
Normal Butane	None
C10 Hydrocarbons	None
Iso-heptane	None
Normal Pentane	None
Iso-hexane	None
Normal Hexane	= 1.0 percent de minimis concentration
Normal Heptane	None
Iso-Pentane	None
Iso-Butane	None
Xylene	= 1.0 percent de minimis concentration
Toluene	= 1.0 percent de minimis concentration
Cyclohexane	= 1.0 percent de minimis concentration
Propane	None
Ethyl Benzene	= 0.1 percent de minimis concentration
Benzene	= 0.1 percent de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

C11+ Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

C8 Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed

New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
C9 Hydrocarbons	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Normal Butane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0273
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 0273
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
C10 Hydrocarbons	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed

New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Iso-heptane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Normal Pentane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1476
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1476
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Iso-hexane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.

Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Normal Hexane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1340
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 1340
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Air RQ = 1 lb Land/Water RQ
Normal Heptane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1339
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Iso-Pentane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1064
Pennsylvania Right-To-Know:	[present]

Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1064
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Iso-Butane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1040
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1040
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Xylene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Annual usage threshold = 100 pounds (all isomers)
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 2014
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Toluene	

Louisiana	Right-To-Know:	Not Listed
	California Proposition 65:	developmental toxicity; initial date 1/1/91
	New Jersey Right-To-Know:	sn 1866
Pennsylvania	Right-To-Know:	environmental hazard
	Massachusetts Right-To Know:	Present
	Florida substance List:	Not Listed.
	Rhode Island Right-To-Know:	Toxic, Flammable; skin
	Michigan critical materials register list:	Annual usage threshold = 100 pounds
	Massachusetts Extraordinarily Hazardous Substances:	Not Listed
	California - Regulated Carcinogens:	Not Listed
	Pennsylvania RTK - Special Hazardous Substances:	Not Listed
	New Jersey - Special Hazardous Substances:	flammable - third degree
	New Jersey - Environmental Hazardous Substances List:	SN 1866
	Illinois - Toxic Air Contaminants	Present
	New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Cyclohexane		
Louisiana	Right-To-Know:	Not Listed
	California Proposition 65:	Not Listed
	New Jersey Right-To-Know:	sn 0565
Pennsylvania	Right-To-Know:	environmental hazard
	Massachusetts Right-To Know:	Present
	Florida substance List:	Not Listed.
	Rhode Island Right-To-Know:	Toxic, Flammable
	Michigan critical materials register list:	Not Listed.
	Massachusetts Extraordinarily Hazardous Substances:	Not Listed
	California - Regulated Carcinogens:	Not Listed
	Pennsylvania RTK - Special Hazardous Substances:	Not Listed
	New Jersey - Special Hazardous Substances:	flammable - third degree
	New Jersey - Environmental Hazardous Substances List:	SN 0565
	Illinois - Toxic Air Contaminants	Not Listed
	New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Propane		
Louisiana	Right-To-Know:	Not Listed
	California Proposition 65:	Not Listed
	New Jersey Right-To-Know:	sn 1594
Pennsylvania	Right-To-Know:	Present
	Massachusetts Right-To Know:	Present
	Florida substance List:	Not Listed.
	Rhode Island Right-To-Know:	Toxic, Flammable
	Michigan critical materials register list:	Not Listed.
	Massachusetts Extraordinarily Hazardous Substances:	Not Listed
	California - Regulated Carcinogens:	Not Listed
	Pennsylvania RTK - Special Hazardous Substances:	Not Listed
	New Jersey - Special Hazardous Substances:	flammable - fourth degree
	New Jersey - Environmental Hazardous Substances List:	SN 1594

Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Ethyl Benzene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0851
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 0851
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Benzene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen; initial date 2/27/87 developmental toxicity; initial date 12/26/97 male reproductive toxicity; initial date 12/26/97
New Jersey Right-To-Know:	sn 0197
Pennsylvania Right-To-Know:	environmental hazard; special hazardous substance
Massachusetts Right-To Know:	Carcinogen; Extraordinarily hazardous
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable, Carcinogen; skin
Michigan critical materials register list:	Annual usage threshold = 100 pounds
Massachusetts Extraordinarily Hazardous Substances:	carcinogen; extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	[present]
New Jersey - Special Hazardous Substances:	carcinogen; flammable - third degree; mutagen
New Jersey - Environmental Hazardous Substances List:	SN 0197
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 10 lbs Air RQ

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Normal Butane	A; B1	1% (English Item 223, French Item 350)
Normal Pentane	B2; D2B	1% (English Item 1243, French Item 1348)
Iso-hexane	B2	1% (English Item 1066, French Item 1148) 1% (English Item 827, French Item 964)
Normal Hexane	B2; D2B	1% (English Item 827, French Item 964) 1% (English Item 828, French Item 965)
Normal Heptane	B2; D2B	1% (English Item 806, French Item 940)
Iso-Pentane	B2	
Iso-Butane	A; B1	
Xylene	B2; D2A; D2B	
Toluene	B2; D2A	1% (English Item 1578, French Item 1622)
Cyclohexane	B2	1% (English Item 465, French Item 601)
Propane	A; B1	
Ethyl Benzene	B2; D2A; D2B	0.1% (English Item 697, French Item 854)
Benzene	B2; D2A	0.1% (English Item 153, French Item 277)

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Oil Company (MOC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Marathon assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

Material Safety Data Sheet

MSDS ID NO.: 0217MAR001
Revision date: 09/12/2008

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Natural Gas
Synonym: Natural Gas C1-C4, Marathon; Raw Natural Gas, Marathon
Chemical Family: Natural Gas
Formula: Mixture

Manufacturer:
Marathon Oil Company
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Natural gas is a raw natural gas, as found in nature, or a gaseous combination of hydrocarbons having carbon numbers predominantly in the range of C1 through C4 separated from raw natural gas by the removal of natural gas condensate, natural gas liquids, and natural gas condensate/natural gas.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Natural Gas	8006-14-2	100	= 1000 ppm TWA Aliphatic Hydrocarbon Gas [Alkane C1-C4]		

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Methane	74-82-8	50-95	= 1000 ppm TWA Aliphatic Hydrocarbon Gas [Alkane C1-C4]		
Ethane	74-84-0	1-20	= 1000 ppm TWA Aliphatic Hydrocarbon Gas: [Alkane C1-C4]		
Nitrogen	7727-37-9	0.1-18	Simple Asphyxiant		
Propane	74-98-6	0.1-12	= 1000 ppm TWA Aliphatic Hydrocarbon Gas [Alkane C1-C4]	= 1000 ppm TWA = 1800 mg/m ³ TWA	
Normal Butane	106-97-8	1-5	= 1000 ppm TWA Aliphatic Hydrocarbon Gas [Alkane C1-C4]	= 1900 mg/m ³ TWA = 800 ppm TWA	
Carbon Dioxide	124-38-9	0.5-5	= 5000 ppm TWA = 30000 ppm STEL	= 10000 ppm TWA = 18000 mg/m ³ TWA = 30000 ppm STEL = 54000 mg/m ³ STEL	
Iso-Butane	75-28-5	0.1-3	= 1000 ppm TWA Aliphatic Hydrocarbon Gas [Alkane C1-C4]		

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

NATURAL GAS IS A COLORLESS GAS UNDER PRESSURE HAVING A SLIGHT HYDROCARBON ODOR. IT IS EXTREMELY FLAMMABLE AND EXPLOSIVE. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. AT HIGH CONCENTRATIONS THIS PRODUCT ACTS AS A SIMPLE ASPHYXIAN, WHICH DISPLACES OXYGEN FROM THE BREATHING ATMOSPHERE.

OSHA WARNING LABEL:

DANGER!
EXTREMELY FLAMMABLE GAS UNDER PRESSURE.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation:

Product is an anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere.

Ingestion:

Ingestion not likely.

Skin contact:

Product is generally non-irritating to skin.

Eye contact:

Product is generally non-irritating to eyes. Pressurized gas can cause mechanical injury to the eye.

Carcinogenic Evaluation:**Product information:**

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Natural Gas 8006-14-2	NE			

Notes:

The International Agency for Research on Cancer (IARC) has not evaluated this product.

Component Information:

4. FIRST AID MEASURES

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

Skin contact:

If symptoms or irritation occur, call a physician.

Ingestion:

Ingestion not likely. If swallowed, immediately call a physician.

Eye contact:

If symptoms occur, call a physician

Medical conditions aggravated by exposure: No data available.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂ or dry chemical can be used. For large fires use water spray or fog. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115.

Special protective equipment for firefighters:

Bleve's (boiling liquid expanding vapor explosions) can occur when a liquid in a pressurized container in close proximity to a fire reaches a temperature well above its boiling point. Its effect could lead to a catastrophic failure of the vessel resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. Isolate hazard area. If safe to do so, stop the flow of gas and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquified product can cause increased vaporization.

Flash point:

No data available.

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

3.2

Flammable limits in air - upper (%):

14.0

NFPA rating:

Health: 1

Flammability: 4

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Leaking containers should be moved outdoors or to well-ventilated area and contents transferred to a suitable container. Product vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer.

7. HANDLING AND STORAGE

Handling:

7. HANDLING AND STORAGE

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required if used in an enclosed area in order to keep concentrations below the lower explosive limit.
Respiratory protection:	Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits or when excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
Skin and body protection:	No data available.
Eye protection:	Goggles or faceshield may be needed when handling pressurized gases.
Hygiene measures:	Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless Gas
Physical state (Solid/Liquid/Gas):	Gas
Substance type (Pure/Mixture):	Mixture
Color:	Colorless
Odor:	Hydrocarbon
Molecular weight:	16-30
pH:	Neutral
Boiling point/range (5-95%):	-259 to -43 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	.37-.50 Liquid
Density:	3.0-4.0 lbs/gal @ 32 F
Bulk density:	No data available.
Vapor density:	0.55-0.62
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Slight
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Materials to avoid:

Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.

Conditions to avoid:

Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:**Product information:**

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Natural Gas	8006-14-2	No data available	No data available	No data available

Summary of health effect information on the product:

C1 to C4 aliphatic hydrocarbons, namely, methane, ethane, propane, butane and isobutane, and mixtures of these gases produce weak central nervous system (CNS) depressant effects without significant potential for systemic toxicity. At very high concentrations, they act as asphyxiant gases by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

At extremely high concentrations and excessive exposure conditions components of this product may produce cardiac sensitization.

Summary of health effect information on individual components:

This product contains >1% ethane. Male and female rats exposed to up to 16000 ppm ethane for 4-6 weeks prior to and during mating. Ethane did not produce systemic/neurotoxic effects. No effects on fertility, reproductive performance, pup survival and neonatal development were observed.

This product contains >1% nitrogen. Nitrogen is considered to be a simple asphyxiant gas without significant potential for systemic toxicity. At very high concentrations, it acts as an asphyxiant gas by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

This product contains >1% propane. Male and female rats were exposed to up to 12000 ppm propane for 4-6 weeks prior to and during mating. Propane did not produce systemic/neurotoxic effects (apart from decreased body weight gain). No effects on fertility, reproductive performance, pup survival and neonatal development were observed.

This product contains >1% butane. Male and female rats exposed to up to 9000 ppm butane for 4-6 weeks prior to and during mating resulted in no general systemic/neurotoxic effects. No effects on fertility or reproductive performance, pup survival and neonatal development were observed.

Fetal malformation was observed in the offspring of rats and rabbits exposed to extremely high concentrations of carbon dioxide throughout pregnancy.

This product contains >1% isobutane. Male and female rats exposed to up to 9000 ppm isobutane for 4-6 weeks prior to and during mating resulted in no general systemic/neurotoxic effects. No effects on fertility or reproductive performance were observed except for an increase in post-implantation loss in 9000 ppm exposed females. A no-observed-adverse effect level (NOAEL) of 3000 ppm was determined for all fertility and reproductive endpoints.

12. ECOLOGICAL INFORMATION

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: Most components of this product are lighter than air and would dissipate rapidly in unconfined areas.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations: This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Bleeding off small amounts of this product into the atmosphere or controlled incineration of large amounts are potential disposal methods provided all regulatory requirements are met.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:
Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Natural Gas, Compressed
UN/Identification No:	UN 1971
Hazard Class:	2.1
Packing group:	Not applicable.
DOT reportable quantity (lbs):	Not applicable.

TDG (Canada):

Proper shipping name:	Natural Gas, Compressed
UN/Identification No:	UN 1971
Hazard Class:	2.1
Packing group:	Not applicable.
Regulated substances:	Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
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Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Methane	NA
Ethane	NA
Nitrogen	NA
Propane	NA
Normal Butane	NA
Carbon Dioxide	NA
Iso-Butane	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Methane	NA
Ethane	NA
Nitrogen	NA
Propane	NA
Normal Butane	NA
Carbon Dioxide	NA
Iso-Butane	NA

SARA Section 311/312:

The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Sudden Release Of Pressure

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Methane	None
Ethane	None
Nitrogen	None
Propane	None
Normal Butane	None
Carbon Dioxide	None
Iso-Butane	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Methane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Listed
New Jersey - Environmental Hazardous Substances List:	Listed

Methane

Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Ethane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Listed
New Jersey - Environmental Hazardous Substances List:	Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Nitrogen

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Propane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed

Methane

California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Listed
New Jersey - Environmental Hazardous Substances List:	Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Normal Butane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Listed
New Jersey - Environmental Hazardous Substances List:	Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Carbon Dioxide

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Iso-Butane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed

Methane

Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Listed
New Jersey - Environmental Hazardous Substances List:	Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Methane	A, B1	
Ethane	A, B1	
Nitrogen	A	
Propane	A, B1	
Normal Butane	A, B1	1 %
Carbon Dioxide	A; Uncontrolled product according to WHMIS classification criteria (solid)	1 %
Iso-Butane	A, B1	

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Oil Company (MOC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Marathon assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

Material Safety Data Sheet

MSDS ID NO.: 0299MAR003
Revision date: 02/02/2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: MOC Produced Water
Synonyms: Produced Water; Production Process Water
Chemical Family: Production Process Stream
Formula: Mixture

Supplier:
Marathon Oil Company
539 SOUTH MAIN STREET
FINDLAY OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Produced Water is a mixed oil and water (>80%) stream produced from various exploration and production processes.

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
MOC Produced Water	Mixture	100			

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Water	7732-18-5	080.0000 - 100.0000			
Hydrocarbons	Mixture	000.1000 - 020.0000			

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

THIS PRODUCT IS A BROWN COLORED LIQUID MIXTURE OF OIL AND WATER (>80%). THIS WATER STREAM MAY CONTAIN AN UPPER LAYER OF HYDROCARBON THAT COULD CAUSE A FLASH FIRE. KEEP AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. REPEATED AND LONG TERM SKIN EXPOSURE TO COMPONENTS OF THIS PRODUCT HAS CAUSED SYSTEMIC TOXICITY AND CANCER IN LABORATORY ANIMALS. PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY PRODUCE SEVERE IRRITATION OR DERMATITIS.

OSHA WARNING LABEL:

WARNING.
FLAMMABLE LIQUID.
PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.
LONG-TERM SKIN EXPOSURE TO COMPONENTS OF THIS PRODUCT HAS CAUSED SYSTEMIC TOXICITY AND
CANCER IN LABORATORY ANIMALS.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation: Product would be expected to have a low order of acute toxicity.

Ingestion: Product would be expected to have a low order of acute toxicity.

Skin contact: Substance may cause slight skin irritation Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact: May cause slight irritation.

Carcinogenic Evaluation:

Product information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
MOC Produced Water Mixture	NE			

Notes: The International Agency for Research on Cancer (IARC) has determined that there is limited evidence for the carcinogenicity of crude oil in animals. IARC has determined that there is inadequate evidence for the carcinogenicity of crude oil in humans. Crude oil is not classifiable as to its carcinogenicity to humans (Group 3).

Component Information

4. FIRST AID MEASURES

Inhalation: If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

Skin contact: Wash with soap and large amounts of water. If symptoms or irritation occur, call a physician.

Ingestion: If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.

Eye contact: Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Preexisting skin, eye and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFT/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters:

This stream is predominantly water. Some water refinery streams may contain an upper layer of hydrocarbon with a low flash point (<50 F). Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:

No data available.

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

Not applicable.

Flammable limits in air - upper (%):

Not applicable.

NFPA rating:

Health: 1

Flammability: 3

Reactivity: 1

Other: -

HMIS classification:

Health: 1

Flammability: 3

Reactivity: 1

Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Never siphon this product by mouth. Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Components of this product are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering or pumping at high flow rates. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or with inadequate ventilation.
Respiratory protection:	Use approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible limits or excessive vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.
Skin and body protection:	Nitrile gloves to prevent skin contact.
Eye protection:	Not normally required for routine operations.
Hygiene measures:	Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Water/oil Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Brown
Odor:	Slight Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range:	C.A. 212 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	C.A. 1
Density:	8.3 lbs/gal
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Complete
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.

Hazardous decomposition products:

Carbon monoxide, aldehydes, hydrocarbons.

Materials to avoid:

Strong oxidizers such as nitrates, chlorates, peroxides.

Conditions to avoid:

Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
MOC Produced Water	Mixture	No data available	n/a	n/a

Summary of health effect data on produced water components:

This product may contain crude oil at a level of >1.0%. Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumors in animals following prolonged and repeated skin contact. Repeated dermal application of two different crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow. Repeated dermal application to pregnant rats produced maternal toxicity and fetal developmental toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

Coating action of oil can kill birds, plankton, algae and fish. Keep out of all bodies of water and sewage drainage systems.

Two crude oils were tested in a acute battery of ecotoxicity tests. The 96 hour lethal loading (LL50) values for rainbow trout were 21 and 41 mg/l. LL50s for invertibrate organisms (mysid) were determined to be 2.7 and 4.1 mg/l and EL50s for algae were 122 and 528 ml/kg.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "ignitable" hazardous waste (D001). This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information:

This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:
UN/Identification No:

Flammable Liquids, N.O.S. (Contains Hydrocarbon Liquids)
UN 1993

Hazard Class: Flammable Liquid
Packing group: II
DOT reportable quantity (lbs): Not applicable.

TDG (Canada):

Proper shipping name: Flammable Liquids, N.O.S. (Contains Hydrocarbon Liquids)
UN/Identification No: UN 1993
Hazard Class: Flammable Liquid
Packing group: II
Regulated substances: Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Water	NA
Hydrocarbons	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Water	NA
Hydrocarbons	NA

SARA Section 311/312: The following EPA hazard categories apply to this product:

Fire Hazard.

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Water	None
Hydrocarbons	None

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Water

Louisiana	Right-To-Know:	Not Listed
California	Proposition 65:	Not Listed
New Jersey	Right-To-Know:	Not Listed.
Pennsylvania	Right-To-Know:	Not Listed.
Massachusetts	Right-To Know:	Not Listed.
Florida	substance List:	Not Listed.

Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Water	Uncontrolled product according to WHMIS classification criteria.	

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Oil Company (MOC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Marathon assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

Material Safety Data Sheet

Cortron® RN-488W

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Cortron® RN-488W
Manufacturer Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA
Telephone 1-281-431-2561 (Champion)
In case of emergency 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)

2. HAZARDS IDENTIFICATION

Physical state liquid
Odor strong, pungent
Emergency overview WARNING!
Combustible.; Harmful; Irritant; Keep away from heat, sparks and flame.; May cause sensitization by skin contact.

Potential health effects

Inhalation Possible risk of irreversible effects.
Ingestion Harmful if swallowed. Possible risk of irreversible effects. Irritating to mouth, throat and stomach.
Skin Possible risk of irreversible effects. Irritating to skin. May cause sensitization by skin contact.
Eyes Irritating to eyes.
Chronic effects Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS no.</u>	<u>wt. %</u>
Methanol	67-56-1	10 - 30
Ionic Surfactants	Proprietary	5 - 10
Acetic acid	64-19-7	1 - 5
2-Mercaptoethanol	60-24-2	1 - 5

4. FIRST AID MEASURES

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure.

Inhalation Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. If unconscious, place in recovery position and get medical attention immediately.

	Maintain an open airway.
Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth to an unconscious person.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE-FIGHTING MEASURES

Flash point	104 °F (40 °C), Pensky-Martens.
Flammability of the product	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Extinguishing media	
Suitable	Use dry chemical, CO2, water spray (fog) or foam.
Not suitable	Do not use water jet.
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Methods for cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect

spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Store in accordance with local regulations. Store in a segregated and approved area. Store in an appropriate container. Store container tightly closed in well-ventilated place. Eliminate all ignition sources. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Hands	Use chemical-resistant, impervious gloves.
Eyes	Safety eyewear should be used when there is a likelihood of exposure.
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Occupational exposure limits

<u>Component</u>	<u>Source</u>	<u>Type</u>	<u>PPM</u>	<u>MG/M3</u>	<u>Notes</u>
Methanol	OSHA PEL	TWA	200 ppm	260 mg/m3	
	NIOSH REL	TWA	200 ppm	260 mg/m3	SKIN
	NIOSH REL	STEL	250 ppm	325 mg/m3	SKIN
	ACGIH TLV	TWA	200 ppm	262 mg/m3	SKIN
	ACGIH TLV	STEL	250 ppm	328 mg/m3	SKIN
Acetic acid	OSHA PEL	TWA	10 ppm	25 mg/m3	
	NIOSH REL	TWA	10 ppm	25 mg/m3	
	NIOSH REL	STEL	15 ppm	37 mg/m3	
	ACGIH TLV	TWA	10 ppm	25 mg/m3	
	ACGIH TLV	STEL	15 ppm	37 mg/m3	
2-Mercaptoethanol	AIHA WEEL	TWA	0.2 ppm		

*SKIN - Skin absorption can contribute significantly to overall exposure.

Engineering	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or
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measures	other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Color	Clear. yellow.
Odor	strong, pungent
Odor threshold	Not available.
Boiling/condensation point	Not available.
Pour point	-40 °F
Flash point	104 °F (40 °C), Pensky-Martens.
Flammable limits	Lower: Not available. Upper: Not available.
Auto-ignition temperature	Not available.
pH	4.0 - 5.0, Method 501 - 02
Evaporation rate	Not available.
Solubility	Water
Vapor density	Not available.
Relative density	0.9512 - 0.9812
Vapor pressure	Not available.
Viscosity	Dynamic: 1 - 15 cPs
Octanol/water partition coefficient (LogPow)	Not available.

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	oxidizing materials
Hazardous	Under normal conditions of storage and use, hazardous decomposition products should

decomposition products not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Conclusion/Summary Not available.

Chronic toxicity

Conclusion/Summary Not available.

Irritation/Corrosion

Conclusion/Summary

Skin Not available.

Eyes Not available.

Respiratory Not available.

Sensitizer

Conclusion/Summary

Skin Not available.

Respiratory Not available.

Target organ effects Methanol: Ingestion may cause blindness.

Carcinogenicity

Conclusion/Summary Not available.

Mutagenicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Conclusion/Summary Not available.

12. ECOLOGICAL INFORMATION

Environmental effects Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Conclusion/Summary Not available.

Other adverse effects No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Waste disposal The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

HCS Classification

Component

Methanol
Ionic Surfactants
2-Mercaptoethanol
Acetic acid

Classification

Irritant, Target organ effects, Occupational exposure limits
Harmful, Corrosive
Toxic, Irritant, Sensitizer, Occupational exposure limits
Corrosive, Occupational exposure limits

U.S. Federal regulations

CERCLA - Reportable quantity:

Methanol: 22,454 lb 2,791 gal US

SARA Title III Section 302 Extremely hazardous substances (40 CFR Part 355):

None of the components are listed.

SARA CERCLA: Hazardous substances:

None of the components are listed.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Immediate (acute) health hazard, Delayed (chronic) health hazard, Fire hazard

Clean Water Act (CWA) 307:

None of the components are listed.

Clean Water Act (CWA) 311:

The following components are listed: Acetic acid

Clean Air Act (CAA) 112 accidental release prevention:

None of the components are listed.

Clean Air Act (CAA) 112 regulated flammable substances:

None of the components are listed.

Clean Air Act (CAA) 112 regulated toxic substances:

None of the components are listed.

SARA 313 - Supplier notification

Component

Methanol

CAS no.

67-56-1

wt. %

10 - 30

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts Spill: None of the components are listed.

Massachusetts Substances: The following components are listed: Methanol 2-Mercaptoethanol Acetic acid

New Jersey Hazardous Substances: The following components are listed: Acetic acid Methanol

New Jersey Spill: None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed: Acetic acid 2-Mercaptoethanol Methanol

California Prop. 65

Not available.

International regulations

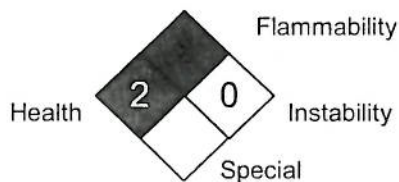
United States inventory (TSCA 8b): All components are listed or exempted.

Canada inventory (DSL):

All components are listed or exempted.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):



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Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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4.1 Plan Implementation

In this section, Marathon must explain in detail how to implement the response plan by describing the response actions to be carried out to ensure the safety of the facility and to mitigate or prevent discharges described in Section 3 of this response plan.

This section shall include the following

✓	Identification of response resources
✓	Decontamination plan
✓	Disposal plan
✓	Containment and drainage plan
✓	Schedule for plan updates following an oil discharge event
✓	Time frame required for implementation, as appropriate

4.1.1 Response Resources

Marathon will demonstrate accessibility to the proper response personnel and equipment to effectively respond to all of the identified discharge scenarios.

The determination and demonstration of adequate response capacity can be found in this section. Additionally, response equipment lists for the facilities, as well as OSRO information and contracts can be found in Section 2 of this plan.

At a minimum, the following items must be addressed.

✓	Additional response planning
✓	Access to additional response equipments/experts
✓	Ability to implement the plan including response training and practice drills

4.2 Contractor Equipment and Manpower

Marathon's primary response contractors and telephone numbers for these facilities are noted in Section 2. Marathon has ensured by contract the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to the worst case discharge or the substantial threat of such discharge. Designated OSROs can provide skimming equipment to each facility within two hours of confirmation that a spill has occurred.

Section 2 contains a list of contractors in the area who provide oil spill response related equipment and services. Where available the response equipment lists contain the following equipment categories:

Equipment List Categories	
✓	Skimmer/Pumps
✓	Boom
✓	Sorbents
✓	Tools and miscellaneous equipment
✓	Communication equipment
✓	Firefighting equipment and PPE
✓	Other heavy equipment and boats
✓	Chemicals stored and dispersant dispensing equipment

Where applicable and available, the following parameters are provided for response equipment:

Equipment List Parameters	
✓	Operational Status
✓	Type
✓	Model and Year
✓	Number
✓	Capacity
✓	Daily Recovery Rate
✓	Storage Location

Evidence of Contracts with the response contractors is located in Section 2.

4.3 Response Documentation

This section describes documentation procedures associated with oil spill response. Documentation of a spill response provides a historical record, keeps management informed, serves as a legal instrument and a means to account for cleanup costs.

Documentation should begin immediately upon spill notification and continue until termination of all operations.

Documentation should include the following:	
✓	Spill origin and characteristics
✓	Sampling surveys
✓	Photographic surveys
✓	Climatological data
✓	Manpower and equipment accounting
✓	Copies of all logs, contracts, contacts and Plans prepared for incident

4.4 Site Safety and Health Plan

General Safety Rules and Equipment	
✓	There will be no eating, drinking or smoking in the Exclusion Zone or the Contamination Reduction Zone.
✓	All personnel must pass through the Contamination Reduction Zone to enter or exit the Exclusion Zone.
✓	As a minimum, Decontamination Team Members must be one (1) level of protection lower than that of the entry teams.
✓	All decontamination equipment and systems must be in place before an entry can be made.
✓	All breathing air, if used, shall be certified as Grade D or better.
✓	Where practical all tools shall be of the non-sparking type.
✓	Firefighting equipment shall be on hand when the situation warrants such support. At a minimum, fire extinguishers shall be available on-scene.
✓	Since incident evacuation may be necessary if an explosion, fire or other release occurs, an individual shall be assigned to sound an alert and notify the responsible command personnel and public officials, if required. The evacuation signal shall be sounded until all personnel are known to be evacuated.
✓	An adequately stocked EMS Unit shall be on site at all times.
✓	The location and telephone number of the nearest medical facility shall be posted and known to all personnel.

4.4.1 General Safety Briefing

Before any incident actions are taken, a briefing will be conducted with all personnel present. Personnel will sign a log sheet, attesting to being present at the pre-Incident briefing. Topics discussed should include known and unknown hazards and the goals and objectives of the operation.

4.4.2 Emergency Action Conditions

Officials making evacuation/public health decisions will address the need for a public health advisory to potentially affected areas, since incident control methods may or may not reduce the source of contamination or threat to the general public.

If needed, a Temporary Sheltering or Evacuation Plan should be considered until levels of contamination are reduced or contained and deemed safe by all responsible authorities. Confirmation of these levels will be done by generally approved monitoring methods agreed to by the authorities in charge.

4.4 Site Safety and Health Plan (Cont'd)

4.4.3 Heat Stress

In response to concerns regarding intense heat exposures in hot environments for Marathon Oil Company, Health Services has prepared the following guidelines for heat-rest cycles. These guidelines are composed from a variety of sources, including recognized heat index standards developed by government and professional organizations, knowledge of heat stress physiology, and from common experience of military and other institutions which deal with heat stress issues.

4.4.4 Heat Stress and Related Health Effects

Heat stress is defined as a physical stress on the human body. Heat stress can follow a continuum beginning with fatigue, cramps, nausea, and confusion that when left untreated or unchecked, can lead to death. The body has a normal temperature of 98.6°F (37°C), which it maintains through homeostatic mechanisms. This temperature is crucial for proper functioning of our internal organs. When working in hot environments, environmental heat stress and heat generated metabolically by the workload attempt to raise the body temperature. The body must respond by losing heat, accomplished through evaporation of sweat, conduction, convection, and radiation of heat to the environment. When this process of heat transfer is compromised, the body begins to experience heat stress.

The following are common terminology and descriptions of heat stress.

4.4.4.1 Heat Fatigue

The signs and symptoms of heat fatigue include impaired performance of skilled sensorimotor, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops.

4.4.4.2 Heat Cramps

This condition is usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. It is important to understand that cramps can be caused by both too much and too little salt. Cramps appear to be caused by the lack of water replenishment. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments.

Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery.

4.4 Site Safety and Health Plan (Cont'd)

4.4.4 Heat Stress and Related Health Effects (Cont'd)

4.4.4.3 Heat Exhaustion

The signs and symptoms of heat exhaustion are headache, nausea, vertigo, weakness, thirst, and giddiness. Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly, however, for several reasons. One is that the fainting associated with heat exhaustion can be dangerous because the victim may be operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints. Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency. Persons suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest.

4.4.4.4 Heat Syncope

In heat syncope (collapse), the brain does not receive enough oxygen because blood pools in the extremities. As a result, the exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable. To prevent heat collapse, the worker should gradually become acclimatized to the hot environment.

4.4.4.5 Heat Stroke

Heat Stroke occurs when the body's system of temperature regulation fails and body temperature rises to critical levels. Heat stroke is a medical emergency. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). If body temperature is too high, it causes death.

If a person shows signs of possible heat stroke, professional medical treatment should be obtained immediately. Regardless of the person's protests, anyone suspected of being ill from heat stroke should **not** be sent home or left unattended unless a physician has specifically approved such an order.

4.4.4.6 Heat Rashes

Heat rashes are the most common problem in hot work environments. It is manifest as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Prickly heat occurs in skin that is persistently wetted by un-evaporated sweat, and heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

4.4 Site Safety and Health Plan (Cont'd)

4.4.5 Work Rest Cycles (ACGIH)

The American Conference of Government Industrial Hygienist (ACGIH) has developed a work-rest cycle based on wet bulb globe temperature (WBGT). This measure takes into consideration not only the air temperature, but also includes humidity and solar load. This is more accurate index of the heat stress placed on an individual. The WBGT temperature is used in conjunction with an estimate of workload to determine a threshold limit value (TLV) for how long a person can safely work in a particular environment.

Permissible Heat Exposure Threshold Limit Values			
	Work Load*		
Work Rest Cycle (60 min)	Light	Medium	Heavy
Continuous	29.5°C (85°F)	27.5°C (81.5°F)	26.0°C (80°F)
75% Work / 25% Rest	30.5°C (82°F)	28.5°C (83°F)	27.5°C (81.5°F)
50% Work / 50% Rest	31.5°C (89°F)	29.5°C (85°F)	28.5°C (83°F)
25% Work / 75% Rest	32.5°C (90.5°F)	31.5°C (88°F)	30.0°C (86°F)
*WBGT temp in °C or °F			
Source: ACGIH 2000			

These TLV's are based on the assumption that nearly all acclimatized, fully clothed workers with adequate water and salt intake should be able to function effectively under the given working conditions without exceeding a deep body temperature of 38°C (100.4° F).

These TLV's apply to physically fit and acclimatized individuals wearing light summer clothing. If heavier clothing that impedes sweat or has a higher insulation value is required, the permissible heat exposure must be reduced.

4.4.6 Worker Monitoring Programs

Using the ACGIH work-rest cycles, one could argue that nothing would ever be accomplished in certain environments because everyone would be on break most of the time. Health Services recommends a combination approach, using the ACGIH recommendations as a guideline to determine safe work-rest cycles for all individuals, and then modifying it based on self and supervisor physiological monitoring. The shorter the work-rest cycle, the more vigilant one should be to monitor physiologic signs of heat stress.

Persons working in high heat index situations should personally monitor themselves for signs of heat stress. This includes checking the heart rate, recovery heart rate, oral temperature, or extent of body water loss.

4.4 Site Safety and Health Plan (Cont'd)

4.4.6 Worker Monitoring Programs (Cont'd)

4.4.6.1 Heart Rate

To check the heart rate, count the radial pulse for 30 seconds at the beginning of the rest period. If the heart rate exceeds 110 beats per minute, shorten the next work period by one third and maintain the same rest period.

4.4.6.2 Recovery Rate

The recovery heart rate can be checked by comparing the pulse rate taken at 30 seconds (P_1) with the pulse rate taken at 2.5 minutes (P_3) after the rest break starts. The two pulse rates can be interpreted using the following table.

Heart Rate Recovery Criteria		
Heart Rate Recovery Criteria	P_3	$P_1 - P_3$ (Difference)
Satisfactory recovery	<90	--
Moderate recovery (Consider other physiologic markers)	90 – 109	10
No recovery (May indicate too much stress)	90-109	<10
$P_1 > 110$ Shorten workload by 1/3 P_1 = pulse prior to rest break P_3 = pulse 2.5 minutes into rest break		

4.4.6.3 Temperature

Oral temperature can be checked with a clinical thermometer before drinking water. If the oral temperature taken under the tongue exceeds 37.6°C (99.7°F), shorten the next work cycle by one third.

4.4.6.4 Fluid Loss

Body water loss can be measured by weighing on a scale at the beginning and end of each workday. A person's weight loss should not exceed 1.5% of total body weight in a workday. If a weight loss exceeding this amount is observed, fluid intake should increase.

4.4 Site Safety and Health Plan (Cont'd)

4.4.7 Heat Stress Management Program

4.4.7.1 Training

Heat stress training for MOC personnel and contractors should include the following as recommended by the National Institute for Occupational Safety and Health (NIOSH).

NIOSH Training Recommendations

✓	Knowledge of the hazards of heat stress
✓	Recognition of predisposing factors, danger signs, and symptoms
✓	Awareness of first-aid procedures for, and the potential health effects of, heat stroke
✓	Employee responsibilities in avoiding heat stress
✓	Dangers of using drugs, including therapeutic ones, and alcohol in hot work environments
✓	Use of protective clothing and equipment
✓	Purpose and coverage of environmental and medical surveillance programs and the advantages of worker participation in such programs

4.4.7.2 Administrative Controls

The following administrative controls can be used to reduce heat stress:

✓	Reduce the physical demands of work, e.g., excessive lifting or digging with heavy objects
✓	Provide recovery areas, e.g., air-conditioned enclosures and rooms
✓	Use shifts, e.g., early morning, cool part of the day, or night work
✓	Use intermittent rest periods with water breaks
✓	Use relief workers
✓	Use worker pacing
✓	Assign extra workers and limit worker occupancy, or the number of workers present, especially in confined or enclosed spaces.

4.4 Site Safety and Health Plan (Cont'd)

4.4.8 Cold Stress and Hypothermia Information

Frostbite and hypothermia are the two major hazards of working in cold temperatures. A cold environment can reduce the temperature of the body and cause shivering, reduced mental alertness, and sometimes loss of consciousness. However, a healthy worker who is properly protected and takes reasonable precautions can function efficiently and safely in cold environments.

Important factors contributing to cold injury:

✓	Exposure to humidity and high winds
✓	Contact with moisture or metal
✓	Inadequate clothing
✓	Age
✓	General health

Physical conditions that worsen the effects include:

✓	Fatigue
✓	Allergies
✓	Vascular disease
✓	Smoking
✓	Drinking
✓	Certain specific drugs or medicines

If someone becomes fatigued during physical activity, they will be more susceptible to heat loss. As exhaustion approaches, the body's ability to contract the blood vessels diminishes; blood circulation occurs closer to the skin; and rapid loss of heat begins. Sedative drugs and alcohol increase the risk of hypothermia by dilating the blood vessels near the skin which increases heat loss and lowers body temperature.

The actual effects of a cold environment on the body also depend upon how well the skin is protected. An insulating barrier affects the rate of heat loss from by radiation, convection, conduction, and evaporation.

Environmental factors include wind and humidity, as well as temperature; the faster the air movement, the greater the effects of cold exposure.

4.4 Site Safety and Health Plan (Cont'd)

4.4.9 Hypothermia

Cold injury can be localized or generalized. Frostbite, frostnip, or chilblain are examples of localized injuries. Hypothermia is a generalized (threatening the whole body) cold injury which can be life threatening.

Hypothermia is an abnormally low body temperature caused by exposure to cold in air or in water. Hypothermia results as the body loses heat faster than it can produce it. Air temperature alone is not enough to judge the cold hazard of a particular environment.

Hypothermia causes often develop in air temperatures between 30 - 50°F. When you figure in such factors as wind chill, the effective temperature can be significantly lower.

Pain in the extremities may be the first warning of dangerous exposure to cold. Severe shivering must be taken as a sign of danger requiring removal from the cold exposures.

Early warnings of hypothermia are uncontrollable shivering and the sensation of cold; the heartbeat slows and sometimes becomes irregular, the pulse weakens, and the blood pressure changes. Fits of shivering, vague or slurred speech, memory lapses, incoherence, or drowsiness are some symptoms which may occur. Other symptoms which may be seen before unconsciousness are cool skin, slow, irregular breathing, low blood pressure, apparent exhaustion, and inability to get up after a rest.

4.4.10 Handling Cold Stress and Hypothermia Victims

A worker should go immediately to a warming shelter if any of the following symptoms occur:

✓	pain in the extremities (or frostnip)
✓	onset of heavy shivering
✓	excessive fatigue
✓	Drowsiness
✓	Euphoria
✓	A litter should be used if possible for all but the mildest cases.

The main objective in handling potential cases of hypothermia is re-warming the body core evenly and without delay. HOWEVER, doing it TOO RAPIDLY can disrupt body functions such as circulation.

The outer layer of clothing should be removed when entering a warm shelter. The remaining clothing should be loosened to permit sweat to evaporate.

Alcohol should not be consumed.

4.4 Site Safety and Health Plan (Cont'd)

4.4.10 Handling Cold Stress and Hypothermia Victims (Cont'd)

If medical help is not immediately available:

Keep the person quiet, but keep them awake, if possible. Avoid unnecessary movement. If it is necessary to move a hypothermia victim, use a litter - the exertion of walking could aggravate circulation problems.

In a case of mild hypothermia where the person is conscious, the body may be packed with heat packs or warm towels at the neck, groin, and armpits.

As the extremities begin to recover warmth, give conscious victims sweet, warm drinks. AVOID caffeine or alcoholic drinks. Do not rewarm the core and the extremities at the same time. The sudden return of the cool blood pooled in the extremities to the heart can cause shock.

4.4.11 Water Immersion Victims

Flotation is the most important factor in water immersion survival, but may not be available if not provided in advance (see protective clothing notes below).

It is especially important to keep your head dry.

Avoid thrashing about and assume the HELP position (Heat Escape Lessening Posture) by crossing wrists over chest and drawing knees close to your chest to avoid losing body heat. By using the HELP position, the head, neck, armpit, and groin areas are protected which are all high heat loss areas.

If others are in the water with you, huddle together to reduce heat loss, aid in rescue, and boost morale.

4.4 Site Safety and Health Plan (Cont'd)

4.4.12 Hypothermia Summary

Hypothermia Summary		
Symptoms	Possible Causes	Treatment
Pain in the extremities	Exposure to low air temperatures	Remove person from wind, snow, rain
Uncontrollable shivering	Exposure to high winds	Minimize use of energy by person
Cool skin	Water immersion	Keep person awake
Rigid muscles	Inadequate clothing	Remove wet clothing
Slowed heart rate	Allergies	Get person into dry clothing
Weakened pulse	Recent alcohol consumption	Wrap blanket around the person
Low blood pressure	Smoking	Pack neck, groin and armpits with warm towels
Slow irregular breathing	Prescription medications	Don't re-warm extremities and core at the same time
Memory lapses	Exhaustion	Give sweet warm drinks to conscious person
Slow slurred speech	Dehydration	Remove person to medical facility
Drowsiness	--	--
Incoherence	--	--
Lack of coordination	--	--
Diminished dexterity and judgment	--	--

4.4.13 Other Cold Stress Injuries

Frostbite		
Symptoms	Possible Causes	Treatment
Whitened areas on skin	Exposure to cold	Cover the frozen part
Burning sensation at first	Age (very young or old)	Provide extra clothing and blankets
Blistering	Underlying disease	Bring person indoors
Affected part cold, numb and tingling	--	Place the part in warm water or re-warm with warm packs
--	--	If no water is available, wrap gently in a sheet and blanket or place frostbitten fingers under armpits
--	--	Discontinue warming when the affected part becomes flushed and swollen
--	--	Exercise part after rewarming but do not allow the person to walk after the affected parts thaws
--	--	Give sweet warm fluids to conscious person

4.4 Site Safety and Health Plan (Cont'd)

4.4.13 Other Cold Stress Injuries (Cont'd)

Frostbite (Cont'd)		
Symptoms	Possible Causes	Treatment
--	--	If feet are affected, put on dry socks over footwear
--	--	If cheeks are affected, cover cheeks with warm hands
--	--	DO NOT rub the part with anything
--	--	DO NOT use heat lamp
--	--	DO NOT use hot water bottles
--	--	DO NOT place part near hot stove
--	--	DO NOT break blisters
--	--	Obtain medical assistance ASAP

Chilblain		
Symptoms	Possible Causes	Treatment
Recurrent localized itching, swelling, and painful inflammation of the fingers, toes, or ears	Inadequate clothing	Remove to warmer area
Severe spasms	Exposure to cold and moisture	Consult physician
--	Underlying disease	--

Frostnip		
Symptoms	Possible Causes	Treatment
Skins turns white	Exposure to cold	Remove to warmer area
Severe spasms	Exposure to cold and moisture	Refer to treatment for frostbit

Acrocyanosis		
Symptoms	Possible Causes	Treatment
Hands and feet are cold, blue and sweaty	Exposure to cold	Remove to warmer area
--	Inadequate clothing	Loosen tight clothing
--	Underlying disease	Consult physician

4.4 Site Safety and Health Plan (Cont'd)

4.4.13 Other Cold Stress Injuries (Cont'd)

Trench Foot		
Symptoms	Possible Causes	Treatment
Edema (swelling) of the foot	Exposure to cold and dampness	Remove to warmer area
Tingling, itching		Refer to frostbite treatment
Severe pain		Consult physician
Blistering		

Raynaud's Disease		
Symptoms	Possible Causes	Treatment
Fingers turn white and stiff	Exposure to low air temperature and high winds	Remove to warmer area
Intermittent blanching and reddening of the fingers and toes	Inadequate clothing	Consult physician
Affected area tingles and becomes very red or reddish purple	Underlying disease	--

4.4.14 Evaluating Cold Exposure Hazards

Common sense will dictate how much clothing to wear and when to get into a warm area in most cases. However, some work environments require evaluation that is more complex.

Evaluation a work environment to determine the degree of cold stress involves measuring air temperature, wind speed, and the amount of energy expended by the worker.

Air temperature can be measured by an ordinary bulb thermometer.

Wind speed can be measured in a variety of ways but can also be estimated as follows:	
✓	5 mph - light flag moves
✓	10 mph - light flag fully extended
✓	15 mph - raises newspaper sheet
✓	20 mph - blowing and drifting snow

4.4 Site Safety and Health Plan (Cont'd)

4.4.15 Preventing Cold Stress

REDUCE MANUAL WORK LOAD. When cold stress is a concern, personnel exposures should be reduced by eliminating manual operations as much as possible. Power tools, hoists, cranes, or lifting aids should be used to reduce the metabolic work load and to reduce the duration of human exposure. Fatigue is also a compounding stress factor.

DEHYDRATION. Working in cold areas causes high water losses through the skin and lungs, because of the dryness of the air. Increased fluid intake is essential to prevent dehydration. Warm, sweet, caffeine-free, non-alcoholic drinks and soups should be available at the work site for fluid replacement and caloric energy.

WARM LOCATIONS FOR BREAKS. For outdoor work such as beach cleaning, where it will be difficult to warm the work area, it is particularly important to provide frequent breaks in a warm location. These locations should also be stocked with warm fluids to help warming and prevent dehydration. Workers should be encouraged to take frequent breaks in warm shelters at temperatures below 20°F. A work-rest schedule should be implemented using Table 3 in the Cold Stress section of the latest edition of the ACGIH TLV booklet for guidance.

INDOOR/OUTDOOR WIND BREAKS & SHELTER. The work area should be shielded if the air velocity at the job site is increased by wind, drafts, or ventilating equipment. For example, bird/mammal rehabilitation may be conducted in large warehouse type buildings where heating may be difficult. Wet work stations (such as washing or drying stations) should be enclosed by barriers to reduce drafts.

SCHEDULING AND TASK MANAGEMENT. Schedule the coldest work for the warmest part of the day. Move work to warmer areas whenever possible. Assign extra workers to highly demanding tasks. Make relief workers available for workers who need a break.

The **BUDDY SYSTEM** is required for all waste site operations. This is particularly important when working in stressful environments.

Minimize sitting still or standing around for long periods.

Older workers need to be extra careful in the cold. Additional insulating clothing and reduced exposure time should be considered for these workers.

Sufficient sleep and good nutrition are important for maintaining a high level of tolerance to cold.

4.4 Site Safety and Health Plan (Cont'd)

4.4.16 Protective Clothing / Equipment

4.4.16.1 General Considerations

35°F. Workers exposed to air temperatures of 35° or lower who become immersed in water or whose clothing gets wet should be given dry clothing immediately and treated for hypothermia.

30°F. At temperatures below 30°, metal handles of tools should be covered with thermal insulating material. Unprotected metal chair seats should not be used.

-25°F. In addition to the common sense approach of providing adequate warm clothing; continuous exposure of skin should not be permitted when the wind chill factor results in an equivalent temperature of -25°F.

4.4.16.2 Insulation

It is essential to preserve the air space between the body and the outer layer of clothing to retain body heat. The more air pockets each layer of clothing has, the better the insulation.

a. Outer layer should be windproof and waterproof. Wool, for example, is a very useful insulator for undergarments but loses much of its insulating value as an outer garment. These outer layers should not prevent sweat evaporation.

b. Dirty or greasy clothing loses much of its insulative value. Air pockets are crushed or filled, and heat can escape more easily.

c. Denim is not a good protective fabric. It is relatively loosely woven allowing moisture to enter, and this also body heat to escape.

d. Any interference with the circulation of blood reduces the amount of heat delivered to the extremities. All clothing should be loosely worn and unrestrictive.

4.4 Site Safety and Health Plan (Cont'd)

4.4.16 Protective Clothing / Equipment (Cont'd)

4.4.16 3 Chemical Protective Clothing (CPC) Considerations

While CPC is important for protecting personnel from hazardous exposures, it is important to remember that CPC ensembles have undesirable, as well as desirable impacts on the cold stress on personnel.

a. UNDESIRABLE EFFECTS. The desired insulating effect of clothing is negated if clothing interferes with the evaporation of sweat from the trunk of the body, or when the skin or clothing is wet. CPC ensembles typically interfere with the evaporation of sweat. Protective clothing (for cold chemical protection) also add to the workload/fatigue of workers. When cold stress is a concern, care should be exercised in selecting ensembles which contribute to cold stress without meaningful chemical exposure protection. This is particularly true for those parts of the ensemble protecting the trunk of the body.

b. DESIRABLE. Liquids conduct heat better than air and have a greater capacity for heat than air. For example, a spill of cold gasoline on skin can freeze the tissue very quickly. Chemical resistant gloves, such as neoprene with cotton inserts, should be worn to prevent this localized cold stress.

4.4.16.4 Priority Clothing

The most important parts of the body to protect are the FEET, HANDS, HEAD, and FACE. Keeping the head covered is important because as much as 40% of body heat can be lost when the head is exposed.

4.4 Site Safety and Health Plan (Cont'd)

4.4.16 Protective Clothing / Equipment (Cont'd)

4.4.16.5 Ensemble Options

The following items should be considered for addition to worker ensembles in cold environments:

✓	A cotton t-shirt and shorts under two-piece cotton and wool thermal underwear. Two-piece long underwear is preferred because the top can be removed and put back on as needed.
✓	Socks with high wool content. Use thin inner socks and thick outer socks. If cold, wet feet are a concern the socks should be changed during the mid-shift break.
✓	Wool or thermal trousers (lap trousers over boot tops to keep out snow or water)
✓	Felt-lined, rubber-bottomed, leather-topped boots, with a removable insole (for heavy work)
✓	Or, with chemical protective boots, air insole cushions and felt liners (steel toes/shank boots should be avoided unless needed for specific safety concerns)
✓	Wool shirt or sweater over a cotton shirt
✓	Wool knit cap (watch cap)
✓	Or (if hard hats are required) specially made hard hat liners
✓	Face mask or scarf (vital when working in cold wind). NOTE: Face protectors must be periodically removed so the worker can be checked for signs of frostbite
✓	Double-layered goggles with foam padding around the edges (extremely cold environments)
✓	Insulated gloves 60°F, or lower, for sedentary work 40°F, or lower, for light work 20°F, or lower, for moderate work 0°F, or lower, wool mittens should be used instead of gloves

4.4.16.6 Ensembles for Work When Water Immersion May Occur

a. Flotation (personal or throwable devices) are extremely important to avoid unnecessary swimming which will increase the rate of body heat loss.

b. Air trapped between layers of clothing will provide buoyancy and heat insulation, but Personal Flotation Devices (PFDs) offer the best chance for survival in cold water. Type III PFDs include float coats and mustang suits which provide flotation and thermal protection.

c. Preposition throwable flotation devices in boats or work areas near water.

4.4 Site Safety and Health Plan (Cont'd)

4.4.17 Selection of Materials

Material	Advantages	Disadvantages	Wear in
Wool	Stretches without damage. Insulates well when wet.	Heavy weight. Absorbs moisture. Skin irritant.	Layer 1-3
Cotton	Comfortable. Lightweight.	Absorbs moisture.	Layer 1-2
Silk	Lightweight. Durable. Good insulator. Washes well.	Expensive. Does not transfer moisture well.	Layer 1
Nylon	Lightweight. Durable. Wind resistant. Water resistant.	Impervious to perspiration. Flammable.	Layer 3
Down	Lightweight. Durable. Good insulator when dry.	Expensive. Hard to dry. Poor insulator when wet.	Layer 2-3
Polyester	Does not absorb moisture (Insulates even when wet).	Heavier than down. Does not compress as well as down.	Layer 2-3

4.4.18 Marathon Oil Company Recommended Sanitation Requirements

4.4.18.1 Potable Water:

An adequate supply of potable water, or other drinking fluids, shall be maintained at all times throughout the site. Containers for drinking fluids shall be capable of being tightly closed. These containers must also be labeled in such a manner that the contents are not accidentally used for other purposes. Where single service cups are supplied, the unused cups shall be maintained in a sanitary container; and a separate disposal container provided for used cups.

4.4.18.2 Non-potable Water:

Water intended for uses other than drinking or washing shall be identified in a way that is not accidentally used for drinking, washing, or cooking. There shall be no cross-connection of potable and Non-potable water supplies.

4.4.18.3 Toilet Facilities:

Toilet facilities shall be maintained at a minimum in accordance with Table H-120.2 (Toilet Facilities) of 29 CFR 1910.120(n).

✓	20 or fewer people <ul style="list-style-type: none"> • 1 facility
✓	20 – 200 people <ul style="list-style-type: none"> • 1 toilet seat, and • 1 urinal per 40 persons
✓	More than 200 people <ul style="list-style-type: none"> • 1 toilet seat, and • 1 urinal per 50 persons

4.4 Site Safety and Health Plan (Cont'd)

4.4.18 Marathon Oil Company Recommended Sanitation Requirements (Cont'd)

4.4.18.3 Toilet Facilities

Toilets shall be provided such that they are readily accessible from all work areas. Mobile crews with ready access to toilet facilities using their own transportation do not need to have toilet facilities located at their temporary work sites.

Sewage shall be handled in accordance with local health codes using one of the following means:

✓	Sanitary sewer
✓	Chemical toilets
✓	Recirculation toilets
✓	Combustion toilets, or
✓	Flush toilets

4.4.18.4 Food Handling shall be conducted in accordance with the requirements of local jurisdiction.

4.4.18.5 Washing Facilities

Washing facilities shall be readily accessible by all employees. In addition to sanitary cleaning, these facilities shall be so equipped that they can be used to remove oily residues from the skin. Washing facilities shall be maintained free of contaminants above exposure levels, and as free as practical from oily residues.

4.4.18.6 Showers

For operations lasting more than 6 months, showers and changing rooms must be provided in accordance with 29 CFR 1910.120(n)(7); and 29 CFR 1910.141(d)(3) and 1910.141(e).

4.4 Site Safety and Health Plan (Cont'd)

4.4.19 Emergency Response Traffic Safety Guidelines

One of the most potential dangerous operations performed by emergency response personnel is driving to and from the spill site. This is particularly true when driving vehicles that you are unfamiliar with such as motor pool and rental vehicles.

Familiarize yourself with your vehicle before driving. Walk around and check the outside condition, familiarize yourself with the interior as well, and make all adjustments before driving a vehicle.

Safety Guidelines	
✓	GET YOUR ATTITUDE RIGHT before driving!
✓	Emergency response personnel must function with "DELIBERATE speed" ... not reckless speed.
✓	Forget schedules while driving! The road is no place to make up lost time.
✓	SETTLE DOWN! Do not bring frustrations into the vehicle with you.
✓	Make up your mind to be the most courteous driver on the road. Forget about getting even with bad drivers on the road. Forget about competing with other drivers.
✓	Expect other drivers to make stupid mistakes, and prepare to deal with their mistakes.
✓	Having the right-of-way is no substitute for being alive. Expect the other drivers to break the rules.
✓	Use your parking lights ONLY WHEN PARKED! Use your headlights during all conditions of reduced visibility (dawn, dusk, fog).
✓	DO NOT DRIVE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS. Coffee, cold showers, fresh air, or other "remedies" will not make you sober. Only TIME will make you sober.
✓	Take frequent breaks about every hour or 100 miles. If you decide to take a nap, pull over at a well lighted rest stop and keep your door locked while you are sleeping.
✓	Conditions that increase the likelihood of highway hypnosis include: Driving too long without a break Driving at night Staring straight ahead instead of scanning all directions
✓	Look ahead for problems and maintain a safe distance behind the car in front of you.
✓	Slow and steady is the best pace for driving on snow, ice, or other slippery road surfaces. Do not hit your brakes hard or accelerate quickly.
✓	Be aware of the conditions and situations around you and in the general area. Be prepared for the unexpected. Consider alternate routes and locations of road blocks or security check points near the response zone.
✓	Do not stare into the headlights of oncoming traffic.

4.5 Decontamination Plan

The goal of decontamination is to clean personnel and equipment exposed to released materials without incurring additional environmental impacts to the affected area. This guidance document is designed to facilitate the development of a decontamination plan during an emergency spill response situation. This document provides verbiage that may be cut and paste into the actual Decontamination Plan document as well as guidance for the evaluation of cleaning methods.

A decontamination plan should be developed prior to conducting operations in areas **where the potential for exposure to hazardous substances exists**. The type and extent of decontamination will vary with the hazard of the chemical substances and degree of contamination. Where only light contamination with crude petroleum is involved, use Decon Method I. For heavier contamination use Decon Method II. These two methods should be adequate for the majority of situations.

4.5.1 General Considerations

At a minimum, include the following information in the Decontamination Plan:

✓	Description and/or sketch of each decontamination station
✓	List of needed decontamination equipment, including Personal Protective Equipment (PPE) for the individuals stationed in the decontamination station
✓	Methods for cleaning personnel and equipment while preventing secondary contamination
✓	Sequence of decontamination steps for equipment and personnel ("hot zone" to "cold zone")

The locations of decontamination areas should be determined prior to the beginning of response activities. Consider wind and weather patterns, as well as site access, water access, and the proximity of the spill. The path of equipment and personnel from the spill site to the decontamination area(s) will be considered to be contaminated until final site cleanup.

The items necessary to successfully perform personnel and equipment decontamination will vary depending on the characteristics of the released substance and the environment in which the spill has occurred.

4.5 Decontamination Plan (Cont'd)

4.5.1 General Considerations (Cont'd)

Common decontamination equipment may include:

For Equipment Decontamination

- ✓ Visqueen
- ✓ Absorbent boom
- ✓ Brushes
- ✓ Detergent solution
- ✓ Portable lights and electricity source
- ✓ Disposal barriers
- ✓ Roll-off boxes
- ✓ Liquid waste containers

For Personnel Decontamination

- ✓ First aid kit / EMS equipment
- ✓ Kiddie pools
- ✓ Brushes
- ✓ Mild detergent solution
- ✓ Towels and sheets
- ✓ Portable lights and electricity source
- ✓ Disposal barriers
- ✓ Solid waste containers (for used PPE)
- ✓ Liquid waste containers

Decontamination should occur in stages, beginning with the “hot zone” for removal of debris and gross contamination, moving to the “warm zone” to discard PPE or other protective layers, and finishing with the “cold zone” for final cleansing and rinsing.

All waste generated in the decontamination process will be collected and will be subject to the disposal guidelines provided in the Waste Management Plan. Any solvents added to decontamination water (Alconox®, mild detergents, etc.) should be fully researched to determine specific disposal requirements. Only approved decontamination solvents should be used, refer to EPA NCP Product Schedule for list of approved solvents and cleaners:

http://www.epa.gov/oem/content/ncp/product_schedule.htm

The plan should include:

- ✓ Use of Windsock at entry/exit of decontamination area.
- ✓ The number and layout of decontamination stations.
- ✓ The equipment needed.
- ✓ Methods to minimize worker contact with hazardous substances during decontamination.
- ✓ Methods to dispose of clothing which is not completely decontaminated.

4.5 Decontamination Plan (Cont'd)

4.5.1 General Considerations (Cont'd)

Decon Method I - crude petroleum - light contamination:

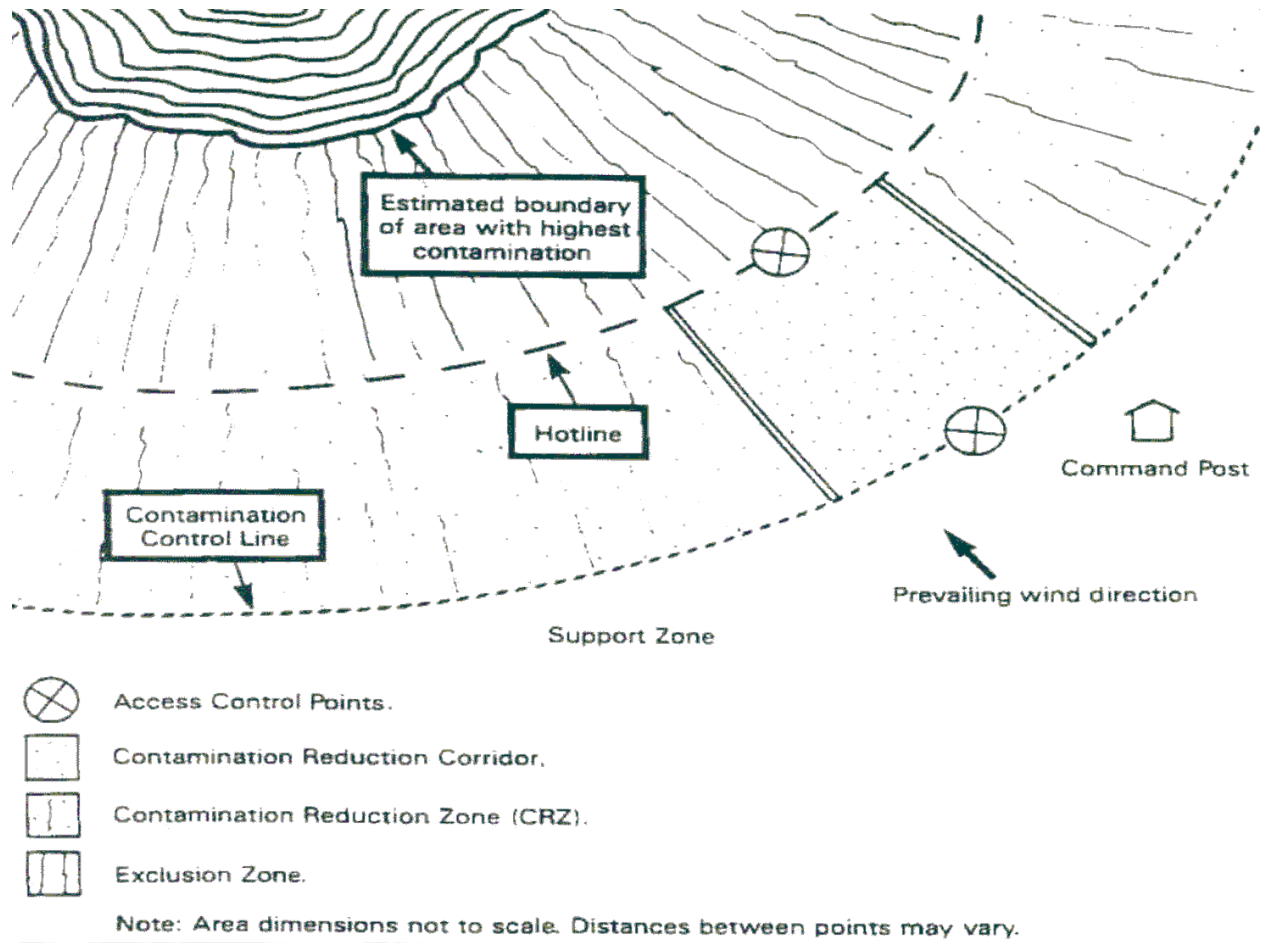
- | | |
|---|---|
| ✓ | Place 10' x 20' plastic sheeting on ground in warm zone. |
| ✓ | Place a lined container for tool drop on plastic sheeting near hot zone. |
| ✓ | Place lined container for disposal of chemical protective clothing near midpoint of plastic sheeting. |
| ✓ | After all contaminated clothing is removed, dispose of properly, including plastic sheeting. |
| ✓ | Arrange for decontamination of tools. |

Decon Method II - crude petroleum - medium contamination:

- | | |
|---|---|
| ✓ | Place 10' x 20' plastic sheeting on ground in warm zone. |
| ✓ | Place a lined container for tool drop on plastic sheeting near hot zone. |
| ✓ | Place two inflatable plastic pools on the plastic sheeting, and in the one closest to the hot zone, place a detergent and water solution (dishwashing detergent, etc.). |
| ✓ | Utilize the decon sprayer filled with water for the rinse station (second pool). |
| ✓ | Place a lined container near the exit from the second pool for disposal of chemical protective clothing. |
| ✓ | Arrange for disposal of liquid waste, pools, sheeting and protective clothing. |
| ✓ | Arrange for decontamination of tools. |
| ✓ | Outside agencies may be contacted if assistance is needed in this area. See the table following for assistance in evaluating decontamination methods. |

4.5 Decontamination Plan (Cont'd)

Figure 4.1 – Decontamination Methods Diagram



4.5 Decontamination Plan (Cont'd)

Collection and Disposal of Contaminated Waste Procedures

Step 1	Waste Segregation: Waste and recovered material must be segregated by type. The presumption is that any waste which has come into contact with oil is considered hazardous waste. It will be considered to be hazardous waste unless and until a waste characterization has been performed by the HES Group.
Step 2	Waste Collection: All sites where oil is being recovered, set up the following containers for collection (at a minimum): 1 Lined dumpster for used sorbents 1 Lined dumpster for PPE 1 Container for recovered oil, as needed (ex: frac tank) 1 Dumpster for non-contaminated debris (ex: brush)
Step 3	Temporary Storage: Waste materials must not remain on-site for longer than 90 days.
Step 4	Waste Transportation: Request a Hazardous Waste Manifest or waiver from State to transport waste over the road. Waste must be transported to an approved accumulation site/recycling facility or permitted TSD. Enlist the help of HES Group to prepare manifests.

4.5.2 Personal Protective Equipment

Appropriate personal protective equipment shall be worn during emergency responses and any subsequent cleanup. The On-Scene Commander is responsible for assuring that adequate personal protective equipment is available and used. Personal protective equipment can only offer a high degree of protection if it is used properly. The discomfort and inconvenience of wearing personal protective equipment can create a resistance to the conscientious use of it, and therefore, many factors must be considered to ensure its effectiveness during emergency operations, such as:

Personal Protective Equipment

✓	Work / rest cycles
✓	In-use monitoring
✓	Storage
✓	Maintenance / cleaning
✓	Biological stress factors (medical monitoring is required for personnel in CPC when the temperature exceeds 70).

Medical monitoring shall use the following parameters to determine acceptable levels of physical stress.

✓	Blood Pressure Maximum Diastolic (lower) reading of 90; and Maximum rise in Diastolic of 10 points from pre-entry value.
✓	Pulse Maximum pulse rate of 110. If it exceeds this rate, shorten the work cycle by 1/3. Maximum Body Temperature (oral) of 99.6.

4.5 Decontamination Plan (Cont'd)

4.5.3 Minimum Acceptable Personal Protective Equipment for Each Level of Protection

LEVEL A - to be selected when the greatest level of skin, respiratory, and eye protection is required:

✓	Positive pressure, full facepiece self-contained breathing apparatus, positive pressure supplied air respirator with escape SCBA.
✓	Totally-encapsulating chemical protective suit.
✓	Gloves, outer, chemical resistant.
✓	Gloves, inner, chemical resistant.
✓	Boots, chemical resistant, steel toe and shank.
✓	Disposable protective suit, gloves, and boots.
✓	Hard Hat.

Note: No Company Personnel will perform entries into areas which require Level A protection, therefore, no Level A equipment is available. Level A responses will require the use of a qualified contractor.

LEVEL B - the highest level of respiratory protection is needed but a lesser level of skin protection is needed.

✓	Positive pressure, full-face piece self-contained breathing apparatus or positive pressure supplied air respirator with escape SCBA.
✓	Hooded chemical resistant clothing.
✓	Gloves, outer, chemical resistant (nitrile).
✓	Boots, chemical resistant, steel toe and shank.
✓	Hard Hat

LEVEL C - the concentration(s) and type(s) of airborne substances is known and the criteria for using air purifying respirators is met:

✓	Full face or half mask, air purifying respirator.
✓	Hooded chemical resistant clothing.
✓	Gloves, outer, chemical resistant.
✓	Boots, chemical resistant, steel toe and shank.
✓	Goggles or safety glasses with side shields.
✓	Hard Hat

LEVEL D - a work uniform affording minimal protection, used for nuisance contamination only:

✓	Boots/shoes, chemical resistant, steel toe and shank.
✓	Safety glasses with side shields or chemical splash goggles.
✓	Hard Hat

4.5 Decontamination Plan (Cont'd)

4.5.4 Heavy Equipment Decontamination

The decontamination area for heavy equipment will generally consist of an area lined with visqueen or other impermeable material that is surrounded by absorbent boom or other runoff prevention. Once the machinery has been parked and the driver has exited, decontamination of vacuum trucks (vac trucks), fractionation tanks (frac tanks), and other heavy machinery will be handled as follows.

4.5.4.1 On-Site Internal Decontamination

A dedicated frac tank labeled “DECON RESIDUE TANK” will be staged in an appropriate area for the process. A Confined Space Work permit will be obtained prior to entering the vac truck or frac tank. The inside of the vac truck or frac tank will be checked to ensure that no excess accumulation of product is present prior to decontamination.

Steam cleaning will be used for product removal if possible. The oil/water mixture obtained by steam cleaning may be decanted onsite through areas boomed with absorbents. However, if any solvents or chemicals are used in steam cleaning, the resulting oil/water mixture must be placed in the Decon Residue Tank.

No truck will be allowed final demobilization from the site without completing a decontamination sign-off form, except vac trucks or frac tanks sent to an approved contractor for offsite internal decontamination as described below.

4.5.4.2 Off-Site Internal Decontamination

Vac trucks and frac tanks cleaned offsite will be checked to ensure that no excess accumulation of product is present prior to leaving the spill site. External decontamination must be completed at the spill site before final demobilization.

4.5.4.3 On-Site External Decontamination

Vac trucks and frac tanks will be externally decontaminated with hot water rinsing if possible. Material washed off trucks and tanks may be decanted onsite through areas boomed with absorbents. However, if any solvents or chemicals are used in cleaning, the resulting wash water must be contained and placed in the Decon Residue Tank.

No truck will be allowed final demobilization from the site without completing a decontamination sign-off form.

Other heavy equipment in use at the site (bull dozers, front end loaders, dump trucks, etc.) that do not have storage vessels, will be subject to external decontamination.

4.5 Decontamination Plan (Cont'd)

4.5.4 Heavy Equipment Decontamination (Cont'd)

4.5.4.4 Small Equipment Decontamination

The decontamination area for smaller equipment such as trucks, boats, and all-terrain vehicles (ATVs) will generally consist of an area lined with visqueen or other impermeable material that is surrounded by absorbent boom or other runoff prevention. Once the machinery has been parked and the driver has exited (if applicable), the equipment will undergo external decontamination as described in the previous section.

4.5.4.5 Sampling Equipment Decontamination

Equipment used to collect and composite samples should be properly decontaminated between sample locations and after the sampling effort is complete. Typically, a mild liquid detergent, such as Alconox®, is mixed with water and used to rinse all reusable sampling equipment. Note that all rinsate created in the decontamination process must be treated as contaminated material.

4.5.5 Personnel Decontamination

Each incident may require different decontamination operations. The nature of the incident, the type of oil, the weather, the temperature, the number of people to be decontaminated, and the number of trained personnel available are a few of the factors which dictate the method, size, and type of decontamination operation that will be required. All response personnel should be briefed on decon procedures before entering the Hot Zone. The Decon zone should always be kept as clean and organized as possible. This will ensure efficient decontamination operations and the safety of all personnel.

Basic decontamination procedures are described below. These steps may be utilized for most oil spill incidents. Oil spill response incidents involving highly viscous oils may require a more sophisticated operation and more personnel.

Basic decontamination steps and procedures include the following:

✓	Establish and clearly identify the Decontamination Corridor. The best location for a decon station would be uphill from the hot zone, and upwind so that airborne contaminants blow back toward the hot zone. If the wind changes, the decon station may have to be relocated.
✓	Close proximity to vital services (running water, electricity) is extremely beneficial for decontamination operations.
✓	The Decontamination Zone should be accessible to emergency medical units.
✓	Cover the entire Decontamination Corridor with plastic sheeting. Sorbents rolls should be used to line the decontamination corridor to reduce slippage and absorb oil.

4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Basic decontamination steps and procedures include the following (Cont'd)

✓	Clearly identify the Decontamination Corridor using barrier tape, delineator posts and traffic cones. Place the delineator posts and traffic cones on the top of the plastic sheeting or tarps, and then attach barrier tape to these units to clearly mark the decontamination Corridor.
✓	Establish and clearly identify the point of entry from the Hot Zone into the Warm Zone and the exit corridor into the Cold zone.
✓	Clearly identify, using barrier tape, delineator posts and traffic cones a clean (uphill) side and a dirty (downhill) side of the Decontamination Corridor. The clean side should be used to pass uncontaminated supplies and equipment into the Warm Zone, while the dirty side contains all of the contaminated equipment and supplies used or removed during decontamination operations.
✓	Weather conditions will be a significant factor during decon operations. Suitable shelter (tents) should be utilized for inclement weather conditions.
✓	Inflate the decon tanks using a manual hand pump and the inflation valve adapter. When this has been completed place the wading pools inside of the decon pools for the primary and secondary wash. (See decon set-up diagrams) If required construct a berm to control runoff from decontamination operations.
✓	Water used during decon procedures must be carefully controlled and kept to a minimum. Water generated from decontamination procedures will always be treated as hazardous waste. Runoff and liquids from the decon zone can be pumped using an (1"1/2 pump) or scooped using 5 gallon pails into a floating collar tank, or other (55 gallon drums) until appropriate disposal can be arranged.
✓	Establish an equipment drop zone at the edge of the Hot Zone for contaminated equipment. Small equipment such as pumps and hand tools should be placed into wading pools in this zone. If required this equipment may be re-used in the Hot Zone without decontaminating.
✓	Disposable personal protective equipment that is heavily contaminated will be disposed of without decontaminating. Contaminated raingear, Tyvec suits, gloves etc. should be placed into garbage pails lined with 6-ml debris bags.
✓	Establish a primary decontamination wash (wading pool) and rinse (wading pool) as the first step near the Hot Zone to wash the most significant contamination off of the PPE.
✓	Establish a secondary decontamination wash (wading pool) and rinse (wading pool) about 10 feet away from the first wash to assure thorough decontamination of PPE.
✓	(Decontamination Solution) Any dish washing liquid, especially ones with enhanced grease cutting properties diluted with water are acceptable as the decon solution for PPE. The decon solution should be mixed in the provided white 5 gallon pails. A stronger Citrus based cleaning solution can be used for wiping down equipment and hand tools. The decon trailer is outfitted with three sizes of decon cleaning brushes. Different factors will influence the type of brush to be used. (type of oil, viscosity, temperature, and weather conditions)

4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Basic decontamination steps and procedures include the following (Cont'd)

✓	When decontaminating personnel the brush strokes should always be done in a downward motion. This will reduce the risk of any backsplash into the facial area. Sorbents can also be used for wiping off contaminated areas of clothing or equipment. Wiping should mainly be done in the secondary wash after the heaviest contamination has been removed in the primary decon wash.
✓	Oiled sorbents and rags generated during decon procedures should be placed into garbage pails lined with 6ml debris bags and when full should be labeled and placed into a port a tank. Chairs will be utilized in the decon zone and can be placed in any areas where response personnel are being decontaminated, such as in the decon pools or where PPE is being removed.
✓	Splash goggles must always be left on until decon procedures have been fully completed.
✓	All Debris bags should be labeled appropriately and placed into a Port-a tank until appropriate disposal can be arranged.
✓	Establish an area to change respirator cartridges if required. Contaminated cartridges will be placed into 6ml debris bags that will be labeled and kept segregated from other waste for appropriate disposal.
✓	Establish an area near the Cold Zone end of the Decontamination Corridor to remove rain suits, Tyvec suits, rubber boots and other items, that can be reused during spill response operations. These items will be placed into an appropriate container (wading pool) for further inspection before being reissued back into the field.
✓	After the responders PPE has been removed hand wipes and facial wipes will be available to those personnel that require further cleaning.
✓	All used equipment and hand tools (pumps, rakes, shovels etc) and other contaminated items should remain in the Decontamination Corridor until it can be determined if these items can be decontaminated.
✓	All contaminated articles (tarps, plastic sheets, wading pools, delineator posts etc. must be collected for further decon or disposal. All contaminated items will be placed into lined (6-ml debris bags) garbage pails or lined over pack drums and must be properly and clearly labeled for proper disposal, or further cleaning.

4.5.6 Warning and Alarms

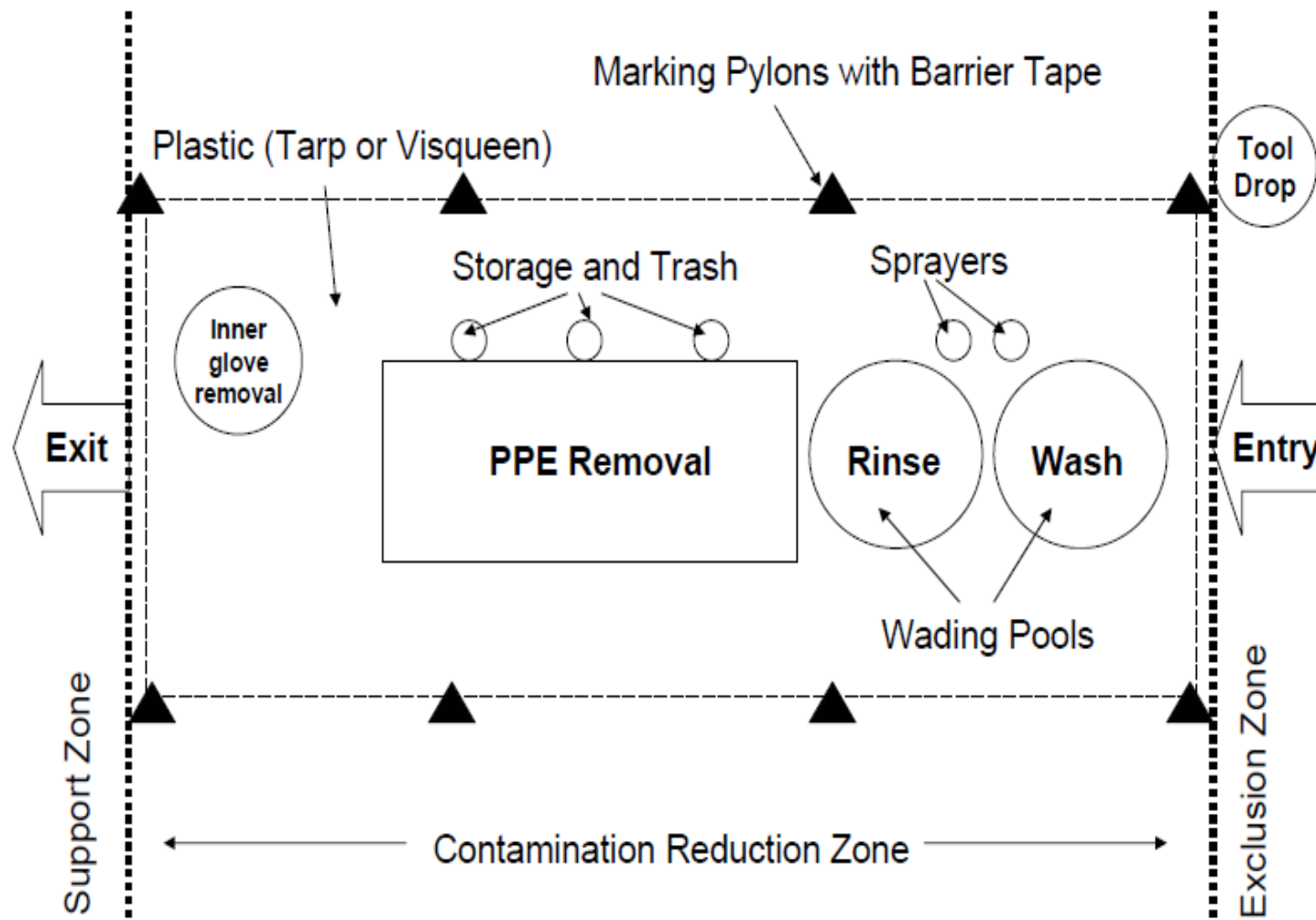
Various fields are equipped with alarms which alert personnel to the presence of abnormal process conditions, etc. In the event of an emergency, field emergency communications rely upon line-of-sight observations, radio and telephone communications.

4.5.7 Debriefing

As soon as practicable, all personnel exposed to the spill material or the decontamination procedures should be informed about the long-term and short-term effects of the chemicals to which they were exposed. If appropriate, follow-up visits will be scheduled for ongoing observation.

4.5 Decontamination Plan (Cont'd)

Figure 4.2 – Decontamination Plan



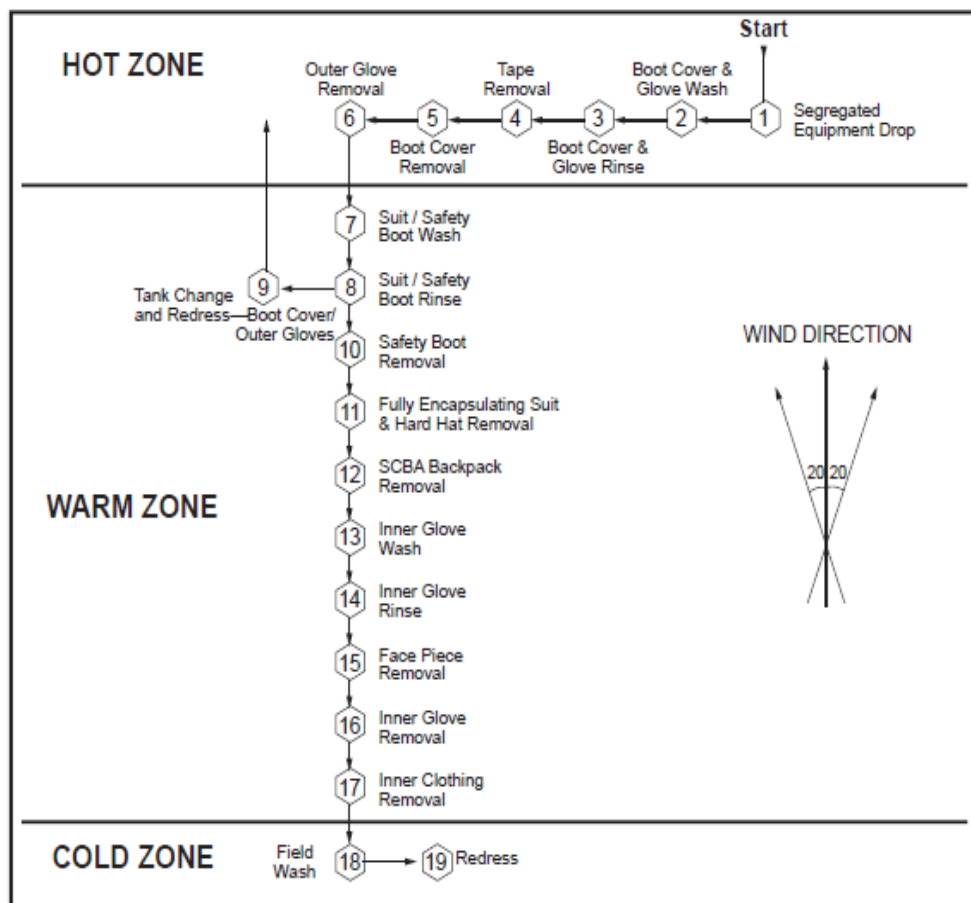
4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Flow charts are presented below for each of the four levels of protection, with the highest level being Level A:

Figure 4.3 – Level A

Level A

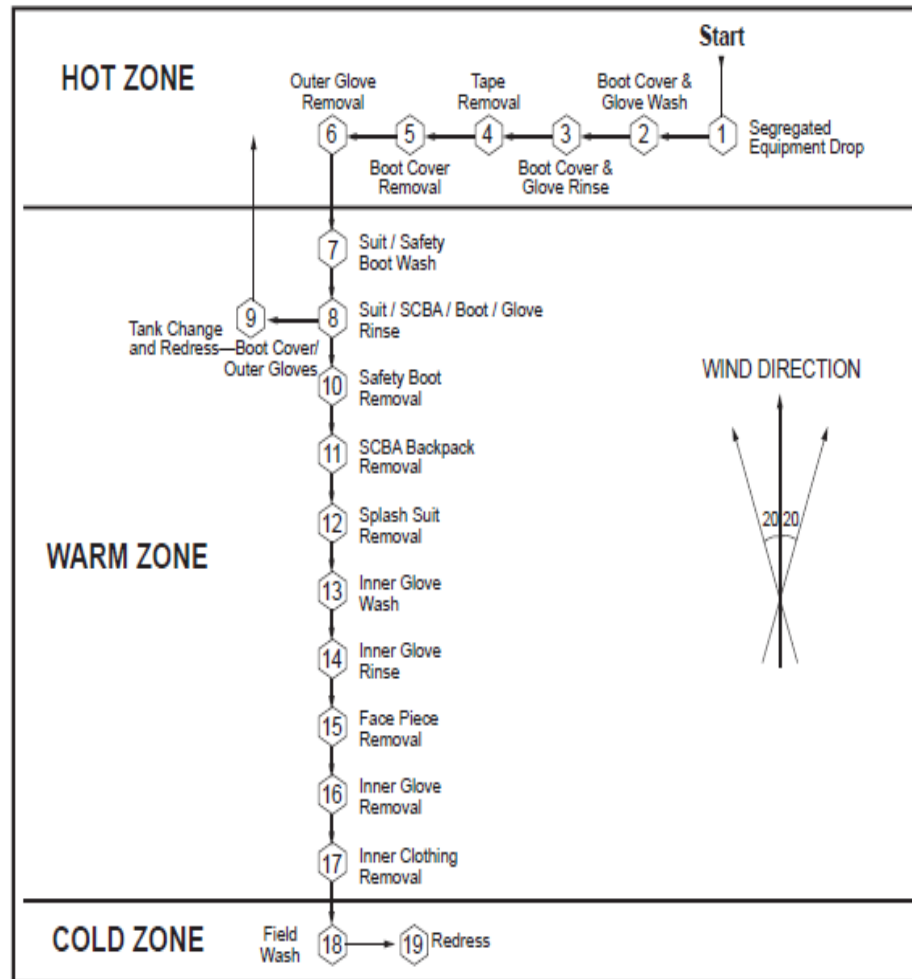


4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Figure 4.4 – Level B

Level B

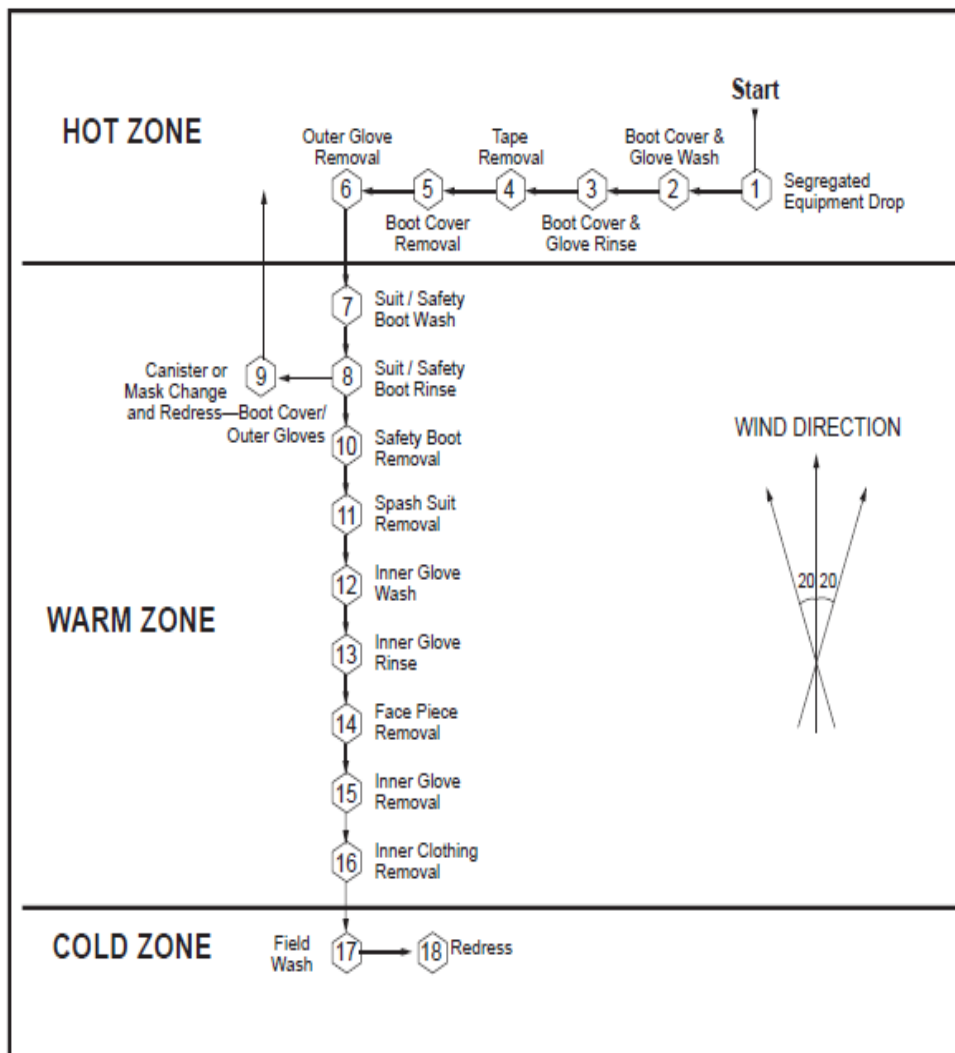


4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Figure 4.5 – Level C

Level C

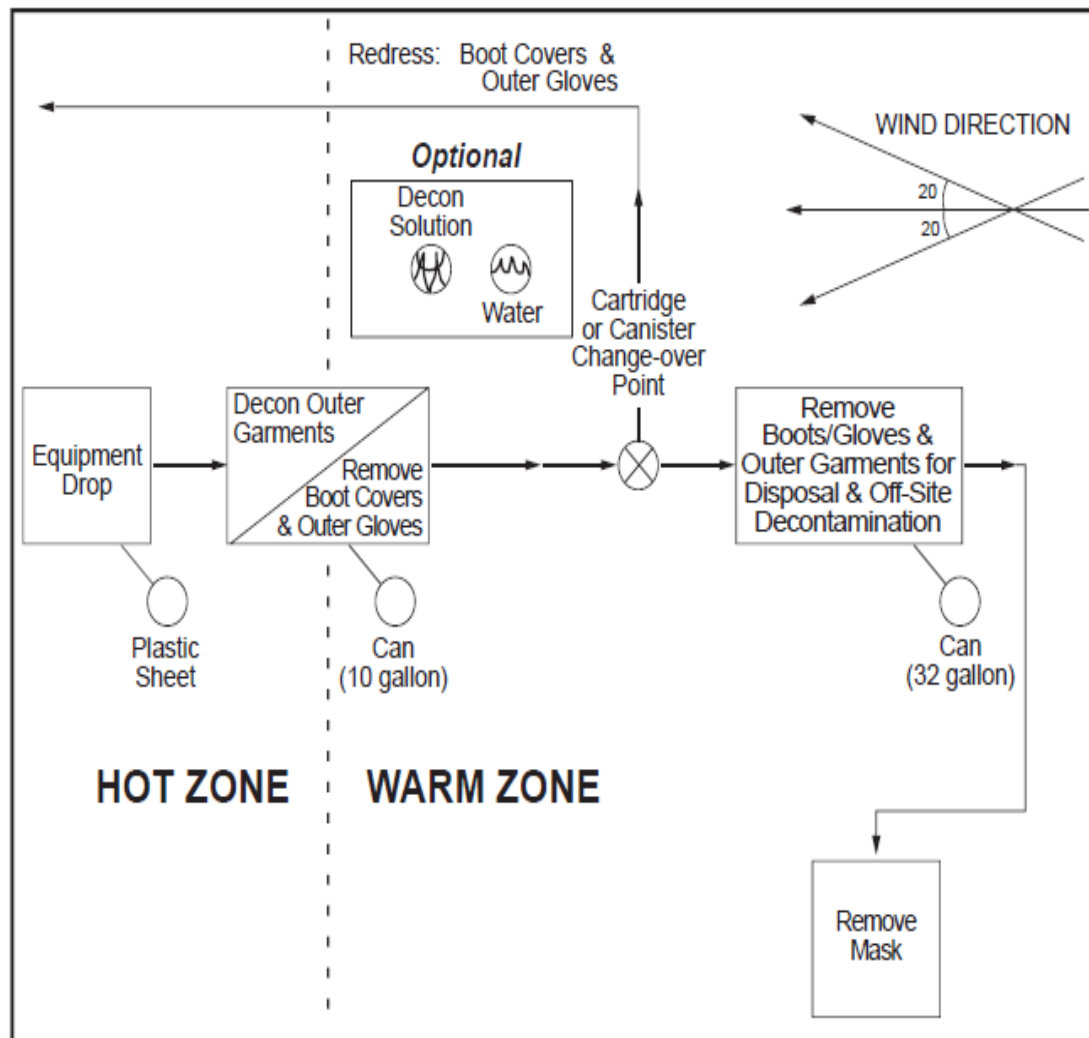


4.5 Decontamination Plan (Cont'd)

4.5.5 Personnel Decontamination (Cont'd)

Figure 4.6 – Level D

Level D



Marathon Oil Company
Decontamination Plan
[NAME OF INCIDENT]

INCIDENT CHARACTERIZATION

General Information	
Date:	Time of Spill:
Material Spilled:	
Quantity Spilled:	
Estimated Area Impacted:	
Weather: Sun / Clouds / Fog / Rain / Snow / Windy	
Temperature:	
Segment/Portion of Site Evaluated:	
EQUIPMENT ON SITE REQUIRING DECONTAMINATION	
Heavy Equipment	
Vacuum Trucks	
Fractionation Tanks	
Bull Dozer	
Front End Loader	
Dump Truck	
Other (List)	
Decon Location Description:	
Lat/Long:	
Smaller Equipment	
Trucks/Vans/Cars	
Boats	
ATVs	
Other (List)	
Decon Location Description:	
Lat/Long:	
Sampling Equipment	
List	
Decon Location Description:	
Lat/Long:	

PERSONS ON SITE REQUIRING DECONTAMINATION
Number of persons exposed requiring decontamination
Observations:

Marathon Oil Company
Decontamination Plan
[NAME OF INCIDENT]

EQUIPMENT DECONTAMINATION FORM

I certify that this vehicle/equipment has been

Internally

☐

Externally

☐

decontaminated and certified to be cleaned. There will be no additional decontamination necessary at the owners company shop and no additional decontamination charge.

Date: _____

Time: _____

Operator: _____

Signature: _____

Date: _____

Time: _____

Qualified Individual: _____

Signature: _____

Marathon Oil Company
Decontamination Plan
[NAME OF INCIDENT]

TRUCK DECONTAMINATION FORM

I certify that this vehicle/equipment has been

Internally

☐

Externally

☐

decontaminated and certified to be cleaned. There will be no additional decontamination necessary at the owners company shop and no additional decontamination charge.

Date: _____
Time: _____
Operator: _____
Signature: _____

Date: _____
Time: _____
Qualified Individual: _____
Signature: _____

4.6 Waste Management Plan

Additional Information can be found in Appendix I of this plan: Waste Management and Disposal Plan.

4.6.1 Introduction

The goal of any cleanup operation should be to implement a response option that has a low potential for incurring additional environmental impacts to the affected area as a result of the cleanup activities. This guidance document is designed to facilitate the development of a waste management plan during an emergency spill response situation. This document provides verbiage that may be cut and paste into the actual Waste Management Plan document as well as guidance for the evaluation of the scene and determination of cleanup methods. Refer to Marathon Oil Company Waste Management master plan for specific guidance on waste streams and approved handling guidance.

4.6.2 General Considerations

The first step to be taken in the management of waste in a spill response situation is to segregate hazardous waste from non-hazardous waste. By maintaining proper segregation of waste, final cleanup and demobilization from the spill site will occur as quickly and seamlessly as possible.

Because different cleanup techniques result in different amounts of waste, the chosen method for the cleanup of an oil release should be as efficient as possible.

The Environmental Unit should establish the final destination for the types of waste anticipated to be generated at the site at the earliest time possible during the response. Making these arrangements will result in fewer delays and fewer uninformed decisions made in haste.

4.6.3 Waste Management

4.6.3.1 Hazardous Waste

Material that is deemed hazardous by Toxicity Concentration Leachate Potential (TCLP) testing results must remain segregated from non-hazardous waste. Separate roll-off boxes or other containment must be utilized on site to ensure that cross-contamination does not occur.

The final removal of hazardous waste from the release site will require a hazardous waste manifest and may only be transported by a registered handler of hazardous waste.

4.6 Waste Management Plan (Cont'd)

4.6.3 Waste Management (Cont'd)

4.6.3.2 Solid Waste

Oily absorbent booms and absorbent materials will be placed in roll-off boxes staged at various pickup locations. Booms and sorbents should be dewatered prior to placement in boxes. Any material that is leaking free liquid is not permitted in roll-off boxes.

A bulldozer or front-end loader will be used to excavate contaminated soil. Care should be taken to only excavate the impacted sediments. On-site supervisors will ensure that all saturated contaminated soil is excavated properly.

Field tiles, pipeline materials, and the associated excavated soils are considered solid waste and should be segregated as such.

Reusable equipment and PPE is preferable for use in a spill response in order to minimize the amount of solid waste generated.

Oily vegetation may be placed in roll-off boxes or staged on visqueen for future disposal. Vegetation that is dripping liquid may not be placed in roll-off boxes. Vegetation staged on visqueen must be covered with additional visqueen to prevent runoff during a rain event. Accumulated oil should be removed regularly from vegetation staged on visqueen. Visqueen areas must be diked if necessary to prevent runoff. Work areas and roll-off staging areas must be free of sink holes or other sensitive geologic formations.

Clean vegetation may be staged in piles for future disposal, after inspection to ensure that it has no oily vegetation mixed in. Clean vegetation must not be placed in roll-off boxes.

Miscellaneous oily material (rain suits, soil, rocks, gloves, rags, ropes, boots, etc.) may be placed in roll-off boxes. Drums, electrical equipment, and other unknown sources of contamination must not be discarded. If any of these types of materials are found, they must be segregated for further waste determination. No materials leaking free liquids may be placed in roll-off boxes.

Non-oily trash (food waste, unsoiled PPE, cardboard boxes, etc.) must not be placed in roll-off boxes. It should be disposed of in domestic trash containers.

All collectable **insulation material** is to be identified for collection by certified asbestos handlers. The materials are to be wetted and double-bagged and disposed of properly.

Note that roll-off boxes are not designed to contain significant amounts of liquid. For any solid waste that is mixed with or covered by ice or snow, please refer to the Ice Management Plan for further guidance.

4.6 Waste Management Plan (Cont'd)

4.6.3 Waste Management (Cont'd)

4.6.3.3 Liquid Waste

Liquid waste, including free product and water, will be removed from the site via vac truck and will be taken offsite for recovery or disposal, as appropriate.

4.6.4 Containment Management

4.6.4.1 Hazardous Waste

The locations of the roll-off boxes will be determined by site conditions. Roll-off boxes will be labeled "Hazardous Waste" in order to avoid cross contamination and to alert responders on site to potential hazards. Roll-off boxes will be supplied with liners and covers. Liners must be kept in place and boxes covered when not in use to keep out rain. No free liquids are permitted in roll-off boxes. Liquids will cause box pickup to be rejected. Notify the Environmental Unit when a box is full and pickup will be arranged. A new box will be brought to replace the full one unless the Environmental Unit is notified otherwise. Report any problems or requests for additional boxes to the Environmental Unit.

4.6.4.2 Solid Waste

The locations of the roll-off boxes will be determined by site conditions. Roll-off boxes will be labeled "Contaminated Debris" and "Non-Contaminated Debris" in order to avoid cross contamination and to alert responders on site to potential hazards. Roll-off boxes will be supplied with liners and covers. Liners must be kept in place and boxes covered when not in use to keep out rain. No free liquids are permitted in roll-off boxes. Liquids will cause box pickup to be rejected. Notify the Environmental Unit when a box is full and pickup will be arranged. A new box will be brought to replace the full one unless the Environmental Unit is notified otherwise. Report any problems or requests for additional boxes to the Environmental Unit.

Oily vegetation or booms may be staged on visqueen prior to placing in roll-off boxes. Visqueen staging areas must be bermed on all sides to prevent runoff of any liquids. Staged materials must be covered with additional visqueen to prevent rain accumulation. Staging areas must be inspected regularly and any accumulated free liquid removed. Actions will be taken to minimize soil contamination between the spill area and the roll-off boxes.

4.6.4.3 Liquid Waste

Liquid wastes are typically stored in vac trucks, drums, or other temporary storage tanks prior to off-site disposal. All liquid waste containers must be labeled with the type of material stored in order to avoid cross contamination and to alert responders on site to potential hazards. Notify the Environmental Unit when a container is full and pickup will be arranged. A new container will be brought to replace the full one unless the Environmental Unit is notified otherwise. Report any problems or requests for additional containers to the Environmental Unit.

4.6 Waste Management Plan (Cont'd)

4.6.5 Environmental Monitoring

Environmental personnel should work closely with Operations staff to ensure that all recovery operations are established and maintained within compliance with the approved Response Plan at all times. All cleanup operations will be routinely monitored by environmental personnel who are familiar with the objectives and response methods approved for implementation. The Environmental personnel should work directly with the Operations Section Chief, who has been assigned responsibility for overseeing operational activities, to ensure that recovery activities are conducted within the scope of the clean-up plan.

No modifications will be made by Operations without discussion with the Environmental staff. No substantive modifications to the Cleanup Options discussed above will be implemented by the Environmental staff without discussion and approval from the responsible Federal and State agencies.

Representative samples of the oily debris will be collected and analyzed for TCLP (hazardous and non-hazardous constituents, pesticides, and herbicides). Waste may not be disposed until TCLP results are received and reviewed by the Environmental Unit.

If sample results reveal that the waste materials contain hazardous constituents, a hazardous waste manifest form must be completed and shipped with the waste material to the proper disposal site.

4.6.6 Final Demobilization

Once all roll-off boxes and/or temporary tanks and containers have been retrieved by the waste disposal firm, the ground beneath these areas must be inspected for potential contamination. If any soil staining is observed, consult the Soil Removal Plan.

Any heavy machinery used on the site for the transfer of solid waste must be decontaminated before leaving the release area. Any contaminated materials collected during the decontamination process must be disposed appropriately.

4.6 Waste Management Plan (Cont'd)

Figure 4.8 – General Waste Containment and Disposal Checklist

Consideration	Yes / No / NA
Is the material being recovered as waste or reusable product?	
Has all recovered waste been containerized and secured so there is no potential for further leakage while the material is being stored?	
Has each of the discrete waste streams been identified?	
Has a representative sample of each waste stream been collected?	
Has the sample been sent to an approved laboratory for the appropriate analysis (i.e. hazardous waste determination)?	
Have the appropriate waste classification and waste code numbers for the individual waste streams been received?	
Has a temporary EPA identification number and generator number(s) been received, if they are not already registered with EPA?	
Have the services of registered hazardous waste transporter been contracted, if waste is hazardous?	
If the waste is nonhazardous, is the transporter registered?	
Is the waste being taken to an approved disposal site?	
Is the waste hazardous or Class I nonhazardous?	
If the waste is hazardous or Class I nonhazardous, is a manifest being used?	
Is the manifest properly completed?	
Are all Federal, State and Local laws/regulations being followed?	
Are all necessary permits being obtained?	
Has a Disposal Plan been submitted for approval/review?	
Have PPE and waste-handling procedures been included in the Site Safety and Health Plan to protect the health and safety of waste handling personnel?	

4.6 Waste Management Plan (Cont'd)

Figure 4.9 – Temporary Storage Methods

Containment	PRODUCT						Capacity
	OIL	OIL / WATER	OIL / SOIL	OIL / DEBRIS (Small)	OIL / DEBRIS (Medium)	OIL/DEBRIS (Large)	
Drums			X	X			.2-.5 yd ³
Bags			X	X	X		1-2 yd ³
Boxes			X	X	X		1-5 yd ³
Open Top Rolloff	X	X	X	X	X	X	8-40 yd ³
Roll Top Rolloff	X	X	X		X	X	15-25 yd ³
Vacuum Box	X	X					15-25 yd ³
Frac Tank	X	X					500-20,000 gal
Poly Tank	X	X					200-4,000 gal
Vacuum Truck	X	X	X				2,000-5,000 gal
Tank Trailer	X	X					2,000-4,000 gal
Barge	X	X					3,000+ gal
Berm, 4 ft	X	X	X	X	X	X	1yd ³
Bladders	X	X					25-1,500 gal

Marathon Oil Company
Waste Management Plan
[NAME OF INCIDENT]

INCIDENT CHARACTERIZATION

General Information	
Date:	Time of Spill:
Material Spilled:	
Quantity Spilled:	
Estimated Area Impacted:	
Weather: Sun / Clouds / Fog / Rain / Snow / Windy	
Temperature:	
Segment/Portion of Site Evaluated:	
Waste Characterization	
Segregate hazardous waste from non-hazardous waste	
TCLP results attached? Yes / No	
Are separate roll-off boxes/other containment available for segregation? Yes / No	
Observations:	
Hazardous Waste Observed on Site	
Approximate Amount:	
Storage Location (roll-off boxes, visqueen-lined area):	
Are containers properly labeled? Yes / No	
Observations:	
Solid Waste Observed on Site	
Oiled Absorbent Boom / Absorbent Materials	
Approximate amount (length of boom, number of absorbent pads):	
Storage location (roll-off boxes, visqueen-lined area):	
Oiled Vegetation	
Approximate amount:	
Species observed:	
Storage location (roll-off boxes, visqueen-lined area):	
Miscellaneous Oiled Material	
Type of material and approximate amount:	
Storage location (roll-off boxes, visqueen-lined area):	
Observations:	
Liquid Waste Observed on Site	
Sufficient vac trucks on-site to collect liquid waste? Yes / No	
Approximate amount of liquid waste collected (gallons/liters):	
Observations:	

Containment on Site
Number of roll-off boxes in use at site for hazardous materials:
Number of roll-off boxes in use at site for non-hazardous materials:
Roll-off boxes properly located: Yes / No
Roll-off boxes properly labeled: Yes / No
Roll-off boxes properly covered: Yes / No
Water and oil removed from roll-off boxes: Yes / No
Number of visqueen lined areas:
Visqueen properly covered: Yes / No
Water and oil removed from visqueen areas: Yes / No
Observations:
Waste Disposal
Copies of transportation manifests for hazardous waste attached? Yes / No
Have arrangements been made to collect roll-off boxes containing non-hazardous waste? Yes / No
Were any roll-off boxes declined for pickup? Yes / No
If yes, what was the reason? Yes / No
Was matter corrected and were boxes picked up? Yes / No
Have Logistics contact local OSRO.
Monitoring Plan
Is waste segregation being maintained sufficiently? Yes/No
Corrective actions, if necessary:
Are roll-off boxes and/or visqueen lined areas maintained properly? Yes / No
Corrective actions, if necessary:
Are vacuum trucks removing liquid waste at a sufficient pace? Yes / No
Corrective actions, if necessary:
Observations:
Decontamination Plan
Heavy equipment used on site:
Was equipment properly decontaminated? Yes / No
Have all roll-off boxes and vacuum trucks been removed from site? Yes / No
Observations:

4.6 Waste Management Plan (Cont'd)

4.6.7 Soiling Sampling and Analysis Plan Guidance

4.6.7.1 Introduction

The goal of any cleanup operation should be to implement a response option that has a low potential for incurring additional environmental impacts to the affected area as a result of the cleanup activities. This guidance document is designed to facilitate the development of a soil sampling and analysis plan during an emergency spill response situation. This document provides verbiage that may be cut and paste into the actual Soil Sampling and Analysis Plan document as well as guidance for the evaluation of the scene and determination of appropriate sample collection locations and analyte parameters. The sampling plan will be coordinated by the Environmental Unit for use in affected areas.

The objective of a soil sampling and analysis plan is to initially evaluate the nature and extent of the soil affected from an oil or hazardous material spill as well as establishing a baseline for cleanup. Subsequent sampling events may be needed to monitor cleanup efforts and/or further delineate the spill footprint.

4.6.7.2 General Site Conditions

A general overview of the site, the spill event, and the sampling event should be provided in the plan as well as a map depicting the spill foot-print and sample collection locations. A rationale for choosing each sample location and the parameters to be analyzed should be presented. The parameters to be analyzed will change from incident to incident depending upon the spilled material and the type of matrix affected (soil, water, sediment, and groundwater). For oil related materials, TPH-D, TPH-G, BTEX, volatile organics and semi-volatile organics may be analyzed. For hazardous materials, Toxicity Concentration Leachate Potential (TCLP) should be analyzed as well as any other parameters thought to be present, such as pesticides, herbicides, polychlorinated biphenyls, etc.

4.6.7.3 Sampling Equipment

All equipment needed to complete the sampling event should be listed in this section, including decontamination equipment if necessary. Typical sampling equipment for a soil sampling event could include stainless steel spoons, hand trowels, augers, slam-bars, glass or plastic containers, aluminum foil containers for compositing, preservatives (normally provided by the laboratory), buckets, brushes, de-ionized water, etc. Personal Protection Equipment (PPE) should also be listed in the section. Various items of PPE include powder-free latex gloves, Tyvek, duck tape, and breathing protection, if necessary.

4.6 Waste Management Plan (Cont'd)

4.6.7 Soiling Sampling and Analysis Plan Guidance (Cont'd)

4.6.7.4 Surface Soil Sample Collection Method

Exact soil sampling locations will be determined in the field based on accessibility, visible signs of potential contamination, and topographic features which may indicate location of contamination. Locations will be recorded in the field logbook as sampling is completed. A sketch of the sample location will also be entered into the logbook.

Surface soil samples will be collected as either composite or grab (independent, discrete samples) samples from a depth of zero to the depth necessary to delineate the vertical profile of the contamination. Sample containers will be filled to the top, taking care to prevent soil from remaining in the lid threads prior to being closed to prevent potential contaminant migration to other sample containers. Each sample container is labeled with the date and time of sample collection, parameter to be analyzed, sample identification, and initials of the sample collector.

If only one stainless steel spoon or auger is being used to collect all samples, the sample collection equipment must be decontaminated after the sample is collected from each location. The equipment can be decontaminated by pouring de-ionized water over the equipment and into a bucket. A scrub brush is used to remove any soil, contamination, rocks, or other material from the equipment.

4.6.7.5 Safety and Health Plan

A brief summary of any safety and health issue present at the site should be discussed as well as any measures needed to protect personnel during the sample collection event. Proper PPE, air monitoring, physical (*i.e.* slips, trips, falls), and biological (*i.e.* poisonous snakes, poison ivy, biting insects) threats should be clearly described in this section.

4.6 Waste Management Plan (Cont'd)

4.6.7 Soiling Sampling and Analysis Plan Guidance (Cont'd)

4.6.7.6 Sample Analysis Table

The Sample Analysis Table is the official sample collection log for the sampling event.

The table contains the following information and can be paired down to meet the needs of any size spill event:	
Date	Record the date the sample was collected.
Time	Record the time the sample was collected.
Sample Identification	Record a unique identification name or number for each sample location.
Sample Location	Record a description of the location the sample was collected from.
Sample Depth	For vertical delineation of the spill foot-print, record the depth range the sample was collected from.
Parameter	Record the analytical parameter the sample will be analyzed for.
Container Types	Record the type of container needed for the parameter being analyzed, such as clear glass, amber glass, plastic, etc. The laboratory should supply all containers needed for the sampling event.
Sample Volumes	Record the volume needed for the parameter, such as 4-oz, 8-oz, 32-oz, etc. The sample volume needed should be supplied by the laboratory.
Preservatives	Record the preservative needed for the parameter. This should be supplied by the laboratory in each sample container and labeled on the sample container.
Holding Times	Each parameter has a unique holding time ranging from 6 hours to 28 days. The laboratory can provide this information.
Quality Control Samples	These types of samples include blanks, duplicates, splits, laboratory Quality Control (QC) samples, rinsates, etc. and are used either at the request of the laboratory or required by the regulations governing the type of material spilled and the matrix (soil, water, sediment, groundwater) affected. The laboratory should provide information regarding the number and type of QC Samples.
Turn-around-time	Record the turn-around-time for the analytical results required from laboratory.
Laboratory	Record the laboratory that will be used to analyze the samples.

Marathon Oil Company Soil Sampling and Analysis Plan [NAME OF INCIDENT]

General Information	
Date:	Time of Spill:
Material Spilled:	
Quantity Spilled:	
Estimated Area Impacted:	
Weather: Sun / Clouds / Fog / Rain / Snow / Windy	
Temperature:	
Segment/Portion of Site Evaluated:	
Sampling Plan	
Number of Sample Locations	
Parameters to be analyzed	
Rationale for locations and parameters	
Equipment	
Collection Method	
Safety and Health Plan	

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance

4.6.8.1 Introduction

The goal of any cleanup operation should be to implement a response option that has a low potential for incurring additional environmental impacts to the affected area as a result of the cleanup activities. This guidance document is designed to facilitate the development of a water and product sampling and analysis plan during an emergency spill response situation. This document provides verbiage that may be cut and paste into the actual Water and Product Sampling and Analysis Plan document as well as guidance for the evaluation of the scene and determination of appropriate sample collection locations and analyte parameters.

The objective of a water and product sampling and analysis plan is to establish a standard protocol for collecting water samples for the purpose of gaining a complete understanding of the extent of the release. To accurately ascertain the full extent of a release a product sample must be obtained for comparison to field samples taken. "Finger printing" is a term used by responders to accurately refer to this product sampling.

4.6.8.2 General Site Conditions

A general overview of the site, the spill event, and the sampling event should be provided in the plan as well as a map depicting the spill foot-print, sample collection locations, groundwater flow arrow (if appropriate), buildings or structures on site, etc.. A rationale for choosing each sample location and the parameters to be analyzed should be presented. The parameters to be analyzed will change from incident to incident depending upon the spilled material and the type of matrix affected (soil, water, sediment, groundwater). For oil related materials, TPH-D, TPH-G, BTEX, volatile organics and semi-volatile organics may be analyzed. For hazardous materials, Toxicity Concentration Leachate Potential (TCLP) should be analyzed as well as any other parameters thought to be present, such as pesticides, herbicides, polychlorinated biphenyls, etc.

4.6.8.3 Sampling Equipment

All equipment needed to complete the sampling event should be listed in this section, including decontamination equipment if necessary. Typical sampling equipment for a water and product sampling event could include bailers, peristaltic pumps, stainless steel buckets, specialized sampling equipment (Kemmerer), glass or plastic containers, preservatives (normally provided by the laboratory), brushes, de-ionized water, etc. Personal Protection Equipment (PPE) should also be listed in the section. Various items of PPE include powder-free latex gloves, Tyvec, duck tape, and breathing protection, if necessary.

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance (Cont'd)

4.6.8.4 Product Sample Collection Method

At the earliest time possible, a sample of the product that was released should be collected. This sample should be taken “upstream” of the release point (*i.e.*, from the leaking tanker or pipeline) to obtain as pure a sample of the released product as possible. The product sample will commonly be referred to as the “finger print”. Aptly named, this product sample will be the key to identifying the released material. It is possible that a natural catastrophe could cause the spontaneous release of multiple transport vessels (tanks, pipelines, ships, tankers, etc.). The unique qualities of the “finger print” sample will be the differentiator. Understanding the unique characteristics of this product will ensure that in a multiple spill scenario, involving multiple companies, each company is linked to their product, and thus, solely responsible for their product’s impacts upon release.

4.6.8.5 Surface Water Sample Collection Method

Exact sampling locations will be determined in the field based on accessibility, visible signs of potential contamination, and topographic features which may indicate location of contamination. Locations will be recorded in the field logbook as sampling is completed. A sketch of the sample location will also be entered into the logbook. Visual observations of the sampling locations will be made prior to sampling and any visual signs of sheen or other contaminants will be recorded.

Surface water samples will be collected as either grab, time composite, or spatial composite samples. Grab samples are taken at one time from one location, preferably from a flowing water body, approximately six to 12 inches below the water surface. If it is required to take samples from certain depths, special sampling equipment (*e.g.*, Kemmerer) may be used. Time composite samples are collected over a period of time, typically by a flow- and time-proportional automatic sampler. The sample must be held at approximately 4°C for the duration of the sampling event. Spatial composite samples are collected from different locations in the water body and combined in equal amounts. Each sample container is labeled with the date and time of sample collection, parameter to be analyzed, sample identification, and initials of the sample collector.

If a stainless steel bucket or a bottle holder is being used to collect samples, the sample collection equipment must be decontaminated after the sample is collected from each location. The equipment can be decontaminated by pouring de-ionized water over the equipment and into a bucket. A scrub brush is used to remove any soil, contamination, rocks, or other material from the equipment.

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance (Cont'd)

4.6.6.6 Groundwater Sample Collection Method

Any meters to be used in the field will be calibrated prior to the sampling effort and at least once during each day that the equipment is used in the field.

All wells will be purged prior to sampling in order to obtain a truly representative sample. If well heads are accessible, all wells will be sounded for depth to water from the top of casing and total well depth prior to purging. Water level sounding equipment will be decontaminated before and after each use in each well. Water levels will be measured from the well expected to be least contaminated to the well expected to be most contaminated on the site. If the well casing volume can be calculated from the field measurements, a minimum of three casing volumes of water will be purged prior to sampling. If the well casing volume is not known, the water will be purged from the well until field readings for temperature, pH, and specific conductance stabilize.

Water quality is considered stable if for three consecutive readings:

✓	Temperature range is no more than +/- 1°C
✓	pH varies by no more than 0.2 standard units, and
✓	Specific conductance readings are within 10% of the average

4.6.6.7 Municipal Drinking Water Sample Collection Method

Sampling will be conducted upstream and downstream of the intake. Visual observations of the sampling locations will be made prior to sampling, and any visual signs of sheen or other contaminants will be recorded.

4.6.6.8 Safety and Health Plan

A brief summary of any safety and health issue present at the site should be discussed as well as any measures needed to protect personnel during the sample collection event. Proper PPE, air monitoring, physical (*i.e.* slips, trips, falls), and biological (*i.e.* poisonous snakes, poison ivy, biting insects) threats should be clearly described in this section.

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance (Cont'd)

4.6.6.9 Sample Analysis Table

The Sample Analysis Table is the official sample collection log for the sampling event.

The table contains the following information and can be paired down to meet the needs of any size spill event:	
Date	Record the date the sample was collected.
Time	Record the time the sample was collected.
Sample Identification	Record a unique identification name or number for each sample location.
Sample Location	Record a description of the location the sample was collected from.
Sample Depth	For vertical delineation of the spill foot-print, record the depth range the sample was collected from.
Parameter	Record the analytical parameter the sample will be analyzed for.
Container Types	Record the type of container needed for the parameter being analyzed, such as clear glass, amber glass, plastic, etc. The laboratory should supply all containers needed for the sampling event.
Sample Volumes	Record the volume needed for the parameter, such as 4-oz, 8-oz, 32-oz, etc. The sample volume needed should be supplied by the laboratory.
Preservatives	Record the preservative needed for the parameter. This should be supplied by the laboratory in each sample container and labeled on the sample container.
Holding Times	Each parameter has a unique holding time ranging from 6 hours to 28 days. The laboratory can provide this information.
Quality Control Samples	These types of samples include blanks, duplicates, splits, laboratory Quality Control (QC) samples, rinsates, etc. and are used either at the request of the laboratory or required by the regulations governing the type of material spilled and the matrix (soil, water, sediment, groundwater) affected. The laboratory should provide information regarding the number and type of QC Samples.
Turn-around-time	Record the turn-around-time for the analytical results required from laboratory.
Laboratory	Record the laboratory that will be used to analyze the samples.

General Information	
Date:	Time of Spill:
Material Spilled:	
Quantity Spilled:	
Estimated Area Impacted:	
Weather:	Sun / Clouds / Fog / Rain / Snow / Windy
Temperature:	
Segment/Portion of Site Evaluated:	
Sampling Plan	
Finger Printing Sampling	
	Probable location of release (lat/long):
	Type of vessel (tank, pipeline, barge):
	"Upstream" sampling possible?
	Analyses to be performed:
Number of Sample Locations	
Parameters to be analyzed	
Rationale for locations and parameters	
Equipment	
Collection Method	

[illegible]

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance (Cont'd)

Figure 4.13 – Water Location / Sampling Plan

DATE _____
Valid until _____

Surface Water Sampling Locations:

- 1.
- 2.
- 3.
- 4.
- 5.

Surface Water Sampling Requirements:

Surface Water will be sampled for Volatile Compounds and Oil & Grease, three (3) times per week, beginning _____.

Water Treatment Plant Sampling: if applicable

_____ Water Treatment Plant, intake and upstream and downstream of intake, two (2) times per week, beginning _____.

Water Treatment Plant Sampling Requirements:

Water Treatment Plant samples will continue to be analyzed for current parameters, BTEX and PNA's.

Ground Water Sampling Locations:

- 1.
- 2.
- 3.
- 4.
- 5.

Ground Water Sampling Requirements:

Ground Water will continue to be analyzed for current parameters, BTEX and PNA's.

Ground Water locations will be sampled one (1) time per week and/or every other day after a rain event (until the data indicates that reduced sampling frequency can be safely resumed), beginning _____.

Additional Sampling Locations:

- 1.
- 2.
- 3.
- 4.
- 5.

4.6 Waste Management Plan (Cont'd)

4.6.8 Water and Product Sampling and Analysis Plan Guidance (Cont'd)

Figure 4.13 Water Location / Sampling Plan (Cont'd)

Additional Sampling Requirements:

_____ will be observed two (2) times per week to observe the presence and/or absence of free phase hydrocarbons.

Upon completion of free phase hydrocarbon recovery, _____ will be sampled two (2) times per week until further notice.

Samples will be analyzed for Volatile Compounds, Semi-Volatile Compounds and Oil & Grease, until further notice.

Requested Sampling Locations:

Sampling Locations will be determined on an as need basis.

Requested Sampling Requirements:

Sampling Requirements will be determined on an as need basis.

Marathon

State Agency

Federal Agency

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan

RECOVERED OIL AND WATER MANAGEMENT PLAN

RESPONSIBLE PARTY

Incident Name: _____

Responsible Party: _____

Spilled Material: _____

Spill Volume (estimate): _____

Spill Location: _____

Spill Date / Time: _____

Report Update Time: _____

Submitted By: _____

Submitted By: _____

I. FOSC: _____

II. SOSC: _____

III. RPOSC: _____

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

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2.0 OILY WATER

2.1 Oily Water Decanting

3.0 DISPOSAL OF RECOVERED OIL AND OILY WATER

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Table R-1 Recovered Oil Summary

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

1.0 RECOVERED OIL

Oil, oil and seawater, and oil and freshwater mixtures will be collected from the spill area using oil recovery equipment deployed by the Oil Spill Response Organization (OSRO) and/or a vacuum truck supplied by another response contractor. Recovered oil and water mixtures will be immediately transported to designated waste staging areas to bulk storage fractionation tanks (frac tanks) used in the spill response operations. **Tank gauging must be conducted at that time to document the volumes of oil and water recovered.**

Proper tank, drum and container gauging is a critical component of all response actions. **Third party certified gauging contractors must be mobilized so that accurate documentation of recovered oil and oil/water volumes can be achieved.** No recovered oil, oil/water mixtures can be discharged or disposed of prior to gauging and volume inventory is complete.

Once oil has been transferred to the frac tanks and allowed to settle, as much liquid oil as possible will be separated. Potential management methods for recovered liquid hydrocarbons include: re-injection or recycling into a crude or bunker fuel process stream, oil reclamation, and/or recycling at other oil industry facilities. The volume and the presence or absence of other potential contaminants in the oil must be determined prior to recycling.

Crude oil recovered early in the clean-up operation will be the easiest to process. Injection of recovered crude into a product stream after a spill will be a preferred option.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

OILY WATER

Oily water recovered as part of the cleanup process will be managed by one of the following methods:

✓	Reclaimed along with entrained oil by a third party oil reclaimer retained by the company
✓	Injected into a Responsible Party refinery wastewater or water treatment plant, if available
✓	Injected into a nearby publicly-owned treatment works (POTW) wastewater influent stream (local, state, or federal approval required), or
✓	Treated on-site in a portable, temporary wastewater treatment system in accordance to applicable surface-water quality standards and discharged (state/federal permit approval required). Where possible, oily-freshwater and oily-salt (ocean) water should be segregated since the salinity of ocean water limits its treatability.

2.1 Oily Water Decanting

Decanting of water from oily mixtures is a common procedure used during a spill response incident. Decanting is the process of draining off recovered water from portable tanks, barges, collection wells, or other storage containers to increase the available storage capacity of recovered oil.

During a response, it may become necessary for the Responsible Party to request the federal and/or state on-scene coordinator (OSC) authority to decant water while recovering oil so that response operations do not cease or become impaired. Authorization from the federal on-scene coordinator (FOSC) is required in all cases; authorization from the state on-scene coordinator (SOSC) is required for decanting activities in state waters. Expeditious review and approval, as appropriate, of such requests is necessary to ensure rapid and efficient recovery operation. The request, decision and permission to decant **must** be documented.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

The following criteria should be considered when determining whether decanting is applicable, unless circumstances dictate otherwise:

✓	All decanting should be done in a designated response area within a collection area, collection well, recovery belt, weir area, or directly in front of a recovery system.
✓	Vessels employing sweep booms with recovery pumps in the apex of the boom should decant forward of the recovery pump.
✓	All vessels, motor vehicles and other equipment not equipped with an oil/water separator should allow retention time for oil held in internal or portable tanks and should transfer. Oil/water mixtures to a vessel or on-shore equipment with approved oil-water separation technology. Unequipped vessels should not decant oil-water mixtures.
✓	Visual monitoring of the decanting area shall be maintained at all times so that discharge of oil in the decanted water is detected promptly.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

DISPOSAL OF RECOVERED OIL AND OILY WATER

RECOVERED OIL QUANTIFICATION PLAN

Incident Name: _____

Date: _____

Submitted By:

Approved By:

FOSC: _____

SOSC: _____

RPOSC: _____

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

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1.0 ESTIMATION METHODS FOR QUANTIFICATION OF RECOVERED OIL

- 1.1 Oiled Media Sampling
- 1.2 Estimates of Recovered Oil and Oily Water
- 1.3 Estimates of Recovered Oil from Booms/Swipes/Absorbents and PPE
- 1.4 Estimates of Recovered Oil from Decontamination Water
- 1.5 Estimates of Recovered Oil from Contaminated Soil
- 1.6 Compilation of Recovered Oil Estimates and Reporting

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

ESTIMATION METHODS FOR QUANTIFICATION OF RECOVERED OIL

The amount of spilled oil recovered during cleanup operations must be estimated. The amount of free oil, oily water, oil recovered from absorbents and decontamination water, and oil trapped in contaminated soil will be estimated separately. Materials identified as contributing to the total recovered hydrocarbons include, but are not limited to, oil collected in skimming tanks, oil from decontamination procedures, recovered oil tar balls, oily absorbents, oily debris, and oiled personal protective equipment (PPE) such as gloves and coveralls. **Table R-1** should be used to document the total amount of oil recovered in a given spill response.

Oiled Media Sampling

All samples for analysis of chemical concentrations or calculation of oil must be collected according to established sampling protocols and sent for analysis using chain of custody forms. Upon request, the responsible party will provide a copy of the material safety data sheet (MSDS) for the hydrocarbon product released for all sampling exercises. Proper PPE, Level D minimum, will be used at all times during sampling. Sampling guidelines are presented in a separate document entitled *The Spill Response Sampling Plan*.

Estimates of Recovered Oil and Oily Water

During spill activities, a qualified third party contractor will be retained to record the data needed to estimate total oil recovery. Oil-containing media generated and estimates of the amount of recovered oil include free liquids recovered from surface waters (oil and water mixture) and oily water. Various containers may be used to collect and store recovered oily water containing recovered liquid hydrocarbons.

Free liquids will be measured according to the following procedure:

✓	Liquid will be removed from the water by pumping into portable tanks, fractionation or other storage tanks on-shore.
✓	The liquids will be allowed to sit for a minimum of 30 minutes to three hours to allow separation into the two fractions (water and oil).
✓	The still liquid will be gauged to determine the total depth of liquid, the thickness of the water layer, and the thickness of the oil layer. Gauging will be done with a ruler or tape measure and water finding paste or similar product. Measurements will be made to the nearest quarter inch. Where possible in clean oil/water interfaces, API tank gauging methods (e.g., a reel and water paste) will be used in conjunction with engineering data such (e.g., strapping tables) to determine the oil levels and volumes in the container. When practical, multiple tank gauges will be conducted, with the results averaged for final calculations. For pure water or oil/water emulsions, multiple samples will be taken and analyzed for total petroleum hydrocarbon content. The averaged analytical results, coupled with engineering data, will be used to determine the oil content of the liquid.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

Free liquids will be measured according to the following procedure (Cont'd)

✓	Using the height of each layer of liquid and the surface area of the frac tank, the volume of each liquid will be calculated using the formula: 1 cu. ft. = 7.48 gal. Calculated values will be reported on the summary.
✓	After measurement and unified command approval, the recovered oil/water will be managed in accordance with the methods selected for the spill event, typically to an approved reclaimer/recycler.

A qualified contractor will collect a representative sample from each hold or container of recovered oil according to established sampling protocol for each vessel arriving at the facility intending to offload recovered spill material. Each sample will be submitted for a bottom sediment and water (BS&W) analysis. From the result, subtract percent solids and water to yield the total estimated percent oil.

Equation 1

$$(\% \text{ oil from BS\&W}) (\text{hold/container volume in gallons}) = \text{oil volume (gallons)}$$

This information should be included in **Table R-1**. At hour 33 after the spill occurs, a qualified contractor will initiate collecting representative samples from all containers in the field until hour 36, in accordance with established sampling protocol. At hour 36, all sampling ends and all collected samples will be submitted for BS&W analysis as per above paragraph. This process is repeated for longer spill requiring longer response periods.

Estimates of Recovered Oil from Booms/Swipes/Absorbents and PPE

The oil in booms, swipes and absorbents may be estimated separately from the oily debris and PPE. All oily material is typically collected and placed into heavy-duty garbage bags. The garbage bags are then placed into a lined container, such as a roll off container, for transport to a waste handling and processing facility. It is assumed that the bags of oily material will not have any free liquid, as characterized by the type of spilled oil.

Manufacturers' estimates for the amount of oil on swipes/absorbents can be determined by assuming half the recovered absorbents' weight may be attributed to oil loading. The oiled booms/swipes/absorbents need to be weighed. Calculation can then be made as follows to calculate the volume of the oil in gallons:

Equation 2

$$(\text{absorbent weight in lbs}) (50 \%) (0.018 \text{ ft}^3/\text{lb oil}) (7.48 \text{ gal/ft}^3) = \text{oil volume (gallons)}$$

Oil collected from sorbent pads will be estimated by multiplying the known absorbency of the pads (gallons per pad) by the number of pads. Since the sorbent pads have, on average, been saturated to approximately 50 percent, this value will be divided by two.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

Equation 3

(pad absorbency in gallons) (# of pads) (50%) = oil volume (gallons)

The procedure for determining the amount of liquid hydrocarbons on oily material will be as follows:

✓	Visually check all garbage bags to make a determination of the contents.
✓	Sort the garbage bags by waste type (tar balls, absorbent pads, etc.), as determined by the majority of the contents of the garbage bag into separate roll-off containers.
✓	For each waste type, use the following guidelines for collecting a representative sample: <ul style="list-style-type: none"> • Mark off a 4-foot square grid pattern in each roll-off. • Within each grid, collect a grab sample from a garbage bag at three different layers (top, middle, and bottom). • Combine the individual grid samples into one composite sample. • Collect three 16-ounce samples from the composite sample. Submit one for analysis and keep two for retains.
✓	Analyze each sample for total hydrocarbon content using a third party analytical laboratory facility. The samples will be analyzed for total petroleum hydrocarbons (TPH) using the specific method the state regulatory agency recommends to characterize TPH.
✓	For each waste type, weigh the garbage bags of oily material to obtain a gross weight.
✓	Determine the actual weight of the recovered oil in the material by multiplying the weight of the oily material by the hydrocarbon content result of the composite sample. Determine the oil volume by dividing the actual weight by the specific gravity of the spilled oil. The information should be included in Table R-1 .

Equation 4

$$\begin{aligned}
 & \text{(weight of recovered oily material [in kg])} \times \\
 & \quad \times \\
 & \text{(TPH concentration [mg/kg])} \times \text{(0.0022lb/kg)} \\
 & \text{(specific gravity of petroleum material spill)} \quad = \text{gallons of oil}
 \end{aligned}$$

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

Estimates of Recovered Oil from Decontamination Water

Decontamination water will be collected on-site and the total volume will be recorded. The amount of liquid in each container will be determined by using engineering data available on the container such as strapping tables or construction drawings, by actual field measurements, or by weighing the containers. Representative composite samples of the wash water should be collected and analyzed for total petroleum hydrocarbons (TPH) using the specific method the state regulatory agency recommends to characterize TPH. The amount of recovered oil contained in the decontamination water will be estimated by using the average total petroleum hydrocarbon (as measured by Environmental Protection Agency [EPA] Method 418.1) analytical results from analysis of representative composite samples collected. The estimate of oil recovered in decontamination waters will not account for variables such as evaporation or operational losses. The average TPH will be converted into total gallons of oil by the following equation:

Equation 5

$$(\text{TPH mg/L}) \times (\text{decon volume gal}) \times (1 \times 10^{-6} \text{ kg/mg}) \times (8.34 \text{ lbs/gal}) \times (0.018 \text{ ft}_\text{lb} \text{ oil}) \times (7.48 \text{ gal/ft}_\text{lb}) = \text{total gallons of oil recovered}$$

Estimates of Recovered Oil from Contaminated Soil

Stockpiled contaminated soil will be cross-sectioned by on-site survey personnel and the total volume in cubic yards will be recorded. Representative samples of the stockpiled soil should be collected and analyzed for TPH. The amount of recovered oil contained in contaminated soil will be estimated by using the average TPH analytical results. The estimate of oil recovered in soil will not account for variables such as soil moisture or losses due to volatilization so the estimate will be conservative. The average TPH will be converted into gallons of oil by the following equation:

Equation 6

$$(\text{TPH mg/kg}) \times (\text{Volume}) \times (1 - \text{COARSE}) \times (1 \times 10^{-6} \text{ kg/mg}) \times (125 \text{ lbs/ft}_\text{lb} \text{ soil}) \times (27 \text{ ft}_\text{yd}^3) \times (0.018 \text{ ft}_\text{lb} \text{ oil}) \times (7.48 \text{ gal/ft}_\text{lb}^3) = \text{gallons of oil}$$

Where:

TPH = Unweighted mean of TPH results (including duplicate) to date in mg/kg

Volume = Volume of recovered contaminated soil in yd₃

COARSE = Discount for coarse material >2 inches (default estimated at 20% or 0.2 for the formula)

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

Compilation of Recovered Oil Estimates and Reporting

The total estimated amount of liquid oil recovered, oil recovered in contaminated soil and in sorbent pads/booms, and oil recovered with decontamination water will be combined into an overall oil recovery estimate. This estimate will be calculated and/or measured from recovered oil skimmings and recovered oily materials. The estimate of oil recovered is not an estimate of spill size. An estimate of spill size will not be possible until the complete extent of surface and/or subsurface contamination has been determined at a later date.

A report must be prepared containing all calculations of the total oil recovered, including free liquid and oil contained in contaminated soils. **Table R-1**, completed with pertinent information from this spill, should be included in the report. The report will contain estimated volume of contaminated soil recovered, conversion factors for estimating the amount of oil in the contaminated soil, estimated volume of oil recovered in sorbent pads, and total estimate of total oil recovered.

4.6 Waste Management Plan (Cont'd)

4.6.9 Recovered Oil and Water Management Plan (Cont'd)

Oil Spill Request for Decanting Authorization

ATTACHMENT R-1

OIL SPILL REQUEST FOR DECANTING AUTHORIZATION

Responsible Party (RP): _____

Date: _____

The RP hereby requests permission to decant free water from its on-water storage systems. The free water collected during skimming operations will be decanted back into a contaminated area (i.e., into containment boom).

The following information is provided for your consideration: RP:

Name of Oil Spill: _____

Location of Spill (latitude/longitude): _____

Vessel Names: _____

Product: _____

Skimming Platforms: _____

Weather: _____

Tides: _____

0 Approved 0 Disapproved

RP Representative Signature: _____

Dates Approval Effective: _____

Conditions (circle numbers that apply):

1. All decanting should be done in a designated response area within a collection area, vessel collection well, recovery belt, or weir area, or directly in front of a recovery system.
2. Visual monitoring of the decanting shall be maintained at all times so that discharge of oil in the decanted water is detected promptly.
3. Decanting in areas where vacuum trucks, portable tanks, or other collection systems are used for shore cleanup will be subject to the same rules as vessels.
4. Additional site-specific conditions (continue on reverse side if necessary).

FOSC

SOSC

4.7 Disposal Plan

See Appendix I of this Plan: Waste Management and Disposal Plan

4.8 Containment and Drainage Planning

A plan to contain and control a discharge through drainage may minimize the threat of harm to human health and the environment.

This section shall describe how to contain and control a discharge through drainage, including

✓	The available volume of containment (use the information presented in the Hazard Identification section of the response plan)
✓	The route of drainage from oil storage and transfer areas
✓	The construction materials used in the drainage troughs
✓	The type and number of valves and separators used in the drainage system
✓	Sump pump capacities
✓	The containment capacity of weirs and booms that might be used and their location (see the facilities list of emergency response equipment)
✓	Other clean up materials

Note: The general permit for storm water drainage may contain additional requirements.

Secondary Containment for Facility bulk oil and other chemical storage containers are designed as follows:

4.8.1 Facility Berm/Dike

An earthen Site Berm, where required, is designed to surround the entire Facility and is constructed during Facility site construction. The Site Berm functions as secondary and/or tertiary containment for all oil storage at the facility. The Site Berm also functions as secondary and/or tertiary containment for other chemicals regardless of where they are stored at the Facility. A diagram of the Site Berm and the Facility layout are shown in the SPCC plans, which are available upon request at the area office. The Site Berm has the capacity to hold the contents of the largest oil or chemical storage tank at the Facility. Capacity calculations for the Site Berm are located in the SPCC plans.

Bulk oil storage containers typically have additional secondary containment beyond the Facility Site Berm. The Company supplies additional secondary containment based on internal procedures and protocols as deemed necessary. It is the Company's intent to exceed the spill prevention requirements as required by 40 CFR 112 where possible.

Bulk chemical storage containers typically have additional secondary containment in which case the Site Berm will act as tertiary containment. Where additional containment is impractical or uninstalled, the Site berm will sever as secondary containment.

All personnel have been trained in proper equipment operation and procedures which will reduce the likely of discharge during transfer operations. In the event of a discharge or spill resulting from the loading or unloading of oil or other chemicals at the Facility, the Site Berm also serves as secondary containment.

Bulk storage containers, including portable and/or mobile and 55 gallon drums, are situated such that secondary containment is provided by a perimeter earthen berm/dike surrounding the entire Facility.

4.8 Containment and Drainage Planning (Cont'd)

4.8.1 Facility Berm/Dike (Cont'd)

Drilling and workover equipment are situated such that secondary containment is provided by Site Berm. The Site Berm has sufficient retention capacity to contain any discharge which could result from drilling or workover operations.

The Site Berm and any additional earthen berms/dikes are constructed using locally available soils capable of maintaining a discharge within the boundaries of the Facility subsequent to timely detection. Following good engineering practices, compaction is completed on the Site Berm and all additional earthen berm/dikes at the Facility prior to use as secondary containment. The Site Berm and additional Earthen berms/dikes are constructed with slopes no greater than 2:1 and are of sufficient thickness to maintain a discharge within the boundaries of the Facility subsequent to timely detection. The Site Berm and all other berm walls are maintained at the appropriate height and in good condition to ensure adequate retention capacity and effectiveness.

The Site Berm is constructed to provide secondary containment to the entire Facility and with sufficient capacity to contain at least 110% of the capacity for the largest tank stored on site while leaving sufficient room for freeboard

4.8.2 Redundant Secondary Containment

The company is committed to the prevention of spills and therefore has committed to secondary containment for all oil storage tanks beyond the Site Berm. The Company realizes the Site Berm is adequate secondary containment under 40 CFR 112, However to further reduce liability associated with cleanup costs the Company is requiring a container specific secondary containment for oil storage on site.

The specific type and containment capacity of the additional secondary containment will be recorded in the SPCC plans. Additional secondary containment may be constructed of a variety of materials including but not limited to caliche-lined earthen berms/dikes, corrugated metal with caliche-lined floors, commercial rising barriers, steel barriers or synthetic liners. Additional secondary containment structures for individual or groups of bulk storage tanks may be installed at the Facility as deemed prudent by Company personnel or subcontractors.

As phases and equipment change at the Facility, the SPCC plans will be updated. The specific size and type of additional secondary containment for each Facility tank is included in the SPCC plans.

Due to the Facility Site Berm, additional secondary containment structures are redundant and would result in the Site Berm becoming tertiary containment.

4.8 Containment and Drainage Planning (Cont'd)

4.8.3 Areas without Secondary Containment

The facility site berm provides secondary containment to all areas where bulk storage tanks, including portable and/or mobile and 55 gallon drums, are stored at the facility. No bulk storage will be located outside of the facility's site berm and therefore no areas exist at the facility without secondary containment.

4.8.4 Drainage from Berm/Diked Areas

Drainage of stormwater or other liquids accumulated within the Facility's Site Berm and other bermed/diked storage area(s) is controlled as follows:

✓	The preferred method of removal of accumulated stormwater is by natural dissipation providing that the accumulation does not damage the equipment or structures or inhibit operations conducted within the containment area.
✓	If necessary, stormwater that does accumulate within the Site Berm or bermed/diked areas, and does not dissipate naturally, is removed using a vacuum truck.
✓	Stormwater that does accumulate within the Site Berm or other bermed/diked areas is inspected prior to drainage.
✓	Flapper type drain valves will not be used to drain the Site Berm or other bermed/diked areas.
✓	The Site Berm and other berms/dikes are not equipped with drain valves or pumps.
✓	Any hydrocarbon discharges will be removed by vacuum truck or other appropriate means.

4.8.5 Drainage from Unbermed/Undiked Areas

The Facility's Site Berm provides secondary containment to all of the Facility's operations which includes the oil and chemical bulk storage tanks stored on site. There are no unbermed/undiked areas that could be reasonably expected to receive spills or discharges from fluids stored at the Facility.

4.9 Incident Security Plan

INCIDENT SECURITY PLAN (Complete form for each location requiring security)			
Incident Name:		Date:	
Incident Location:			
Prepared By:		Position:	Date:
Indicate Type of Incident Facility or Area:			
Command Post <input type="checkbox"/>		Offshore Zone <input type="checkbox"/>	
Joint Information Center <input type="checkbox"/>		Onshore Work Site <input type="checkbox"/>	
Media Briefing Room <input type="checkbox"/>		Other <input type="checkbox"/> _____	
Staging Area <input type="checkbox"/>			
Incident Facility Location			
Hours Security Required at this Location:		Daylight	Night
24 hours			
Security Forces at this Location:			
Private <input type="checkbox"/>		Local Agency <input type="checkbox"/>	State Agency <input type="checkbox"/>
Federal Agency <input type="checkbox"/>			
Description:			
Off-Site Traffic Control Required:		Yes <input type="checkbox"/>	
		No <input type="checkbox"/>	
If Yes, Describe:			
Site Access Controlled By:			
Personnel <input type="checkbox"/>		Barricades <input type="checkbox"/>	Gates <input type="checkbox"/>
			Other <input type="checkbox"/>
Describe:			

4.9 Incident Security Plan (Cont'd)

INCIDENT SECURITY PLAN, CONTINUED (Complete form for each location requiring security)			
Site Access Granted By:			
Check-in List <input type="checkbox"/>	Badges	ID Card <input type="checkbox"/>	Other <input type="checkbox"/>
Describe:			
<input type="checkbox"/>			
Equipment Safe-Guarded By:			
Personnel <input type="checkbox"/>	Locked Storage <input type="checkbox"/>	24 hr Manned Site <input type="checkbox"/>	Other <input type="checkbox"/>
Describe:			
Describe USCG, FAA or other Agency Implemented Safety or Security Zones:			
Additional Comments:			
Security Issue Notifications:			
Site Security Manager:		Phone Number:	
Local Law Enforcement:		Phone Number:	
State Law Enforcement:		Phone Number:	
Federal Law Enforcement:		Phone Number:	
Incident Security Officer:		Phone Number:	

4.10 Wildlife Protection and Rehabilitation

4.10.1 Introduction

This Wildlife Recovery and Rehabilitation Plan (Wildlife Plan) has been developed for use in the event of an oil spill. The objectives of the Wildlife Plan are to minimize impact to sensitive wildlife species that may become oiled or otherwise be harmed by the release and to arrange for the capture and transport of oiled wildlife to a wildlife rehabilitation center. This plan provides guidance for the treatment of oiled wildlife to reduce the toxic effects of the oil, assistance in the recovery of oiled wildlife, and the return of recovered wildlife to the wild.

4.10.2 Establishment of Rehabilitation Center

A wildlife rehabilitation center (RHC) will be established under the guidance of the U.S. Fish and Wildlife Service (USFWS) and the state trustee for wildlife. This RHC will be equipped to receive and stabilize animals; wash, rinse and dry oiled wildlife; rehabilitate cleaned animals; and hold animals until they can be released to the wild or other long-term captive environment.

Documentation of rehabilitation operations will be conducted at the RHC, including but not limited to, medical records for each specimen with time and date of arrival; condition at arrival; time and date of cleaning; assessment of degree of oiling; day to day observations; type and quantity of food consumed; and time and date released to the wild.

4.10.3 Wildlife Assessment

Response personnel with species recognition capabilities, knowledge of the general habits of wildlife species expected to be present, and knowledge of how the released material will affect wildlife species should be utilized to identify both the wildlife species and habitats affected by the release. Response personnel should collect global positioning system (GPS) data and digital photographs of any dead or live wildlife sightings.

Impacts to wildlife species to be observed include oiling, stress, death, habitat damage, and food source damage. Observable effects of a release on wildlife to be recorded include behavioral changes, such as lack of flight from human intrusion, leaving water, or lack of food consumption.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.4 Wildlife Management

No live, healthy, dead, injured, or stressed wildlife should be removed or handled without express authority from the trustee agencies, including removal of wildlife for rehabilitation. All wildlife sightings should be reported to the Environmental Unit Leader.

All oiled and unoled dead animals should be reported to Environmental Unit. Recovery crews will be dispatched to handle all animal carcasses and will be overseen by the state and federal wildlife trustee agencies on-scene. Both the state and federal trustee agencies must be notified and participate in all animal collection activities.

All animal carcasses will be bagged and analyzed by the state and federal trustee agencies for cause of death. The state and federal trustee agencies will report daily to the Environmental Unit on the number and species of animal carcasses collected.

No live, oiled animals are to be collected without approval of the state and federal trustee agency. The RHC will provide all necessary safety equipment to the state and federal trustee agencies and other personnel. Only qualified personnel should collect wildlife and no wildlife should be handled with bare hands.

All live, unoled wildlife in the release area should generally be left undisturbed, unless otherwise directed by the Trustee Agency.

Any live, oiled, domestic animal should be taken to a local veterinarian located at a specified location. All claims for evaluation and treatment should be made to the Claims Center. Domestic animals that are unaffected by the release should be safely removed from the release area.

All dead fish should be left in place and reported to the state and federal wildlife trustee agencies.

4.10.5 Facility Requirements

Because facility requirements can vary so significantly, a permanent facility is not always advisable, and may actually be an impediment in providing the appropriate facility design for the situation. A suitable facility must have a large open space on the ground floor that can easily be configured and reconfigured to accommodate the changing needs of this unique form of wildlife rehabilitation. All rehabilitation efforts should be accommodated in connected or adjacent buildings whenever possible. Experience has taught that a tent or other outdoor situation is often inefficient and unsuitable. A warehouse, armory, motor pool or convention hall that is accessible to a trained labor force, is within reasonable distance from hotel accommodations, and has adequate parking and exterior grounds could be a suitable facility. The most appropriate facility should be selected by a Qualified Wildlife Responder (QWR) that is experienced in emergency response work.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

If a wildlife rehabilitation center is situated in a secure site, *e.g.*, military installation or refinery, procedures for allowing entry for a fluctuating volunteer work force must be developed. If the facility is located more than 30 - 45 minute drive from the spill site, on-scene stabilization must be administered prior to transport. An oil spill stabilization site can be located at the time of a spill. The recommended criteria for selecting a facility are listed in this section.

It is recommended that a list be assembled of potential real estate within the identified high risk areas, and the sites be physically reviewed by a representative of the wildlife response group with major spill response experience. Once the actual facilities have been identified, all costs, availability, and contract information should be reviewed every six months.

When selecting a wildlife response facility, it is important that the water supply will not be contaminated by the oil spill. Therefore, for preplanning purposes, potential facility locations should be selected in areas of low spill probability. Due to the nature of wildlife rehabilitation, large amounts of water are used in many locations throughout the facility. It is advisable that the facility should have floors that can tolerate being wet, with drains in at least the areas designated for cleaning activities. Ideally, there should be external access to cold water supplies (*e.g.*, hose faucets on exterior of building) for filling outdoor pools.

Because of the large volume of water needed for a response, disposal of the water is an important consideration in picking a facility for the wildlife response. All oily wastewater must be collected and disposed of in accordance with federal and municipal regulations. Most municipal systems can handle the large quantities of rinse water, pool, and general use water generated during a spill response. However, it is inadvisable to select a location that relies on a septic system to handle waste, since this large volume of water will likely exceed the designed capacity of most septic systems.

A potential facility suitable in terms of size, availability and location should not be discarded due to hot water and hardness capacities. Provided there is an adequate cold water supply, mobile hot water and treatment systems can be retrofitted into existing equipment without much difficulty.

The electrical needs of a wildlife response facility are very similar to conventional factory operations in regards to the need for general and task lighting, with separately circuited outlets throughout the space capable of providing 20 amp protection. Because of potential risk of electric shock in wet areas, the addition of a ground fault interrupter (GFI) circuit breaker in those areas is desirable.

In addition to lighting and Heat Ventilation and Air Conditioning (HVAC) systems, electric power will be used for hot water heaters, freezers, refrigerators, heat lamps, pet dryers, office and medical equipment, pool pumps and filters, power tools, etc.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

One main concern regarding air quality is eliminating thermal stress to debilitated animals by providing a stable, draft free inside air temperature which ranges between 70 and 80°F. Other concerns include minimizing human and animal exposure to petroleum volatiles and minimizing human and animal exposure to pathogenic organisms (bacterial and fungal).

Typical HVAC systems used in industrial space are often forced air or closed re-circulating systems that by themselves will not meet the above requirements. These systems will need to be augmented with portable filtration High-Efficiency Particulate Air (HEPA) filters and air exchange units. The design of the systems should be determined by the QWR once the facility has been selected and the particulars of the animal caseload are known.

Air quality in systems that employ return air filters can be enhanced through the replacement of the existing filters with an electrostatic type. This will not, however, preclude the need for HEPA-type filtration and regular air exchanges as outlined above.

Facility needs focus on the majority of species affected by a petroleum discharge, which historically are avian.

Facility requirements can vary significantly, depending on:

✓	Overall size of the spill and potential wildlife impact
✓	Species and age of wildlife affected
✓	Geographic location
✓	Season/ weather
✓	Type of contaminant(s)

The facility should be designated by a Qualified Wildlife Responder experienced in oil spill response work.

Wildlife response facilities do not need to be located at the spill site; under certain circumstances they can be located several hours away. It is most important that the facility meet the requirements to safely provide medical and rehabilitative care for the animals. In remote areas or locations where an adequate facility cannot be identified near the spill site, temporary stabilization sites might be required to ensure that appropriate emergency care is provided to wildlife prior to transport.

Since large numbers of people and equipment are involved in the wildlife rescue effort, the facility must be one with controlled access, storage capability, parking availability and nearby lodging for workers. Facilities must have adequate space and meet specific heat, ventilation and water requirements (temperature, pressure, volume).

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

Facility Description

Because facility requirements can vary so significantly, a permanent facility is not always advisable and may actually be an impediment in providing the appropriate facility design for the situation. A suitable facility must have a large open space on the ground floor that can easily be configured and reconfigured to accommodate the changing needs of this unique form of wildlife rehabilitation. Experience has taught that multiple buildings or a tent situation are ineffective and unsuitable. A warehouse, armory, motor pool or convention hall that is accessible to a trained labor force is within a reasonable distance from hotel accommodations and has adequate parking and exterior grounds could meet this requirement. If a facility is situated in a secure site (*i.e.*, military installation or refinery), accommodations for a fluctuating volunteer work force must be addressed. The facility may be located up to 3-4 hours from the spill site, provided that on-scene stabilization is administered prior to transportation. An oil spill stabilization site can be located at the time of a spill.

It is recommended that a list be assembled of potential real estate within identified high-risk areas and that the sites be physically reviewed by a representative of a wildlife response

group with major spill response experience. Once actual facilities have been identified, all costs, availability and contract information should be reviewed every six months.

Site Safety

A site safety plan should be initiated as a part of the contingency plan and/or as a part of the site selection process. The safety plan must include checklists for the measures to avoid physical, chemical and biological hazards, and it should contain emergency procedures and contact numbers.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

Space Requirements

This list represents minimum facility needs for rehabilitating 100- 150 oiled animals.

- Front desk / Admissions	300 sq. ft.
- Operations Office	300 sq. ft.
- Kitchen / Food storage	300 sq. ft.
- Husbandry Area (large central room)	2800 sq. ft.
- Supplies / Storage	500 sq. ft.
- Wildlife Cleaning Area I	750 sq. ft.
- Medical Treatment / Exam	300 sq. ft.
- Pathology / Lab / Cold Storage	150 sq. ft.
- Isolation Ward	300 sq. ft.
- Volunteer / Worker Rest Room	300 sq. ft.
- Bathrooms / Decon / Changing	200 sq. ft.
- Outside Pool Areas @ one 10' x 15' x 2' pool per 15 birds + access and maintenance space	3300 sq. ft.
- Nonhazardous and regulated (medical and oiled) trash Indoor	100 sq. ft. Outside
	400 sq. ft.
- Outside area for oily waste water	300 sq. ft.
- Loading Dock / Parking for 50 (opposite side of building from outside cages)	5000 sq. ft.
<hr/>	
Total interior sq. ft.	6300 sq. ft.
Total exterior sq. ft.	9000 sq. ft.
Total sq. ft.	15,300 sq. ft.

Note: If an existing wildlife rehabilitation center were to be used, it would require the above space in addition to the space allocated for any existing caseload. Animals impacted by an oil spill must be cared for separately from the in-house population.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

Hot / Cold Water Capacity

When selecting a wildlife response facility it is important to ensure that the water supply not be contaminated by the oil spill. For preplanning purposes potential facility locations should be selected in areas of low spill probability. All oily wastewater must be collected and disposed of in accordance with federal, state and municipal regulations. However, the large quantities of rinse, pool and general use water is permitted access to most municipal systems. It is inadvisable to select a location that relies on a septic system to handle waste, for this large volume of water can exceed the designed capacity of most septic systems. Ideally there should be external access to cold water supplies for filling pools.

Due to the nature of wildlife rehabilitation large amounts of water are used in many locations throughout the facility. The facility should have floors that can tolerate being wet and have drains at least in the areas designated for cleaning activities.

- | | |
|---|-----------------------------|
| - Cold Water Volume (pools and general use) | 23360 gallons / day |
| - Hot Water Volume (animal cleaning only) | 450 gph @ 104° F |
| | 6750 gallons / day @ 15 hrs |
| - Water Pressure (animal cleaning only) | 50 - 60 psi |
| - Water Hardness (animal cleaning only) | 2.5 - 3.5 grains / gallon |

True sea birds (diving and pelagic species) cannot be successfully rehabilitated unless the water is maintained at the proper water hardness.

A suitable facility in terms of size, availability and location should not be discounted due to hot water and hardness capacities. Provided there is an adequate cold water supply, mobile hot water and treatment systems can be retrofitted into existing equipment without much difficulty.

Electric / Lighting

The electric needs of a wildlife response facility are very similar to a conventional production operation. The facility requires general and task lighting with an adequate number of separately circuited outlets throughout the space capable of providing 20-amp protection. Because of potential risk of electric shock in wet areas, the addition of a GFI circuit breaker in those areas is desirable.

In addition to lighting and the HVAC system, electric power will be used for freezers, refrigerators, heat lamps, pet dryers, office and medical equipment, pool pumps and filters, power tools, etc. Minimum electric requirements for the facility are:

200-amp 120/240-volt 3-wire single-phase service with minimum of ten (10) 20-amp circuits in addition to the lighting and HVAC needs, with the ability to expand

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

HVAC Systems

The three main concerns regarding air quality are:

✓	Eliminating thermal stress to debilitated animals by providing a stable, draft free inside air temperature between 70-80° F
✓	Minimizing human exposure to petroleum volatiles
✓	Minimizing animal exposure to pathogenic organisms (bacterial and fungal)

Air within a wildlife response facility should be exchanged 6 times per hour within office space, 10 times per hour within large open areas involving animal care and 20 times per an hour within critical care and surgical areas.

Typical HVAC systems used in industrial space are often forced air or closed re-circulating systems, which by themselves will not meet the above requirements. These systems will need to be augmented with portable filtration (HEPA) and air exchange units. The design of these systems should be determined by the wildlife response group once the facility has been selected and the particulars of the animal caseload are known.

Air quality in systems that employ return air filters can be enhanced through the replacement of the existing filters with an electrostatic type. This will not preclude the need for HEPA type filtration and regular air exchanges as outlined above.

Communications

The facility requires a minimum of three (3) telephone lines (public, private, fax/modem) with the ability to add as needed.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

BUY NOW LIST

Field

- ☐ Animal sky kennels (specify size)
- ☐ Boxes, cardboard (20x14x18)
- ☐ Packing tape
- ☐ Sorbent pads

Logistics / Safety

- ☐ 3-hole punch
- ☐ 3-ring binder
- ☐ Ballpoint pens
- ☐ Binder clips
- ☐ Bleach
- ☐ Chairs
- ☐ Coffee pot (filters if necessary)
- ☐ Coffee
- ☐ Gatorade
- ☐ General cleaning supplies(specify)
- ☐ Hand soap
- ☐ Mop
- ☐ Nametags
- ☐ Nitrile gloves (specify sizes)
- ☐ Paper (specify type)
- ☐ Paper clips / Binder clips
- ☐ Pencils
- ☐ Poster board
- ☐ Power strips
- ☐ Refrigerator (for human food)
- ☐ Safety glasses / goggles
- ☐ Sharpies (fine point)
- ☐ Scissors
- ☐ Snack food
- ☐ Stapler, staples
- ☐ Spray jug (garden supply for foot wash)
- ☐ Tables (72" x 30" folding)
- ☐ Trash bags (heavy duty contractor)
- ☐ Trash cans (32gal heavy duty)
- ☐ Tyvek (specify sizes)
- ☐ Water (sport bottles)
- ☐ Whiteboard, pens

Facility

- ☐ Bolts (1" / 2.25" / 3"x0.25")
- ☐ Buckets (2gal / 5gal)
- ☐ Bungee cords
- ☐ Cable ties (zip ties)

- ☐ Carpenter square
- ☐ Caulk, caulk gun
- ☐ Chicken wire
- ☐ Circular saw
- ☐ Drill bits (1/4" / 1/2" / Phillips)
- ☐ Electric drill
- ☐ Extension cords
 - ☐ 25ft
 - ☐ 50ft multi-plug
 - ☐ 50ft -14 guage
 - ☐ 100ft heavy duty
- ☐ Hacksaw and blade
- ☐ Hex wrench set
- ☐ Hose nozzles (brass / gun-type)
- ☐ Hoses (50ft kinkless)
- ☐ Hoses (50ft kinkless hot water)
- ☐ Lumber (specify length: 8' / 10' / 12')
 - ☐ 2x3
 - ☐ 2x4
 - ☐ 2x6
 - ☐ 2x8
 - ☐ 2x12
 - ☐ 4x4
 - ☐ 1/2" plywood (4'x8')
 - ☐ other (specify)
- ☐ Nut driver (hand held / screw gun tip)
- ☐ Nuts (0.25" / 0.25" coarse thread)
- ☐ Nylon rope
- ☐ Plastic tarps (specify size)
- ☐ Pliers (needlenose / standard)
- ☐ Polyethylene (8'x100' roll, 4-8mil)
- ☐ Portable shop lights
- ☐ PVC
 - ☐ piping (1" / 2" / 4" / 8") (specify length)
 - ☐ end caps (1" / 2" / 4" / 8")
 - ☐ T joints (1" / 2" / 4" / 8")
 - ☐ corners (1" / 2" / 4" / 8")
- ☐ PVC glue
- ☐ Saw horse kit
- ☐ Screwdrivers (flathead / slot / Phillips)
- ☐ Screws (1.25" / 2" / 2.5")
- ☐ Shop vac
- ☐ Staple gun, staples
- ☐ Step ladder

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.5 Facility Requirements (Cont'd)

- ☐ Step stool
- ☐ Tape measure
- ☐ Tape (duct / masking / electrical / Teflon /packing)
- ☐ Utility knife
- ☐ Vice grips
- ☐ Wire cutters
- ☐ Wrenches (adjustable / crescent)

Medical

- ☐ Alcohol swabs
- ☐ Aluminum foil
- ☐ Bandaging materials (specify)
- ☐ Batteries - 9V
- ☐ Batteries - Size C
- ☐ Cotton pads (squares or rounds)
- ☐ Distilled water
- ☐ Duct tape
- ☐ Electrolyte solution (Pedialyte)
- ☐ Freezer with lock
- ☐ Gauze squares (1x1 sterile)
- ☐ Heating pad
- ☐ Hot pot
- ☐ Index cards (3x5)
- ☐ Lubricating jelly (non-petroleum, KY)
- ☐ Masking tape
- ☐ Pepto Bismol
- ☐ Styptic pencil
- ☐ Thermometer (digital to 106F)
- ☐ Vitamin E (capsules)
- ☐ Ziplock freezer bags (1qt. / 1gal)

Husbandry

- ☐ Animal food bowls (specify diameter)
- ☐ Baby playpens (soft sided)
- ☐ Clipboards
- ☐ Colander (strainer)
- ☐ Deep pools (15ft x 48")
- ☐ Dishpans
- ☐ Dustpan
- ☐ Ensure, vanilla (or Pediasure)
- ☐ Food processor
- ☐ Food storage containers
- ☐ Headlamps
- ☐ Heat lamps
- ☐ Heater (1500W small space blower)
- ☐ Kiddie pools
- ☐ Knives (specify type)

- ☐ Measuring cups
- ☐ Measuring spoons
- ☐ Microwave oven
- ☐ Mixing bowl
- ☐ Mixing spoons
- ☐ Netting, cage top
- ☐ Newspaper
- ☐ Refrigerator (with freezer)
- ☐ Scissors (kitchen shears)
- ☐ Sheets
- ☐ Spray bottles
- ☐ Squeegee (short handle)
- ☐ Sump pump (1/2 HP / 1/6 HP)
- ☐ Sump hosing (large diameter, corrugated, no holes)
- ☐ Utility sink

Wash

- ☐ Baby toothbrushes
- ☐ DAWN original blue detergent (or ultra)
- ☐ Dental swabs
- ☐ Dishmat
- ☐ Hose clamps
- ☐ Hot water heater and regulator
- ☐ Milk crate
- ☐ Pitcher
- ☐ Propane (2 x 100lb tanks)
- ☐ Q-tips
- ☐ Squeegee (floor)
- ☐ Storage containers (12 oz deli cups)
- ☐ Sump pump (1/6 HP)
- ☐ Sump hosing (small)
- ☐ Towels (large bath / white)
- ☐ Tubs (17gal galvanized aluminum)
- ☐ Utility sink
- ☐ Wall clock

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.6 Protection Techniques

Wildlife protection operations will not be initiated without prior authorization from the state and federal wildlife trustee agencies. Hazing, fencing, relocation, and protection may be used where appropriate and approved by the state and federal wildlife trustee agencies.

Hazing involves using cannons, scare guns and/or helicopter overflights to prevent birds from landing on potentially affected areas or to divert birds from sensitive areas. Fencing involves using wire mesh fencing or equivalent material to enclose bird rookeries and/or nesting areas. Relocation is moving animals to an area that fulfills survival needs but is unaffected by the release. Protection is preventing oil from reaching wildlife areas by sealing any breaks in spoil banks and not allowing a pathway for oil to penetrate surrounding areas.

4.10.7 Data Interpretation

Data obtained from baseline collection through field collection during and after an incident is valuable only if it is analyzed and interpreted by qualified individuals.

The loss of indicator species, threatened, endangered or protected species, species of local interest, etc. in any number must be recognized and the secondary impacts of those losses determined (such as other species affected by the loss of one or more of another in a particular ecosystem). The numbers, category and species of impacted wildlife indicate whether or not corrective and preventative measures (depending on the time of implementation) have worked or are working. These numbers help to quantify the damage and, in the case of a Natural Resource Damage Assessment (NRDA), provide defensibility for chosen scientific disciplines and total natural resource damages. They also assist in the assessment of long-term ecosystem impacts.

Using a geo-referenced aerial photograph can provide more user friendly images that demonstrate wildlife impact. Such images are also of use in interpretations relative to behavior, population present at the time of the impact, and other environmental conditions present at the time of the release that may have an effect on the presence or absence of a particular species that would be in the area under specific conditions. Video and digital photography would also be utilized in data interpretation and support of findings.

Knowledge of migration patterns that would support either the presence or absence of a species during a particular season of the year (information that would not be present in generic habitat data) may be used to support any injury claims. Literature specific to particular species and habitats and quantification methods may be obtained and utilized during this phase in order to support interpretation methods, formulas, and findings.

Findings (the results of the data analysis and interpretation) should be prepared and released in the form of a report. The report should document field methods of collection, observations, and associated literature utilized in data interpretation or formula development to quantify losses.

4.10 Wildlife Protection and Rehabilitation (Cont'd)

4.10.8 Marathon Oil Wildlife Plan

Marathon Oil Company

Wildlife Plan

[NAME OF INCIDENT]

INCIDENT CHARACTERIZATION

General Information

Date:	Time of Spill:
Material Spilled:	
Quantity Spilled:	
Estimated Area Impacted:	
Weather: Sun / Clouds / Fog / Rain / Snow / Windy	
Temperature:	
Segment/Portion of Site Evaluated:	
Habitat	
Type:	
Tidal: Yes / No	
Dominant Vegetation Species:	
Wildlife:	
Trustee Agency:	
Wildlife Rescue Coordinator:	
Hydrology:	
Comments (Sensitivity of Habitat, Threatened/Endangered Species, etc.):	

Surface Oiling Conditions

Oiled Substrate: Yes / No
Distribution on Substrate: Continuous / Broken / Patchy / Sporadic / Trace
Thickness on Substrate: Pooled / Cover / Coat / Stain / Film
Oiled Vegetation (Trunks, Stems, Leaves, etc.):
Distribution on Vegetation: Continuous / Broken / Patchy / Sporadic / Trace
Thickness on Vegetation: Pooled / Cover / Coat / Stain / Film
Comments:

Operational Features

Accessibility: Boat / Truck / Airboat / Marsh Buggy / Foot / Other
Can substrate support foot traffic? Yes / No
Staging Areas Available? Yes / No
Access Restrictions:

4.11 Safe Work Practices for Oiled Bird Rehabilitation

4.11.1 References

Rehabilitating Oiled Sea Birds--A field Manual. International Bird Rescue Research Center, 699 Potter Street, Berkeley, California 94710.

Oiled Bird Rehabilitation--A Guide for Establishing and Operating a Treatment Facility for Oiled Birds. Tri-State Bird Rescue & Research, Inc., P.O. Box 289, Wilmington, Delaware 19899.

Operations of concern include:

✓	Hazing
✓	Bird Capture
✓	Transportation to Rehabilitation (REHAB) Center
✓	Triage and REHAB
✓	Transportation and Return to Habitat
✓	Logistics and Support

4.11.2 Hazards to be addressed

HANDLING OF BIRDS. Handling of birds must be done properly to ensure the protection of BOTH bird and handler. Wild birds have no way of knowing or understanding human intentions. Even a greatly weakened bird can inflict serious injury to handlers. Eyes are a particular concern. Open wounds on hands and arms present access for oily contaminants and disease vectors to enter the human blood system.

CONTACT WITH OIL. The site safety and health plan will provide a more detailed discussion of health hazards of oils.

a. The primary health hazard associated with oils (crude oil in particular) is dermatitis from skin contact. This condition may be aggravated for personnel conducting washing operations. Prolonged exposure to soapy water initiates defatting of the skin, and water logging may contribute to an initial skin injury that can aggravate sensitivity to the oil. Once an individual contracts an allergic dermatitis reaction it will be nearly impossible to prevent future outbreaks other than by strict avoidance of any further contact with the oil.

b. Oils splashed in the eyes will also cause acute irritation and perhaps inflammation.

c. Injuries inflicted by birds open a path for the chemical components of oils to enter the blood.

d. The smell of crude oil or diesels may be irritating to sensitive individuals and can cause nausea even at otherwise non-toxic concentration.

4.11 Safe Work Practices for Oiled Bird Rehabilitation (Cont'd)

4.11.2 Hazards to be addressed (Cont'd)

SLIPPERY & DANGEROUS SURFACES. Field personnel will be working on dangerous surfaces. Wet rocks, oily surfaces (including boats), ice, and steep or unstable terrains all present serious injury potential for field personnel. This is a particular concern during capture because the choice of location is purely up to the injured bird. Attention becomes focused on capture to the neglect of personal dangers.

WORK NEAR WATER. Some of the most serious hazards may occur near intertidal or surf areas. Public beaches are relatively safe locations but oil spills occur at random locations, including those that may be very dangerous.

When working near intertidal areas serious hazards may include:

✓	Riptides
✓	Undertows
✓	Underwater drop-offs
✓	Unstable banks
✓	Soft bottoms (e.g. mud flats or marshes)

EXPOSURE TO THE WEATHER. Heat stress, cold stress, hypothermia, and sunburn should all be considered as potential hazards for field personnel.

ELECTRICAL/SHOCK HAZARDS. Electrical equipment used in REHAB centers must be kept away from or adequately protected from wet areas.

4.11 Safe Work Practices for Oiled Bird Rehabilitation (Cont'd)

4.11.3 Safe Work Practices

Safe Work Practices (Cont'd)	
NEVER WORK ALONE IN THE FIELD. Always work in teams of at least two people...especially in the field!	
Person Protective Equipment (PPE) for field ops:	
Dress for the weather!	
✓	Dress adequately for the cold in particular
✓	Clothing guidelines for cold weather are provided in other attachments.
✓	Bring a rain suit if there is any chance of getting caught in the rain.
✓	Bring a dry change of clothing in case you get wet and/or cold.
✓	Even in hot dry weather personnel may need to have clothing suitable for working in brushy areas possibly with poisonous plants, ticks, thick brush, or snakes. Dress accordingly.
Prevent street clothing and skin contact with oil.	
✓	Bring a change of work clothing in case you get wet, cold, or dirty.
✓	Wear chemical resistant clothing (neoprene is a common material that is resistant to many oils) such as: gloves, coverall pants, aprons, rain slicker jackets, and boots are the best way to prevent contact with oils.
✓	Trash bags or a suitable container should be available for holding oily gear.
✓	Clean oily gear at the REHAB center or throw it away. Do not bring contaminated clothing or equipment home with you.
Wear flotation work vests or other Personal Flotation Devices (PFDs) approved by the U.S. Coast Guard while working in boats, over the water, in the surf, or on sloping banks near the water.	
If hypothermia is a consideration, mustang suits will be required in small boats.	
Bring sun glasses and sun screen during the summer. Glasses or goggles should be worn while handling birds.	
Wear sturdy rubber boots or hip waders if there is any chance of working in wet or oily locations.	
Wear long sleeved garments for working in brushy areas, for sun protection, and for protection from bird bites.	
See attachment for prevention and first aid for ANIMAL BITES, STINGS, SNAKE BITES, POISONOUS PLANTS, TICKS, and PUNCTURES/STINGS BY MARINE ANIMALS (such as jellyfish).	
✓	In particular wear snake leggings in grassy/marshy areas or snake hazard areas.
✓	Stay alert for ticks in areas where they may be a problem.
✓	Stay alert for all of these hazards and report encounters to your supervisor in order to pass the word to others.
✓	If you have allergic reactions to any of the hazards above, let your supervisor know and stay away from recognized hazards.

4.11 Safe Work Practices for Oiled Bird Rehabilitation (Cont'd)

4.11.3 Safe Work Practices (Cont'd)

Safe Work Practices (Cont'd)	
Wear sturdy gloves that are resistant to oil while handling oily birds during capture.	
Avoid leather clothing or articles. Leather is easily contaminated by oil, and cannot be completely cleaned once contaminated.	
Wear long clothing and insect repellent in tick areas. Partners should examine each other for ticks during breaks and at the end of the day.	
Carry a throwing line if there is a chance of getting caught in soft muds/sands, or falling into the water.	
Person Protective Equipment (PPE) for working in REHAB centers:	
Not all facilities will be heated or air conditioned.	
Dress adequately and bring a change of clothing.	
Dress adequately for the cold in particular.	
Bring a rain suit if there is any chance of working outside in the rain. Clothing guidelines for cold weather are provided in other attachments.	
Bring a change of work clothing if you will be working with oil or contaminated water.	
✓	Suitable containers should be available for holding oily gear.
✓	Use aprons, rain slickers & pants, boots or boot covers, and gloves that are resistant to oils (neoprene is a common material that is resistant to many oils).
✓	Clean oily gear at the REHAB center or throw it away. Do not bring contaminated clothing or equipment home with you.
Wear heavy long sleeved garments for protection from bird bites. Bites may become infected and must be properly cleaned and treated.	
Wear glasses or goggles (for beak and splash protection) while handling or cleaning oily birds.	
Avoid wearing or carrying leather clothing or articles. Leather is easily contaminated by oil, and cannot be cleaned once contaminated	
Immunization	
✓	Personnel working in the field or handling birds in centers should have an up-to-date tetanus immunization.
✓	Rabies prophylaxis should be considered for personnel handling wild animals, AND ESPECIALLY if field personnel are bitten by wild animals.
SMALL BOAT SAFETY. Boating safety is discussed in other safety plan attachments. Training classes in boating safety are available through your local Coast Guard Auxiliary.	
HELICOPTERS. Helicopters safety is discussed in other safety plan attachments. Personnel should always receive a safety briefing from their pilot.	
HANDLING BIRDS. Never handle birds unless trained in handling procedures. Reference (a) provides specific details on capturing and handling procedures.	

4.11 Safe Work Practices for Oiled Bird Rehabilitation (Cont'd)

4.11.3 Safe Work Practices (Cont'd)

Safe Work Practices (Cont'd)	
✓	Never hold birds near your face. Keep them down at waste level.
✓	Work with a partner in the field. THE BUDDY SYSTEM IS A MANDATORY SAFE WORK PRACTICE BY REGULATION. One person should hold the bird while another helps direct the bird into a transportation container.
✓	For prolonged handling (such as during washing): Use a beak gag to minimize biting and poking hazards; and Work with a partner (one person controls the head while the other works with the body).

4.11.4 Design and Construction of REHAB Centers

Design and Construction of REHAB Centers	
✓	Prior to construction or using a facility, consult with local fire officials about local fire ordinances.
✓	Electrical outlets, cords, appliances, and power tools should be kept away from cleaning and pool areas as much as possible. Ground fault interrupters must be installed for electrical equipment used in well locations, and should be used in most others. Depending on the construction on REHAB centers, the use of exterior grade electrical wire should be considered for many locations. Electrical cords must be maintained in good condition. See the main text discussion of the use of power tools.
✓	Personal hygiene must be maintained in the field and especially in centers. Contact with bird carcasses, droppings in bedding and on surfaces, and spoiled food are a particular concern. Washing and sanitation areas should be maintained between treatment/work areas and personnel areas. Hand lotions should also be available to minimize skin irritation from frequent washing. The general layout of REHAB centers should provide careful separation of contaminated areas and clean areas. Hygiene facilities and contaminated equipment drops should be in-between (similar to the hot, warm, and cold zone concepts presented in the text). Locations that can be easily maintained as clean for administrative areas, rest areas, eating/drinking areas, and smoking areas should be selected before constructing pens, cleaning stations, or receiving birds for treatment.

4.11 Safe Work Practices for Oiled Bird Rehabilitation (Cont'd)

4.11.4 Design and Construction of REHAB Centers (Cont'd)

Design and Construction of REHAB Centers (Cont'd)	
✓	<p>Food service should be carefully considered for REHAB centers and field staging areas.</p> <p>Hot beverages should be provided for cold weather work (personnel returning from the field, or center personnel working with water). Personnel working in heat or cold stress conditions need to force fluids to avoid dehydration.</p> <p>Spoiled/contaminated foods can cause outbreaks of food poisoning. If cooking and refrigerating facilities are not available at centers, food should be selected for resistance to spoiling and discarded regularly. Support from public health officials is recommended.</p>
✓	For the protection of personnel and animals, procedures must be established for the regular cleaning of handling and holding areas. Provisions must be made for holding all water wastes from cleaning stations and pools.
✓	Locations for handling diseased or dead birds should be chosen before construction. These locations should provide isolation, and separate provisions for waste removal.
✓	<p>Plan for visitors at REHAB centers. Visitors pose a hazard to the animals under care, and vice versa. It is highly recommended that a procedure be specifically adopted for receiving visitors and providing tours.</p> <p>Provide visitors with a briefing in an uncontaminated/non-working area including rules and precautions.</p> <p>Tour guides should take visitors on a brief tour that has been specifically approved. Visitors should not be allowed to touch or approach animals. Child visitors should generally be discouraged or be provided with a special tour that involves a minimal exposure to the animals and work.</p>
✓	Children should not be allowed in the work areas. If children volunteers are used in a REHAB effort, they should be kept away from the working areas in the center or the field. Tasks should be carefully selected for safe administrative or support functions.

4.11.5 Remember

1. A sick or injured person cannot help REHAB efforts. TAKE CARE OF YOURSELF!
2. There are lots of opportunities to support bird REHAB that do not involve handling birds, contacting oil, or working in dangerous field conditions. Food service, cleaning, supply, driving, tours for visitors, computer data, working the phones and many other administrative tasks are available for those people that are not prepared for working directly with the birds.

First Aid for Bites and Stings

[Animal Bites](#)

[Treatment of Superficial Bites](#)

[Treatment of Serious Wounds](#)

[Insect Stings](#)

[Treatment of a Sting in the Skin](#)

[Treatment of a Sting in the Mouth](#)

[Injuries by Marine Creatures](#)

[Treatment of Marine Stings](#)

[Treatment of Marine Puncture Wounds](#)

[Snake Bites](#)

[Treatment of Snake Bites](#)

Animals and insects do not usually attack unless injured or provoked. Many bites and stings can be prevented by using common sense. For example, take sensible precautions before attempting to rescue a casualty from an angry dog or a swarm of bees. Call help or contact the emergency service, if needed.

Insect and marine stings are often minor injuries that can usually be treated with first aid alone. However, animal and human bites always require medical attention, as germs are harboured in the mouths of all animals. Snake bites carry the additional risk of poisoning. In cases of bite wounds, the casualty must be protected from serious infections such as tetanus and rabies.

Animal Bites

Germs are harboured in the mouths of all animals and humans. Bites from sharp, pointed teeth cause deep puncture wounds that carry germs deep into the tissues. Human bites also crush the tissues. Serious wounds require hospital treatment. Any bite in which the skin is broken requires immediate first aid, followed by medical attention. These wounds are very susceptible to infection.

Treatment of Superficial Bites

- Wash the wound thoroughly with soap and warm water.
- Pat dry and cover with an adhesive dressing or a small sterile dressing.
- Advise the casualty to see their own medical practitioner.

Treatment of Serious Wounds

- Control bleeding by applying direct pressure and raising the injured part.
- Cover the wound with a sterile dressing or clean pad bandaged in place.
- The casualty should be taken or sent to hospital.

Insect Stings

Bee, wasp and hornet stings are usually more painful and alarming than dangerous. An initial sharp pain is followed by mild swelling and soreness, which can be relieved by first aid. However, some people are allergic to these poisons, and can rapidly develop anaphylactic shock, a very serious condition. Multiple stings can have a dangerous cumulative effect. Stings in the mouth or throat, causing swelling which may obstruct the airway, should be taken very seriously.

Treatment of a Sting in the Skin

- Remove the sting, if still present, with tweezers.
- Apply a cold compress to relieve pain and minimise swelling.
- Advise the casualty to see their own medical practitioner if pain and swelling persist or increase over the following 24 to 48 hours.

Treatment of a Sting in the Mouth

- Give the casualty ice to suck to minimise swelling.

Contact the emergency service, reassuring the casualty until help arrives.

Injuries by Marine Creatures

Sea creatures can cause various injuries. Jellyfish, Portuguese man-of-war, corals and sea anemones can cause stings. Their venom is contained in stinging cells (nematocysts) that stick to the victim's skin, and this is released when the cell ruptures. The spines of sea urchins or weever fish may puncture the skin, if trodden on, and become embedded in the foot, usually causing a painful local reaction, though serious general effects are rare. In some parts of the world, severe degrees of poisoning can occur, giving rise to severe allergic reaction (anaphylactic shock), or paralysis of the chest muscle. These cases, rarely, may be fatal.

Treatment of Marine Stings

- Pour alcohol or household vinegar over the injury for several minutes to incapacitate stinging cells that have not yet ruptured.
- Apply to the wound a paste of equal parts of sodium bicarbonate (baking soda) and water.
- Dust a dry powder such as talcum powder or meat tenderiser over the skin around the injury so that remaining cells stick together.
- In case of severe injuries or a serious generalised reaction, contact the emergency service.

Treatment of Marine Puncture Wounds

- Place the injured part in water as hot as the casualty can bear for at least 30 minutes, topping up the water as it cools, and taking care not to scald the casualty.
- The casualty should be taken or sent to hospital, where any spines remaining in the skin can be removed.

Snake Bites

A snake bite is often not a serious injury, but can be very frightening. It is vital to reassure the casualty, as the spread of venom may be delayed if the casualty keeps still and calm. The snake, or a note of its appearance, should be kept, so that the correct anti-venom can be given, if necessary. The police should be notified if an escaped snake remains at large.

Treatment of Snake Bites

- Lay the casualty down, telling them to keep calm and still.
- Wash the wound thoroughly with soap and water, if possible.
- Secure and support the injured part. Contact the emergency service.

DO NOT apply a tourniquet, cut the wound with a knife, or attempt to suck out the venom.

Further Reading:-

Articles:

[Echinacea](#)

[First Aid for Shock](#)

Section 5: Maintenance and Training Program

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The owner / operator must develop and maintain programs for facility response training. Logs must be kept for facility drills/exercises, personnel response training and spill prevention meetings. These logs may be included or maintained as an annex to the facility's emergency response plan.

Forms in this section are for reference only and may be superseded by other MOC forms and procedures based on applicable regulations and policies. Records of the periodic inspections are maintained on file at the Facility for a minimum period of three (3) years and are available upon request. Refer to MCAT (Mid-Continent Asset Team) Piceance Operations site specific SPCC Plans. These plans are available at the MCAT Piceance Operations Main Office in Grand Junction, CO.

5.1 Facility Self-Inspection

Written procedures and records of inspections for each site are included, along with inspection records for each container, secondary containment, and item of response equipment at the facility.

Facility self-inspection requires two steps:	
✓	Checklist of items for inspection
✓	Method of recording the actual inspection and all findings and date of inspection

5.2 Inspection Procedures

5.2.1 Sample Inspection Checklists

The tank inspection checklist guidance below is for use during inspections and monitoring.

The inspection checklist consists of the following items

✓	Check tanks for leaks, specifically Drip marks Discoloration of tanks Puddles containing spilled or leaked materials Corrosion Cracks; and Localized dead vegetation
✓	Check foundation for: Cracks Discoloration Puddles containing spilled or leaked materials Settling Gaps between tank and foundation, and damage cause by vegetation roots
✓	Check piping for: Droplets of stored material; Discoloration Corrosion Bowing of pipe between supports Evidence of stored material seepage from valves or seals; and Localized dead vegetation

Tank/Surface Impoundment Inspection Log should include the following:

Inspector	Tank or SI #	Date	Comments

5.2 Inspection Procedures (Cont'd)

5.2.2 Inspection Guidance

Routine Visual Inspections

✓	Visually inspect wellhead for leaks or corrosion.
✓	Visually inspect submerged flowline locations for evidence of leaks.
✓	Visually inspect all vessels for proper operation including gauges, sight glasses, level controls and pressure controls.
✓	Visually inspect vessel connections for leaks.
✓	Visually inspect control valve packing for leaks.
✓	Inspect oil traps, drains and sumps for accumulation of oil and proper operation of level controls and pumps.
✓	Inspect salt water disposal facilities for possible system upsets which could result in a discharge of condensate or produced water.
✓	Inspect tank seams for leaks, including drips, puddles or discolored area.
✓	Inspect all tank and piping surfaces for signs of external corrosion.
✓	Inspect base of tanks for evidence of leaks, including drips, puddles or discolored areas.
✓	Check piping for leaks, including drips, puddles or discolored area.
✓	Visually inspect vent system outlets to ensure that they are not obstructed.
✓	Inspect gutters, dikes and facility for corrosion, cracks or holes. Special attention should be given to seams and locations where piping goes through the deck, curbing or dikes.

Monthly Visual Inspections

✓	Visually inspect traps for the accumulation of product.
✓	Visually inspect drains for accumulation of product.
✓	Visually inspect sumps for the accumulation of product.
✓	Visually inspect diked/curbed areas for the accumulation of product.
✓	Visually inspect drip pans for the accumulation of product.

Quarterly Inspections

✓	Inspect valves and valve glands for proper operation and ensure complete valve closure (leak proof).
✓	Check for proper operation of sump level controls and pumps.
✓	Visually examine the outside of the tank for signs of corrosion, damaged paint surfaces and signs of leaking.
✓	Systems such as high/low level sensors or switches must be inspected and physically activated each quarter to ensure proper operation.

Annual Inspections

✓	Inspect pipelines for signs of leaking or damage.
✓	Inspect flowlines for signs of leaking or damage.
✓	Inspect flanges for signs of leaking or damage.
✓	Inspect joints for signs of leaking or damage.

Figure 5.2 – Sample Annual Pipe and Flowline Inspection Record

[illegible]

5.2 Inspection Procedures (Cont'd)

5.2.3 Written Instructions for Contractors

The following instructions apply to contractors servicing pressure vessels, piping, tanks and associated equipment and their duties to perform this work in a safe and pollution free manner.


Contractors at all times will:	
✓	Preserve life and property.
✓	Prevent pollution of the environment by ensuring that hydrocarbons and other hazardous materials remain contained within the Facility's containment system.
✓	Ensure that no pollutants are disposed of into the ground, water or drainage to the ground or water.
✓	Be aware that substantial fines and/or imprisonment may be imposed for willful pollution of navigable waters.
✓	Be aware that there may be severe penalties for failure to report accidental pollution from this Facility, or pollution observed elsewhere.
✓	Secure permission from the Facility Supervisor before commencing work on any equipment.
✓	Immediately advise the Facility Supervisor of any dangerous or abnormal conditions.
✓	Be present to provide assistance.

FAILURE TO COMPLY WITH THESE INSTRUCTIONS, OR FAILURE TO OPERATE IN A PRUDENT AND LAWFUL MANNER, MAY RESULT IN TERMINATION.

5.3 Inspection Forms


These forms are for reference only and may be superseded by more current versions, as applicable.

5.3.1 External Inspection Form – Mobile Containers Supporting Non-E&P

 MARATHON OIL COMPANY North America Production Operations External Inspection Form – Mobile Containers Supporting Non-E&P	
Facility:	Inspector Name:
Date:	Inspector Signature:
Tank Number or Container Description	
Instructions: Indicate yes or no. If no, record observations describing the discrepancy.	
Secondary Containment	
<ul style="list-style-type: none"> Is the containment adequate (tank capacity + freeboard), intact and empty? 	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> Is the containment impervious, or is the tank elevated above the ground? 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank / Container Foundation / Container Bottom	
<ul style="list-style-type: none"> Does it appear to have adequate support and structurally sound 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank / Container Shell / Valves and Hoses	
<ul style="list-style-type: none"> Shell free from signs of active or past leaks 	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> Structural integrity sound (bulges, dents, distortions) 	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> Corrosion or pitting appears acceptable for continued service 	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> Valves and hoses are in acceptable condition 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank Over-fill Devices	
<ul style="list-style-type: none"> Level gages, alarms, high liquid cut-off or other over-fill prevention devices are in place and functioning. 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Observations	

5.3 Inspection Forms (Cont'd)

5.3.2 External Inspection Form – Tanks and Containers

 MARATHON OIL COMPANY North America Production Operations External Inspection Form – Tanks and Containers	
Facility:	Inspector Name:
Date:	Inspector Signature:
Tank Number or Container Description	
Instructions: Indicate yes or no. If no, record observations describing the discrepancy.	
Secondary Containment	
• Is the containment adequate, intact and empty?	Yes <input type="checkbox"/> No <input type="checkbox"/>
• If valves are installed, are they closed and plugged?	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Is the overflow prevention measure adequate (equalizing lines, level alarms, etc)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank / Container Foundation / Container Bottom	
• Does it appear to have adequate support and structurally sound	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Tank container bottom free from leakage (no leaks coming from tank) and adequate drainage away from the base of the tank (no standing water at tank unless tank is lined or coated)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank / Container Shell	
• Shell free from signs of active or past leaks	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Structural integrity sound (bulges, dents, distortions)	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Corrosion or pitting appears acceptable for continued service	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tank Appurtenances (valves, piping, vents, etc.)	
• Thief hatch and vent valve seals appears adequate	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Stairway / walkways adequate	Yes <input type="checkbox"/> No <input type="checkbox"/>
• Piping associated with tank / container appears adequate	Yes <input type="checkbox"/> No <input type="checkbox"/>
• No evidence of active or past leaks from equipment, piping connections, valves, vents etc.	Yes <input type="checkbox"/> No <input type="checkbox"/>

5.3 Inspection Forms (Cont'd)


5.3.3 External Inspection Forms – Secondary Containment

Prior to draining precipitation from secondary containment structures, inspect secondary containment contents for the presence of oil and complete the following form. If valves are used in the containment, they must be closed and plugged after use.

Date	Facility & Secondary Containment Area	Presence of Oil	Time Started	Time Finished	Inspector Signature, and Corrective Action Taken (if any)

5.3 Inspection Forms (Cont'd)

5.3.4 Internal Tank Inspection Form

	MARATHON OIL COMPANY North America Production Operations Internal Tank Inspection Form
Tank ID:	Inspector Name:
Date of Inspection:	
Instructions: Indicate yes or no. If no, record observations describing the discrepancy.	
Tank Bottom	
<ul style="list-style-type: none"> Floor adequately supported <ul style="list-style-type: none"> - Limited voids under floor plate - Sloped for adequate drainage (<i>Note: if low spots exist, number and location</i>) 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Observations:	
Plate Buckling / Deflection Acceptable	
<ul style="list-style-type: none"> Plate and weld condition Shell bottom seam Internal coating (<i>Note: if holes, disbanding or deterioration present, number and location.</i>) Pitting (e.g. depth, sharp edged, lake type, dense, scattered.) 	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>
Observations:	
Note: Attach any other nondestructive integrity tests performed during this inspection.	
Signature:	Date:


**MARATHON OIL COMPANY
North America Production Operations
Internal Tank Inspection Form**

Tank ID:	Inspector Name:
Date of Inspection:	

Instructions: Indicate yes or no. If no, record observations describing the discrepancy.

Tank Bottom

- Floor adequately supported
 - Limited voids under floor plate
 - Sloped for adequate drainage (*Note: if low spots exist, number and location*)

 Yes ☐ No ☐
Observations:
Plate Buckling / Deflection Acceptable

- Plate and weld condition
- Shell bottom seam
- Internal coating (*Note: if holes, disbanding or deterioration present, number and location.*)
- Pitting (e.g. depth, sharp edged, lake type, dense, scattered.)

 Yes ☐ No ☐

 Yes ☐ No ☐

 Yes ☐ No ☐


 Yes ☐ No ☐
Observations:

Note: Attach any other nondestructive integrity tests performed during this inspection.

Signature:	Date:

5.3 Inspection Forms (Cont'd)

5.3.5 External Inspection Forms – Processing and Facility Equipment

 MARATHON OIL COMPANY North America Production Operations External Inspection Form – Processing and Facility Equipment																	
Facility:	Inspector Name:																
Date of Inspection:																	
Instructions: Indicate yes or no. If no, record observations describing the specific equipment and discrepancy.																	
Separators and Other Processing Equipment																	
<ul style="list-style-type: none"> Equipment appears adequately supported No evidence of active or past leaks from equipment, piping, connections, valves, vents, etc. Coating condition appears satisfactory Corrosion appears acceptable 	<table style="width: 100%;"> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> </table>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>								
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Observations:																	
Other Facility Equipment is Checked for: <ul style="list-style-type: none"> ❖ No evidence of active or past leaks ❖ Condition of equipment appears to be satisfactory, and ❖ Corrosion appears to be acceptable. 																	
<ul style="list-style-type: none"> Wellheads Gathering systems Well test stations Traps/Sumps Drainage systems and nearby ditches Applicable flowlines including right-of-way areas Containment systems Facility piping 	<table style="width: 100%;"> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> </table>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Observations:																	
Secondary Containment																	
<ul style="list-style-type: none"> Passive containment has adequate capacity and integrity as intended Active containment measures are adequate No evidence of active or past leaks Any valves are closed and plugged 	<table style="width: 100%;"> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> <tr> <td style="text-align: right;">Yes <input type="checkbox"/></td> <td style="text-align: right;">No <input type="checkbox"/></td> </tr> </table>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>								
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Yes <input type="checkbox"/>	No <input type="checkbox"/>																
Observations:																	
Signature:	Date:																

5.3 Inspection Forms (Cont'd)

5.3.6 32C Centralized E&P Waste Facility – Monthly Inspection Sheet

	OK	I	Comments / Readings
Date:			
Inspector:			
32C Pond			
Flow Meter Total			
Current Flow Rate			
Pond Level			
Water Color			
Floating Debris			
Oil Sheen			
Leak Detection Level			
Netting and Fencing			
32C GB and Overflow Tanks			
Ovr. Tank – Total Level			
Ovr. Tank – Water Quantity			
Ovr. Tank – Cond. Quantity			
Gun Barrel Inspection			
Piping Inspection			
32C Pad Inspection			
Stormwater BMPs			
Mechanical Evap. System			
Enhanced Evap. System			
Signage / Permit #s Posted			
Additional Observations			

NI = Needs Improvement or Action

Response Equipment Checklist should include:

Response Equipment Inspection Log

5.5 Response Equipment Testing & Deployment Drills

Facilities without facility-owned response equipment must ensure that the oil spill removal organization that is identified in the response plan to provide this response equipment certifies that the deployment exercises have been met. Refer to the National Preparedness for Response Exercise Program (PREP) Guidelines which satisfy Oil Pollution Act (OPA) response exercise requirements.

Company response equipment is tested and inspected as noted below. The Operations Supervisor is responsible for ensuring that the following response equipment and testing procedures are implemented.

Response Equipment and Testing Procedures	
Fire Extinguishers	All fire extinguishers are inspected on an annual basis and examined on a monthly basis. Date of manufacture varies due to the number of fire extinguishers provided at each facility.
Miscellaneous Equipment	Other response equipment identified in this plan will be inventoried and tested to ensure that the stated quantities are in inventory and in proper working order. The equipment inspections are recorded in a Response Equipment Log and maintained at each Facility.

Figure 5.3 – Sample Response Equipment Testing and Deployment Drill Log

Response Equipment Testing and Deployment Drill Log								
Inspector	Date	Operational Status	Type, Model & Year	Number	Size (Length)	Containment Area	Storage Location	Comments

5.6 Secondary Containment Inspection

Inspect the secondary containment checking the following:

Dike or Berm System	
✓	Level of precipitation in dike/available capacity
✓	Operational status of drainage valves
✓	Dike or berm permeability
✓	Debris
✓	Erosion
✓	Permeability of the earthen floor of dikes area
✓	Location/status of pipes, inlets, drainage beneath tanks, etc

Secondary Containment	
✓	Cracks
✓	Discoloration
✓	Presence of spilled or leaked material (standing liquid)
✓	Corrosion
✓	Valve conditions

Retention and drainage ponds	
✓	Erosion
✓	Available capacity
✓	Presence of spilled or leaked material
✓	Debris
✓	Stressed vegetation

5.7 Drills and Exercises

Experienced, well-trained people are essential for successful implementation of a response plan. Exercises are performed to check the effectiveness of the training and to test the plan. An ongoing training and exercise program will be carried out. In addition to maintaining maximum familiarity with all aspects of the plan, the training and exercise program is intended to provide members of the spill response team with the basic knowledge, skills and practical experience necessary to perform safe and effective spill response operations in accordance with the plan.

The Marathon exercise program is designed to be consistent with the exercise requirements as outlined in the National Preparedness for Response Exercise Program (PREP) Guidelines developed by the U.S. Coast Guard and adopted by the Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA), the Bureau of Safety and Environmental Enforcement (BSEE), and the U.S. Environmental Protection Agency (EPA). Participation in this program ensures that Marathon meets all federal exercise requirements mandated by OPA '90.

The primary elements of Marathon's exercise program are notification exercises, tabletop exercises, facility-owned equipment deployment exercises, contractor exercises, unannounced exercises by government agencies and area-wide exercises conducted by industry and government agencies. The exercise year for all Marathon facilities will be from January 1 to December 31. The Facility Manager is responsible for implementing the exercise program.

All exercises and actual release event responses will be critiqued. If appropriate, the information derived from the post-exercise or post-event evaluation will be incorporated into the Integrated Contingency Plan.

OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) rule (29 CFR 1910.120) became law on March 6, 1990. It sets minimum training and/or competency requirements for people associated with an oil spill emergency. HAZWOPER requirements are described in the following section. Additional training and exercise requirements are discussed in the balance of this section.

The operations coordinator and emergency response coordinator will devise a training plan and schedule in response to governmental regulations and the specific requirements of Marathon, and implement the training plan in cooperation with local oil spill response co-ops and selected contractors. Representatives of governmental agencies and other interested parties may be invited to observe or participate in these activities as determined appropriate.

5.7 Drills and Exercises (Cont'd)

- (A) CWA section 311(j)(5), as amended by OPA, requires the response plan to contain a description of facility drills/exercises. According to 40 CFR 112.21 (c), the facility owner/operator shall develop and implement a program of facility response drills/exercises, including evaluation procedures. Following the PREP guidelines would satisfy a facility's requirements for drills/exercises. The program is subject to approval by the Regional Administrator based on the program description provided in the response plan.
- (B) The PREP Guidelines specify that the facility conduct internal and external drills/exercises. The internal exercises include; qualified individual notification drills, spill management team tabletop exercises, equipment deployment exercises, and unannounced exercises. External exercises include Area Exercises. Credit for an Area or Facility-specific exercise will be given to the facility for an actual response to a discharge in the area if the plan was utilized for response to the discharge and the objectives of the exercise were met and were properly evaluated, documented, and self-certified.
- (C) Section 40 CFR 112.20 (h)(8)(ii) requires the facility owner/operator to provide a description of the drill/exercise program to be carried out under the response plan. Qualified Individual Notification Drill and Incident Management Team Tabletop Drill logs shall be provided in section 5.6. These logs may be included in the response plan or kept as an annex to the response plan. See section 5.4 of this section for Equipment Deployment Drill Logs.

5.7 Drills and Exercises (Cont'd)

5.7.1 Sample Qualified Individual Notification Drill Logs

Hard copies of the drill logs are maintained at the Marathon Grand Junction office and are available upon request.

Qualified Individual Notification Drill Log		
REPORTING PARTY		
First Name:	Last Name:	Company:
Phone:	Alt. Phone:	Date/Time of Report:
QUALIFIED INDIVIDUAL(S) NOTIFIED		
Name:		Date and Time:
EMERGENCY SCENARIO		
CHANGES TO BE IMPLEMENTED		
TIME TABLE FOR IMPLEMENTATION		

5.7 Drills and Exercises (Cont'd)

5.7.2 Sample Incident Management Team Tabletop Exercise Logs

Hard copies of the drill logs are maintained at the Marathon Grand Junction office and are available upon request.

Incident Management Team Tabletop Exercise Log	
DATE	COMPANY
QUALIFIED INDIVIDUAL(S) NOTIFIED	
NAME	DATE AND TIME
EMERGENCY SCENARIO	
EVALUATION	
CHANGES TO BE IMPLEMENTED	
TIME TABLE FOR IMPLEMENTATION	

5.7 Drills and Exercises (Cont'd)

5.7.3 Sample Spill / Exercise Documentation Form

NAPO Facility PREP Exercise and Personnel Training Report

Page 1 of 3

Facility Information	
Facility Name _____	Date of Exercise/Training _____
Preparer's Name _____	Preparer's Signature _____
A. PREP Exercises (Check all that apply)	
<input type="checkbox"/> QI Notification Exercise	
<input type="checkbox"/> IMT Tabletop Exercise <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> AMPD / Small Spill Scenario <input type="checkbox"/> MMPD / Medium Spill Scenario <input type="checkbox"/> WCD / WCD Scenario </div> <div> <input type="checkbox"/> NAPO Tier One Exercise <input type="checkbox"/> NAPO Tier Two Exercise </div> </div>	
<input type="checkbox"/> Equipment Deployment <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Facility-Owned </div> <div> <input type="checkbox"/> CO-OP Owned </div> <div> <input type="checkbox"/> OSRO-Owned </div> </div>	
<input type="checkbox"/> Emergency Procedure for Facility <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Unannounced </div> <div> <input type="checkbox"/> Announced </div> </div>	
<input type="checkbox"/> Government-Initiated Unannounced Deployment Exercise (Attach Agency Evaluation) <input type="checkbox"/> USCG COTP _____ <input type="checkbox"/> EPA Region _____	
Exercise Objectives (Complete prior to Exercise) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____	
<input type="checkbox"/> Actual Incident (Describe below, list participants, and complete D. Lessons Learned)	
Written Description of Exercise or Actual Incident	
Participants (Check all that apply and list NAPO personnel separately on VTA Sign-in Sheet for Exercise Credit Purposes) <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> NAPO Personnel _____ <input type="checkbox"/> Local Agencies (List) _____ </div> <div> <input type="checkbox"/> NAPO Area/District Personnel _____ <input type="checkbox"/> State Agencies (List) _____ </div> </div>	

5.7 Drills and Exercises (Cont'd)

5.7.3 Sample Spill / Exercise Documentation Form (Cont'd)

NAPO Facility PREP Exercise and Personnel Training Report (Cont'd)

Page 2 of 3

B. IMT Tabletop / Equipment Deployment Drill Evaluation Components					
Identify those components that were exercised during the PREP Exercise or Incident:					
1. Notifications		6. Containment		11. Transportation	
2. Staff Mobilization		7. Recovery		12. Personnel Support	
3. Unified Command		8. Protection		13. Equipment Maintenance	
4. Discharge Control		9. Disposal		14. Procurement	
5. Assessment		10. Communications		15. Documentation	
C. Exercise Evaluation - Accomplishment of Objectives					
1. 2. 3. 4. 5.					
D. Incident/Exercise Evaluation – Lessons Learned					
1. 2. 3. 4. 5.					
E. NAPO Facility Personnel Training - (Attach List of Participants Using VTA Sign-in Sheet)					
<input type="checkbox"/> Annual HAZWOPER Refresher for Emergency Responder (Tier 1 or Tier 2 IMT Tabletop) [29 CFR 1910.120(q)(8)] <input type="checkbox"/> Annual EPA Discharge Prevention Meeting [40 CFR 112.7(f)(1)] <input type="checkbox"/> Annual EPA/USCG Personnel Response Training [40 CFR 112.7(f)(3) / 33 CFR 154.1050]					
Notes:					
1. Submit participants for exercises and training on VTA Sign-in Sheet. 2. Maintain original completed copy of this form and participant list(s) for 5 years.					

5.7 Drills and Exercises (Cont'd)

5.7.3 Sample Spill / Exercise Documentation Form (Cont'd)

Description of Personnel Training to Meet the Regulatory Requirements

Page 3 of 3

1. Annual HAZWOPER Refresher for Emergency Responder (Level 1 or Level 2 IMT Tabletop or Equipment Deployment Exercise) [29 CFR 1910.120(q)(8)]
--

MOC has established that participation in a Level 1 or Level 2 Spill Management Team Tabletop Exercise or an Equipment Deployment Exercise is **PARTIAL fulfillment** of the annual OSHA emergency response HAZWOPER training for MOC NAPO personnel. In addition, personnel must complete selected specific requirements as outlined in the MOC NAPO HAZWOPER training schedule. Note that participation in an actual response is considered to be COMPLETE fulfillment of the annual OSHA HAZWOPER refresher training.

2. Annual EPA Discharge Prevention Meeting [40 CFR 112.7(f)(1)]
--

This annual training for personnel should be a review of the methods for preventing spills at the facility. The training should include a review of the facility SPCC Plan and the means outlined therein to minimize or prevent spills. Recommended minimum training time is one hour and should include discussing overfill prevention, site drainage from diked and undiked areas, correct drainage procedures, and logging requirements for opening, monitoring, and closing drainage valves.

3. Annual EPA/USCG Facility Personnel Response Training [40 CFR 112.7(f)(3) / 33 CFR 154.1050]

This annual training for facility personnel should be a review of the spill response procedures at the location. The training should include a review of the Facility/Emergency Response Plan and the spill response procedures therein. Recommended training time is one hour and should include notification procedures, initial spill containment, confinement, and control procedures, location and use of facility spill response equipment, and information on initial spill response locations outside the facility.

5.7 Drills and Exercises (Cont'd)

5.7.3 Sample Spill / Exercise Documentation Form (Cont'd)

NAPO IMT DRILL CRITIQUE

Three Things That Went Well:

- 1.
- 2.
- 3.

Three Things That Did Not Go Well:

- 1.
- 2.
- 3.

Areas For Improvement:

5.8 Response Training

Marathon is required to develop programs for response training. Personnel response training logs and discharge prevention meeting logs shall be available at area and field offices upon request. Training records are maintained at both the Field Office and affixed to this Plan in Appendix E for a minimum period of three (3) years.

The following summarizes the response training elements for all Facilities:

✓	Incident Command System (ICS) Training Program
✓	Classroom Training
✓	HAZWOPER Response Qualifications

5.8.1 Classroom Training

The topics applicable to response training may consist of, but are not limited to, the following:

✓	Facility Response Plan/OPA (annual)
✓	SPCC/HWCP Training (annual)
✓	Spill Boom Deployment School (Texas A&M Marine School, Galveston, Texas)
✓	PPE Use, Care and Maintenance
✓	Biannual Boom Deployment Exercises (If owned and maintained at the complex)
✓	Tabletop Drills per the Integrated Contingency Plan
✓	Fire Extinguishing School
✓	First Aid/CPR

5.8 Response Training (Cont'd)

5.8.2 HAZWOPER Response Qualifications

Certain designated Marathon employees are required to obtain qualifications to meet different levels of training in accordance with OSHA 1910.120 or HAZWOPER. The four (4) levels of HAZWOPER qualification applicable to Company employees are:

✓	First Responder - Awareness (Level 1) (4 hours initial)
✓	First Responder - Operations (Level 2) (8 hours initial)
✓	Hazardous Material Technician (Level 3) (24 hours initial)
✓	"On-Scene" Commander or Incident Commander (Level 4) (24 hours initial)

5.8.3 Sample Personnel Response Training Logs

Marathon will conduct Integrated Contingency Plan and OPA training annually of their personnel to meet this requirement for "personnel response training logs". HAZWOPPER training records are maintained by MOC training department and are available on request.

Personnel Response Training Log		
Name	Type of Training/ Date and # of hours	Type of Prevention Training/ Date and # of hours

5.8 Response Training (Cont'd)

5.8.4 Sample Discharge Prevention Training Logs

Spill Prevention Briefings

Company personnel are kept knowledgeable of equipment, safety factors and operating conditions.

Annual training sessions are conducted by the Production Foreman. These documented sessions keep personnel informed of their obligation to prevent pollution incidents and to improve spill control and response techniques.

Form is for reference only. Records are maintained in SPCC plans if applicable

LOCATION:
DATE:
SUBJECT/ISSUE IDENTIFIED:
IMPLEMENTATION DATE:
SESSION LEADER:

ATTENDEES	

5.8 Response Training (Cont'd)

5.8.5 HAZWOPER Levels

First Responder Awareness Level

First responders at the Awareness Level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the Awareness Level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

✓	An understanding of what hazardous substances are, and the risks associated with them in an incident.
✓	An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
✓	The ability to recognize the presence of hazardous substances in an emergency.
✓	The ability to identify the hazardous substances, if possible.
✓	An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
✓	The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

First Responder Operations Level

First responders at the Operations Level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release.

Their function is to contain the release from a safe distance, keep it from spreading and prevent exposures. First responders at the Operational Level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

✓	Knowledge of the basic hazard and risk assessment techniques.
✓	Know how to select and use proper personal protective equipment provided to the first responder operational level.
✓	An understanding of basic hazardous materials terms.
✓	Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.
✓	Know how to implement basic decontamination procedures.
✓	An understanding of the relevant standard operating procedures and termination procedures.

5.8 Response Training (Cont'd)

5.8.5 HAZWOPER Levels (Cont'd)

Hazardous Materials Technician	
Hazardous Materials Technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous Materials Technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:	
✓	Know how to implement the employer's emergency response plan.
✓	Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.
✓	Be able to function within an assigned role in the Incident Command System.
✓	Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.
✓	Understand hazard and risk assessment techniques.
✓	Be able to perform advance control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.
✓	Understand and implement decontamination procedures.
✓	Understand termination procedures.
✓	Understand basic chemical and toxicological terminology and behavior.

5.8 Response Training (Cont'd)

5.8.5 HAZWOPER Levels (Cont'd)

Hazardous Materials Specialist

Hazardous Materials Specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The Hazardous Materials Specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous Materials Specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

✓	Know how to implement the local emergency response plan.
✓	Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
✓	Know of the state emergency response plan.
✓	Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.
✓	Understand in-depth hazard and risk techniques.
✓	Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.
✓	Be able to determine and implement decontamination procedures.
✓	Have the ability to develop a site safety and control plan.
✓	Understand chemical, radiological and toxicological terminology and behavior.

On Scene Incident Commander

Incident Commanders, who will assume control of the incident scene beyond the First Responder Awareness Level, shall receive at least 24 hours of training equal to the First Responder Operations Level and in addition have competency in the following areas and the employer shall so certify:

✓	Know and be able to implement the employer's Incident Command System.
✓	Know how to implement the employer's emergency response plan.
✓	Know and understand the hazards and risks associated with employees working in chemical protective clothing.
✓	Know how to implement the local emergency response plan.
✓	Know of the state emergency response plan and of the Federal Regional Response Team.
✓	Know and understand the importance of decontamination procedures.

Section 6: Response Management System

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6.1 Incident Management Team (IMT) Description

Marathon has developed its oil spill response organization around the Incident Command System (ICS), which provides the structure for effective management of spill resources. The ICS would be activated and mobilized in accordance with the size and complexity of the Incident. Members of the IMT are listed in Section 2. Job descriptions for each IMT member are provided in this section. The IMT will train by participating in exercises as noted in Section 5.

6.1.1 Purpose

RMS is a project management system which facilitates taking command of an emergency event when response is initiated and turning the event into a controlled project. As with any project, clearly defined job responsibilities and effective communication are critical to success. Applying the Incident Command System concept, each person on the response team has a predetermined job with specific responsibilities. Effective communication of the necessary information to and by the proper people is accomplished through structured meetings held at a Command Post where an Information Center has been developed to monitor the response activities. The structured meetings have specific attendees, agendas and action items and are repeated on a daily basis for the duration of the incident.

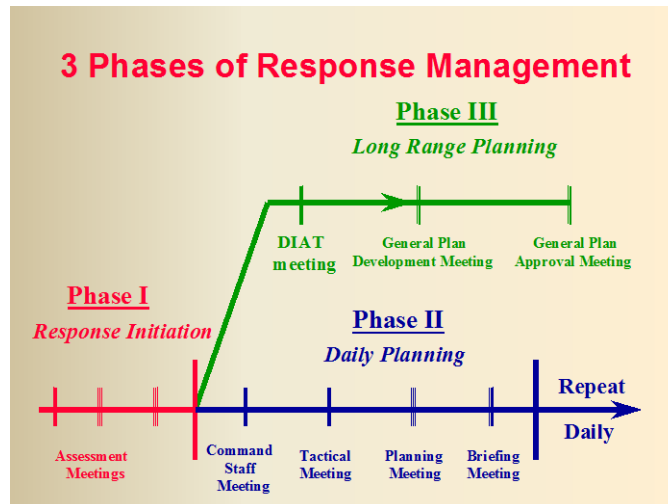
6.1.2 Activation Procedures

Activation of the IMT may be accomplished in stages as described below:

✓	First Responder discovers the spill and notifies the Supervisor.
✓	Supervisor assumes IC and notifies QI/PIC. QI/PIC and IC determine whether to activate IMT.
✓	QI/PIC goes to Command Post and assumes IC.
✓	IC notifies the IMT Section Chiefs and Command Staff.
✓	Section Chiefs and Command Staff notify necessary personnel.
✓	IC briefs IMT upon arrival at Command Post.
✓	IC and Section Chiefs continually assess staffing needs.
✓	IC activates additional IMT personnel, if needed.
✓	IC de-activates IMT personnel that are not needed.

6.1 Incident Management Team (IMT) Description (Cont'd)

6.1.3 Phases of Response Management



6.1.4 Levels of Response

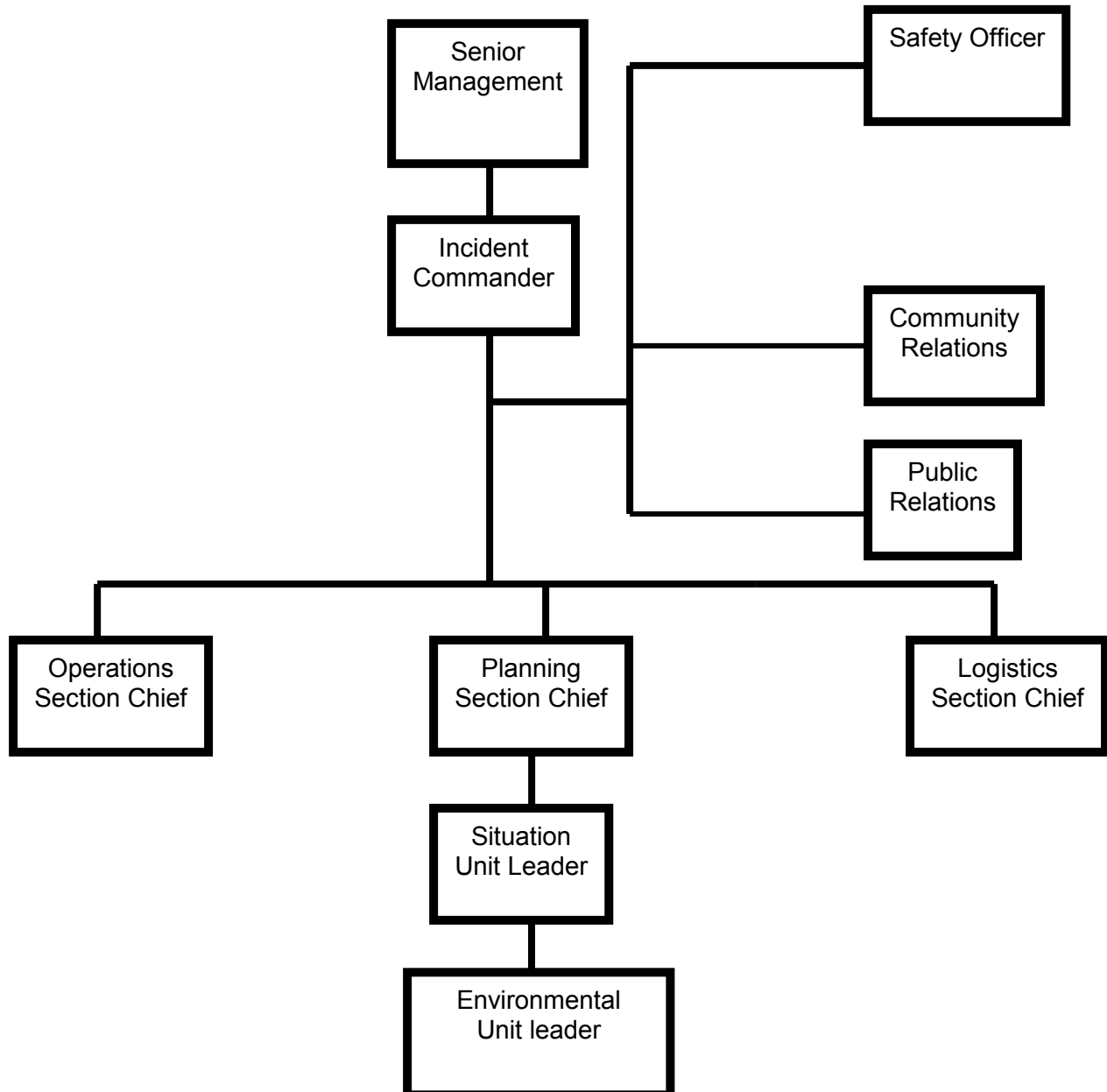
Marathon has established levels of response, which require the establishment of an ICS team. Each level should respond by implementing the three phases of Response Management when appropriate. A description of the levels of response is listed below:

Level I - A response defined as an emergency that can be reasonably addressed by the NAPO area office in which the incident occurs. The Level I response is one that can be resolved in approximately one day or less. The Operations Manager or Superintendent, with guidance from management and the NAPO HES Department, will determine when an incident exceeds the capability of his/her area of responsibility.

6.1 Incident Management Team (IMT) Description (Cont'd)

6.1.4 Levels of Response (Cont'd)

Figure 6.1 - Emergency Response Team (ERT) Organization Charts

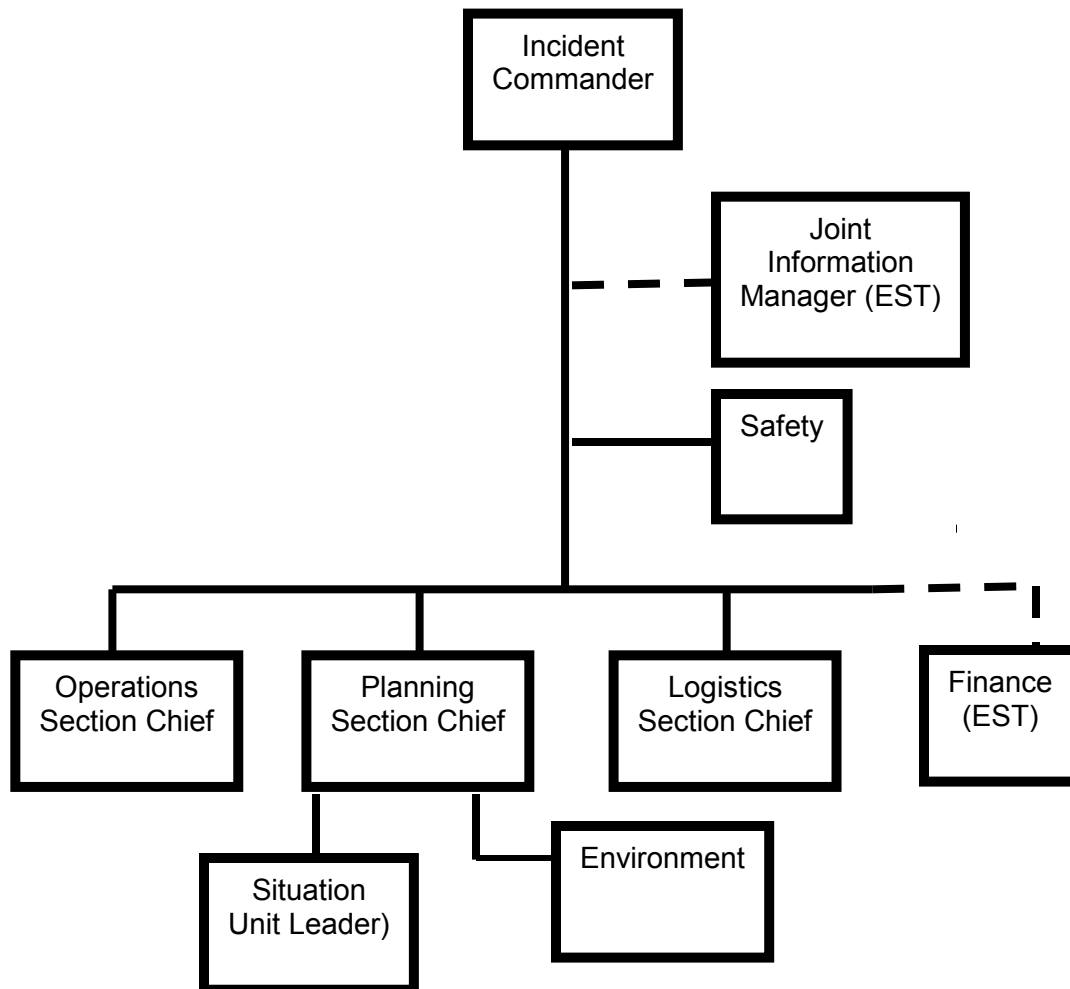


6.1 Incident Management Team (IMT) Description (Cont'd)

6.1.4 Levels of Response (Cont'd)

Level II - A response defined as an emergency that exceeds the capability of the Area Office in which the incident occurs. The Corporate Emergency Response Team (CERT) will serve as the ICS team with assistance from the Business Unit.

Figure 6.2 - Tier II – North American Production Organization Regional Response Team NAPRRT

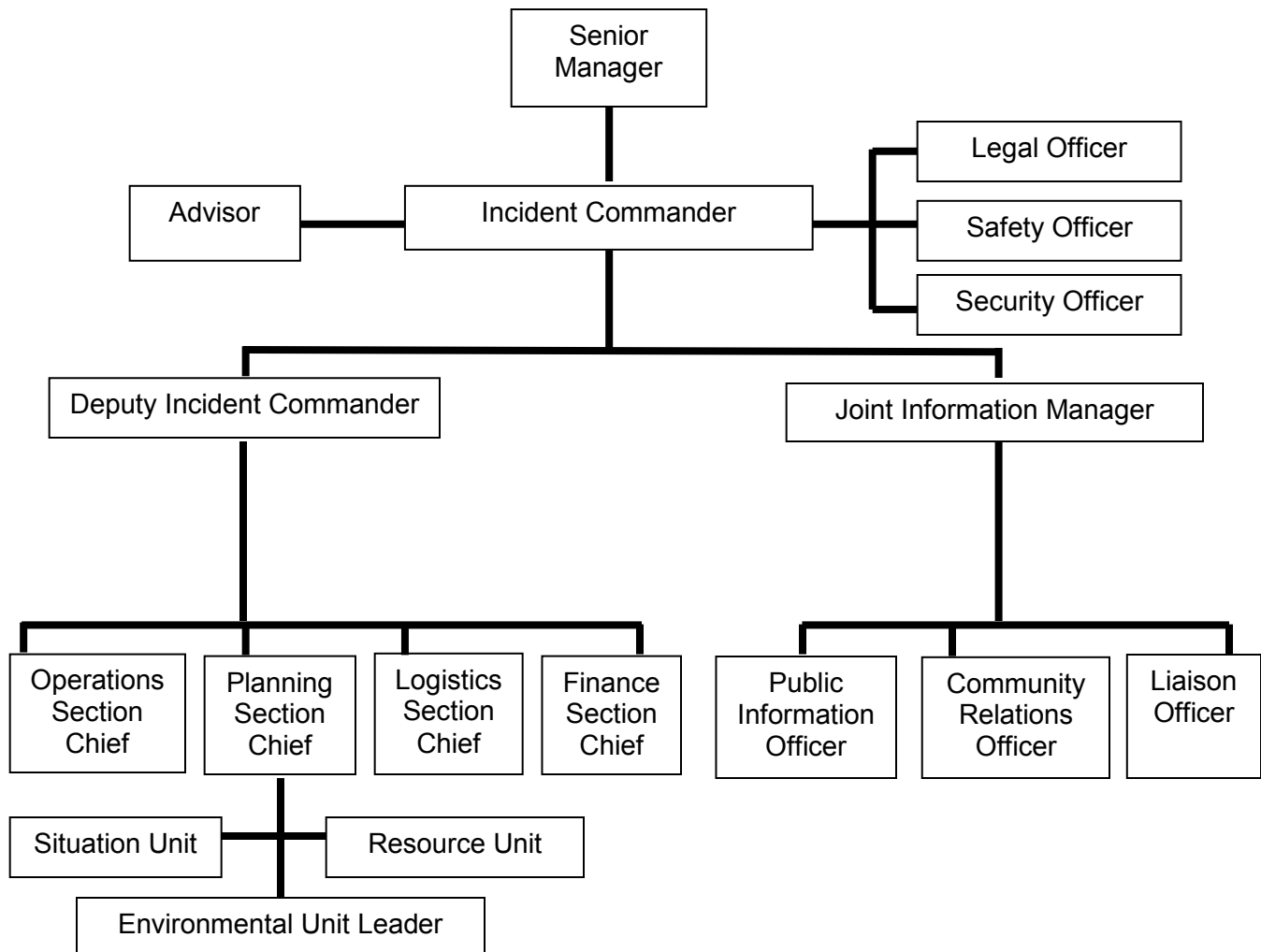


6.1 Incident Management Team (IMT) Description (Cont'd)

6.1.4 Levels of Response (Cont'd)

Level III - A response defined as a major emergency that requires the Corporate Emergency Response Team (CERT) with assistance from the Business Unit

Figure 6.3 - Tier III – EST Emergency Strike Team CERT



6.1 Incident Management Team (IMT) Description (Cont'd)

6.1.5 Team Member Response Times

The Incident Commander and IMT will mobilize to the Command Post initially. The IMT's maximum expected arrival time during off hours is 1-2 hours.

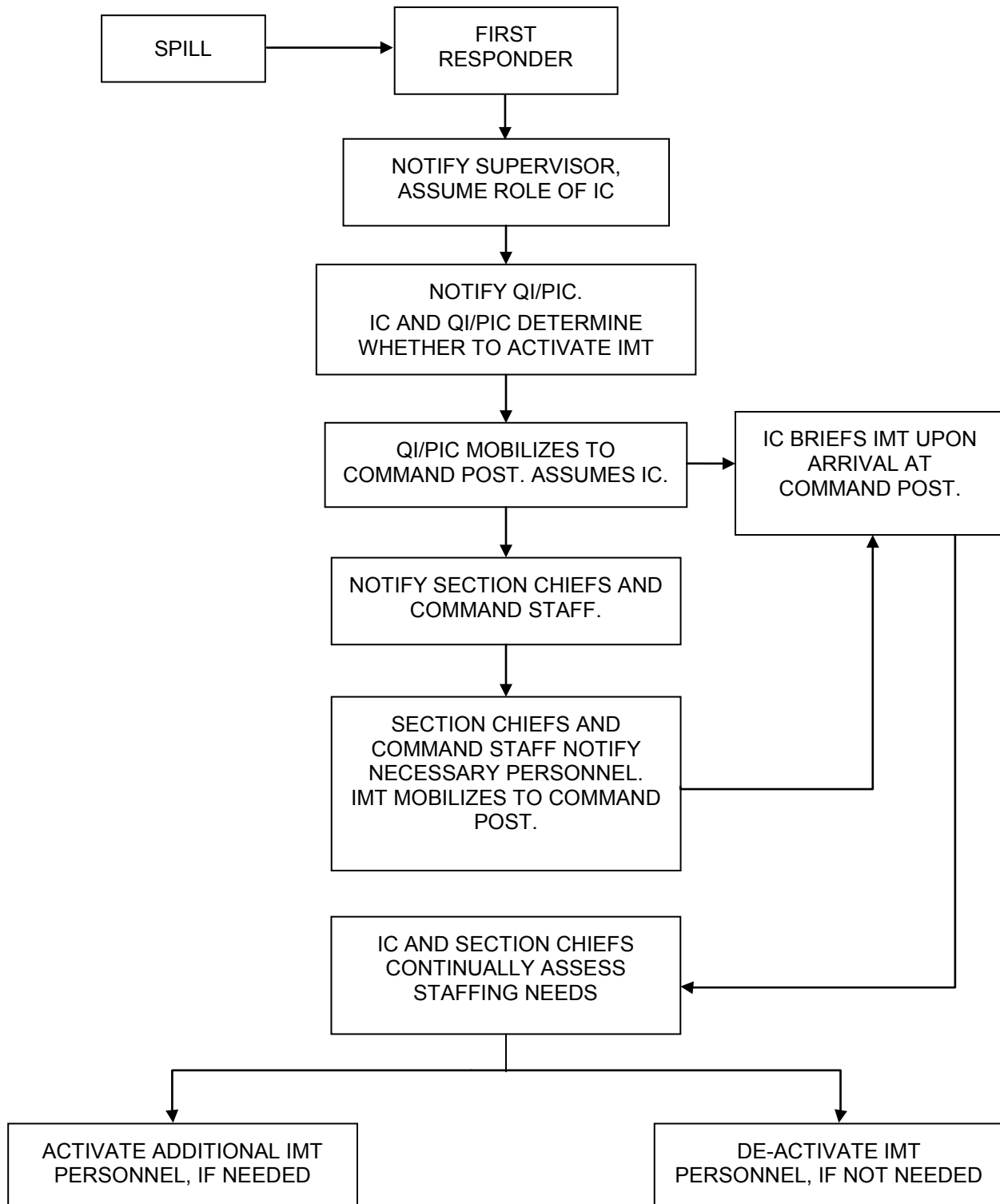
6.1.6 Additional Company Resources

Marathon's Corporate Emergency Response Staff based in Houston, Texas provides the content for the following resources. Further assistance can be found by contacting the Emergency Response Staff.

Additional Company Resources	
✓	Advisory and Resource Team
✓	Air Dispersion Modeling (ETC)
✓	Marathon Emergency Information Center (CTEIC)
✓	Communications Equipment
✓	Cultural Resources (Historic Properties)
✓	Emergency Response Staff
✓	Fire and Process Safety (ETC)
✓	Functional Teams
✓	Oil Trajectory Modeling – Oil Spills (OILMAP)
✓	Worldwide Spill Response Team

6.1 Incident Management Team (IMT) Description (Cont'd)

Figure 6.4 – IMT Activation Procedure



6.2 Incident Command System Structure

Marathon Corporation has adopted the National Incident Management System (NIMS) ICS organization as outlined in:

- Homeland Security Presidential Directive Five (HSPD-5)
- National Response Framework, January 2008

All Federal, State, tribal, and local levels of government, as well as many private sector and non-governmental organizations use ICS for a broad spectrum of emergencies. These range from small to complex incidents, both natural and manmade, and include acts of catastrophic terrorism. The Company has adopted the NIMS ICS to allow the partnership of Unified Command to be developed when required in training, exercises or responses.

Note: The document, FEMA 501, National Incident Management System was referenced in the development of this document.

ICS Organization	
The ICS is applicable across a spectrum of incidents that may differ in terms of size, scope, and complexity because of its:	
✓	Functional unit management structure.
✓	Modular organizational structure that is extendable to incorporate all necessary elements. Responsibility and performance begin with the incident command element, the IC, and build from the top down.

Functional Areas	
ICS is usually organized around five major functional areas:	
✓	Command
✓	Operations
✓	Planning
✓	Logistics
✓	Finance/administration.
The IC will establish the sixth functional area, intelligence, based on the requirement of the situation at hand.	

6.2 Incident Command System Structure (Cont'd)

Transitional Steps

Some of the more important transitional steps that are necessary to apply ICS in a field incident environment include the following:

- ✓ Recognize and anticipate the requirement that organizational elements will be activated and take the necessary steps to delegate authority as appropriate.
- ✓ Establish incident facilities as needed, strategically located, to support field operations.
- ✓ Establish the use of common terminology for organizational functional elements, position titles, facilities, and resources.
- ✓ Rapidly evolve from providing oral direction to the development of a written IAP.

Modular Extension

The modular concept is based upon the following considerations:

- ✓ Develop the form of the organization to match the function or task to be performed.
- ✓ Staff only those functional elements that are required to perform the task.
- ✓ Observe recommended span-of-control guidelines.
- ✓ Perform the function of any non-activated organizational element at the next highest level.
- ✓ Deactivate organizational elements no longer required.

Management Assignments

The IC's initial management assignments will normally be one or more section chiefs to manage the major ICS functional areas.

- ✓ Section chiefs will further delegate management authority for their areas as required.
- ✓ If needed, section chiefs may establish branches or units as appropriate for the section.
- ✓ Each functional unit leader will further assign individual tasks within the unit as needed.
- ✓ Section chiefs serve as the general staff for the IC.

Staffing

Use the separate sections to organize staff as the need arises.

- ✓ Section chiefs will further delegate management authority for their areas as required.
- ✓ If needed, section chiefs may establish branches or units as appropriate for the section.

6.2 Incident Command System Structure (Cont'd)

Leadership Titles	
✓	Incident Command; Incident Commander
✓	Command Staff; Officer
✓	Section; Section Chief
✓	Branch; Branch Director
✓	Divisions/Groups; and Supervisors (Supervisor is only used within the operations section).
✓	Unit; and Unit Leader (Applies to the subunits of the planning, logistics, and finance / administration sections).

Partners	
Several types of agencies could be in the operations section, and work together or in combinations depending on the situation.	
✓	Fire
✓	Law enforcement
✓	Public health
✓	Public works
✓	Emergency services
✓	Etc.
Other participants may include private individuals, companies, or nongovernmental organizations, some of which may be fully trained and qualified to participate as partners in the operations section.	

Tactical Operations	
The specific method selected for organizing and executing incident operations will depend on the:	
✓	Type of incident.
✓	Agencies involved.
✓	Objectives and strategies of the incident management effort.

Organization	
The organizational structure for incident tactical operations can vary and may be based on:	
✓	A method to accommodate jurisdictional boundaries.
✓	An approach that is strictly functional in nature.
✓	A mix of functional and geographical approaches.

6.2 Incident Command System Structure (Cont'd)

Branches	
Establish branches for reasons such as:	
✓	The numbers of divisions and/or groups exceed the recommended span of control for the operations section chief.
✓	The nature of the incident calls for a functional branch structure.
✓	The incident is multi-jurisdictional.

Span of Control
The section chief shall set up branches and allocate divisions and groups within them to stay within the recommended span of control. (1 Supervisor per 7 people)

Unit Sector Development Guidelines	
This procedure is written to provide guidelines in developing the various unit sectors in the Incident Command System (ICS).	
✓	Develop roster of additional personnel as needed, if any.
✓	Develop checklist that would be applicable to unit functions.
✓	Establish transportation needs, if any.
✓	Establish procedures to interact with other units or sections within the ICS System, if any. Example: Food unit must interact with Ground Support for food distribution.
✓	Develop Contact List of resources for each unit. Example: Food Unit might develop a list of local restaurants with managers' phone numbers that could provide food after regular hours.
✓	Develop procedures to document unit activities.
✓	Identify communication methods within each unit.
✓	Establish documentation of any cost items or time charges (if any) involved with each unit or section.
✓	Define objective of unit or section of the Incident Command System.
✓	Establish times to have planning meeting.

6.3 Common Responsibilities

Common Responsibilities Checklist	
Receive assignment from your agency, including:	
<input type="checkbox"/>	Job assignment (e.g., Strike Team designation, position, etc.).
<input type="checkbox"/>	Brief overview of type and magnitude of incident.
<input type="checkbox"/>	Resource order number and request number.
<input type="checkbox"/>	Reporting location & time.
<input type="checkbox"/>	Travel instructions/TONO.
<input type="checkbox"/>	Any special communications instructions (e.g., travel, radio frequency).
<input type="checkbox"/>	Monitor incident related information from media, internet, etc., if available
<input type="checkbox"/>	Assess personal equipment readiness for specific incident and climate (e.g.) medications, money, computer, medical record, etc.). Maintain a checklist of items and possible a personal Go-Kit.
<input type="checkbox"/>	Inform others as to where you are going and how to contact you.
<input type="checkbox"/>	Review Coast Guard Incident Management Handbook.
<input type="checkbox"/>	Take advantage of available travel to rest prior to arrival.
<input type="checkbox"/>	Upon arrival at the incident, check-in at the designated check-in location. Check-in may be found at any of the following locations: Incident Command Post (ICP), Base/Camps, Staging Areas, Helibases
<input type="checkbox"/>	If you are instructed to report directly to a line assignment, check-in with the Division/Group Supervisor.
<input type="checkbox"/>	Receive briefing from immediate supervisor.
<input type="checkbox"/>	Agency Representatives from assisting or cooperating agencies report to the Liaison Officer (LNO) at the ICP after check-in.
<input type="checkbox"/>	Acquire work materials.
<input type="checkbox"/>	Abide by organizational code of ethics.
<input type="checkbox"/>	Participate in IMT meetings and briefings as appropriate.
<input type="checkbox"/>	Ensure compliance with all safety practices and procedures. Report unsafe conditions to the Safety Officer.
<input type="checkbox"/>	Supervisors shall maintain accountability for their assigned personnel with regard as to exact location(s) and personal safety and welfare at all times, especially when working in or around incident operations.
<input type="checkbox"/>	Organize and brief subordinates.
<input type="checkbox"/>	Know your assigned communication methods and procedures for your area of responsibility and ensure that communication equipment is operating properly.
<input type="checkbox"/>	Use clear text and ICS terminology (no codes) in all radio communications.
<input type="checkbox"/>	Complete forms and reports required of the assigned position and ensure proper disposition of incident documentation as directed by the Documentation Unit.
<input type="checkbox"/>	Ensure all equipment is operational prior to each work period.
<input type="checkbox"/>	Report any signs/symptoms of extended incident stress, injury, fatigue or illness for yourself or coworkers to your supervisor.
<input type="checkbox"/>	Respond to demobilization orders and brief subordinates regarding Demobilization.
<input type="checkbox"/>	Prepare personal belongings for demobilization.

6.3 Common Responsibilities (Cont'd)

Common Responsibilities Checklist (Cont'd)	
<input type="checkbox"/>	Return all assigned equipment to appropriate location.
<input type="checkbox"/>	Complete Demobilization Check-out process before returning to home base.
<input type="checkbox"/>	Participate in After-Action activities as directed.
<input type="checkbox"/>	Carry out all assignments as directed.

6.4 Roles and Responsibilities Checklists

Incident Commander and Deputy IC Checklist

The Incident Commander is the individual responsible for the overall on-scene operations undertaken to control and mitigate the emergency. The Incident Commander may, at his/her discretion, activate any of the organization's sections or units as required at any level incident.

The Unified Command is responsible for the overall management of the incident. The Unified Command directs incident activities including the development and implementation of strategic decisions and approves the ordering and releasing of resources. The Unified Command may activate Deputy Incident Commanders to assist in carrying out Incident Command responsibilities.

<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain a briefing from the prior IC (201 Briefing)
<input type="checkbox"/>	Activate appropriate level of evacuation and response.
<input type="checkbox"/>	Determine Incident Objectives & general direction for managing the incident.
<input type="checkbox"/>	Establish the immediate priorities.
<input type="checkbox"/>	Establish an ICP and Staging Area.
<input type="checkbox"/>	Advise Emergency Operations Center.
<input type="checkbox"/>	Brief Command Staff and General Staff.
<input type="checkbox"/>	Establish an appropriate organization.
<input type="checkbox"/>	Ensure planning meetings are scheduled as required.
<input type="checkbox"/>	Approve and authorize the implementation of an IAP.
<input type="checkbox"/>	Ensure that adequate safety measures are in place.
<input type="checkbox"/>	Coordinate activity for all Command and General Staff.
<input type="checkbox"/>	Coordinate with key people and officials.
<input type="checkbox"/>	Approve requests for additional resources or for the release of resources.
<input type="checkbox"/>	Keep agency administrator informed of incident status.
<input type="checkbox"/>	Approve the use of trainees, volunteers, and auxiliary personnel.
<input type="checkbox"/>	Authorize release of information to the news media.
<input type="checkbox"/>	Notify Natural Resource Damage Assessment (NRDA) and coordinate NRDA Team.
<input type="checkbox"/>	Coordinate incident investigation responsibilities.
<input type="checkbox"/>	Seek appropriate legal counsel.
<input type="checkbox"/>	Ensure ICS 209 is completed and forwarded to appropriate higher authority.
<input type="checkbox"/>	Order the demobilization of the incident when appropriate.

6.4 Roles and Responsibilities Checklists (Cont'd)

Information Officer Checklist

The Information Officer, a member of the Command Staff, is responsible for developing and releasing information about the incident to the news media, to incident personnel and to other appropriate agencies and organizations.

Only one Information Officer will be assigned for each incident, including incidents operating within Unified Command or multi-jurisdictional incidents. The Information Officer may have assistants as necessary and the assistants may also represent assisting agencies or jurisdictions if warranted.

<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Determine from the Incident Commander if there are any limits on information release.
<input type="checkbox"/>	Develop material for use in media briefings.
<input type="checkbox"/>	Obtain Incident Commander approval for media releases.
<input type="checkbox"/>	Inform media and conduct media briefings.
<input type="checkbox"/>	Arrange for tours and other interviews or briefings that may be required.
<input type="checkbox"/>	Obtain media information that may be useful to incident planning.
<input type="checkbox"/>	Maintain current information summaries and/or displays of the incident and provide information on the status of the incident to incident personnel.

ICS Technical Specialist Checklist

<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Determine site specific training requirements and need for a training program
<input type="checkbox"/>	Develop site specific training program and implement as necessary
<input type="checkbox"/>	Determine the feasibility of using trainees in the response
<input type="checkbox"/>	Review trainee assignments and modify if appropriate.
<input type="checkbox"/>	Coordinate the assignments of trainees to incident positions with the Resources Unit
<input type="checkbox"/>	Keep the Safety Officer apprised of status of compliance with training requirements
<input type="checkbox"/>	Make follow-up contacts in the field to provide assistance and advice for trainees to meet training objectives, as appropriate, and with approval of Unit Leaders to ensure trainees receive performance evaluation.
<input type="checkbox"/>	Monitor operational procedures and evaluate training needs.
<input type="checkbox"/>	Respond to requests for information concerning training activities.
<input type="checkbox"/>	Give the Training Specialist records and logs to the Documentation Unit at the end of each operational period.
<input type="checkbox"/>	Maintain Unit Log (ICS 214).

6.4 Roles and Responsibilities Checklists (Cont'd)

Safety Officer Checklist	
The Safety Officer is responsible for monitoring and assessing hazardous and unsafe situations and developing measures for assuring personnel safety.	
<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain briefing from Incident Commander.
<input type="checkbox"/>	Participate in tactics and planning meetings, and other meetings / briefings as required to identify any health and safety concerns inherent in the operations daily workplan.
<input type="checkbox"/>	Identify hazardous or unsafe situations associated with the incident by ensuring the performance of preliminary and continuous site characterization and analysis which shall include the identification of all actual or potential physical, biological and chemical hazards known or expected to be present on site.
<input type="checkbox"/>	Review the IAP for safety implications.
<input type="checkbox"/>	Will coordinate the following: <ul style="list-style-type: none"> ▪ Emergency Procedures (i.e., egress, and evacuation) ▪ Personnel protection ▪ Safe working techniques • Extent of entry
<input type="checkbox"/>	Ensure the preparation and implementation of the Site Specific Health and Safety Plan (HASP) in accordance with the Area Contingency Plan (ACP) and State and Federal OSHA regulations. The HASP shall at minimum address, include or contain the following elements: <ul style="list-style-type: none"> • Health and Safety hazard analysis for each site task or operation • Comprehensive operations work plan • Personnel training requirements • PPE selection criteria • Site specific occupational medical monitoring requirements • Air monitoring plan: area/personal • Site control measures • Confined space entry procedures "only if needed" • Pre-entry briefings (tailgate meetings) initial and as needed • Pre-operations health and safety conference for all incident participants • Quality assurance of HASP effectiveness
<input type="checkbox"/>	Provide safety advice in the IAP for assigned responders. Conduct safety briefing.
<input type="checkbox"/>	Coordinate with Site Air Monitoring Unit to assure control line is positioned correctly.
<input type="checkbox"/>	Exercise emergency authority to stop and prevent unsafe acts.
<input type="checkbox"/>	Investigate accidents that have occurred within the incident area.
<input type="checkbox"/>	Assign assistants, as needed.
<input type="checkbox"/>	Review and approve the medical plan (ICS Form 206).
<input type="checkbox"/>	Develop the Site Safety Plan and publish Site Safety Plan summary (ICS Form 208) as required.
<input type="checkbox"/>	Maintain Unit Log I.C.S. Form #214.

6.4 Roles and Responsibilities Checklists (Cont'd)

Liaison Officer Checklist	
The Liaison Officer is a member of the General Staff and is the point of contact for the assisting and cooperating Agency Representatives. This includes Agency Representatives from other fire agencies, Red Cross, military, law enforcement, etc.	
<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain briefing from Emergency Manager.
<input type="checkbox"/>	Be a contact point for Agency Representatives.
<input type="checkbox"/>	Maintain a list of assisting and cooperating agencies and Agency Representatives, including name and contact information. Monitor check-in sheets daily to ensure that all Agency Representatives are identified.
<input type="checkbox"/>	Assist in establishing and coordinating interagency contacts.
<input type="checkbox"/>	Keep agencies supporting the incident aware of incident status.
<input type="checkbox"/>	Monitor incident operations to identify current or potential inter-organizational problems.
<input type="checkbox"/>	Participate in planning meetings, providing current resource status, including limitations and capability of assisting agency resources.
<input type="checkbox"/>	Coordinate response resource needs for Natural Resource Damage Assessment and Restoration (NRDAR) activities with the OSC during oil and HAZMAT responses.
<input type="checkbox"/>	Coordinate response resources for incident investigation activities with the OSC.
<input type="checkbox"/>	Ensure all required agency forms, reports and documents are completed prior to demobilization.
<input type="checkbox"/>	Brief Command on agency issues and concerns.
<input type="checkbox"/>	Have debriefing session with the IC prior to departure.
<input type="checkbox"/>	Coordinate activities of visiting dignitaries
<input type="checkbox"/>	Maintain records and Unit Log Form 214.

6.4 Roles and Responsibilities Checklists (Cont'd)

Legal Officer Checklist	
<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain briefing from the Incident Commander
<input type="checkbox"/>	Advise the Incident Commander (IC) and the Unified Command (UC), as appropriate, on all legal issues associated with response operations
<input type="checkbox"/>	Establish documentation guidelines for and provide advise regarding response activity documentation to the response team
<input type="checkbox"/>	Provide legal input to the Documentation Unit, the Compensation/Claims Unit, and other appropriate Units as requested
<input type="checkbox"/>	Review press releases, documentation, contracts and other matters that may have legal implications for the Company
<input type="checkbox"/>	Participate in Incident Command System (ICS) meetings and other meetings, as requested
<input type="checkbox"/>	Participate in incident investigations and the assessment of damages (including natural resource damage assessments)
<input type="checkbox"/>	Maintain Individual/Activity Log (ICS Form 214a).

Intelligence/Security Officer Checklist	
<input type="checkbox"/>	Collect and analyze incoming intelligence information from all sources.
<input type="checkbox"/>	Determine the applicability, significance, and reliability of incoming intelligence information.
<input type="checkbox"/>	As requested, provide intelligence briefings to the IC/UC.
<input type="checkbox"/>	Provide intelligence briefings in support of the Incident Command System Planning Cycle.
<input type="checkbox"/>	Provide Situation Unit with periodic updates of intelligence issues that impact consequence management operations.
<input type="checkbox"/>	Answer intelligence questions and advise Command and General Staff as appropriate.
<input type="checkbox"/>	Supervise, coordinate, and participate in the collection, analysis, processing, and dissemination of intelligence.
<input type="checkbox"/>	Assist in establishing and maintaining systematic, cross-referenced intelligence records and files.
<input type="checkbox"/>	Establish liaison with all participating law enforcement agencies including the CGIS, FBI/JTTF, State and Local police departments.
<input type="checkbox"/>	Conduct first order analysis on all incoming intelligence and fuse all applicable incoming intelligence with current intelligence holdings in preparation for briefings.
<input type="checkbox"/>	Prepare all required intelligence reports and plans.
<input type="checkbox"/>	As the incident dictates, determine need to implant Intelligence Specialists in the Planning and Operations Sections.

6.4 Roles and Responsibilities Checklists (Cont'd)

Operations Section Chief Checklist	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from IC.
<input type="checkbox"/>	Request sufficient Section supervisory staffing for both ops & planning activities
<input type="checkbox"/>	Convert operational incident objectives into strategic and tactical options through a work analysis matrix.
<input type="checkbox"/>	Coordinate and consult with the PSC and SOFR to model scenarios, trajectories, etc., on selection of appropriate strategies and tactics to accomplish objectives.
<input type="checkbox"/>	Identify kind and number of resources required to support selected strategies.
<input type="checkbox"/>	Subdivide work areas into manageable units.
<input type="checkbox"/>	Develop work assignments and allocate resources based on strategy requirements.
<input type="checkbox"/>	Coordinate activities with the SOFR to ensure compliance with safety practices.
<input type="checkbox"/>	Prepare ICS 234 Work Analysis Matrix with PSC to ensure Strategies & Tactics and task are in line with ICS 202 Response Objectives to develop ICS 215
<input type="checkbox"/>	Participate in the planning process & development of the tactical portions of the IAP.
<input type="checkbox"/>	Assist in development of long-range strategic, contingency, & demobilization plans.
<input type="checkbox"/>	Supervise Operations Section personnel.
<input type="checkbox"/>	Monitor need for and request additional resources to support operations as needed.
<input type="checkbox"/>	Evaluate and monitor current situation for use in next operational period planning.
<input type="checkbox"/>	Interact and coordinate with Command on achievements, issues, problems, significant changes special activities, events, and occurrences.
<input type="checkbox"/>	Troubleshoot operational problems with other IMT members.
<input type="checkbox"/>	Supervise and adjust operations organization and tactics as necessary.
<input type="checkbox"/>	Participate in operational briefings to IMT members as well as to media and visiting dignitaries.
<input type="checkbox"/>	Develop recommended list of Section resources to be demobed and initiate recommendation for release when appropriate.
<input type="checkbox"/>	Receive and implement applicable portions of the incident Demobilization Plan.

Staging Area Manager Chief Checklist	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Implement pertinent sections of the Incident Action Plan.
<input type="checkbox"/>	Establish and maintain boundaries of Staging Areas.
<input type="checkbox"/>	Post signs for identification and traffic control.
<input type="checkbox"/>	Establish check-in function as appropriate.
<input type="checkbox"/>	Determine and request logistical support for personnel and/or equipment as needed.
<input type="checkbox"/>	Advise Operations Section Chief of all changing situation/conditions on scene.
<input type="checkbox"/>	Respond to requests for resource assignments.
<input type="checkbox"/>	Respond to requests for information as required.
<input type="checkbox"/>	Demobilize or reposition Staging Areas as needed.

6.4 Roles and Responsibilities Checklists (Cont'd)

Air Operations Branch Director Checklist

The Air Operations Branch Director, who is ground based, is primarily responsible for preparing the Air Operations portion of the Incident Action Plan (ICS 220). The IAP reflects agency restrictions that have an impact on the operational capability or utilization of resources such as night flying or hours/pilot. After the IAP is approved, Air Operations is responsible for implementing strategic aspects, those that relate to the overall incident strategy as opposed to those that pertain to tactical operations like specific target selection. Additionally, the Air Operations Branch Director provides logistical support to helicopters operating on the incident. Specific tactical activities including target selection, or suggested modifications to specific tactical actions in the IAP are usually performed by the Air Tactical Supervisor who works with ground and air resources.

<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Organize preliminary Air Operations.
<input type="checkbox"/>	Request declaration of cancellation of restricted airspace.
<input type="checkbox"/>	Participate in Planning Meetings as required.
<input type="checkbox"/>	Participate in preparation of the Incident Action Plan.
<input type="checkbox"/>	Perform operational planning for Air Operations.
<input type="checkbox"/>	Prepare and provide Air Operations Summary Worksheet to the Air Support Group and Fixed-Wing Bases.
<input type="checkbox"/>	Determine coordination procedures for use by air organization with Branches, Divisions or Groups.
<input type="checkbox"/>	Coordinate with appropriate Operations Section personnel.
<input type="checkbox"/>	Supervise all Air Operations activities associated with the incident (ICS 220).
<input type="checkbox"/>	Establish procedures for emergency reassignment of aircraft.
<input type="checkbox"/>	Schedule approved flights of non-incident aircraft in the restricted air space area.
<input type="checkbox"/>	Inform the Air Tactical Group Supervisor of the air traffic situation external to the incident.
<input type="checkbox"/>	Resolve conflicts concerning non-incident aircraft.
<input type="checkbox"/>	Coordinate with Federal Aviation Agency.
<input type="checkbox"/>	Update Air Operations Plans.
<input type="checkbox"/>	Report to the Operations Section Chief on Air Operations activities.
<input type="checkbox"/>	Arrange for an incident investigation team when warranted.

6.4 Roles and Responsibilities Checklists (Cont'd)

Planning Section Chief Checklist	
The Planning Section Chief is responsible for the gathering and analysis of all data regarding the Incident Operations and Assigned Resources, developing alternatives for Tactical Operation, conducting the planning meetings and preparing the action plan for each operational period.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Emergency Manager.
<input type="checkbox"/>	Collect, process, and display incident information.
<input type="checkbox"/>	Assist OSC in the development of response strategies.
<input type="checkbox"/>	Establish information requirements and reporting schedules of all ICS organizational elements for use in preparing the Incident Action Plan.
<input type="checkbox"/>	Facilitate planning meetings and briefings.
<input type="checkbox"/>	Assign personnel already on-site to ICS organizational positions as appropriate.
<input type="checkbox"/>	Establish information requirements and reporting schedules for Planning Section Units (e.g., Resources, Situation).
<input type="checkbox"/>	Determine the need for any specialized resources in support of the incident.
<input type="checkbox"/>	Establish special information collection activities as necessary (e.g., weather, environmental, toxics, etc.).
<input type="checkbox"/>	Assemble information on alternative strategies.
<input type="checkbox"/>	Provide periodic predictions on incident potential.
<input type="checkbox"/>	Keep IMT apprised of any significant changes in incident status.
<input type="checkbox"/>	Compile and display incident status information.
<input type="checkbox"/>	Oversee preparation and implementation of the Incident Demobilization Plan.
<input type="checkbox"/>	Incorporate plans (e.g., Traffic, Medical, Communications, and Site Safety) into the IAP.
<input type="checkbox"/>	Develop other incident supporting plans (e.g., salvage, transition, security).
<input type="checkbox"/>	Assist Operations with development of the ICS 234 Work Analysis Matrix
<input type="checkbox"/>	Maintain Unit Log (ICS 214).
<input type="checkbox"/>	Develop and maintain Planning Section, Standard Operating Guidelines

6.4 Roles and Responsibilities Checklists (Cont'd)

Resources Unit Leader

The Resources Unit Leader (RESTAT) is responsible for maintaining the status of all resources (primary and support) at an incident. RESTAT achieves this through development and maintenance of a master list of all resources, including check-in, status, current location, etc. This Unit is also responsible for preparing parts of the Incident Action Plan (ICS 203, 204 & 207) and compiling the entire plan in conjunction with other members of the ICS, (e.g., Situation Unit, Operations, Logistics) and determines the availability of resources.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Review Common Responsibilities. |
| <input type="checkbox"/> | Obtain briefing and special instructions from the Planning Section Chief. |
| <input type="checkbox"/> | Participate in Planning Meetings as required. |
| <input type="checkbox"/> | Establish check-in function at incident locations. |
| <input type="checkbox"/> | Using the Incident Briefing (ICS 201) prepare and maintain the Command Post display (organizational chart and resource allocation and deployment sections of display). |
| <input type="checkbox"/> | Establish contacts with incident facilities and begin maintenance of resource status. |
| <input type="checkbox"/> | Gather, post and maintain incident resource status. |
| <input type="checkbox"/> | Maintain master roster of all resources checked in at the incident. |
| <input type="checkbox"/> | Prepare Organization Assignment List (ICS 203) and Organization Chart (ICS 207). |
| <input type="checkbox"/> | Prepare appropriate parts of assignment lists (ICS 204). |
| <input type="checkbox"/> | Provide Status Reports to appropriate requesters. |

Staging Officer Checklist

The staging area is the gateway for outside resources to the scene of the incident. Staging will account for all personnel and material before it is utilized.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Maintain Unit Log I.C.S. Form #214 and Staging Area Resources I.C.S. Form #203. |
| <input type="checkbox"/> | Proceed to Staging Area. |
| <input type="checkbox"/> | Establish Staging Area layout. |
| <input type="checkbox"/> | Determine any support needs for equipment, feeding, sanitation and security. |
| <input type="checkbox"/> | Post areas for identification and traffic control. |
| <input type="checkbox"/> | Request maintenance service for equipment at Staging Area as appropriate. |
| <input type="checkbox"/> | Obtain and issue receipts for equipment and other supplies distributed and received at Staging Area. |
| <input type="checkbox"/> | Report resource status changes as required. |
| <input type="checkbox"/> | Maintain Staging Area in orderly condition. |
| <input type="checkbox"/> | Develop and maintain all I.C.S. Staging, Standard Operating Guidelines. |
| <input type="checkbox"/> | Pick up employee sign in logs from Designated Assembly Point, Complex Evacuation Points, guard gates and public accessible buildings. |

6.4 Roles and Responsibilities Checklists (Cont'd)

Situation Unit Leader Checklist	
The Situation Unit is responsible for collecting all incident related data for the duration of the incident, organizing data into categories of information, reviewing data for completeness and requesting additional data as necessary. It is also responsible for maintaining the situation display and updating it as needed.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing and special instructions from the Planning Section Chief.
<input type="checkbox"/>	Participate in Planning Meetings as required.
<input type="checkbox"/>	Prepare and maintain Command Post display.
<input type="checkbox"/>	Collect and maintain most current incident data.
<input type="checkbox"/>	Prepare periodic predictions as requested by the Planning Section Chief.
<input type="checkbox"/>	Prepare, post and disseminate Resource and Situation Status information as required in the Incident Information Center.
<input type="checkbox"/>	Prepare the Incident Status Summary (ICS 209).
<input type="checkbox"/>	Provide status reports to appropriate requesters.
<input type="checkbox"/>	Monitor tactical radio frequencies and written reports for incident information to maintain a current status: <ul style="list-style-type: none"> • Type and location of incident • Resources assigned • Weather conditions • Personnel injuries • Action Plan
<input type="checkbox"/>	Prepare briefing forms and update at scheduled intervals or as necessary to reflect current status.
<input type="checkbox"/>	Provide and update maps for incident location and trailer routes.

6.4 Roles and Responsibilities Checklists (Cont'd)

Staging/Resources Manager and Staging/Resources Personnel Checklist

The Staging/Resources Manager and Staging/Resources Personnel are responsible for managing all activities within the Staging/Resource area, establishing all incident check-in activities, the preparation and processing of resource status change information, the preparation and maintenance of lists, charts, displays, etc. to reflect the current status and location of suppression equipment, transportation, and support vehicles; and maintaining a master check-in list of resources assigned to an incident.

<input type="checkbox"/>	Obtain a briefing from the Incident Commander.
<input type="checkbox"/>	Establish Staging area layout.
<input type="checkbox"/>	Assign duties to Staging/Resources personnel.
<input type="checkbox"/>	Post areas for identification and traffic control.
<input type="checkbox"/>	Request maintenance service for equipment at Staging as appropriate.
<input type="checkbox"/>	Respond to request for resource assignments.
<input type="checkbox"/>	Obtain and issue receipts for all supplies distributed and received at Staging area.
<input type="checkbox"/>	Report Resource status and status changes as appropriate.
<input type="checkbox"/>	Maintain Staging area in orderly condition.
<input type="checkbox"/>	Confirm dispatch and estimated time of arrival of ordered resources. Request additional personnel, or release excess personnel.
<input type="checkbox"/>	Gather, post, and maintain incident Staging/Resource status.
<input type="checkbox"/>	Gather, post, and maintain Resource status of transportation and support vehicles and personnel.
<input type="checkbox"/>	Maintain master roster of all resources checked in at Staging area.
<input type="checkbox"/>	Provide Resource summary information as requested.
<input type="checkbox"/>	Demobilize Staging/Resources area in accordance with Demobilization Plan.
<input type="checkbox"/>	Dismantle and store Staging/Resource Unit displays.
<input type="checkbox"/>	List expendable supplies that need replenishing, and file with Supply Unit leader.
<input type="checkbox"/>	Maintain Unit Log (ICS Form 214), Staging Area Resources Log (ICS Form 203), and other forms as appropriate.

6.4 Roles and Responsibilities Checklists (Cont'd)

Documentation Unit Leader Checklist	
The Documentation Unit Leader is responsible for maintaining accurate and complete incident files, providing duplication services to incident personnel and packing and storing incident files for legal, analytical and historical purposes.	
<input type="checkbox"/>	Obtain briefing from planning section chief.
<input type="checkbox"/>	Establish work area.
<input type="checkbox"/>	Establish and organize incident files.
<input type="checkbox"/>	Establish duplication service and respond to requests.
<input type="checkbox"/>	Retain and file duplicate copies of official forms and reports.
<input type="checkbox"/>	Accept and file reports and forms submitted to unit by incident organizations.
<input type="checkbox"/>	Check the accuracy and completeness of records submitted for files.
<input type="checkbox"/>	Correct errors or omissions by contacting appropriate ICS Units.
<input type="checkbox"/>	Provide duplicates of forms and reports to authorized requesters.
<input type="checkbox"/>	Maintain, retain and store incident files for after incident use.
<input type="checkbox"/>	Maintain Unit Log (ICS Form 214).

6.4 Roles and Responsibilities Checklists (Cont'd)

Environmental Unit Leader	
<p>The Environmental Unit Leader is responsible for managing all environmental matters associated with emergency response operations and for providing advice on the potential environmental impacts of response operations. The Environmental Unit Leader collects information on environmentally sensitive areas and assists in the prioritization of the areas for protection and/or cleanup measures. He/She is also responsible for assessing damage or potential damage to the environment. The Environmental Unit Leader reports to the IC.</p>	
Response Actions	
<input type="checkbox"/>	Obtain initial briefing from IC. Time: _____
<input type="checkbox"/>	Obtain briefings from Environmental Unit Leader on prior shift. Time: _____
<input type="checkbox"/>	Attend tactical operations, planning and briefing meetings conducted by the Operations, Deputy IC, and Planning Section Chief respectively. (Ongoing)
<input type="checkbox"/>	Provide Planning Section Chief with information on manpower, equipment, material, and supply needs for Environmental Unit operations. (Ongoing)
<input type="checkbox"/>	Prepare Environmental Operations Plans for inclusion in IAP(s). (Ongoing)
<input type="checkbox"/>	Collect and maintain baseline environmental data from potentially affected areas from Fate and Effects Unit Leader. (Ongoing)
<input type="checkbox"/>	Provide Operation Section Chief with information on the potential environmental impacts of emergency response operations. (Ongoing)
<input type="checkbox"/>	Supervise the compilation of environmental information to support permit applications and/or effects to obtain required government agency approvals. (Ongoing)
<input type="checkbox"/>	Become familiar with existing environmental regulations and restrictions within an incident area. (Ongoing)
<input type="checkbox"/>	Coordinate with Liaison Officer to obtain necessary government agency approvals for environmentally related permits and/or approvals. (Ongoing)
<input type="checkbox"/>	Coordinate with Waste Management Unit Leader to obtain all necessary waste management permits and approvals. (Ongoing)
<input type="checkbox"/>	Work with agencies to identify environmentally sensitive areas and wildlife habitats. (Ongoing)
<input type="checkbox"/>	Coordinate wildlife rescue and rehabilitation operations with federal and state resource agencies. (Ongoing)
<input type="checkbox"/>	Identify experts to conduct wildlife capture, transport, cleaning, rehabilitation, and release operations. (Ongoing)
<input type="checkbox"/>	If necessary, arrange for the construction/commissioning of wildlife cleaning and rehabilitation operations. (Ongoing)
<input type="checkbox"/>	Provide information to the Situation Unit Leader on the status of impacts to wildlife for inclusion in Situation Status Reports. (Ongoing)
<input type="checkbox"/>	Work with Onshore Cleanup Group Supervisor to prioritize sensitive habitat areas for protection and/or cleanup operations. (Ongoing)
<input type="checkbox"/>	Provide Onshore Cleanup Group Supervisor advice on cleanup techniques that will minimize secondary impacts to affected wildlife and/or sensitive habitat areas. (Ongoing)

6.4 Roles and Responsibilities Checklists (Cont'd)

Environmental Unit Leader (Cont'd)	
<input type="checkbox"/>	Arrange for environmental specialists to collect data and assess impacts to: (Ongoing)
<input type="checkbox"/>	■ Water quality.
<input type="checkbox"/>	■ Air quality
<input type="checkbox"/>	■ Commercial and sport fisheries.
<input type="checkbox"/>	■ Manmade structures.
<input type="checkbox"/>	■ Human health.
<input type="checkbox"/>	Identify experts to perform Natural Resource Damage Assessments operations. (Ongoing)
<input type="checkbox"/>	Coordinate Natural Resource Damage Assessment operations with Legal Officer. (Ongoing)
<input type="checkbox"/>	Ensure all environmental requirements are compiled with and communicated to the IC and his/her staff.
<input type="checkbox"/>	Ensure that systems are established that will facilitate the collection, analysis, verification, and dissemination of information on the status of emergency response resources and operations.
<input type="checkbox"/>	Supervise the compilation of environmental information necessary to obtain government agency approvals. (Ongoing)
<input type="checkbox"/>	Document all actions.

Demobilization Unit Leader Checklist	
The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan and assisting Sections/Units in ensuring that an orderly, safe and cost effective demobilization of personnel and equipment is accomplished from the incident.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing and special instructions from Planning Section Chief.
<input type="checkbox"/>	Demobilize in accordance with the Demobilization Plan.
<input type="checkbox"/>	Review incident resource records to determine probable size of demobilization effort.
<input type="checkbox"/>	Participate in Planning Meetings as required.
<input type="checkbox"/>	Evaluate logistics and transportation capabilities required to support demobilization.
<input type="checkbox"/>	Prepare and obtain approval of Demobilization Plan including required decontamination.
<input type="checkbox"/>	Distribute Demobilization Plan to each processing point.
<input type="checkbox"/>	Ensure that all Sections/Units understand their responsibilities within the Demobilization Plan.
<input type="checkbox"/>	Monitor implementation and assist in the coordination of the Demobilization Plan.
<input type="checkbox"/>	Brief Planning Section Chief on progress of demobilization.
<input type="checkbox"/>	Provide Status Reports to appropriate requesters.

6.4 Roles and Responsibilities Checklists (Cont'd)

Logistics Section Chief Checklist	
The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services and material in support of the incident. The Section Chief activates and supervises the branches and units within the Logistics Section.	
<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain briefing from Emergency Manager.
<input type="checkbox"/>	Plan the organization of the Logistics Section.
<input type="checkbox"/>	Assign work locations and preliminary work tasks to Section personnel.
<input type="checkbox"/>	Notify the Resources Unit of the Logistics Section Units activated, including names and locations of assigned personnel.
<input type="checkbox"/>	Assemble and brief Logistics Branch Directors and Unit Leaders.
<input type="checkbox"/>	Determine and supply immediate incident resource and facility needs.
<input type="checkbox"/>	In conjunction with Command, develop and advise all Sections of the IMT resource approval and requesting process.
<input type="checkbox"/>	Review proposed tactics for upcoming operational period for ability to provide resources and logistical support.
<input type="checkbox"/>	Identify long-term service and support requirements for planned and expected operations.
<input type="checkbox"/>	Advise Command and other Section Chiefs on resource availability to support incident needs.
<input type="checkbox"/>	Provide input to and review the Communications Plan, Medical Plan and Traffic Plan.
<input type="checkbox"/>	Prepare service and support elements of the Incident Action Plan.
<input type="checkbox"/>	Identify resource needs for incident contingencies.
<input type="checkbox"/>	Estimate future service and support requirements.
<input type="checkbox"/>	Coordinate and process requests for additional resources.
<input type="checkbox"/>	Track resource effectiveness and make necessary adjustments.
<input type="checkbox"/>	Advise on current service and support capabilities.
<input type="checkbox"/>	Develop recommended list of Section resources to be demobed and initiate recommendation for release when appropriate.
<input type="checkbox"/>	Receive and implement applicable portions of the incident Demobilization Plan.
<input type="checkbox"/>	Ensure the general welfare and safety of Logistics Section personnel.
<input type="checkbox"/>	Maintain Unit Log (ICS 214).
<input type="checkbox"/>	Insure general welfare and safety of Logistics Section personnel.
<input type="checkbox"/>	Develop and maintain all Standard Operating Guidelines for the Logistics Section.

6.4 Roles and Responsibilities Checklists (Cont'd)

Communications Unit Leader Checklist	
The Communications Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtaining briefing from Service Branch Director or Logistics Section Chief.
<input type="checkbox"/>	Determine Unit personnel needs.
<input type="checkbox"/>	Advise on communications capabilities/limitations.
<input type="checkbox"/>	Prepare and implement the incident Radio Communications Plan (ICS 205).
<input type="checkbox"/>	Ensure the Incident Communications Center and Message Center are established.
<input type="checkbox"/>	Set up telephone and public address system.
<input type="checkbox"/>	Establish appropriate communications distribution/maintenance locations.
<input type="checkbox"/>	Ensure communications systems are installed and tested.
<input type="checkbox"/>	Ensure an equipment accountability system is established.
<input type="checkbox"/>	Ensure personal portable radio equipment for cache is distributed per radio plan.
<input type="checkbox"/>	Provide technical information as required on: <ul style="list-style-type: none"> • Adequacy of communications systems currently in operation • Geographic limitation on communications systems • Equipment capabilities • Amount and types of equipment available • Anticipated problems in the use of communications equipment
<input type="checkbox"/>	Supervise Communications Unit activities.
<input type="checkbox"/>	Maintain records on all communications equipment as appropriate.
<input type="checkbox"/>	Ensure equipment is tested and repaired.
<input type="checkbox"/>	Recover equipment for relieved or released Units.

6.4 Roles and Responsibilities Checklists (Cont'd)

Medical Unit Leader Checklist

The Medical Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for the development of the Medical Emergency Plan, obtaining medical aid and transportation for injured and ill incident personnel and preparation of reports and records. The Medical Unit may also assist Operations in supplying medical care and assistance to civilian casualties at the incident, but is not intended to provide medical services to the public.

<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Service Branch Director or Logistics Section Chief.
<input type="checkbox"/>	Participate in Logistics Section/Service Branch planning activities.
<input type="checkbox"/>	Determine level of emergency medical activities performed prior to activation of Medical Unit.
<input type="checkbox"/>	Activate Medical Unit.
<input type="checkbox"/>	Prepare the Medical Emergency Plan (ICS 206).
<input type="checkbox"/>	Prepare procedures for major medical emergency.
<input type="checkbox"/>	Declare major medical emergency as appropriate.
<input type="checkbox"/>	Respond to requests for medical aid.
<input type="checkbox"/>	Respond to requests for medical transportation.
<input type="checkbox"/>	Respond to requests for medical supplies.
<input type="checkbox"/>	Prepare medical reports and submit as directed.

Food Unit Leader Checklist

The Food Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is responsible for determining feeding requirements at all incident facilities, menu planning, determining cooking facilities required, food preparation, serving, providing portable water and general maintenance of the food service areas.

<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Service Branch Director or Logistics Section Chief.
<input type="checkbox"/>	Determine location of working assignment and number and location of personnel to be fed.
<input type="checkbox"/>	Determine method of feeding to best fit each situation.
<input type="checkbox"/>	Obtain necessary equipment and supplies to operate food service facilities.
<input type="checkbox"/>	Set up Food Unit equipment.
<input type="checkbox"/>	Prepare menus to ensure incident personnel receive well-balanced meals.
<input type="checkbox"/>	Ensure that sufficient portable water is available to meet all incident needs.
<input type="checkbox"/>	Ensure that all appropriate health and safety measures are taken.
<input type="checkbox"/>	Supervise cooks and other Food Unit personnel.
<input type="checkbox"/>	Keep inventory of food on hand and check in food orders.
<input type="checkbox"/>	Provide supply Unit Leader food supply orders.

6.4 Roles and Responsibilities Checklists (Cont'd)

Supply Unit Leader Checklist	
The Supply Unit Leader is primarily responsible for ordering personnel, equipment and supplies; receiving and storing all supplies for the incident; maintaining an inventory of supplies and servicing non-expendable supplies and equipment.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Service Branch Director or Logistics Section Chief.
<input type="checkbox"/>	Participate in Logistics Section/Support Branch planning activities.
<input type="checkbox"/>	Provide Kits to Planning, Logistics and Finance Sections.
<input type="checkbox"/>	Determine the type and amount of supplies enroute.
<input type="checkbox"/>	Arrange for receiving ordered supplies.
<input type="checkbox"/>	Review Incident Action Plan for information on operations of the Supply Unit.
<input type="checkbox"/>	Develop and implement safety and security requirements.
<input type="checkbox"/>	Order, receive, distribute and store supplies and equipment and coordinate contracts and resource orders with the Finance Section.
<input type="checkbox"/>	Receive and respond to requests for personnel, supplies and equipment.
<input type="checkbox"/>	Maintain inventory of supplies and equipment.
<input type="checkbox"/>	Coordinate service of reusable equipment.
<input type="checkbox"/>	Submit reports to the Support Branch Director.

6.4 Roles and Responsibilities Checklists (Cont'd)

Facilities Unit Leader Checklist

The Facilities Unit Leader is primarily responsible for the layout and activation of incident facilities (e.g. Base, Camp(s) and Incident Command Post). The Facilities Unit provides sleeping and sanitation facilities for incident personnel and manages Base and Camp operations. Each facility (Base or Camp) is assigned a manager who reports to the Facilities Unit Leader and is responsible for managing the operation of the facility. The basic functions or activities of the Base and Camp Manager are to provide security service and general maintenance. The Facility Unit Leader reports to the Support Branch Director.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Review Common Responsibilities. |
| <input type="checkbox"/> | Obtaining briefing from Service Branch Director or Logistics Section Chief. |
| <input type="checkbox"/> | Participate in Logistics Section/Support Branch planning. |
| <input type="checkbox"/> | Determine requirements for each facility to be established. |
| <input type="checkbox"/> | Determine requirements for the Incident Command Post. |
| <input type="checkbox"/> | Prepare layout of incident facilities. |
| <input type="checkbox"/> | Notify Unit Leaders of facility layout. |
| <input type="checkbox"/> | Activate incident facilities. |
| <input type="checkbox"/> | Provide Base and Camp Managers. |
| <input type="checkbox"/> | Obtain personnel to operate facilities. |
| <input type="checkbox"/> | Provide sleeping facilities. |
| <input type="checkbox"/> | Provide security services. |
| <input type="checkbox"/> | Provide facility maintenance services - sanitation, lighting and clean up. |
| <input type="checkbox"/> | Demobilize Base and Camp facilities. |
| <input type="checkbox"/> | Maintain Facilities Unit records. |

Security Manager Checklist

The Security Manager is responsible to provide safeguards needed to protect personnel and property from loss or damage.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Review Common Responsibilities. |
| <input type="checkbox"/> | Establish contacts with local law enforcement agencies as required. |
| <input type="checkbox"/> | Contact Agency Representatives to discuss any special custodial requirements which affect operations. |
| <input type="checkbox"/> | Request required personnel support to accomplish work assignments. |
| <input type="checkbox"/> | Ensure that support personnel are qualified to manage security problems. |
| <input type="checkbox"/> | Develop Security Plan for incident facilities. |
| <input type="checkbox"/> | Adjust Security Plan for personnel and equipment changes and releases. |
| <input type="checkbox"/> | Coordinate security activities with appropriate incident personnel. |
| <input type="checkbox"/> | Keep peace, prevent assaults, settle disputes through coordination with Agency Representatives. |
| <input type="checkbox"/> | Prevent theft of government and personal property. |
| <input type="checkbox"/> | Document all complaints and suspicious occurrences. |

6.4 Roles and Responsibilities Checklists (Cont'd)

Ground Support Unit Leader Checklist

The Ground Support Unit Leader is primarily responsible for: Support of out-of-service resources
Coordination of transportation for personnel, supplies, food and equipment
Fueling, service, maintenance and repair of vehicles and other ground support equipment
Implementing the Traffic Plan for the incident

<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Support Branch Director or Logistics Section Chief.
<input type="checkbox"/>	Participate in Support Branch/Logistics Section planning activities.
<input type="checkbox"/>	Coordinate development of the Traffic Plan with the Planning Section.
<input type="checkbox"/>	Support out-of-service resources.
<input type="checkbox"/>	Notify Resources Unit of all status changes on support and transportation vehicles.
<input type="checkbox"/>	Arrange for and activate fueling, maintenance and repair of ground transportation resources.
<input type="checkbox"/>	Maintain inventory of support and transportation vehicles (ICS 218).
<input type="checkbox"/>	Coordinate transportation services.
<input type="checkbox"/>	Maintain usage information on rented equipment.
<input type="checkbox"/>	Requisition maintenance and repair supplies (e.g. fuel, spare parts).
<input type="checkbox"/>	Coordinate the maintenance of incident roads.
<input type="checkbox"/>	Submit reports to the Support Branch Director as directed.

6.4 Roles and Responsibilities Checklists (Cont'd)

Logistics and Administration Support Checklist	
Transport	<ul style="list-style-type: none"> <input type="checkbox"/> Are transport arrangements confirmed for the entire assessment? <input type="checkbox"/> Identify back-up transport options are available in case of emergency <input type="checkbox"/> Activate heavy equipment contractor for back hoe, track hoe, bull dozers, etc: <input type="checkbox"/> Activate Vacuum truck contractors for transportation of liquids <input type="checkbox"/> Locate and put on standby maintenance contractor to service heavy equipment and vehicles <input type="checkbox"/> Provide on site refuelling for all heavy equipment and support vehicles
Communications equipment	<ul style="list-style-type: none"> <input type="checkbox"/> Do all team members have adequate communications equipment and training? <input type="checkbox"/> Are back-up communications systems available? Activate contract resources to provide portable radio nets, wifi or portable hot spots, satellite communications system or alternative communications equipment as needed <input type="checkbox"/> Are all assessment team members briefed on the process and have phone numbers to call in a crisis? <input type="checkbox"/> Cell phone charging batteries or cords <input type="checkbox"/> Basic computer/internet access, available <input type="checkbox"/> Tactical Communications <input type="checkbox"/> Develop quick reference list of frequencies/phone numbers
Water	<ul style="list-style-type: none"> <input type="checkbox"/> Provide water for all persons onsite. Average minimum 2 gallons per person per day, more if high temperatures are expected. <input type="checkbox"/> A dedicated "dirty water container is what you use to collect and store raw water before you purify and/or disinfect it. They should always be kept separate from "clean water" containers. "Gray Water" is water from sinks and showers that can be used for gardening, flushing toilets, etc. "Black Water" is water that contains animal, human, or food waste. <input type="checkbox"/> A spigot-controlled water supply.
Meals	<ul style="list-style-type: none"> <input type="checkbox"/> Minimum-prepared foods are those that require little or no cooking before eating. MRE's/non perishable food items/snacks <input type="checkbox"/> Consider food allergies or dietary restrictions <input type="checkbox"/> Flatware (plates, bowls, cups, spoons, forks, knives, napkins, etc.) <input type="checkbox"/> Transportation and Location of food <input type="checkbox"/> Perishable Food - determine the climate conditions and specific food types (cold weather – hot foods) <input type="checkbox"/> Disposal containers (trash bags, garbage containers) <input type="checkbox"/> Will meals be available for the team in the disaster area? If potentially no, then has the team been given meal provisions? <input type="checkbox"/> Establish catering services for field locations and incident command post prepare for 24 hour operations

6.4 Roles and Responsibilities Checklists (Cont'd)

Logistics and Administration Support Checklist	
Accommodation	<input type="checkbox"/> Set up local hotel accommodations for response team members <input type="checkbox"/> Locate hotels/lodging in the area. Check for availability. <input type="checkbox"/> If hotels are not accessible, has the team been provided with sleeping equipment? Activate portable lodging facilities if needed <input type="checkbox"/> Sleeping bags, cots, etc <input type="checkbox"/> Sanitation Facilities <input type="checkbox"/> Portable tents or awnings for site protection <input type="checkbox"/> Portable trailers for on scene command post
Team and Personal Equipment	<input type="checkbox"/> Has the team been provided with appropriate: <ul style="list-style-type: none"> ○ Safety equipment including first aid kits, fire extinguishers, maps, telecommunications equipment, and identification flags, PPE, etc.? ○ Office equipment including laptops, portable printer, business cards, cashbox, paper, etc.? ○ Personal equipment and supplies (toiletries)?
Alternative Energy	<input type="checkbox"/> Ability to recharge batteries <input type="checkbox"/> Order misc batteries for portable devices and proper disposal containers for spent batteries <input type="checkbox"/> Generator with enough capacity to power critical needs. (short term solution) <input type="checkbox"/> Set up fuel delivery service to provide on site refuelling
Clothing	<input type="checkbox"/> Determine the clothing requirements (FR, special coveralls, etc) <input type="checkbox"/> Determine the type of weather conditions (waterproof, winter outerwear, waders, gloves, foot ware) <input type="checkbox"/> Anticipate needing replacement sets of clothing
Lighting	<input type="checkbox"/> If night operations are expected locate Light Plants and deploy to location <input type="checkbox"/> Establish service and refuelling operations for the light plants and generators
First Aid, Medical	<input type="checkbox"/> AED <input type="checkbox"/> First Aid Kits/Burn Kits <input type="checkbox"/> Establish need for specialized air monitoring equipment, identify source and activate resources as needed <input type="checkbox"/> Establish on site medical monitoring by local EMT or contract service <input type="checkbox"/> Establish contact with local hospitals and identify nearest Level I Trauma Center <input type="checkbox"/> Prepare for possibility of activating Life Flight for medical emergencies <input type="checkbox"/> Hot weather (Sun block, ice packs)(Cooling sites) <input type="checkbox"/> Cold Weather (Hand warmers)(Warm up sites) <input type="checkbox"/> On-site personnel & Location(s) of First Aid Station(s) <input type="checkbox"/> Hazardous protection (gloves, masks, FRC, SAR and refill stations, hearing protection, glasses/goggles)

6.4 Roles and Responsibilities Checklists (Cont'd)

Finance Section Chief Checklist	
The Finance Section Chief will determine, based on present and future requirements, the need for establishing specific units.	
<input type="checkbox"/>	Review Common Responsibilities
<input type="checkbox"/>	Obtain briefing from Emergency Manager.
<input type="checkbox"/>	Participate in incident planning meetings and briefings as required.
<input type="checkbox"/>	Provide input in all planning sessions on financial and cost analysis matters.
<input type="checkbox"/>	Review operational plans and provide alternatives where financially appropriate.
<input type="checkbox"/>	Manage all financial aspects of an incident.
<input type="checkbox"/>	Provide financial and cost analysis information as requested.
<input type="checkbox"/>	Gather pertinent information from briefings with responsible agencies.
<input type="checkbox"/>	Develop an operating plan for the Finance/Admin Section; fill supply and support needs. Inform Emergency Manager and General Staff when section is fully operational.
<input type="checkbox"/>	Prepare work objectives for subordinates, brief staff, make assignments and evaluate performance.
<input type="checkbox"/>	Determine the need to set up and operate an incident commissary.
<input type="checkbox"/>	Meet with Assisting and Cooperating Agency Representatives, as needed.
<input type="checkbox"/>	Maintain daily contact with agency(s) administrative headquarters on Finance/Admin matters.
<input type="checkbox"/>	Ensure that all personnel time records are accurately completed and transmitted to home agencies, according to policy.
<input type="checkbox"/>	Provide financial input to demobilization planning.
<input type="checkbox"/>	Ensure that all obligation documents initiated at the incident are properly prepared and completed.
<input type="checkbox"/>	Brief agency administrative personnel on all incident-related financial issues needing attention or follow-up prior to leaving incident.
<input type="checkbox"/>	Develop recommended list of Section resources to be demobed and initial recommendation for release when appropriate.
<input type="checkbox"/>	Receive and implement applicable portions of the incident Demobilization Plan.
<input type="checkbox"/>	Maintain Unit Log (ICS 214).
<input type="checkbox"/>	Develop and maintain Finance Section, Standard Operating Guidelines.

6.4 Roles and Responsibilities Checklists (Cont'd)

Time Unit Leader Checklist	
The Time Unit Leader is responsible for equipment and personnel time recording.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtaining briefing from Finance Section Chief.
<input type="checkbox"/>	Determine resource needs.
<input type="checkbox"/>	Establish contact with appropriate agency personnel/representatives.
<input type="checkbox"/>	Organize and establish Time Unit.
<input type="checkbox"/>	Establish Time Unit objectives.
<input type="checkbox"/>	Ensure that daily personnel time recording documents are prepared in compliance with time policies.
<input type="checkbox"/>	Establish commissary operation as required.
<input type="checkbox"/>	Submit cost estimate data forms to Cost Unit as required.
<input type="checkbox"/>	Provide for records security.
<input type="checkbox"/>	Ensure that all records are current or complete prior to demobilization.
<input type="checkbox"/>	Release time reports for assisting agencies to the respective Agency Representatives prior to demobilization.
<input type="checkbox"/>	Brief Finance Section Chief on current problems, recommendations, outstanding issues and follow-up requirements.

Cost Unit Leader Checklist	
The Cost Unit Leader is responsible for collecting all cost data, performing cost effectiveness analyses and providing cost estimates and cost saving recommendations for the incident.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Review Unit Leader Responsibilities.
<input type="checkbox"/>	Obtaining briefing from Finance Section Chief.
<input type="checkbox"/>	Coordinate with agency headquarters on cost reporting procedures.
<input type="checkbox"/>	Obtain and record all cost data.
<input type="checkbox"/>	Prepare incident cost summaries.
<input type="checkbox"/>	Prepare resources-use cost estimates for Planning Section.
<input type="checkbox"/>	Make recommendations for cost savings to Finance/Administration Section Chief.
<input type="checkbox"/>	Maintain cumulative incident cost records.
<input type="checkbox"/>	Ensure that all cost documents are accurately prepared.
<input type="checkbox"/>	Complete all records prior to demobilization.
<input type="checkbox"/>	Provide reports to Finance Section Chief.

6.4 Roles and Responsibilities Checklists (Cont'd)

Compensation and Claims Unit Leader Checklist	
The Compensation/Claims Unit Leader is responsible for the overall management and direction of all Compensation for Injury Specialist and Claims Specialists assigned to the incident.	
<input type="checkbox"/>	Review Common Responsibilities.
<input type="checkbox"/>	Obtain briefing from Finance Section Chief.
<input type="checkbox"/>	Establish contact with incident Safety Officer and Liaison Officer or Agency Representatives if no Liaison Officer is assigned.
<input type="checkbox"/>	Determine the need for Compensation for Injury and Claims Specialists and other personnel if needed.
<input type="checkbox"/>	Establish Compensation for injury work area with the Medical Unit whenever feasible.
<input type="checkbox"/>	Review Incident Medical Plan.
<input type="checkbox"/>	Ensure that Compensation/Claims Specialists have adequate work space and supplies.
<input type="checkbox"/>	Brief Compensation/Claims Specialists on incident activity.
<input type="checkbox"/>	Coordinate with Procurement Unit on procedures for handling claims.
<input type="checkbox"/>	Periodically review all logs and forms produced by Compensation/Claims Specialists to ensure: <ul style="list-style-type: none"> • Work is complete • Entries are accurate and timely • Work is in compliance with Agency requirements and policies
<input type="checkbox"/>	Keep Finance Section Chief briefed on Unit status and activity.
<input type="checkbox"/>	Ensure that all Compensation for Injury and Claims Logs and Forms are up to date and routed to the proper agency for post-incident processing prior to demobilization.
<input type="checkbox"/>	Demobilize Unit in accordance with Demobilization Plan.

6.5 Public Affairs Guidance

This section contains guidelines for dealing with the media during an emergency. The Incident Commander will play a key role in providing the initial public assessment and taking the first steps to provide the Company's public response.

6.5.1 Guidelines for Dealing with the Media

Guidelines for Dealing with the Media

✓	You as a Company Manager are the most logical person for reporters to seek out for information
✓	If you don't answer the reporters' questions, they will look elsewhere to find out what happened. However, if you do not have this information or are not prepared to answer a particular question, say so. Then say when they can expect the answers to their questions (i.e. one hour, etc.)
✓	It is important to be courteous to all media representatives and to provide a safe place for them to wait until a company representative can meet them. You may need to provide an initial statement

Provide:

✓	A brief, general description of what happened
✓	Number of injured or killed, if known
✓	Steps being taken to handle the emergency

Do Not Provide:

✓	Names of deceased or seriously injured employees until the next-of-kin have been notified
✓	Speculation about the cause of the emergency
✓	Any statement implying personal or company negligence
✓	Cost estimates of damage

6.5 Public Affairs Guidance (Cont'd)

6.5.1 Guidelines for Dealing with the Media (Cont'd)

Other Considerations	
✓	Safety considerations should always receive priority in determining access to company property
✓	Anticipate likely questions:
✓	There are only six questions that can be asked about any subject: Who, What, When, Where, Why and How.
✓	Keep answers short and understandable. Answer only the question that is asked by the reporter.
✓	Give the most important facts first.
✓	Talk to the public's concern about the incident.
✓	Are there deaths or injuries? Is there an immediate threat to the public? Is there any danger of explosion? Is the fire under control? Can it be controlled?
✓	If you don't know the answer to a question, don't be afraid to say "I don't know".
✓	Make note of the question and tell the reporter that you will try to get the answer for him - then do it.
✓	Don't be defensive.
✓	There is no such thing as "Talking off the record".
✓	Assume that anything and everything you say to a reporter is going to be printed or used in the story.
✓	Avoid "What if?" or speculative questions.
✓	These questions should be answered with a restatement of the problem and what is being done to control it.
✓	Don't speculate about the cause of the incident.
✓	Don't minimize the situation.

6.5 Public Affairs Guidance (Cont'd)

Figure 6.5 – Incident Fact Sheet

What occurred	
When (Time)	
Where (Location)	
What are the hazards	
How is the situation being handled	
How many people involved	
Confirmed injuries/fatalities	
How/where being treated	
Name of injured (release only after next-of-kin are notified and with Company approval)	
Name of fatalities (release only after next-of-kin are notified and with Company approval)	
What agencies have been notified	
On scene? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Who is in charge	
Has outside help been requested	Who
On scene? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there danger to the facility	
Is there danger to the community	What
Is there an environmental hazard	
What is the environmental hazard	
What is being done to minimize environmental threat	
Is there a need for evacuation	

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A.1 Notification

Information provided in the Emergency Notification Phone List identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency.

The Emergency Notification Phone List must:

✓	Contain all appropriate phone numbers for the facility.
✓	Be verified each time the plan is updated.
✓	Be accessible to all facility employees. In the event of a discharge, every facility staff member could immediately notify the appropriate parties.

A.1.1 Emergency Notification Phone List

FEDERAL / STATE / CORPORATE NOTIFICATIONS	
Organization	Phone Number
National Response Center	800-424-8802 or 202-267-2675
Qualified Individual/Person in Charge	See Section 1 of this Plan
Corporate Response Team	866-MOC-CERT (866-662-2378)
Federal On-Scene Coordinator (OSC) and/or Regional Response Center	U.S. EPA Region VIII: (303) 312-6312
Other Phone	800-227-8917
U. S. Fish and Wildlife Service: Colorado Field Office	Telephone: 303-236-4773 / 970-243-2778 Fax: 303-236-4005
Division of Wildlife Headquarters Northwest Region	Main: 303-297-1192 NW Region: 970-255-6100
Bureau of Land Management Grand Junction Office	Telephone: 970-244-3000 Fax: 970-244-3083
FBI	304-624-6200 or 412-471-2000
Bureau of Alcohol, Tobacco and Firearms	304-347-5249
Drug Enforcement Administration	304-347-5209
U.S. Marshal Service	304-623-0486
U.S. Secret Service	304-347-5188
Colorado Division of Wildlife	970-255-6100
Colorado Emergency Planning Commission (CEPC)	303-692-3300
Other important numbers:	
Poison Control Center	800-222-1222

A.1 Notification (Cont'd)

A.1.1 Emergency Notification Phone List (Cont'd)

MEDIA / ADDITIONAL INFORMATION			
TV Channels	Phone Numbers	Newspapers	Phone Numbers
Piceance Basin, CO			
KKCO 11 News (NBC) Grand Junction, CO	970-243-1111	Grand Junction Daily Sentinel Grand Junction, CO	970-242-5050
KJCT News 8 (ABC) Grand Junction, CO	970-245-8880	Citizen Telegram Rifle, CO	970-625-3245
KREX News 5 (CBS) Grand Junction, CO	970-242-5000	Glenwood Post Independent Glenwood, CO	970-384-9102
Channel 10 Rifle, CO	970-625-6255	The Nickel	970-242-5555
Radio Stations	Phone Numbers	Radio Stations	Phone Numbers
Colorado West Broadcasting	970-945-9124	Cummulus Broadcasting	970-242-7788
MBC Grand Broadcasting	970-254-2100	Western Slope Communications	970-241-6460
For additional local media outlets, please contact the LEPC.			
WILDLIFE REHABILITATION SPECIALISTS			
International Bird Rescue Research Center, Berkeley, CA		510-841-9086	
Tri-State Bird Rescue Research Center Newark, DE Eileen Gilbert		302-737-7241 800-710-0695* (Pager)	
Wildlife Rehab & Education, Houston, TX Michele Johnson		281-481-3528 (Home) 281-418-8100 (Pager)	
Sharon Schmalz		281-332-8319 (Home) 713-279-1417 (Pager)	
The Schneegas Wildlife Foundation, Silt, CO Nanci Limbach Natalie Hert		970-876-5676 970-309-1885	
AIR TRANSPORTATION			
Federal Aviation Administration (FAA)		866-835-5322	
Grand Junction Regional Airport		970-244-9100	

A.2 External Notifications

A.2.1 Federal and State Notifications

National Response Center



NRC

24 Hour Phone

800-424-8802

The NRC is the **sole** federal point of contact for reporting oil and chemical spills which enter or threaten to enter the navigable waters of the United States. If you have a spill to report, contact the NRC via the toll-free number or visit the NRC Web Site (<http://www.nrc.uscg.mil>) for additional information on reporting requirements and procedures. For those without 800 access, please contact the NRC at 202-267-2675.

The National Response System (NRS) is the government's mechanism for emergency response to discharges of oil and the release of chemicals into the navigable waters or environment of the United States and its territories. Initially, this system focused on oil spills and selected hazardous polluting substances discharged into the environment. It has since been expanded by other legislation to include hazardous substances and wastes released to all types of media.


The [Federal Water Pollution Control Act \(FWPCA\) or Clean Water Act](#), which was established to protect the public and environment from discharges involving U.S. waters and their adjacent shorelines, was amended in 1973 to provide for a federal spill response mechanism to help meet the challenge of responding to these incidents. Most specifically, it provided for the development of a National Contingency Plan, which would "provide for efficient, coordinated and effective action to minimize damage from oil and hazardous substance discharges, including containment, dispersal and removal of oil and hazardous substances.

While the FWPCA provided for federal response only to those spills involving U.S. waters and their adjoining shorelines, it was recognized that a more comprehensive document was necessary, which would encompass all the media under the jurisdiction of the United States. To satisfy this requirement, the [Environmental Protection Agency](#) drafted, and Congress enacted, the [Comprehensive Environmental Response Compensation and Liability Act \(CERCLA\)](#), which not only encompasses all media but includes those materials formally regulated by the FWPCA, the [Toxic Substance Control Act](#) and the [Resource Conservation and Recovery Act](#). The responsibility of receiving these reports was given to the National Response Center.

A.2 External Notifications (Cont'd)

A.2.1 Federal and State Notifications (Cont'd)


Environmental Protection Agency

	<p>EPA (Region 8) (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations)</p>
<p>Address: 999-18th Street, Suite 300 Denver, CO 80202-2466</p>	<p>Additional Information: Phone: 303-312-6312 Phone: 800-227-8917 (Region 8 States Only) Emergency Response Spill Report Hotline: 800-227-8914 Federal On-Scene Coordinator (Martha Wolf): 303-312-6839 http://www.epa.gov/region8/</p>
<p>Reporting Requirements</p>	
<p>Type</p>	<p>All spills that impact or threaten navigable water or adjoining shorelines</p>
<p>Verbal:</p>	<p>As soon as possible</p>
<p>Written:</p>	<p>As requested by the agency</p>

A.2 External Notifications (Cont'd)

A.2.1 Federal and State Notifications (Cont'd)

Bureau of Land Management

	<h2>U.S. Department of the Interior – Bureau of Land Management</h2>	
Colorado		
Address: 2815 H Road Grand Junction, CO 81506	Additional Information: (970) 244-3000 (970) 244-3083FAX http://www.blm.gov/co/st/en.html	
Address: Colorado River Valley Field Office 2300 River Frontage Road Silt, CO 81652	Additional Information: (970) 876-9000 (970) 876-9090 FAX http://www.blm.gov/co/st/en/fo/crvfo.html	
<h3><u>OIL SPILL REPORTING ON FEDERAL LEASES</u></h3>		
<p><u>For:</u></p> <ul style="list-style-type: none"> • Spills of 100 bbls or more of liquid (oil or produced water) if <u>not contained</u>; or • Any spill, venting or fire on undeveloped surfaces or in a sensitive area such as a waterway, urban area, or threatened and endangered species habitat. <p><u>Requirement:</u> Call BLM at (661) 391-6130 immediately and fax a written report form to (661) 391-6156 within 15 days of start of incident.</p>		
<p><u>For:</u></p> <ul style="list-style-type: none"> • Spills of 100 bbls or more of liquid (oil or produced water) if <u>contained</u> by a facility berm; or • Any spill between 10 bbls and 100 bbls or oil or produced water <p><u>Requirement:</u> No phone call required. Fax a written report form to (661) 391-6156 within 15 days</p>		

A.2 External Notifications (Cont'd)

A.2.1 Federal and State Notifications (Cont'd)

U.S. Fish and Wildlife Service



U.S. Fish and Wildlife Service

Colorado

Denver Office
PO box 25486
Denver Federal Center (MS 65412)
Denver, CO 80225

Telephone: 303-236-4773
Fax: 303-236-4005

Grand Junction Office
West Colorado Field Office
764 Horizon Drive, Building B
Grand Junction, CO 81506-2778

Telephone: 970-243-2778
Fax: 970-245-6933

The U.S. Fish and Wildlife Service provides advice, including appropriate cleanup techniques, actions and end points to the Federal On-Scene Coordinator to protect threatened and endangered species, migratory birds, anadromous fish, certain marine mammals, and on-shore sea turtles. The Service also provides oversight of bird hazing, collection and treatment activities, and coordination of all Federal permitting activities for hazing, collecting, rescue and holding migratory birds, certain marine mammals and threatened and endangered species. As a major Federal landowner, the Services is also responsible for preparing for and responding to spills that may occur on the 95 million acre National Wildlife Refuge system.

<http://www.fws.gov/coloradoES/>

Occupational Safety & Health Administration



OSHA

**Occupational Safety & Health
Administration (OSHA)**

800-321-6742

Basic requirement. Within eight (8) hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident, you must orally report the fatality/multiple hospitalization by telephone or in person.

A.2 External Notifications (Cont'd)

A.2.1 Federal and State Notifications (Cont'd)

U.S. Army Corp of Engineers



U.S. ACOE

U.S. Army Corp of Engineers

Sacramento District
1325 J Street
Sacramento, CA 95814-2922

General Questions: 916-557-7461

Emergency Response Team:

916-557-6919

Website – www.USACE.ARMY.MIL


The U.S. Army Corps of Engineers to provide an extensive range of expertise:

- Engineering and construction support;
- Debris management;
- Critical infrastructure assessment;
- Temporary repairs;
- Temporary housing or facilities installation; and
- Commodities (typically ice and water) and associated distribution systems assistance.

A.2 External Notifications (Cont'd)

A.2.1 Federal and State Notifications (Cont'd)

Colorado Oil and Gas Conservation Commission

 COGCC	
Main Office: 1120 Lincoln Street, Suite 801 Denver, CO 80203	Denver Phone: 303-894-2100 Denver Fax: 888-235-1101 Denver - Complaint: 303-894-2109 (fax)
Rifle Office 707 Wapiti Court, Suite 204 Rifle, CO 81650	Rifle Phone: 970-625-2497 Rifle Fax: 970-625-5682
Northwest Region Environmental Protection Specialist	Chris Canfield (Rifle) Phone: 970-625-2497, Ext. 3 Mobile: 970-216-6832
Northwest Region Field Inspections Supervisor	Shaun Kellerby (Parachute) Phone: 970-285-7235 Mobile: 970-712-1248 Fax: 970-285-7329
<p>Any spill affecting waters of the State must be reported both to the Colorado Department of Public Health & Environment (CDPHE) and the Colorado Oil & Gas Conservation Commission (COGCC) as soon as practical after discovery, with written notification to be provided within five days.</p> <p>Any spill impacting residences, occupied structures, livestock, or public byways must be reported to the COGCC as soon as practical after discovery.</p> <p>Any spill of 5 bbls or more must be reported in writing to the COGCC within 10 days, using Form-19.</p> <p>Any spill of 20 bbls or more to land (including lined dikes) must be verbally reported within 24 hours to the Colorado Oil & Gas Conservation Commission (COGCC).OIL</p>	

A.2 External Notifications (Cont'd)**A.2.1 Federal and State Notifications (Cont'd)****Colorado Department of Public Health and Environment**

Colorado Department of Public Health and Environment	
CDPHE	
Main Campus 4300 Cherry Creek Drive South Denver, Colorado 80246-1530	Denver: 877-518-5608 (24-Hour Spill Hotline) Denver: 303-759-5355
West Slope Regional Office 222 S. 6 th Street, Room 232 Grand Junction, CO 81501	Grand Junction: 970-248-7150
Any spill affecting waters of the State must be reported both to the Colorado Department of Public Health & Environment (CDPHE) and the Colorado Oil & Gas Conservation Commission (COGCC) as soon as practical after discovery, with written notification to be provided within five (5) days.	

A.2 External Notifications (Cont'd)

The Colorado Spill/Release Report is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and Remediation Workplan (Form 27) when requested by the Director.

Spills creating a sheen on navigable waters require immediate reporting to the U.S. Coast Guard's National Response Center, (800) 424-8802.

Any spill affecting waters of the State must be reported both to the Colorado Department of Public Health & Environment (CDPHE) and the Colorado Oil & Gas Conservation Commission (COGCC) as soon as practical after discovery, with written notification to be provided within five days.

Any spill impacting residences, occupied structures, livestock, or public byways must be reported to the COGCC as soon as practical after discovery.

Any spill of 5 bbls or more must be reported in writing to the COGCC within 10 days, using Form-19.

Any spill of 20 bbls or more to land (including lined dikes) must be verbally reported within 24 hours to the Colorado Oil & Gas Conservation Commission (COGCC).

For any spill resulting in the injury or death of fish or wildlife, contact the Colorado Division of Wildlife and the US Fish & Wildlife Service.

In certain situations, spills of selected chemicals released to the environment, over a specified reportable amount, may also be reportable to local, state, and federal agencies. Reporting required for CERCLA substances is reportable to NRC, SERC (CEPC in Colorado) and LEPC. However, for SARA substances reporting is only to the SERC (CEPC) and LEPC, with NRC reporting not required. Also note that CERCLA reporting is not required for substances naturally occurring in the spilled produced hydrocarbon, due to the CERCLA production waste exclusion.

Phone Numbers

- Colorado Oil & Gas Conservation Commission (COGCC)
 - 970-285-0232
 - 303-894-2100
 - Denver: 888-235-1101
 - 303-894-2109 (fax)
- Colorado Department of Public Health & Environment
 - 877-518-5608 (24 hr. spill hotline)
 - 303-759-5355 (fax)
- Colorado Division of Wildlife, Grand Junction: 970-255-6100
- Colorado Emergency Planning Commission (CEPC): 303-692-3300
- Garfield County Emergency Planning Commission (LEPC): 970-945-0453
- US Fish & Wildlife Service, Grand Junction: 970-243-2778
- National Response Center (NRC): 800-424-8802

A.2 External Notifications (Cont'd)

**FORM
19**
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission
 1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

SPILL/RELEASE REPORT

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and Remediation Workplan (Form 27) when requested by the Director.

Spill report taken by: _____

 FACILITY ID: _____

OPERATOR INFORMATION

Name of Operator: _____	OGCC Operator No: _____	Phone Numbers
Address: _____		No: _____
City: _____ State: _____ Zip: _____		Fax: _____
Contact Person: _____		E-Mail: _____

DESCRIPTION OF SPILL OR RELEASE

Date of Incident: _____	Facility Name & No.: _____	County: _____
Type of Facility (well, tank battery, flow line, pit): _____		Qtr: _____ Section: _____
Well Name and Number: _____		Township: _____
API Number: _____		Meridian: _____
Specify volume spilled and recovered (in bbls) for the following materials:		
Oil Spilled: _____ Oil recov'd: _____	Water spilled: _____ Water recov'd: _____	Other spilled: _____ Other recov'd: _____
Ground Water impacted: <input type="checkbox"/> Yes <input type="checkbox"/> No	Surface Water impacted? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Contained within berm? <input type="checkbox"/> Yes <input type="checkbox"/> No	Area and vertical extent of spill: _____	
Current land use: _____	Weather conditions: _____	
Soil/geology description: _____		
IF LESS THAN A MILE, report distance IN FEET to nearest....		
	Surface Water: _____ wetlands: _____	buildings: _____
	Livestock: _____ water wells: _____	Depth to shallowest ground water: _____
Cause of spill (e.g., equipment failure, human error, etc.): _____ Detailed description of spill/release accident: _____		

CORRECTIVE ACTION

Describe immediate response (how stopped, contained and recovered):

 Describe any emergency pits constructed:

 How was the extent of contamination determined:

 Further remediation activities proposed (attach separate sheet if needed):

 Describe measures taken to prevent problem from recurring:

OTHER NOTIFICATIONS

List the parties and agencies notified (County, BLM, EPA, DOT, Local Emergency Planning Coordinator or other).

Date	Agency	Contact	Phone	Response

Spill/Release Tracking No: _____

A.2 External Notifications (Cont'd)

CDPHE Environmental Spill Reporting Guidelines

involving a radioactive or infectious material, or there is a release of a marine pollutant.

Spills and incidents that have or may result in a spill along a highway must be reported to the nearest law enforcement agency immediately. The Colorado State Patrol and CDPHE must also be notified as soon as possible. In the event of a spill of hazardous waste at a transfer facility, the transporter must notify CDPHE within 24 hours if the spill exceeds 55 gallons or if there is a fire or explosion.

The National Response Center should be notified as soon as possible after discovery of a release of a hazardous liquid or carbon dioxide from a pipeline system if a person is killed or injured, there is a fire or explosion, there is property damage of \$50,000 or more, or any nearby water body is contaminated.

The National Response Center and the Colorado Public Utilities Commission Gas Pipeline Safety Section must be notified as soon as possible, but not more than two hours after discovery of a release of gas from a natural gas pipeline or liquefied natural gas facility if a person is killed or injured, there is an emergency shutdown of the facility, or there is property damage of \$50,000 or more. The Colorado Public Utilities Commission should also be notified if there is a gas leak from a pipeline, liquefied natural gas system, master meter system or a propane system that results in the evacuation of 50 or more people from an occupied building or the closure of a roadway.

Oil and Gas Exploration

All Class I major events on federal lands, including releases of hazardous substances in excess of the CERCLA reportable quantity and spills of more than 100 barrels of fluid and/or 500 MCF of gas released, must be reported to the Bureau of Land Management (BLM) immediately. Spills of oil, gas, salt water, toxic liquids and waste materials must also be reported to the BLM and the surface management agency.

Spills of exploration and production (E&P) waste on state or private lands in excess of 20 barrels, and spills of any size that impact or threaten to impact waters of the state, an occupied structure, or public byway must be reported to the Colorado Oil and Gas Conservation Commission as soon as practicable, but not more than 24 hours after discovery. Spills of any

size that impact or threaten to impact waters of the state must be reported to CDPHE immediately. Spills that impact or threaten to impact a surface water intake must be reported to the emergency contact for that facility immediately after discovery. Spills of more than five (5) barrels of E&P waste must be reported in writing to the Oil and Gas Conservation Commission within 10 days of discovery.

REPORTING NUMBERS

National Response Center (24-hour)
1-800-424-8802

CDPHE Colorado Environmental Release and Incident Reporting Line (24-hour)
1-877-518-5608

Radiation Incident Reporting Line (24-hour)
303-877-9757

Colorado State Patrol (24-hour)
303-239-4501

Division of Oil and Public Safety
(business hours)
303-318-8547

Oil and Gas Conservation Commission
(business hours)
303-894-2100

Colorado Public Utilities Commission Gas Pipeline Safety Section (business hours)
303-894-2851

Local Emergency Planning Committees
(to obtain list, business hours)
720-852-6603



Colorado Department
of Public Health
and Environment

Environmental Spill Reporting

Colorado Department of Public
Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

<http://www.colorado.gov/cdphe>

January 2009

When a release of a hazardous material or other substance occurs to the environment, there are a number of reporting and notification requirements that must be followed by the company or individual responsible for the release. Most spills are covered by more than one reporting requirement, and all requirements must be met. In addition to verbal notification, written reports are generally required. This brochure briefly explains the major requirements. A more detailed description is provided in the "Reporting Environmental Releases in Colorado" Guidance Document, available on the web.

Releases that must be reported to the Colorado Department of Public Health and Environment (CDPHE) may be reported to the Colorado Environmental Release and Incident Reporting Line.

ENVIRONMENTAL SPILL REPORTING

CERCLA, EPCRA and RCRA

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA) require that a release of a reportable quantity or more of a hazardous substance to the environment be reported immediately to the appropriate authorities when the release is discovered.

Under CERCLA, reportable quantities were established for hazardous substances listed or designated under other environmental statutes. These include:

- all hazardous air pollutants (HAPs) listed under Section 112(b) of the Clean Air Act.
- all toxic pollutants designated under Section 307(a) or Section 311(b)(2)(A) of the Clean Water Act.
- all Resource Conservation and Recovery Act (RCRA) characteristic and listed hazardous wastes.
- any element, compound, or substance designated under Section 102 of CERCLA.

EPCRA established a list of extremely hazardous substances (EHS) that could cause serious irreversible health effects from accidental releases. Many substances appear on both the CERCLA and EPCRA lists. EPCRA extremely hazardous substances that are also CERCLA hazardous substances have the same reportable quantity (RQ) as under CERCLA. EPCRA extremely hazardous substances that are not listed under CERCLA have a reportable quantity that is equal to their threshold planning quantity (TPQ). A list of CERCLA reportable quantities is included in 40 CFR Section 302.4. A list of EPCRA threshold planning quantities is included in 40 CFR Part 355 Appendices A & B.

CERCLA-reportable releases must be reported immediately to the National Response Center (NRC), while EPCRA-reportable releases must be reported immediately to the National Response Center, the State Emergency Response Commission (SERC) and the affected Local Emergency Planning Committee (LEPC). If the release is an EPCRA extremely

hazardous substance, but not a CERCLA hazardous substance, and there is absolutely no potential to affect off-site persons, then only the State Emergency Planning Commission (represented by CDPHE for reporting purposes) and the Local Emergency Planning Committee need to be notified.

In the case of a release of hazardous waste stored in tanks, RCRA-permitted facilities and large quantity generators must also notify CDPHE within 24 hours of any release to the environment that is greater than one (1) pound.

Radiation Control

Each licensee or registrant must report to the Radiation Incident Reporting Line in the event of lost, stolen or missing licensed or registered radioactive materials or radiation machines, releases of radioactive materials, contamination events, and fires or explosions involving radioactive materials. Releases of radionuclides are reportable under CERCLA.

Clean Water Act

The Clean Water Act requires the person in charge of a facility or vessel to immediately report to the National Response Center all discharges of oil or designated hazardous substances to water. Oil means oil of any kind or form. Designated hazardous substances are included in the CERCLA list.

The Clean Water Act also requires that facilities with a National Pollutant Discharge Elimination System (NPDES) permit report to the National Response Center within 24 hours of becoming aware of any unanticipated bypasses or upsets that cause an exceedance of the effluent limits in their permit and any violations of their maximum daily discharge limits for pollutants listed in their permit.

A release of any chemical, oil, petroleum product, sewage, etc., which may enter waters of the state of Colorado (which include surface water, ground water and dry gullies and storm sewers leading to surface water) must be reported immediately to CDPHE. Any accidental discharge to the sanitary sewer system must be reported immediately to the local sewer authority and the affected wastewater treatment plant. For additional regarding releases to water, please see "Guidance for Reporting Spills under the Colorado

Water Quality Control Act and Colorado Discharge Permits" at <http://www.cdphe.state.co.us/op/wqcc/Resources/Guidance/spillguidance.pdf>.

Clean Air Act

Hazardous air pollutants (HAPs) are designated as hazardous substances under CERCLA. If a facility has an air permit but the permit does not allow for or does not specify the release of a substance, or if the facility does not have an air permit, then all releases in excess of the CERCLA / EPCRA reportable quantity for that substance must be reported to the National Response Center and CDPHE. If the facility releases more of a substance than is allowed under its air permit, the facility must also report the release. Discharges of a substance that are within the allowable limits specified in the facility's permit do not need to be reported.

Regulated Storage Tanks

Owners and operators of regulated storage tank systems must report a release or suspected release of regulated substances to the Division of Oil and Public Safety at the Colorado Department of Labor and Employment within 24 hours. Under this program, the reportable quantity for petroleum releases is 25 gallons or more, or any amount that causes a sheen on nearby surface water. Spills of less than 25 gallons of petroleum must be immediately contained and cleaned up. If cleanup cannot be accomplished within 24 hours, the Division of Oil and Public Safety must be notified immediately.

Spills of hazardous substances from tanks in excess of the CERCLA or EPCRA reportable quantity must be reported immediately to the National Response Center, CDPHE and the local fire authority, and to the Division of Oil and Public Safety within 24 hours.

Transportation and Pipelines

The person in physical possession of a hazardous material must notify the National Response Center as soon as practical, but not to exceed 12 hours after the incident, if as a direct result of the hazardous material, a person is killed or injured, there is an evacuation of the general public lasting more than an hour, a major transportation artery is shut down for an hour or more, the flight pattern of an aircraft is altered, there is fire, spillage or suspected contamination

A.2 External Notifications (Cont'd)

A.2.2 Marathon MCAT Piceance Operations Team Office Contacts

Office Location	Office Number	Fax Number	24-Emergency Number
Grand Junction Office 743 Horizon Court, Suite 220 Grand Junction, CO 81506	970-245-5233	970-245-6287	877-627-5463
Parachute Office 135 East 1 st Street Parachute, CO 81635	970-285-5001	970-285-1606	877-627-5463

A.2.3 Radio Frequency Information for Piceance:

Main Repeater Channel	Frequency	DPL Code (Octal)
Parachute (located on Tower 1)	463.637500 (Rx/Tx)	367
Grand Junction (located on the Grand Mesa)	463.387500 (Rx/Tx)	261
Parachute (Admin1)	467.487500 (Rx/Tx)	23
Parachute (Work1)	457.687500 (Rx/Tx)	364

A.2 External Notifications (Cont'd)

A.2.4 LEPC / OEM

Local Emergency Planning Commissions		
Garfield County LEPC Emergency Manager Garfield County Sheriff's Office 107 8 th Street Glenwood Springs, CO 81601	Chris Bornholt	970-625-8095 – 24 Hour 970-945-0453 – Office 970-945-6430 – Fax cbornholt@garcosheriff.com
Mesa County LEPC OEM c/o Mesa County Emergency Management PO Box 20,000-5016 Grand Junction, CO 81502	Brandi Manuppella Grand Junction Fire Dept.	970-244-1400 brandim@ci.grandjct.co.us
	Bill Cort Capco, Inc.	970-243-8480, ext 104 b_cort@capcoinc.com
Colorado Office of Emergency Management Northwest Region 9195 E. Mineral Ave, Suite 200 Centennial, CO 80112	Chuck Vale	720-852-6600 – Office 720-852-6750 – Fax 970-846-3912 – Mobile Chuck.vale@state.co.us

A.2 External Notifications (Cont'd)

A.2.5 Local Notifications – Grand Junction/Piceance, CO

For all Police, Fire and Medical Emergency situations, dial 911.

Emergency Service	Location	Phone Number
Police / Sheriff		
	Grand Junction	911 Or 970-242-6707 for non-emergency
	Parachute	911 Or 970-285-7630 for non-emergency
	Rifle	911 Or 970-625-8095 for non-emergency
	Meeker	911
	De Beque	911 Or 970-283-5531 / 970-242-6707 for non-emergency
	Garfield County Sheriff – Louis Vallario	911 or 970-945-0453
	Mesa County Sheriff – Stan Hilkey	911 or 970-244-3500
	CO State Patrol	970-824-6501 – District 4 Dispatch
Fire		
	Grand Junction	911 Or 970-244-1400 for non-emergency
	Parachute	911 Or 970-625-8095 for non-emergency
	Rifle	911 Or 970-625-1220 for non-emergency
	Meeker	911
	De Beque	911 Or 970-283-8632
Ambulance		
	Grand Junction	911
	Parachute	911 Or 970-984-3605
	Rifle	911 Or 970-984-3605
	Meeker	911
	De Beque	911
Hospitals		
	Community Hospital – GJ	970-242-0920
	Parachute Clinic	970-285-7046
	Rifle	970-625-1510
	Meeker	970-878 5047
	Gleenwood Springs	970-947-8819
	Dept. of Public Heath	877-518-5608 – 24-Hour Emergency Response Line
	St. Mary's Hospital & Regional Medical Center	970-298-CARE (2273) 800-458-3888
	St. Mary's Careflight	800-332-4923

A.2 External Notifications (Cont'd)

A.2.6 Utilities

Names	Business Phone
Utilities	
UNCC: One-Call Notification (including emergency)	811
Enterprise	713-381-7661
Colorado River Municipal Water Intakes	
Mesa County	
Town of De Beque*	970-283-5475, ext 106
Clifton Water District	970-434-7328
City of Grand Junction	970-242-7491 or 970-464-5563
Ute Water District	970-464-5563
Garfield County	
Battlement Mesa Metro District	270-285-9050
Town of Parachute	970-285-7630

* Denotes mandatory notification. All other jurisdictions listed request a courtesy notification.

A.2.7 Airports

Airport	Phone
Garfield County Regional Airport 375 County Road 352 Rifle, CO 81650 Garfield County	970-625-1091
Glenwood Springs Municipal Airport 1172 Airport Center Road Glenwood Spring, CO 81602 Garfield County	970-945-2385
Walker Field / Grand Junction Regional Airport 2828 Walker Field Drive Grand Junction, CO 81506 Mesa County	970-244-9100

A.2 External Notifications (Cont'd)

A.2.8 Oil and Gas Operator Emergency Phone Numbers

Contact Community Counts Colorado
<http://communitycountscolorado.com/>
 866-442-9034



The screenshot shows the Community Counts Colorado website. At the top left is the logo. To the right, there are two yellow boxes: one with a phone icon and the text "Toll-Free Response line: 1-866-442-9034", and another with an envelope icon and the text "Submit form online here". Below these is a blue "MEMBER LOGIN" button. A green navigation bar contains links for HOME, RIG MAP, EVENTS, FAQ, MEMBERS, JOIN, and RESOURCES. The main content area features a large image of a desert canyon with a "slide4" label. Below the image, there is a paragraph of text about the industry's responsibility and a paragraph about the organization's mission. The footer includes the Community Counts logo, the Colorado Nonprofit Association logo, contact information, a copyright notice, a secondary navigation menu, and a search bar with "Member Login" and "Join our email list" options.

COMMUNITY COUNTS

Toll-Free Response line: 1-866-442-9034

Submit form online here

MEMBER LOGIN

HOME RIG MAP EVENTS FAQ MEMBERS JOIN RESOURCES

slide4

Exploration for and production of natural gas and oil is a major industry in western Colorado that provides jobs and economic benefits to the region. Importantly, with this comes the responsibility to be a good neighbor. Community Counts is a 501c3 community-based program designed to offer residents a timely resource for open and respectful dialogue when they have issues, concerns or questions relating to the natural gas and oil industry.

Members of Community Counts strive to balance the economic and social benefits of natural gas and oil production with the impacts the operations have on host communities and the environment.

COMMUNITY COUNTS Proud Member since 2012 of **Colorado NONPROFIT Association**
 serving nonprofits. strengthening communities.

P.O. Box 218 Silt, CO 81652 / 970-712-7317 / [email](mailto:info@communitycountscolorado.com)
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HOME RIG MAP EVENTS
 FAQ MEMBERS JOIN
 RESOURCES

Member Login
 Join our email list

A.2 External Notifications (Cont'd)

A.2.9 Surface Owners

Names	Address	Point of Contact	Phone Number
Chevron U.S.A. Inc. – Mid-Continent Business Unit	1400 Smith, Room 42135 Houston, TX 77002	Anneka Burdell	713-372-1823
OXY USA WTP LP	5 Greenway Plaza, Ste 110 Houston, TX 77046-0521	Alan Schwartz	713-366-5222
Puckett Land Company	5460 South Quebec Street, Suite #250 Greenwood Village, CO 80111	Ray Anderson	303-763-1000
Berry Petroleum Company	1999 Broadway, Suite 3700 Denver, CO 80202	Jerry Gonzalez	303-999-4207
Caerus Oil and Gas LLC	600 17 th Street Denver, CO 80202		303-565-4600
Richard Prather Ned Prather Lyle Prather Donna Koehler	2098 45 ½ Road Debeque, CO 81630-9608	Richard Prather	970-283-5359
Savage Limited Partnership I	P. O. Box 1926 Rifle, CO 81650-1926	John W. Savage	970-625-1470
EnCana Oil & Gas (USA) Inc.	370 17 th Street, Suite 1700 Denver, CO 80202	Spencer Booth	720-876-3128
Tom and Ginger Latham	P. O. Box 66 Debeque, CO 81630		970-283-5633
Bureau of Land Management - Glenwood Springs Energy Office	2425 S. Grand Ave. Suite 101 Glenwood Springs, CO 81601	Lindsey Spaulding	970-947-5223
Shell Exploration and Production Company	11032A – Two Shell Plaza 777 Walker Street Houston, TX 77002	Charles Badrick	713-241-2669

A.2 External Notifications (Cont'd)

A.2.10 Additional Emergency Response Contact Information

Category	Company	Names	Office	Cell
Batteries	Batteries Plus	Darrell	970-245-7000	
Concrete	Grand Junction Concrete Pipe Co	Juan Adon	970-243-4604	
Construction	Moody Construction	Shawn Moody	970-878-9922	970-379-9202
Construction	Metcalf Excavation, Inc.	Jason Metcalf	970-285-6301	970-216-5404
Construction	Sunland Field Services, Inc.	Marty Seely	970-285-9508	
Diesel Fuel	Parish Oil	Phil Ganza	970-640-2700	
Equipment Rentals	Wagner Rents	Jamie Streeter	970-245-6546	970-260-2882
FRC Clothing	Murdoch's	Janet Tasa	970-523-7515	
Fuel	Simons Petroleum	David Ellgen	970-824-5311	970-629-1165
Generators	Rocky Mountain Standby Power	Kim Blosser	970-242-9980	
Gravel	Grand Junction Pipe	Daisey		970-379-8763
HydoVac	Badger Daylight	April	877-322-3437	
Man Camps	Outpost Office	Dave Logan	970-243-6900	970-250-6942
MRE's	All Pro Moving	Juan Molina	970-257-1652	970-201-5270
MRO Material	McJunkin	Darrel De Forrest	970-625-8020	970-712-6947
Porta Johns	Redi Services	Levi Roach	970-625-0233	970-756-8000
Potable Water	Artesian Water Service	Mark	970-241-3861	970-250-9388
Radios	Mountain Radio Systems	Mike Kelly		970-986-0042
Vehicle Maintenance	Big O Tires	Bill Plock	970-250-1213	
Vehicle Maintenance	Scotty's	Rodney	970-245-0101	
Waste Disposal	Western Colorado Waste Service, Inc.	Hank		970-210-2330
Water Disposal	Danish Flats	Joel	801-433-2526	
Water Hauling	Production Transport	Scott Collins	970-309-3213	
Water Hauling	Knowles Enterprises LLC	Mike Knowles	970-434-1912 ext 17	
Water Samples / SPCC	Intertech	Scott Gustin	970- 420 -2224	
Water Samples / SPCC	Buys and Associates	Carrie	970-471-1474	

A.2 External Notifications (Cont'd)

A.2.11 Hotels and Catering

Hotels	
Comfort Inn and Suites 228 Railroad Avenue Parachute, CO 81635	970-285-1122
Holiday Inn Express 221 Grand Valley Way Parachute, CO 81635	970-285-2330
Candlewood Suites 1223 Grand Valley Way Parachute, CO 81635	970-285-9880
Parachute Inn 252 Green Street Parachute, CO 81635	970-285-7936

Catering	
VJ's Outlaw Ribs 315 East 1 st Street Parachute, CO 81635	970-285-1917
El Tapatio 393 East 2 nd Street Parachute, CO 81635	970-285-7508
Subway 318 East 1 st Street Parachute, CO 81635	970-285-7405
Domino's Pizza 28 Cardinal Way Parachute, CO 81635	970-285-9296

A.3 Response Personnel

A.3.1 Corporate Emergency Response Team (CERT)

Marathon Oil Company's Emergency Preparedness Policy and Plan outlines the Marathon company-wide policy on:

✓	Emergency preparedness
✓	The responsibilities of senior management, of the Emergency Preparedness Group, and of operating organizations; and
✓	The preparedness and response programs comprising Marathon's approach to crisis management.

To assure that total corporate manpower, resources, support, and response management are available to communicate, respond to, and manage an emergency, Marathon Oil Company maintains a Corporate Emergency Response Team (CERT).

CERT has three (3) responsibilities:

✓	To provide SUPPORT to Asset Team Management in an emergency
✓	To NOTIFY and ADVISE Executive Management concerning an emergency
✓	To provide response management team assistance, including the capability of a STRIKE TEAM taking command of the response operations.

One of the general provisions of Marathon's Emergency Preparedness Policy and Plan is local management's responsibility to notify CERT whenever an emergency is or may become a major emergency.

The CERT team leader is the person Asset Team Management must notify. In consultation with Asset Team Management, the CERT team leader will decide what level of CERT support is needed.

Support can take several forms including:

✓	Executive management notification;
✓	Providing support through any or all of the emergency support groups ;
✓	Activation of the Houston CERT situation rooms to coordinate response activities;
✓	Providing on-site response management assistance with the emergency strike team (EST).

The EST is a fully trained and prepared stand-alone response management team, capable of supplementing, relieving or taking command of an emergency. The EST has full access to and incorporates the support and resources available from the ESG. The EST is trained in the Incident Command System (ICS), which is used during drills, training, and emergency responses.

A.3 Response Personnel (Cont'd)

A.3.2 CERT Notifications/Activations

To assure that total corporate manpower, resources, support, and response management are available to communicate, respond to, and manage an emergency, Marathon Oil Company maintains a Corporate Emergency Response Team (CERT).

As identified in the Emergency Policy and Plan document local management has a responsibility to notify CERT whenever an emergency is or may become a Major Emergency. Local Management must utilize their best judgment to notify CERT for potential involvement. One should err on the conservative side rather than not notifying CERT.

The following are examples of Major Emergency's:	
An event resulting in a fatality	An evacuation of five (5) or more residential homes or all or part of one or more public buildings.
An event resulting in the hospitalization of three (3) or more people	An event which receives more than passing local media coverage or any regional/national media attention.
An explosion /fire not immediately handled by local resources.	Whenever loss of well control occurs.
An explosion/fire which could result in substantial loss.	Any terrorist activities.
Any hydrocarbon spill in excess of 500 barrels or any spill in excess of 50 barrels that reaches fresh water	A natural disaster which may develop into a Major Emergency.
A hazardous substance spill/release in excess of three (3) times the U.S. Federally reportable quantity.	A situation-involving product recalls or tainted or contaminated merchandise.
A smaller spill or release of oil or hazardous substance in environmentally or socially sensitive areas.	Any other event in which third-party damage could exceed \$100,000 or Company property damages or losses could exceed \$250,000.
NOTE: THIS LIST IS NOT TO BE CONSTRUED AS ALL-INCLUSIVE. LOCAL MANAGEMENT SHOULD UTILIZE THEIR BEST JUDGEMENT IN INFORMING CERT OF MAJOR EMERGENCIES.	

LOCAL MANAGEMENT is responsible for responding to emergencies that impact their facilities and operations. If the emergency is a **MAJOR EMERGENCY**, or if the emergency has the potential of developing into a **MAJOR EMERGENCY**, LOCAL MANAGEMENT MUST NOTIFY THE **CERT TEAM LEADER** IMMEDIATELY AFTER ACTIVATING THE LOCAL RESPONSE PLAN.

ACCESS TO, AND ACTIVATION OF THE EMERGENCY STRIKE TEAM (EST), INTERNATIONAL EMERGENCY STRIKE TEAM (IEST), OR EMERGENCY SUPPORT GROUP (ESG) IS ACCOMPLISHED THROUGH CONTACTING THE APPROPRIATE **CERT TEAM LEADER**.

A.3 Response Personnel (Cont'd)

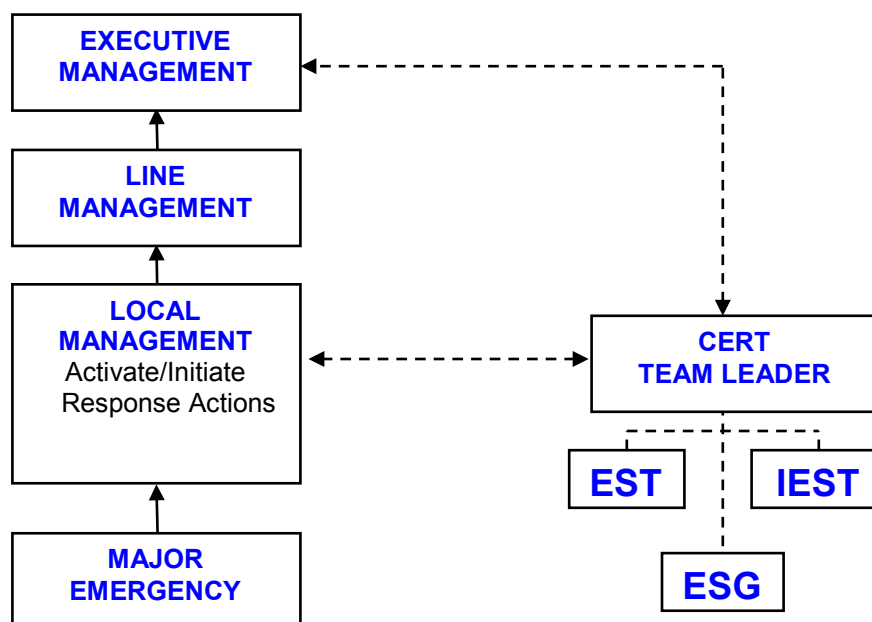
A.3.3 CERT Team Leader Notifications

A **CERT TEAM LEADER** (MOC) is available 24 hours a day and can be contacted as detailed below. The caller shall indicate that this is a corporate emergency and request to be connected with a **CERT TEAM LEADER**. (Use the CERT Notification/Activation Information sheet to record incident information)

MARATHON OIL
CERT TEAM LEADER -
1-866-MOCCERT (662-2378) OR 1-606-329-5701

Marathon Central Notification System will connect Local Management with a **CERT TEAM LEADER**.

Figure A.1 Major Emergency Reporting Flowchart



The **CERT TEAM LEADER** in consultation with **Local Management**, will decide what level of CERT support is needed.

Activation can take several forms including:

- | | |
|---|--|
| ✓ | Executive Management Notification |
| ✓ | Support from the EST, UEST or ESG |
| ✓ | Activation of the Houston CERT Situation Rooms |

A.3 Response Personnel (Cont'd)

A.3.3 CERT Team Leader Notifications (Cont'd)

CERT NOTIFICATION / ACTIVATION INFORMATION

DATE: _____

TIME: _____

ORGANIZATION: _____
(Country) (Business Unit) (District/Area)

LOCATION OF EMERGENCY: (Include Country, State, County, Field, Lease,
OCS-G-No., Longitude/Latitude as applicable, distance & direction to nearby town)

DESCRIPTION OF INCIDENT: (Briefly explain what happened & when)

CURRENT STATUS: (Still in Progress? Injuries? Fatalities? Evacuation?; Major third party
damage/liabilities?; Weather Conditions/Forecast? Etc.)

WHAT ASSISTANCE DO YOU NEED?

WHERE CAN CERT REACH YOU: (Telephone, Cell Phone, Fax, etc.)

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors

Marathon has contracted with Oil Spill Removal Organizations (OSROs) to provide personnel and equipment in the event of a spill. The classification, response capabilities and equipment are described below.

Emergency Response Contractors list include both primary and secondary retained by the facility. Any changes in contractor status must be reflected in updates to the response plan.

RESPONSE CONTRACTORS	
The O'Briens Group	985-781-0804 – 24-Hour
The Response Group	281-880-5000 – 24-Hour
Ecos Environmental (OSRO) Suite 8 & 9 U.L. 500 Buggy Circle Carbondale, CO 81623	970-704-9128
Custom Environmental Services (OSRO) 8041 West I-70 Frontage Road, Unit #11 Arvada, CO 80002	800-310-7445 – 24-Hour 303-423-9949 – Phone 303-423-1854 – Fax
Custom Environmental Services (OSRO) 4630 Forge Road, Unit A Colorado Springs, CO 80907	719-598-1557– Phone 719-598-2687– Fax
Custom Environmental Services (OSRO) 889 20 Road Grand Junction, CO 81521	970-858-5160– Phone 970-858-0482– Fax
Clean Harbors (OSRO) 1819 Airport Road Rifle, CO 81650	800-645-8265 – 24-Hour 970-625-2802 – 24-Hour
Veolia Environmental Services (OSRO) 9131 East 9 th Avenue, Unit B-2 Henderson, CO 80239	800-688-4005 – 24-Hour
Boots and Coots Services Emergency Response	281-931-8884 Fax: 281-931-8302 800-BLOWOUT (800-256-9688)
Cudd Well Control	713-849-2769 twhite@cudd.com

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors (Cont'd)

RESPONSE CONTRACTORS	
Total Safety (Offices Below)	
Corporate Headquarters 11111 Wilcrest Green Drive, Suite 300 Houston, TX 77042	888-32-TOTAL (888-328-6825) 713-353-7100 – Phone 713-785-1475 - Fax
4100 N. Sam Houston Parkway W. Suite 290 Houston, TX 77086 (Communications Services)	Office: 713-681-2525 Fax: 713-681-5940
4100 N. Sam Houston Parkway W. Suite 290 Houston, TX 77086 (Industrial Hygiene Services)	Office: 281-363-9939 Fax: 281-363-4744 Baton Rouge, LA Satellite 225-757-0895
2525 Bay Area Blvd. Suite 500 Houston, TX 77058 (Fire Services)	Office: 281-218-8484 Toll Free: 800-395-1668 Fax: 281-218-7277
Wild Well Control, Inc. Drilling Technology Center 202 Oil Center Court Houston, TX 77073 The WWCI phone is answered 24hours/day by a Wild Well Control employee who understands the urgency of your call.	Houston: 281-784-4700 Midland: 432-550-6202 Fax: 281-784-4750 Email: wildwell@wildwell.com
Williams Fire and Hazard Control	409-727-2347 24-Hour 281-999-0276 24-Hour www.williamsfirecontrol.com
FRAC Tanks	
Dragon Products Tanks/Tank Trailers/Waste Equipment	281-470-1903 Toll Free: 800-231-8198 Fax: 281-470-1954
Rain for Rent	361-241-2339 Fax: 361-241-6169
Baker Tanks	830-606-7788 Fax: 830-606-7770 Toll Free: 800-BAKER12
Blac Frac Tanks, Inc.	970-285-2080 – Phone 970-285-9752 – Fax
Cascade Tanks	970-625-4397

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors (Cont'd)

SUPPLEMENTAL RESPONSE CONTRACTORS	
Soil / Water Sampling and Monitoring	
Arcadis 630 Plaza Drive, Suite 200 Highlands Ranch, CO 80129	888-287-7373 – 24-Hour 720-344-3500 Fax: 700-344-3535
Tetra Tech 3475 East Foothill Blvd Pasadena, CA 91107-6024 www.tetrattech.com	626-351-4664 Fax: 626-351-5291 info@tetrattech.com
URS 600 Montgomery Street, 26 th Floor San Francisco, CA 64111-2728 www.urscorp.com	877.URS.INFO (877-877-4636) 415-774-2700 Fax: 415-398-1905
Air Monitoring and Sampling	
Total Safety 11111 Wilcrest Green Drive, Suite 300 Houston, TX 77042 www.totalsafety.com	888-448-6825 – 24:Hour 888-888.32.TOTAL (888-328-6825) 713-353-7100 Fax:713-785-1475
Center for Toxicology and Environmental Health, LLC http://www.cteh.com/ 5120 North Shore Drive North Little Rock, AR 72118 2332 Anders Lane Kemah, TX 77565	866-869-2834 – 24-Hour 501-801-8500 Fax: 501-801-8501 webquestion@cteh.com 281-535-2864 281-538-8607 kemah@cteh.com
Disaster Relief Supplies	
A Clean Environment (air trailers, mobile kitchens, portable command trailer, portable housing units, portable showers and laundry facilities) 2071 Cimmaron Road Wilson, OK 73463 Tulsa, OK www.acleanenvironment.net	800-259-8347 – 24-Hour 580-668-2347 918-295-8600
Rentsys (mobile office and communications systems) 200 Quality Circle College Station, TX 77845 www.rentsysrecovery.com	888-811-4023 Fax: 888-821-4260 marketing@rentsysrecovery.com

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors (Cont'd)

SUPPLEMENTAL RESPONSE CONTRACTORS	
Public Relations Consultants	
Edelman 808 Travis Street, Suite 501 Houston, TX 77002 www.edelman.com	713-970-2100
SW Region President – Helen Vollmer Houston General Manager – Carolyn Mayo	Helen.vollmer@edelman.com Carolyn.mayo@edelman.com
Wixted Pope Nora Thompson & Assoc. LP 13910 Champion Forest, Suite 107 Houston, TX 77069 POC: Ray Thompson www.wpntworld.com	281-444-3007 Fax: 281-444-0101 rthompson@wpntworld.com
Approved Laboratories	
Accutest – Mountain States (RCRA, Wastewater) 4036 Youngfield Wheat Ridge, CO 80033	877-737-4521 Fax: 425-6854
Kaprie Holman – Quality Manager Amanda Kissell – Project Manager	amandak@accutest.com
Environmental Enterprises USA (Salt & Fresh Water Aquatic Toxicity) 58485 Pearl Acres Road Slidell, LA 70461	800-966-2788 Fax: 985-646-2810
David Daniels – Laboratory Director Mark O'Neil – QA/ QC Supervisor	ddaniel@eeusa.com
Energy Laboratories – Billing (RCRA, Wastewater, Aquatic Toxicity) 1120 South 27 th Street PO Box 30916 Billings, MT 59107	406-252-6325 Fax: 406-252-6069
John Standish – VP Operations Dr. Andy Valkenberg – QA Manager Wynn Pippin – Senior Project Manager	wpippen@energylap.com

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors (Cont'd)

SUPPLEMENTAL RESPONSE CONTRACTORS	
Approved Laboratories (Cont'd)	
Energy Laboratories – Casper (RCRA, Wastewater, Radiochemistry) 2393 Salt Creek Hwy PO Box 3258 Casper, WY 82602 Dave Poelstra – Laboratory Director Steve Carlston – QA Director Cathy Forsting – Senior Project Manager	888-235-0515 307-235-0515 Fax: 307-234-1639 kforsting@energylab.com
Energy Laboratories – Gillette (Limited Wastewater) 1105 West First Street Gillette, WY 82716-3403 Terry Friedlan – Branch Manager Michelle Bucholz – QA Officer Chris Wilson – Project Manager	866-686-7175 307-686-7175 Fax; 307-682-4625 mbucholz@energylab.com cwilson@energylab.com
Gulf Coast Analytical (RCRA, Wastewater, BWON) 7979 GSRI Ave. Baton Rouge, LA 70820-7402 Allison Nauquin – General Manager Jimmy D. Turner – QA Manager Randy Whittington – Tech Services Manager Anna Kinchen – Project Manager	225-769-7000 Fax: 225-767-5717 annak@gcal.com
Accutest – Houston (RCRA, Wastewater, BWON, Limited Air) 10165 Harwin Drive, Suite 150 Houston, TX 77036 Paul Canevaro – Laboratory Director Tonia King-Cormier – QA Officer Erica Cardenas – Project Manager	713-271-4700 Fax: 271-4770 toniak@accutest.com ericac@accutest.com

A.3 Response Personnel (Cont'd)

A.3.4 Emergency Response Contractors (Cont'd)

SUPPLEMENTAL RESPONSE CONTRACTORS	
Approved Laboratories (Cont'd)	
Accutest – Lafayette (RCRA, Wastewater, BWON) 500 Ambassador Caffery Parkway Scott, LA 70583 Ron Benjamin – Laboratory Manager Tristan Davis – QA Officer Amy Jackson, Project Manager Gary Byar – Project Manager	337-237-4775 / 800-304-5227 Fax: 337-237-7080 ajackson@spl-inc.com gbyar@spl-inc.com
Environmental Sensitivity / NRDA Consultants	
CK Associates, LLC www.c-ka.com Keith Nichols	225-252-6526
Local Offices 17170 Perkins Road Baton Rouge, LA 70810 2001 East 70 th Street, Suite 503 Shreveport, LA 71105 616 FM 1960 West, Suite 575 Houston, TX 77090 2965 E. Napoleon Street, Suite 3 Sulphur, LA 70663	225-755-1000 Fax: 225-751-2010 318-797-8636 Fax: 318-798-0478 281-397-9016 337-439-8699 Fax: 337-439-3337

A.4 Internet Links for Supplemental ER Information

A.4.1 National Links

Center for Disease Control:

[Centers for Disease Control and Prevention](#)

Department of Energy:

[Department of Energy - Homepage](#)

Department of Homeland Security:

[Department of Homeland Security | Preserving our Freedoms, Protecting America](#)

Bureau of Land Management:

[DOI: BLM: National Home Page](#)

Federal Aviation Administration:

[FAA: Home](#)

Federal Emergency Management Administration:

[FEMA | Federal Emergency Management Agency](#)

Federal Railroad Administration:

[FRA | Home](#)

US Department of Transportation:

[Home | U.S. Department of Transportation](#)

Dept of Interior Indian Affairs:

[Indian Affairs | Home](#)

National Institute of Health:

[National Institute of Environmental Health Sciences \(NIEHS\)](#)

National Transportation Safety Board:

[National Transportation Safety Board](#)

National Response Team:

[NRT Home](#)

Occupational Safety and Health Administration:

[Occupational Safety and Health Administration - Home](#)

US DOT Pipeline and Hazardous Materials Safety Administration:

[PHMSA - Hazmat Safety Community](#)

US DOT Research and Innovative Technology Administration:

[Research and Innovative Technology Administration \(RITA\) - United States Department of Transportation \(USDOT, US DOT or DOT\)](#)

A.4 Internet Links for Supplemental ER Information (Cont'd)

A.4.1 National Links (Cont'd)

US Department of Defense:

[The Official Home of the Department of Defense](#)

US Department of Labor:

[The U.S. Department of Labor Home Page](#)

Transportation Security Administration:

[TSA | Transportation Security Administration | U.S. Department of Homeland Security](#)

US Immigration and Customs Enforcement:

[U.S. Immigration and Customs Enforcement](#)

US Border Patrol:

[U.S. Customs and Border Protection - Border Security](#)

US Coast Guard:

[U. S. Coast Guard Home Page](#)

US Chemical Safety Board:

[U.S. Chemical Safety and Hazard Investigation Board | Homepage](#)

US Department of Agriculture:

[U.S. Department of Agriculture](#)

US Department of Interior:

[U.S. Department of the Interior](#)

US Fish and Wildlife:

[U.S. Fish and Wildlife Service Home](#)

US National Park Service:

[U.S. National Park Service - Experience Your America](#)

US Army Corp of Engineers:

[US Army Corps of Engineers - HQ](#)

US Environmental Protection Agency:

[US Environmental Protection Agency](#)

US Forest Service:

[US Forest Service - Caring for the land and serving people.](#)

National Response Center:

[Welcome to the National Response Center](#)

NOAA:

[NOAA - National Oceanic and Atmospheric Administration](#)

A.4 Internet Links for Supplemental ER Information (Cont'd)

A.4.2 Specialty Contractor Resources

Cleanup Oil Contractor Data base:

[Cleanupoil.com Oil Spill & Pollution Clean up Contractors Directory](#)

CK Associates:

[C-K Associates, LLC || Leaders in Gulf South Environmental Consulting](#)

Boots and Coots Well Control:

[Boots & Coots International Well Control, Inc.](#)

Cudd Well Control:

[Cudd Well Control Worldwide](#)

Wild Well Control:

[Wild Well Control, Inc. - Houston, Texas - Experience Makes The Difference](#)

SEACOR Environmental Products:

[SEACOR Environmental Products](#)

The OBRIEN'S Response Management:

[O'Brien's | Leaders in Preparedness Consulting, Regulatory Compliance and Response Management.](#)

The Response Group:

[The Response Group](#)

Williams Fire and Hazard Control:

[Williams Fire & Hazard Control, Inc ... The world's foremost flammable liquids fire authority.](#)

International Bird Rescue:

[International Bird Rescue - Home - Oil Spill Response, Oil Spill Preparedness, Aquatic Bird Rehabilitation, Aquatic Bird Research, Aquatic Bird Education](#)

Tri State Bird Rescue:

[Tri-State Bird Rescue & Research](#)

Wildlife Rehab and Education:

[Wildlife Rehabilitation & Education](#)

A.4 Internet Links for Supplemental ER Information (Cont'd)

A.4.3 OSRO Links

ECOS Environmental Services

[ECOS Environmental – Environmental Services](#)

Custom Environmental Services

[Custom Environmental Services, Inc. :: Home Page](#)

Veolia Special Services

[Industrial Cleaning, Hazardous Waste, Garbage Collection and Disposal](#)

A.2.4 State of Colorado Links

[Agriculture-Colorado:](#)

[CDLE-Main:](#)

[Colorado Council for Wildlife Rehabilitation](#)

[Colorado Department of Human Services | CDHS](#)

[Colorado Department of Public Health and Environment](#)

[Colorado Department of Public Safety](#)

[Colorado Division of Emergency Management Homepage](#)

[Colorado Division of Wildlife - Colorado Division of Wildlife](#)

[Colorado Geological Survey Home](#)

[Colorado Oil and Gas Conservation Commission Home Page](#)

[Colorado State Forest Service - Colorado State University](#)

[Colorado.gov: The Official State Web Portal](#)

[Science In Your State: Colorado](#)

[Spill reporting in Colorado](#)

[CBI Home Page](#)

[Colorado Emergency Planning Commission](#)

[Colorado State Patrol](#)

[Colorado Division of Emergency Management: Preparedness](#)

[Search - State of Colorado Emergency Resource Inventory Report](#)

Appendix B: Glossary of Terms and Acronyms

Term	Definition
A	
Absorbent Material	Any of several materials designed to absorb oil, both hydrocarbon and non-hydrocarbon.
Access/Staging Areas	Designated areas offering access to spill sites for the gathering and deployment of spill response equipment and personnel.
Activate	The process of mobilizing personnel and/or equipment within the response organization to engage in response operations.
Adjoining Shoreline	Any area within the mean high water line of any “navigable waters” listed.
Adverse Weather	The weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operation environment. Factors to consider include significant wave height, ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment are intended to function.
AFE	Authorization for Expenditure
Agency	A division of government with a specific function offering a particular kind of assistance. In ICS, agencies are defined either as jurisdictional (having statutory responsibility for incident management) or as assisting or cooperating (providing resources or other assistance).
Agency Representative	Individual assigned to an incident from an assisting or cooperating agency that has been delegated full authority to make decisions on all matters affecting his/her agency’s participation at the incident.
Allocated Resources	Resources dispatched to an incident.
ALS	Advanced Life Support
Alteration	Any work on a tank or related equipment involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of a tank.
AQI	Alternate Qualified Individual
Area	The geographic area for which a separate and distinct Area Contingency Plan has been prepared as described in the Oil Pollution Act of 1990. For EPA Areas with sub-area plans or annexes to the Area Contingency Plan, the EPA Regional Administrator will decide which sub-area is to be exercised within the triennial cycle.

Term	Definition
A (Cont'd)	
Area Committee (AC)	Area Committees are those committees comprised of Federal, State and Local officials, formed in accordance with Section 4202 of the Oil Pollution Act of 1990, whose task is to prepare an Area Contingency Plan for the Area for response to a discharge of oil or hazardous substance.
Area Contingency Plan (ACP)	As defined by Sections 311(a)(18) and (j)(4) of CWA, as amended by OPA, means the entity appointed by the President consisting of members from Federal, State, and local agencies with responsibilities that include preparing an Area Contingency Plan for the area designated by the President. The Area Committee may include ex-officio (i.e., non-voting) members (e.g., industry and local interest groups).
Area Spill Management Team	The Area Spill Management Team is the group of individuals within the Coast Guard or EPA OSC organization with responsibility for spill response management within the respective area.
Assessment	The evaluation and interpretation of measurements and other information to provide a basis for decision-making.
Assigned Resources	Resources checked-in and assigned work tasks on an incident.
Assignments	Tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident Action Plan.
Assistant	Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications and responsibility subordinate to the primary positions. Assistants may also be used to supervise activities at camps.
AST	Aboveground Storage Tank
Available Resources	Resources assigned to an incident, checked in, and available for a mission assignment, normally located in a Staging Area.
B	
Barrel	Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.
Base	The location as which the primary logistics functions are coordinated and administered. The Incident Command Post may be collocated with the base. There will only be one base per incident.
BBL	Barrel (Unit of Volume Equal to 42 Gallons)
Black Oil	A black or very dark brown layer of oil. Depending on the quantity spilled, oil tends to quickly spread out over the water surface to a thickness of about 1-millimeter (0.04 inches). However, from the air, it is impossible to tell how thick a black oil layer is.
BLM	Bureau of Land Management (USDOI)

Term	Definition
Boom	Any number of specifically designed devices that float on water and are used to contain or redirect the flow of oil on the water's surface.
Boom Deployment	The methodology for installing boom based on differing water depths, currents, wave heights, etc.
Booming Strategies	Techniques which identify the location, quantity, and type of boom required to protect differing water bodies and their shore lines. These strategies are developed by identifying potential spill scenarios and assuming certain conditions which affect oil movement on water.
BPD	Barrels Per Day
BPH	Barrels Per Hour
Branch	The organizational level having functional/geographic responsibility for major incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section.
Bulk	Material that is stored or transported in a loose, unpackaged liquid, powder, or granular form capable of being conveyed by a pipe, bucket, chute, or belt system.
C	
°C	Degrees Centigrade
CERCLA	The Comprehensive Environmental Response, Compensation Liability Act regarding hazardous substance releases into the environment and the cleanup of inactive hazardous waste disposal sites.
CERT	Corporate Emergency Response Team
Certification	The act of confirming that an exercise: 1) was completed, 2) met the required objectives, and 3) was evaluated to determine effectiveness of the response plan based on exercise performance.
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
Chain of Command	A series of command, control, executive, or management positions in hierarchical order of authority.
Check-In	The process whereby resources first report to an incident response. Check-in locations include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Heli-bases and Division/Group Supervisors (for direct line assignments).
CHEMTREC	Chemical Transportation Emergency Center which provides information and/or assistance to emergency responders. Can be reached 24 hours a day by calling 800-424-9300.

Term	Definition
Chief	The ICS title of individuals responsible for command of functional sections: Operations, Planning, Logistics and Finance/Administration.
Clean-Up	Refers to the removal and/or treatment of oil, hazardous substances, and/or the waste or contaminated materials generated by the incident. Clean-up includes restoration of the site and its natural resources.
Clean-Up Contractor	Non-company person contractually engaged to respond and clean up an oil spill.
COE	U.S. Army Corps of Engineers (also USACE)
Command	The act of directing, ordering, and/or controlling resources by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Command/Unified Command.
Command Post	A site located in the cold zone where response decisions and activities can be planned, coordinated, and managed. The Incident Commander and regulatory On-Scene Coordinator(s) may operate from this location.
Command Staff	It consists of the Information Officer, Safety Officer and Liaison Officer, who report directly to the Incident Commander. They may have an assistant or assistants, as needed.
Communications Equipment	Equipment that will be utilized during response operations to maintain communication between the Company employees, contractors, Federal/State/Local agencies. (Radio/telephone equipment and links)
Communications Unit	An organizational unit in the Logistics Section responsible for providing communication services at an incident or an EOC. A Communications Unit may also be a facility (e.g., a trailer or mobile van) used to support an Incident Communications Center.
Contamination Reduction Zone	The area between the contaminated zone and the clean zone. This area is designed to reduce the probability that a clean zone will become contaminated. Also known as the warm zone.
Contingency Plan	A document used by (1) federal, state, and local agencies to guide their planning and response procedures regarding spills of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.
Convergence Line	A line on the water surface where floating objects and oil collect. A convergence can be in the interface between two different types of bodies of water, or it can be caused by a significant depth change, tidal changes or other common phenomena. Convergences are common in the marine environment.

Term	Definition
Coordinate	To advance systematically an analysis and exchange of information among principals who have or may have a need to know certain information to carry out specific incident management responsibilities.
Cost Unit	Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates and recommending cost-saving measures.
Critical Areas	Areas which, if impacted by a spill, may result in threats to public health and/or safety.
CRZ	Contamination Reduction Zone
Cultural Resources	Current, historic, prehistoric, and archaeological resources which include deposits, structures, sites, ruins, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to historical or prehistoric culture of people as well as the natural history of the state.
CWA	Clean Water Act of 1977
D	
D&A	Drug and Alcohol
Damage Assessment	The process of determining and measuring damages and injury to the human environment and natural resources, including cultural resources. Damages include differences between the conditions and use of natural resources and the human environment that would have occurred without the incident, and the conditions and use that ensued following the incident. Damage assessment includes planning for restoration and determining the costs of restoration.
DECON	Decontamination
Decontamination	The removal of hazardous substances from personnel and equipment necessary to prevent adverse health effects.
Demobilization Unit	Functional unit within the Planning Section responsible for assuring orderly, safe and efficient demobilization of incident resources.
Deputy	A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operations or perform a specific task. In some cases, a Deputy could act as relief for a superior, and, therefore, must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff and Branch Directors.

Term	Definition
Director	The ICS title for individuals responsible for supervising a Branch.
Discharge (Spill)	Any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit.
Dispersants	Those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.
Dispersion	The breaking up of an oil slick into small droplets that are mixed into the water column by breaking waves and other sea surface turbulence.
Diversion Boom	A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert floating product towards a pick up point or away from certain areas.
Division	The organization level having responsibility for operation within a defined geographic area or with functional responsibility. The Division level is organizationally between the Task Force/Strike Team and the Branch.
Documentation Unit	Functional unit within the Planning Section responsible for collecting, recording and safeguarding all documents relevant to the incident.
E	
Economically Sensitive Areas	Areas of explicit economic importance to the public that due to their proximity to potential spill sources may require special protection and include, but are not limited to; potable and industrial water intakes; locks and dams; and public and private marinas
EIS	Environmental Impact Statement
EMA	Emergency Management Agency
Emergency	Absent a <u>Presidential</u> declared emergency, any incidents(s), human-caused or natural, that requires responsive action to protect life or property. Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, an emergency means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

Term	Definition
E	
Emergency Medical Technician (EMT)	A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.
Emergency Operations Center (EOC)	A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency response.
Emergency Public Information	Information that is disseminated primarily in anticipation of an emergency or during an emergency. In addition to providing situational information to the public, it also frequently provides directive actions required to be taken by the general public.
EMS	Emergency Medical Service
Emulsification	The formation of a water-in-oil mixture. Different oils exhibit different tendencies to emulsify, and emulsification is more likely to occur under high-energy conditions (strong winds and waves). An emulsified mixture of water in oil is commonly called Mousse; its presence indicates a spill that has been on the water for some time. See also Mousse.
Entrainment	The loss of oil from containment when it is pulled under a boom by a strong current. Entrainment typically occurs from booms deployed perpendicular to currents greater than one knot (0.5 meter per second).
EPCRA	Emergency Planning and Community Right-to-Know Act
EQ	Environmental Quality
Equipment Deployment Exercise	An equipment deployment exercise is an exercise where response equipment is deployed to a specific site and operated in its normal operating medium.
ERT	Emergency Response Team
ESD	Emergency Shutdown
Evacuation	Organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas.
Exclusion Zone	The area where contamination does or may occur.
F	
Facilities Unit	Functional unit within the Support Branch of the Logistics Section that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.
Facility	Any pipeline, structure, equipment, or device used for handling oil including, but not limited to, underground and aboveground storage tanks, impoundments, mobile or portable drilling or workover rigs.
Facility Operator	The person who owns, operates, or is responsible for the operation of the facility.

Term	Definition
Federal Fund	The oil spill liability trust fund established under OPA 90.
Federal On-Scene Coordinator (FOSC)	The pre-designated Federal On-Scene Coordinator operating under the authority of the National Contingency Plan (NCP).
Finance / Administration Section	The Section responsible for all incident costs and financial considerations. Includes the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.
First Responders / First Response Agency	A public health or safety agency (e.g., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.
Fish and Wildlife and Sensitive Environments	Areas that may be identified by either their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered/threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.
FOIA	Freedom of Information Act
Food Unit	Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident personnel.
FOSC	Federal On-Scene Coordinator
Function	In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning, Logistics, and Finance/Administration. The term function is also used when describing the activity involved, e.g., "the planning function."
FWPCA	Federal Water Pollution Control Act

Term	Definition
G	
GAL	Gallons
General Staff	The group of incident management personnel comprised of: Incident Commander, Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance/Administration Section Chief.
GPM	Gallons per Minute
Ground Support Unit	Functional unit within the Support Branch of the Logistics Section responsible for fueling, maintaining and repairing vehicles, and the ground transportation of personnel and supplies.
Groundwater	Subsurface water that fills available opening in rock or soil materials such that they may be considered water saturated under hydrostatic pressure.
Group	Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. Groups are located between Branches (when activated) and Single Resources in the Operations Section.
H	
H₂S	Hydrogen Sulfide
Handle	To transfer, transport, pump, treat, process, store, dispose of, drill for, or produce.
Harmful Quantity of Oil	The presence of oil from an unauthorized discharge in a quantity sufficient either to create a visible film or sheen or discoloration upon water, shoreline, tidal flat, beach, or marsh, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on a shoreline, tidal flat, beach, or marsh.
Hazardous Chemicals	All chemicals that constitute a physical hazard or a health hazard as defined by 29 CFR 1910.1200, with the exceptions listed in section 311(e). This term comprises approximately 90 percent of all chemicals.
Hazardous Material	Any non-radioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.

Term	Definition
H (Cont'd)	
Hazardous Substance	Any substance designed as such by the Administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, regulated pursuant to Section 311 of the Federal Water Pollution Control Act, or discharged by the TWC.
Hazardous Waste	Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C., Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations, Part 261, Subparts C and D respectively.
HAZCOM	Hazard Communication
HAZMAT	Hazardous Materials
HAZMAT	Hazardous materials or hazardous substances, exposure to which may result in adverse effects on health or safety of employees.
HAZWOPER	Hazardous Waste Operations and Emergency Response Regulations published by OSHA to cover worker safety and health aspects of response operations.
Health Hazard	A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principals that acute or chronic health effects may occur in exposed employees.
Heat Stress	Dangerous physical condition caused by over exposure to extremely high temperatures.
Hypothermia	Dangerous physical condition caused by over exposure to freezing temperatures.
I	
IDLH	Immediate Danger to Life or Health
IH	Industrial Hygienist
Incident	Any event that results in the spill or release of oil or hazardous materials.
Incident Action Plan (IAP)	The Incident Action Plan, which is initially prepared at the first meeting, contains general control objectives reflecting the overall incident strategy, and specific action plans for the next operational period. When complete, the Incident Action Plans will include a number of attachments.
Incident Area	Legal geographical area of the incident including affected area(s) and traffic route(s) to corresponding storage and disposal sites.

Term	Definition
Incident Command Post (ICP)	The location at which the primary command functions are executed; may be collocated with the incident base.
Incident Command System (ICS)	A response system or organization by which the response to a spill is categorized into functional components and responsibility for each component assigned to the appropriate individual or agency.
Incident Objectives	Statements of guidance and direction necessary for the selection of appropriate strategies, and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.
Incident Situation Display	The Situation Unit is responsible for maintaining a display of status boards that communicate critical incident information vital to establishing and maintaining an effective command and control environment.
Initial Action	The actions taken by those responders first to arrive at an incident site.
Information Officer (IO)	A member of the Command Staff responsible for providing incident information to the public and news media or other agencies or organizations. There is only one Information Officer per incident. The Information Officer may have assistants.
Initial Notification	The process of notifying necessary company personnel and Federal/State/Local agencies that a spill has occurred, including all pertinent available information surrounding the incident.
Initial Response Actions	The immediate actions that are to be taken by the spill observer after detection of a spill.
Injury	A measurable adverse change, either long- or short-term, in the chemical or physical quality of the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil, or exposure to a product of reactions resulting from a discharge of oil.
Inland Area	The area shoreward of the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) defined in 80.740 – 80.850 of Title 33 of the CFR. The inland area does not include the Great Lakes.
Inland Waters	State waters not considered coastal waters; lakes, rivers, ponds, streams, underground water, et. Al.

Term	Definition
Inland Zone	The environment inland of the coastal zone excluding the Great Lakes, and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.
Intelligence Officer	The intelligence officer is responsible for managing internal information, intelligence, and operational security requirements supporting incident management activities. These may include information security and operational security activities, as well as the complex task of ensuring that sensitive information of all types (e.g., classified information, law enforcement sensitive information, proprietary information, or export-controlled information) is handled in a way that not only safeguards the information, but also ensures that it gets to those who need access to it to perform their missions effectively and safely.
Interim Storage Site	A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges and other vehicles used to store waste until transport begins.
IRT	Initial Response Team
J	
Joint Information Center (JIC)	A facility established within, or near, the Incident Command Post where the Information Officer and staff can coordinate and provide incident information to the public, news media, and other agencies or organizations. The JIC is normally staffed with representatives from the FOSC, SOSC and RP.
Jurisdiction	A range or sphere of authority. At an incident, public agencies have jurisdiction related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, country, state, or Federal boundary lines), or functional (e.g., police department, health department, etc.).
K	
KW	Kilowatt
L	
LACT	Lease Automatic Custody Transfer
LEL	Lower Explosive Limit
Liaison	A form of communication for establishing and maintaining mutual understanding and cooperation.
Liaison Officer (LO)	A member of the Command Staff responsible for coordinating with stakeholder groups and representatives from assisting and cooperating agencies.

Term	Definition
Local Emergency Planning Committees (LEPC)	Provide input regarding a state's implementation of federal law. LEPC's provide local emergency planning, representing a variety of disciplines interested in hazardous materials management designed to help the State Chemical Emergency Planning and Response Commission (CEPRC) fit the needs of a particular region. CEPRC's are usually established by an Executive Order to fill the requirement in Title III, the Federal Superfund Amendments and Reauthorization Act of 1986. The act requires that each governor establish a state emergency response commission to address a variety of hazardous materials planning and community right-to-know issues.
Local Government	A county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; an Indian tribe or authorized tribal organization, or in Alaska a Native village or Alaska Regional Native Corporation; a rural community, unincorporated town or village, or other public entity. See Section 2 (10), Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135 (2002).
Local Response Team	Designated Facility individuals who will fulfill the roles determined in the oil spill response plan in the event of an oil or hazardous substance spill. They will supervise and control all response and cleanup operations.
Logistics	Providing resources and other services to support incident management.
Logistics Section	The Section responsible for providing facilities, services and materials for the incident.
M	
Maximum Extent Practicable	The limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst-case discharges from onshore non-transportation-related facilities in adverse weather. It considers the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in 112.20 or in a specific plan approved by the Regional Administrator.
Medical Unit	Functional unit within the Service Branch of the Logistics Section responsible for developing the Medical Plan, and for providing emergency medical treatment for incident response personnel.

Term	Definition
M (Cont'd)	
Mitigation	The activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident. Mitigation measures may be implemented prior to, during, or after an incident. Mitigation measures are often informed by lessons learned from prior incidents. Mitigation involves ongoing actions to reduce exposure to, probability of, or potential loss from hazards. Measures may include zoning and building codes, floodplain buyouts, and analysis of hazard-related data to determine where it is safe to build or locate temporary facilities. Mitigation can include efforts to educate governments, business, and the public on measures they can take to reduce loss and injury.
Mobilization	The process and procedures used by all organizations: Federal, State, Local, and Tribal for activating, assembling, and transporting all resources that have been requested to respond to or support an incident.
MOU	Memorandum of Understanding
Mousse	An emulsified mixture of water in oil. Mousse can range in color from dark brown to nearly red or tan, and typically has a thickened or pudding-like consistency compared with fresh oil. Incorporation of up to 75 percent water into the oil will cause the apparent volume of a given quantity of oil to increase by up to four times. See also Emulsification.
MSDS	Material Safety Data Sheet
Mutual-Aid Agreement	Written agreement between agencies and/or jurisdictions that they will assist one another on request, by furnishing personnel, equipment, and/or expertise in a specified manner.
N	
National	Of a nationwide character, including the Federal, State, local, and tribal aspects of governance and polity.
National Contingency Plan	The plan prepared under the Federal Water Pollution Control Act (33 United State Code SS1321 et seq) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 United State Code SS9601 et seq), as revised from time to time.
National Response Plan	A plan mandated by HSPD-5 that integrates Federal domestic prevention, preparedness, response, and recovery plans into one all-discipline, all-hazards plan.
Natural Resource	Land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the state, federal government, private parties, or a municipality.

Term	Definition
Natural Resource Damage Assessment (NRDA)	The process of collecting and analyzing information to evaluate the nature and extent of injuries resulting from an incident, and determine the restoration actions needed to bring injured natural resources and services back to baseline and make the environment whole for interim losses. (15 CFR 990.30)
Navigable Waters	Waters that have been historically used for trade or with improvements can be used for trade. Congress has the power to determine and assign what will be classified as such.
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
Non-Crude Oil	Any oil other than crude oil.
Non-Persistent or Group I Oil	A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions: <ol style="list-style-type: none"> At least 50 percent of which by volume distill at a temperature of 340°C (645°F); and At least 95 percent of which by volume distill at a temperature of 370°C (700°F).
Non-Petroleum Oil	Oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils.
NRC	National Response Center
NRT	National Response Team
O	
Oil or Oils	Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil, diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR 302 under Section 101(14) of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by P.L. 99-499.
Oil Spill Cooperative	Multi-company cooperative organization developed by industry to assist with oil spill response and clean up. Typically, manpower and equipment are identified by a company on a voluntary basis.
Oil Spill Removal Organization (OSRO)	An entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provided required response resources.
Oily Waste	Oil-contaminated waste resulting from an oil spill or spill response operations.

Term	Definition
On Scene Coordinator (OSC)	The federal official pre-designated by EPA or the USCG to coordinate and direct federal responses under subpart D, or the official designated by the lead agency to coordinate and direct removal actions under subpart E of the National Contingency Plan.
OPA 90	Federal Oil Pollution Act of 1990
Operational Period	The period of time scheduled for execution of a given set of operational actions specified in the Incident Action Plan. Operational Periods can be various lengths, usually not over 24 hours.
Operations Section	Responsible for all operations directly applicable to the primary mission. Directs unit operational plans preparation, requests or releases resources, makes expedient changes to the Incident Action Plan (as necessary) and reports such to the Incident Commander. Includes the Recovery and Protection Branch, Emergency Response Branch, Air Operations Branch, and Wildlife Branch.
OSHA	Occupational Safety and Health Administration (USDH)
OSLTF	Oil Spill Liability Trust Fund
OSRO	Oil Spill Removal Organization
OSRP	Oil Spill Response Plan
Out of Service Resources	Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.
Owner or Operator	Any person, individual, partnership, corporation, association, governmental unit, or public or private organization of any character.
P	
Pancakes	Isolated, roughly circular patches of oil ranging in size from a few feet across to hundreds of yards (or meters) in diameter. Sheen may or may not be present.
PEL	Permissible Exposure Limit
Perennial	Flows constantly; intermittent-flows part of the year but groundwater table falls below the stream bottom during dry times.
Persistent Oil	Under OPA 90, persistent oils are petroleum-based oils that do not meet the distillation criteria for a non-persistent oil. Persistent oils are classified based on a specific gravities as follows: <ul style="list-style-type: none"> • Group II – specific gravity less than .85; • Group III – specific gravity between .85 and less than .95; • Group IV – specific gravity .95 to and including 1.0.; and • Group V – specific gravity greater than 1.0.

Term	Definition
Planning Section	Responsible for collecting, evaluating and disseminating tactical information related to the incident, and for preparing and documenting Incident Action Plans. The section also maintains information on the current and forecast situation, and on the status of resources assigned to the incident. Includes the Situation, Resource, Environmental, Documentation, and Demobilization Units, and Technical Specialists.
Post Incident Analysis	Detailed review of an incident to establish a clear picture of events that took place during an incident.
Post-Emergency Response	The portion of a response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the sites has begun.
PPE	Personal Protection Equipment
PPM	Parts Per Million
PREP	(National) Preparedness for Response Exercise Program
Primary Response Contractor(s)	An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.
Private Sector	Organizations and entities that are not part of any governmental structure. It includes for-profit and not-for-profit organizations, formal and informal structures, commerce and industry, and private voluntary organizations (PVO).
Procurement Unit	Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.
PSI	Pounds Per Square Inch
Public Information Officer (PIO)	A member of the Command Staff responsible for interfacing with the public and media or with other agencies with incident-related information requirements.
Q	
Qualification and Certification	This subsystem provides recommended qualification and certification standards for emergency responder and incident management personnel. It also allows the development of minimum standards for resources expected to have an interstate application. Standards typically include training, currency, experience, and physical and medical fitness.

Term	Definition
Qualified Individual(QI)	<p>An English-speaking representative(s) of the facility identified in the plan, located in the United States, available on a 24-hour basis, able to arrive at the facility in a reasonable time, familiar with implementation of the facility response plan, and trained in the responsibilities of the Qualified Individual under the response plan. This person must have a document from the owner or operator designating them as a Qualified Individual and specifying their full authority to:</p> <ul style="list-style-type: none"> • Activate and engage in contracting with oil spill removal organization(s); • Act as a liaison with the pre-designated Federal On-Scene coordinator (OSC); and • Obligate funds required to carry out all necessary or directed response activities.
R	
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act of 1976
Recoverable Oil	Oil in a thick enough layer on the water to be recovered by conventional techniques and equipment. Only black or dark brown oil, mousse and heavy sheens (which are dull brown in color) are generally considered to be thick enough to be effectively recovered by skimmers.
Recovery	The development, coordination, and execution of service-and site-restoration plans; the reconstitution of government operations and services; individual, private-sector, nongovernmental, and public-assistance programs to provide housing and to promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental, and economic restoration; evaluation of the incident to identify lessons learned; post-incident reporting; and development of initiatives to mitigate the effects of future incidents.
Resource Unit	Functional unit within the Planning Section responsible for recording the status of resources committed to the incident. The Unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resources needs.
Resources	All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.
Response Guidelines	Guidelines for initial response that are based on the type of product involved in the spill. These guidelines are utilized to determine clean-up methods and equipment.

Term	Definition
Response Plan	A practical plan used by industry for responding to a spill. Its features include (1) identifying the notification sequence, responsibilities, response techniques, etc. in an easy to use format; (2) using decision trees, flowcharts, and checklists to insure the proper response for spills with varying characteristics; and (3) segregating information needed during the response from that required by regulatory agencies to prevent confusion during a spill incident.
Responsible Party (RP)	Any person, owner/operator, or facility that has control over an oil or hazardous substance immediately before entry of the oil or hazardous substance into the atmosphere or in or upon the water, surface, or subsurface land of the state.
Restoration	The actions involved in returning a site to its former condition.
Rivers and Canals	A body of water confined within the inland area that has a projected depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.
ROW	Right of Way
RQ	Reportable Quantity
RRT	Regional Response Team
S	
Safety Officer (SO)	A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.
SAR	Search and Rescue
SARA	Superfund Amendments and Reauthorization Act
SCAT	Shoreline Cleanup Assessment Team
SCBA	Self-Contained Breathing Apparatus
SDWA	Safe Drinking Water Act of 1986
Section	The organization level having functional responsibility for primary segments of incident operation such as: Operations, Planning, Logistics, Finance/Administration. The Section level is organizationally between Branch and Incident Commander.
Service Branch	A Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical and Food Units.
Sheen	A very thin layer of oil (less than 0.0001 inches or 0.003 millimeters in thickness) floating on the water surface. Sheen is the most commonly observed form of oil during the later stages of a spill. Depending on thickness, sheens range in color from dull brown for the thickest sheens to rainbows, grays, silvers, and near-transparency in the case of the thinnest sheens.
SOP	Standard Operating Procedure

Term	Definition
S (Cont'd)	
Site Conditions	Details of the area surrounding the facility, including shoreline descriptions, typical weather conditions, socioeconomic breakdowns, etc.
Site Safety and Health Plan (SSHP)	Site-specific document required by state and Federal OSHA regulations and specified in the Area Contingency Plan. The SSHP, at minimum, addresses, includes, or contains the following elements: health and safety hazard analysis for each site task or operation, comprehensive operations work plan, personnel training requirements, PPE selection criteria, site-specific occupational medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefing (tailgate meetings, initial and as needed), pre-operations commencement health and safety briefing for all incident participants, and quality assurance of SSHP effectiveness.
Site Security and Control	Steps that must be taken to provide safeguards needed to protect personnel and property, as well as the general public, to ensure an efficient clean-up operation.
SITREP	Situation Report Message
Situation Unit	Functional unit within the Planning Section responsible for collecting, organizing and analyzing incident status information, and for analyzing the situation as it progresses. Reports to the Planning Section Chief.
Skimmers	Mechanical devices used to skim the surface of water and recover floating oil. There are four basic categories of skimmers; suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices. These vary in efficiency depending on the type of oil and size of spill.
Slick	Oil spilled on the water, which absorbs energy and dampens out surface waves, making the oil appear smoother or slicker than the surrounding water.
Sorbents	Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.
Source Control	Actions necessary to control the spill source and prevent the continued release of oil or hazardous substance(s) into the environment.
Span of Control	On how many organizational elements may be directly managed by one person. Span of Control may vary from three to seven, and a ratio of one to five reporting elements is recommended.
SPCC	Spill Prevention, Control and Countermeasures Plan

Term	Definition
Spill Management Team (SMT)	The personnel required to staff the organization structure identified in a response plan to manage response plan implementation.
SSC	NOAA Scientific Support Coordinator
SSHP	Site Safety and Health Plan
Staging Area	The location where incident personnel and equipment are staged awaiting tactical assignment.
Stakeholders	Any person, group, or organization affected by, and having a vested interest in, the incident and/or the response operation.
State Emergency Response Commission (SERC)	A group of officials appointed by the Governor to implement the provisions of Title III of the Federal Superfund Amendments and Reauthorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local Emergency Response Plans.
State On-Scene Coordinator (SOSC)	The pre-designated State On-Scene Coordinator.
STEL	Short-term Exposure Level
Streamers	A narrow line of oil, mousse or sheen on the water surface, surrounded on both sides by clean water. Streamers result from the combined effects of wind, currents and/or natural convergence zones. Often, heavier concentrations of Mousse or Sheen will be present in the center of a streamer, with progressively lighter sheen along the edges. Streamers are also called "fingers" or "ribbons."
Supervisor	The ICS title for individuals responsible for directing the activities of a Division or Group.
Supply Unit	Functional unit within the Support Branch of the Logistics Section responsible for ordering equipment and supplies required for incident operations.
Support Branch	A Branch within the Logistics Section responsible for providing personnel, equipment and supplies to support incident operations. Includes the Supply, Facilities, Ground Support and Vessel Support Units.
Surface Collecting Agents	Those chemical agents that form a surface film to control the layer thickness of oil.
Surface Washing Agent	Any product that removes oil from solid surfaces, such as beaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

Term	Definition
T	
Tabletop Exercise (TTX)	A tabletop exercise is an activity in which key members of the plan holder's staff with emergency management responsibilities are gathered together informally, usually in conference room, to discuss actions to be taken during an oil or hazardous substance spill, based upon the response plan and their standard operating procedures. The primary characteristic is a verbal "walk through" of a response. The tabletop exercise is designed to elicit constructive discussion by the participants, usually without time constraints, as they examine and resolve problems based on the response plan. A tabletop exercise has participants practice problem solving and resolve questions of coordination and assignment of responsibilities in a non-threatening format, under minimum stress.
Tarballs	Weathered oil that has formed pliable balls or patches that float on the water. Tarballs can range in diameter from a few millimeters (much less than an inch) to a foot (0.3 meters). Depending on how weathered or hardened the outer layer of the tarball is, sheen may or may not be present.
Technical Assistance	Support provided to State, local, and tribal jurisdictions when they have the resources but lack the complete knowledge and skills needed to perform a required activity (such as mobile-home park design and hazardous material assessments).
Technical Specialist	Personnel with special skills who can be used anywhere within the ICS organization.
Threat	An indication of possible violence, harm, or danger.
Time Unit	Functional unit within the Finance/Administration Section responsible for recording time for incident personnel and hired equipment.
Toxic Substances	Any substances that have the capacity to produce personal injury or illness to man through ingestion, inhalation or absorption through any body surface.
Trajectory Analysis	Estimates made concerning spill size, location, and movement through aerial surveillance or computer models.
Transfer	Any movement of oil to, from, or within a vessel by means of pumping, gravitation, or displacement.
U	
UCS	Unified Command System
UEL	Upper Explosive Limit
Unit	The organizational element having functional responsibility for a specific incident planning, logistics, or finance/administration activity.

Term	Definition
U (Cont'd)	
UST	Underground Storage Tank
V	
Volunteer	For purpose of the NIMS, a volunteer is any individual accepted to perform services by the lead agency, which has authority to accept volunteer services, when the individual performs services without promise, expectation, or receipt of compensation for services performed. See, e.g., 16 U.S.C. 742f© and 29 CFR 553.101.
W	
Waste	Oil or contaminated soil, debris, and other substances removed from coastal waters, adjacent water, shorelines, estuaries, tidal flats, beaches, or marshes in response to an unauthorized spill. Waste is any solid, liquid, or other material intended to be discarded or disposed of and generated as a result of an unauthorized spill of oil. Waste does not include substances intended to be recycled if they are in fact recycled within 90 days of generation or are brought to a recycling facility within that time.
Waters of the State	Groundwater and surface water including all perennial, intermittent, and ephemeral defined drainages with flowing water present, NPDES discharge water after the Point of Compliance, lakes, reservoirs and wetlands which are not manmade retention ponds used for the treatment of municipal, agricultural or industrial wasters; and all other bodies of surface water, either public or private which are wholly or partially within the boundaries of the state.
Weathering	A combination of physical and environmental processes, such as evaporation, dissolution, dispersion, and emulsification, that act on spilled oil to change its physical properties and composition.
Wetlands	Those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR 112.2(y)).
Windrows	Streaks of oil that line up in the direction of the wind. Windrows typically form early during a spill when the wind speed is at least ten knots (5.1 meters per second). Sheen is the form of spilled oil that most frequently windrows.

Appendix C: Forms

TRG Trajectory Request Form	1
ICS Forms	3
Air Monitoring Plan	66

TRG Trajectory Request Form

Upon notification of a spill, Marathon personnel can initiate the trajectory mapping process by submitting a trajectory request form. The following information will need to be gathered to complete the trajectory request:

Information for Trajectory Request	
✓	Wind Speed and Direction
✓	Current Speed and Direction
✓	Wave Heights (if applicable)
✓	Spill Volume
✓	If the release is continuous or instantaneous (status of release – ongoing or secured)
✓	Type of Oil (API Gravity)
✓	Lat / Long (Spill Site)
✓	Duration of the Spill
✓	Date and Time of Incident
✓	Air and Water Temperature
✓	Source of the Spill
✓	High and Low tide (if applicable)
✓	Email and Best Contact Number (for Person making the Request)

Trajectory model results may be updated periodically, depending upon revised surveillance information and the latest weather updates. Upon completion of the form, the Spill Trajectory Request Form can be faxed to (281) 880-5000. This fax number is located in the left hand corner of the form. If a fax machine is not available, call the TRG 24 hour number at (800) 651-3942. Once the above information is submitted to The Response Group, the trajectory will be completed within one hour or less.”



SPILL TRAJECTORY REQUEST FORM

THE RESPONSE GROUP		
OFFICE: (281) 880-5000	EMERGENCY/24-HOUR: (800) 651-3942	CELL: (713) 906-9866
FAX: (281) 880-5005	EMAIL: trajectory@responsegroupinc.com	EFAX: (281) 596-6976

COMPANY INFORMATION	Company Name: _____
	Company Contact Name: _____
	Phone #: _____
	Alternate # (ie: Mobile, Pager): _____
	Fax #: _____
	Email Address: _____

SPILL SITE INFORMATION	Source Type (Circle): Platform/Well Pipeline Vessel Facility	
	Source Name & Location (Name/Area/Block): _____	
	Latitude: _____ ° _____ ' _____ "	Longitude: _____ ° _____ ' _____ "
	Date & Time of Incident (mm/dd/yy): ____ / ____ / ____ : ____ (Military)	
	Type of Product (ie: Medium Crude): _____	API Gravity _____
	Estimated Volume of Release: _____ Barrels or Gallons	
	Continues Release Rate: _____ bbls/hr How Long: _____ hrs.	

WEATHER CONDITIONS	Wind Direction (From the): _____	Wind Speed: _____ MPH or Knots
	Current Direction (Toward): _____	Current Speed: _____ MPH or Knots
	Air Temperature: _____ ° C or F	Water Temperature: _____ ° C or F
	High Tide: _____	Low Tide: _____
	Weather Forecast: _____	

OVERFLIGHT INFORMATION	Date & Time of Overflight (mm/dd/yy): ____ / ____ / ____ : ____ (Military)	
	Leading Edge Location:	
	Latitude: _____ ° _____ ' _____ "	Longitude: _____ ° _____ ' _____ "
	Trailing Edge Location:	
	Latitude: _____ ° _____ ' _____ "	Longitude: _____ ° _____ ' _____ "
	Length: _____ Feet / Yards / Miles	Width: _____ Feet / Yards / Miles
	Slick Appearance (Percent & Estimated Length & Width)	
	Barely Visible: _____ % L x W: _____	Silvery: _____ % L x W: _____
	Slight Color: _____ % L x W: _____	Bright Color: _____ % L x W: _____
	Dull: _____ % L x W: _____	Dark: _____ % L x W: _____

ICS Forms

All forms have been added into the PDF. Instructions on how to use each form are included.

IAP Cover Sheet

Purpose: The Incident Action Plan (IAP) Cover Sheet documents the signature approval by Unified Command to implement the Incident Action Plan and may serve as a table of contents for the Incident Action Plan.

Preparation: The Planning Section Chief and/or the Situation Unit Leader, while assembling the Incident Action Plan, complete The Incident Action Plan Cover Sheet.

Distribution: Sufficient copies of the Incident Action Plan will be reproduced and to all supervisory personnel at the Section, Branch, Division/Group, and Unit leader levels.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Incident Location	Enter the location of the incident
3.	Date/Time Prepared	Enter the date and time prepared. (Military time)
4.	Operational Period	Enter the date and time interval for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
5.	Approved By	Signature line for Unified Command (Federal, State, Local, and Responsible Party).
6.	Incident Notes	Enter a brief summary of the incident.
7.	Operational Period Notes	Enter a brief summary of activities for the operational period

The IAP should include the following forms:

Incident Action Plan Cover Sheet

Weather Report

ICS-201 Incident Briefing (Optional)

ICS-202 Response Objectives

ICS-203 Organization Assignment List

ICS-204 Division Assignment List

ICS-205 Communications Plan

ICS-206 Medical Plan

Incident Map(s) (present situation, future trajectories, and plans)

ICS-208 Site Safety Plan (As required)

ICS-209 Incident Status Summary

ICS-220 Air Operations Plan

ICS-230 Meeting Schedule

ICS-232 Resources at Risk Summary

Other forms/sheets as needed for tactical operations

IAP Cover Sheet		
Incident Name:	Prepared By:	at: :
Period: / / : to / / :	Version Name:	
Approved by:		
FOSC	_____	
SOSC	_____	
RPIC	_____	
<div style="text-align: center;"><h2>Incident Action Plan</h2></div>		
IAP Cover Sheet		© 1997-2012 TRG/dbSoft, Inc.

GENERAL INCIDENT INFORMATION REPORT (ANNEX 1 TAB A)

Purpose: The General Incident Information report provides the Incident Commander (and the Command and General Staff assuming command of the incident) with basic information regarding the incident situation and conditions.

Preparation: The responder receiving the first call reporting the incident prepares the General Incident Information Report. The Situation Unit makes subsequent updates to the form.

Distribution: The initial form will be given to the Incident Commander. When updated, the Planning Section Chief will duplicate the General Incident Information Report and post a copy at the Situation Display in the Command Post. Single copies may then be distributed to the Command Staff, Section Chiefs, and Joint Information Center.

General Incident Report			
Incident:		Incident Date/Time:	
Person Reporting Incident:		Prepared: at: :	
Person Contact Number(s):		Version:	
Facility Information and Points of Contact			
Facility Name:			
Type of Facility:			
Number of People at Facility:			
Contact:		Phone:	
Owner:		Phone:	
Operator:		Phone:	
Facility Specific Information			
Type(s) of Product:			
Equipment Involved:			
Incident Information			
Incident Location:		Latitude:	Longitude:
Type of Casualty:			
Total Capacity of Common Container:		Potential for Additional Spillage:	
Material(s) Spilled:		API Gravity:	
Estimated Quantity Spilled:		Classification:	
Source Secured?: Yes No		If not, Estimated Spill Rate:	
Notes:			
Incident Status			
Injuries/Casualties:			
Fire: Yes No	Fire Status:		Fire Assistance:
Notes:			
General Incident Report (Facility)			© 1997-2012 TRG/dbSoft, Inc.

NOTIFICATION REPORT

Purpose: The Notification Report is used to document each Government and Non-Government Organizations (NGO) notified and briefed on the incident.

Preparation: The company representative or the Liaison Officer in the Command Staff prepares the Notification Report.

Distribution: The Notification Report is a critical part of the incident briefing and the Incident Action Plan. When updated, the Situation Unit Leader will post/update the Situation Display in the Command Post.

ITEM	ITEM TITLE	INSTRUCTIONS
1.	Incident	Enter the name assigned to the incident.
2.	Version Name	
3.	Period	Enter the Operational Period date and time.
4.	Prepared By	Enter name and title of the person preparing the form and date/time (Military Time).
5.	Organization Notified	Enter the name of the Organization notified.
6.	Phone Number	Enter the phone number of the Organization notified.
7.	Date/Time	Enter the date and time the notification is made.
8.	Person Contacted	Enter the name of the person notified.
9.	Person Contacted Email	Enter the email address of the person notified.
10.	Case Number	Enter the Case Number where applicable (e.g. NRC Case Number).
11.	Follow Up	Circle Yes or No if follow up is required.
12.	ETA On Site	Enter the estimated time of arrival of the organization if applicable.
13.	Notified By	Enter the name of the person making the notification.

Notification Status Report								
Incident: _____				Prepared By: _____ at: _____				
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____				Version Name: _____				
Organization Notified	Phone	Date /Time Notified	Person Contacted	Person Contacted Email	Case No.	Follow Up	ETA On Site	Notified By
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notes: _____								
Notification Status Report						© 1997-2012 TRG/dbSoft, Inc.		

WEATHER REPORT

Purpose: The Weather Report form provides the Incident Commander (the Command and General Staffs assuming command of the incident) with basic information regarding current incident specific weather conditions, forecast for the next twenty-four (24) and forty-eight (48) hour period. Personnel or responders at the incident location should provide real time current weather data. It also serves as a permanent record of the initial response to the incident.

Preparation: The Planning Section prepares the briefing from data gathered from NOAA's National Weather Service and other sources. The information will be provided to the Situation Unit Leader so he may maintain the information on his static display.

Distribution: After the initial briefing of the Incident Commander and General Staff members, the Incident Briefing is duplicated and distributed to the Command Staff, Section Chiefs, Branch Directors, Division/Group Supervisors, and appropriate Planning and Logistics Section Unit Leaders.

ITEM	ITEM TITLE	INSTRUCTIONS
1.	Incident Name	Enter the name assigned to the incident.
2.	Date/Time Prepared	Enter date & time prepared (e.g. 09/17/1996 1500hrs.).
3.	Operational Period	Enter the date and time interval for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Prepared By	Enter the name of the person completing the form.
5.	Wind Speed	Enter wind speed. (Indicate either knots or mph)
6.	Wind Direction	Enter the direction from which the wind is blowing.
7.	Air Temperature	Enter on the air temperature in °F.
8.	Barometric Pressure	Enter current barometric pressure in inches.
9.	Humidity	Enter current humidity in percent.
10.	Visibility	Enter visibility in miles. (Use data from surveillance aircraft)
11.	Ceiling	Enter ceiling in feet. (Use data from surveillance aircraft)
12.	High Tide (time)	Enter time for next high tide for current operational period (24 hr).
13.	High Tide (height)	Enter height of next high tide for current operational period (feet).
14.	Sunrise	Enter time of sunrise for current operational period.
15.	Wave Height (feet)	Enter the wave height in feet (e.g., 1-3 feet).
16.	Wave Direction	Enter the direction, which the waves are moving.
17.	Swell Height	Enter the swell height. (feet)
18.	Swell Interval	Enter the swell interval (seconds)
19.	Current Speed	Enter the speed of water current (Indicate either kts or mph).
20.	Current Direction	Enter the direction which the water current is moving,
21.	Water Temperature	Enter the water temperature in °F.
22.	Low Tide (time)	Enter time for next low tide for current operational period (24 hr).
23.	Low Tide (height)	Enter height of next low tide for current operational period (feet).
24.	Sunset	Enter time of sunset for current operational period.
25.	Notes	Enter notes (e.g. thunderstorm activity, wind shift, front movement) about weather data current operational period.
24 Hour Forecast		
26.	Forecast	Enter forecast (e.g. thunderstorm activity, expected temperature, wind shift, front movement) for forecast period.
48 Hour Forecast		
27.	Forecast	Enter forecast (e.g. thunderstorm activity, expected temperature, wind shift, front movement) for forecast period.

Weather Report			
Incident:		Prepared: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____		Version Name: _____	
Present Conditions			
Wind Speed:		Wave Height:	
Wind Direction From The:		Wave Direction:	
Air Temperature:		Swell Height:	
Barometric Pressure:		Swell Interval:	
Humidity:		Current Speed:	
Visibility:		Current Direction Toward:	
Ceiling:		Water Temperature:	
Next High Tide (Time):		Next Low Tide (Time):	
Next High Tide (Height):		Next Low Tide (Height):	
Sunrise:		Sunset:	
Notes:			
24 Hour Forecast			
Sunrise:		Sunset:	
High Tide (Time):		High Tide (Time):	
High Tide (Height):		High Tide (Height):	
Low Tide (Time):		Low Tide (Time):	
Low Tide (Height):		Low Tide (Height):	
Notes:			
48 Hour Forecast			
Sunrise:		Sunset:	
High Tide (Time):		High Tide (Time):	
High Tide (Height):		High Tide (Height):	
Low Tide (Time):		Low Tide (Time):	
Low Tide (Height):		Low Tide (Height):	
Notes:			
Weather Report		© 1997-2012 TRG/dbSoft, Inc.	

INCIDENT BRIEFING (ICS FORM 201)

Purpose: The Incident Briefing form provides the Incident Commander, the Command Staff and General Staff assuming command of the incident with basic information regarding the incident situation and the resources allocated to the incident. It also serves as a permanent record of the initial response to the incident.

Preparation: The Initial Incident Commander prepares the briefing form for presentation to the relieving Incident Commander along with a more detailed oral briefing.

Distribution: After the initial briefing of the Incident Commander and General Staff members, the Incident Briefing is duplicated and distributed to the Command Staff, Section Chiefs, Branch Directors, Division/Group Supervisors, and appropriate Planning and Logistics Section Unit Leaders. The sketch map and summary of current action portions of the briefing form are given to the Situation Unit while the Current Organization and Resources Summary portion are given to the Resources Unit.

ITEM	ITEM TITLE	INSTRUCTIONS
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter name of person completing form and the date & time prepared (e.g. 09/17/1996 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	ICS 201-1 Map Sketch	Show the Areas of Operations, the incident site, overflight results, trajectories, impacted shorelines, or other graphics depicting situation and response status on a sketch or attached map.
6.	ICS 201-2 Summary of Current Actions	Brief paragraph on: 1. What, when, and how the incident occurred 2. Surveillance & weather information 3. Overall initial response objectives 4. Timeline of major events or actions that have taken place.
7.	ICS 201-3 Current Organization	Enter on the organization chart the names of the individuals assigned to each position. Modify the chart as necessary.
8.	ICS 201-4 Resources Summary	Track the following information about the resources allocated to the incident. Name of supplier providing the resource 2. Resource Type (e.g. fire truck, boom, skimmer) 3. Description (e.g. size, name, capacity) 4. Quantity or amount of resource(s) 5. Area of Operation – destination of the resource (e.g. staging area, division, group, task force) 6. Status of each resource (e.g. Standby, En-route with Estimated time of arrival, At Staging, Assigned, & Out of Service).

ICS 201-1 - Incident Briefing Map/Sketch

Incident:

Prepared By: _____ at _____

Prepared By: _____ at _____

Period: / / : to / / :

Version Name:

Current Situation:

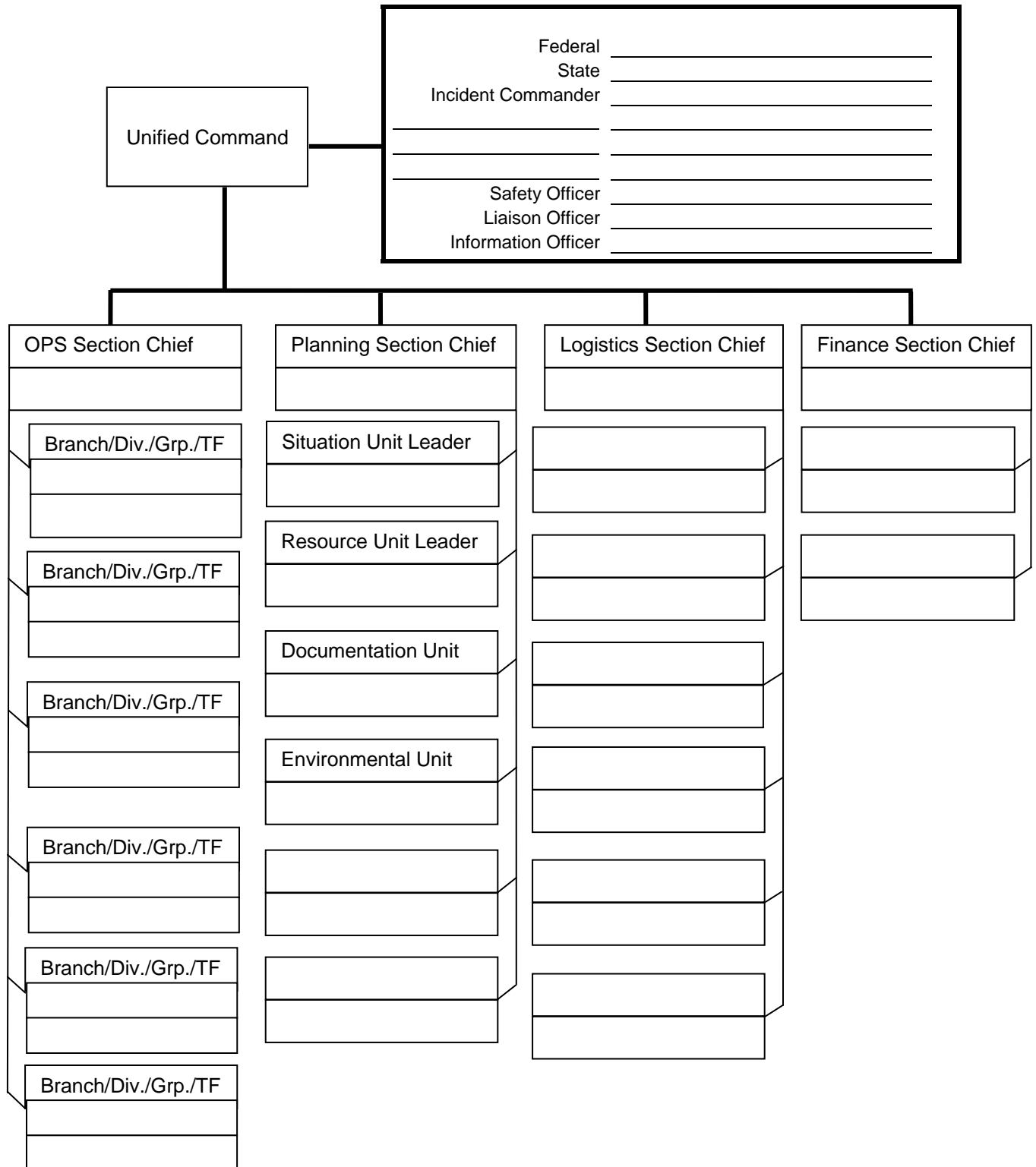
ICS 201-1 Incident Briefing Map/Sketch

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ICS 201-2 - Summary of Current Actions			
Incident: _____		Prepared By: _____ at: _____	
Period: ____/____/____ : ____ to ____/____/____ : ____		Version Name: _____	
Incident Information			
Initial Incident Objectives			
Summary of Current Actions			
Date/Time	Action/Note		
ICS 201-2 Summary of Current Actions			
		© 1997-2012 TRG/dbSoft, Inc.	

ICS 201-3 - Current Organization

Incident:	Prepared By:	at:
Period: ____/____/____ : ____ to ____/____/____ : ____	Version Name:	



ICS 201-4 - Resource Summary

Incident:

Period: / / : to / / :

[illegible]

ICS 201-4 Resource Summary

			© 1997-2012 TRG/dbSoft, Inc.
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ICS 201-5 Site Safety and Control Analysis		
Incident:	Prepared By: _____ at: _____	
Period:	Version Name:	
Site Control		
1. Is Site Control set up? <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Is there an on-scene command post? <input type="checkbox"/> Yes <input type="checkbox"/> No If so, where?	
3. Have all personnel been accounted for? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know	Injuries: Unaccounted:	Fatalities: Trapped:
4. Are observers involved, or rescue attempts planned? Observers: <input type="checkbox"/> Yes <input type="checkbox"/> No Rescuers: <input type="checkbox"/> Yes <input type="checkbox"/> No	5. Are decon areas setup? <input type="checkbox"/> Yes <input type="checkbox"/> No If so, where?	
Hazard identification, immediate signs of: (if yes, explain in Remarks)		
1. Electrical line(s) down or overhead? <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Unidentified liquid or solid products visible? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Wind direction across incident: <input type="checkbox"/> Towards your position Wind Speed: <input type="checkbox"/> Away from your position	4. Is a safe approach possible? <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. Odors or smells? <input type="checkbox"/> Yes <input type="checkbox"/> No	6. Vapors visible? <input type="checkbox"/> Yes <input type="checkbox"/> No	
7. Holes, ditches, fast water, cliffs, etc. nearby? <input type="checkbox"/> Yes <input type="checkbox"/> No	8. Fire, sparks, sources of ignition nearby? <input type="checkbox"/> Yes <input type="checkbox"/> No	
9. Is local traffic a potential problem? <input type="checkbox"/> Yes <input type="checkbox"/> No	10. Product placards, color codes visible? <input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Other Hazards? <input type="checkbox"/> Yes <input type="checkbox"/> No	12. As you approach the scene from the upwind side, do you note a change in the status of any of the above? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Hazard Mitigation: have you determined the necessity for any of the following?		
1. Entry Objectives:		
2. Warning sign(s), barriers, color codes in place? <input type="checkbox"/> Yes <input type="checkbox"/> No		
3. Hazardous material being monitored? <input type="checkbox"/> Yes <input type="checkbox"/> No 3a. Sampling Equipment: 3b. Sampling location(s): 3c. Sampling frequency: 3d. Personal exposure monitoring:		
4. Protective gear / level: 4b. Respirators: 4d. Boots:	4a. Gloves: 4c. Clothing: 4e. Chemical cartridge change frequency:	
5. Decon 5a. Instructions: 5b. Decon equipment and materials:		
6. Emergency escape route established? <input type="checkbox"/> Yes <input type="checkbox"/> No Route?		
7. Field responders briefed on hazards? <input type="checkbox"/> Yes <input type="checkbox"/> No		
8. Remarks:		
ICS 201-5 Site Safety and Control Analysis		© 1997-2012 TRG/dbSoft, Inc.

RESPONSE OBJECTIVES FORM (ICS FORM 202)

Purpose: The Response Objectives Form describes the basic incident strategy, control objectives, and safety considerations for use during the next operational period.

Preparation: The Response Objectives Form is completed by the Planning Section Chief following each formal Planning Meeting conducted in preparation for the Incident Action Plan.

Distribution: The Response Objectives Form will be reproduced with the IAP and given to all supervisory personnel at the Section, Branch, Division/Group and Unit leader levels.

NOTE: ICS 202, Response Objectives, serves as part of the IAP, which is not considered complete until attachments are included.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Version Name	
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Prepared By	Enter the name of the Planning Section Chief or person completing the form and the date & time prepared (e.g. 09/17/1996 1500hrs).
5.	Overall Incident Objective(s)	What you plan to do in priority order. Enter short, clear and concise statements of the objectives for managing the response. The overall incident objectives usually apply for the duration of the incident. (e.g. Contain and Recover Spilled Material)
6.	Tactical Objectives for specific Operational Period	How you plan to accomplish objectives. Enter short, clear and concise statements of the objectives for the incident response for this operational period. Include alternatives. (e.g. Deploy containment boom at appropriate collection areas)
7.	Safety Messages for the specified Operational Period	Enter information such as known safety hazards and specific precautions to be observed during this operational period. If available, a safety message should be referenced and attached.

ICS 202 - General Response Objectives			
Incident: _____		Prepared By: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____		Version Name: _____	
Overall and Strategic Objectives			
		Assigned to:	Status
1. Ensure the Safety of Citizens and Response Personnel			
<input type="checkbox"/> 1a. Identify hazard(s) of spilled material			
<input type="checkbox"/> 1b. Establish site control (hot zone, warm zone, cold zone, & security)			
<input type="checkbox"/> 1c. Consider evacuations if needed			
<input type="checkbox"/> 1d. Establish vessel and/or aircraft restrictions			
<input type="checkbox"/> 1e. Monitor air in impacted areas			
<input type="checkbox"/> 1f. Develop site safety plan for personnel & ensure safety briefings are conducted			
2. Control the Source of the Spill			
<input type="checkbox"/> 2a. Complete emergency shutdown			
<input type="checkbox"/> 2b. Conduct firefighting			
<input type="checkbox"/> 2c. Initiate temporary repairs			
<input type="checkbox"/> 2d. Transfer and/or lighter product			
<input type="checkbox"/> 2e. Conduct salvage operations, as necessary			
3. Manage a Coordinated Response Effort			
<input type="checkbox"/> 3a. Complete or confirm notifications			
<input type="checkbox"/> 3b. Establish a unified command organization and facilities (command post, etc.)			
<input type="checkbox"/> 3c. Ensure local and tribal officials are included in response organizations			
<input type="checkbox"/> 3d. Initiate spill response Incident Action Plans (IAP)			
<input type="checkbox"/> 3e. Ensure mobilization & tracking of resources & account for personnel & equip			
<input type="checkbox"/> 3f. Complete documentation			
4. Maximize Protection of Environmentally-Sensitive Areas			
<input type="checkbox"/> 4a. Implement pre-designated response strategies			
<input type="checkbox"/> 4b. Identify resources at risk in spill vicinity			
<input type="checkbox"/> 4c. Track oil movement and develop spill trajectories			
<input type="checkbox"/> 4d. Conduct visual assessments (e.g., overflights)			
<input type="checkbox"/> 4e. Development/implement appropriate protection tactics			
ICS 202 General Response Objectives			© 1997-2012 TRG/dbSoft, Inc.

ICS 202 - General Response Objectives			
Incident:		Prepared By: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____		Version Name: _____	
Overall and Strategic Objectives			
	Assigned to:	Status	
5. Contain and Recover Spilled Material			
<input type="checkbox"/> 5a. Deploy containment boom at the spill site & conduct open-water skimming			
<input type="checkbox"/> 5b. Deploy containment boom at appropriate collection areas			
<input type="checkbox"/> 5c. Evaluate time-sensitive response technology (e.g., dispersants, in-situ burning)			
<input type="checkbox"/> 5d. Develop disposal plan			
<input type="checkbox"/>			
6. Recover and Rehabilitate Injured Wildlife			
<input type="checkbox"/> 6a. Establish oiled wildlife reporting hotline			
<input type="checkbox"/> 6b. Conduct injured wildlife search and rescue operations			
<input type="checkbox"/> 6c. Setup primary care unit for injured wildlife			
<input type="checkbox"/> 6d. Operate wildlife rehabilitation center			
<input type="checkbox"/> 6e. Initiate citizen volunteer effort for oiled bird rehabilitation			
7. Remove Oil from Impacted Areas			
<input type="checkbox"/> 7a. Conduct appropriate shoreline cleanup efforts			
<input type="checkbox"/> 7b. Clean oiled structures (piers, docks, etc.)			
<input type="checkbox"/> 7c. Clean oiled vessels			
<input type="checkbox"/>			
8. Minimize Economic Impacts			
<input type="checkbox"/> 8a. Consider tourism, vessel movements, & local economic impacts			
<input type="checkbox"/> 8b. Protect public and private assets, as resources permit			
<input type="checkbox"/> 8c. Establish damage claims process			
<input type="checkbox"/>			
9. Keep Stakeholders and Public Informed of Response Activities			
<input type="checkbox"/> 9a. Provide forum to obtain stakeholder input and concerns			
<input type="checkbox"/> 9b. Provide stakeholders with details of response actions			
<input type="checkbox"/> 9c. Identify stakeholder concerns and issues, and address as practical			
<input type="checkbox"/> 9d. Provide timely safety announcements			
<input type="checkbox"/> 9e. Establish a Joint Information Center (JIC)			
<input type="checkbox"/> 9f. Conduct regular news briefings			
<input type="checkbox"/> 9g. Manage news media access to spill response activities			
<input type="checkbox"/> 9h. Conduct public meetings, as appropriate			
ICS 202 General Response Objectives			© 1997-2012 TRG/dbSoft, Inc.

ORGANIZATION ASSIGNMENT LIST (ICS FORM 203)

Purpose: The Organization Assignment List provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit. It is used to complete the Incident Organization Chart (ICS Form 207), which is posted on the Incident Command Post display.

Preparation: The list is prepared and maintained by the Resources Unit under the direction of the Planning Section chief.

Distribution: The Organization Assignment List is duplicated and included in the Incident Action Plan.

NOTE: An Organization Assignment List may be completed any time the number of personnel assigned to the incident increase or decrease or a change in assignments occurs.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Resources Unit member or person preparing the form and the date & time prepared (e.g. 09/17/1996 1500hrs).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
6.	Title	
7.	Name	Name of person staffing the position
	Phone, Fax, Radio, Other	List the numbers where the person staffing can be reached at or information can be sent to.

ICS 203 - Organization Assignment	
Incident:	Prepared By: at:
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :	Version Name:
Incident Commander and Command Staff	Operations Section
Incident Commander	Operations Section Chief
	Operations Section Deputy
Dep. Incident Commander	Staging Area Manager
Safety Officer	
Public Information Officer	
Liaison Officer	
Agency/Organization Representatives	
Planning Section	
Planning Section Chief	
Planning Section Deputy	
Resource Unit Leader	
Situation Unit Leader	
Documentation Unit Leader	
Environmental Unit Leader	
Documentation Unit Leader	
Logistics Section	
Logistics Section Chief	
Logistics Section Deputy	
Support Branch Director	
Support Unit Leader	
	Finance Section
Facilities Unit Leader	Finance Section Chief
Ground Support Unit	Finance Section Deputy
Communications Unit	Time Unit Leader
Medical Unit Leader	Procurement Unit Leader
Food Support Unit Leader	Comp./Claims Unit Leader
	Cost Unit Leader
ICS 203 Organization Assignment	© 1997-2012 TRG/dbSoft, Inc.

ASSIGNMENT LIST (ICS FORM 204)

Purpose: The Assignment List(s) is used to inform Operations Section personnel of Incident assignments. Once the Incident Command and General Staff agree to the assignments, the assignment information is given to the appropriate Units/Divisions/Groups.

Preparation: The Operations & Planning Staff will prepare the Assignment List(s) using guidance from the Response Objectives (ICS Form 202), the Operational Planning Worksheet (ICS Form 215) and Resource Unit Leader. The Planning Section Chief will approve the Assignments List. When approved, it is included in the Incident Action Plan.

Distribution: The Assignment List is duplicated and included in the Incident Action Plan. In some cases, assignments may be communicated via radio.

NOTE: A separate sheet is used for each Division or Group.

Item	Item Title	Instructions
1.	Branch	Enter the Branch name.
2.	Division/Group	Enter the Division/Group name.
3.	Incident	Enter the name assigned to the incident.
4.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
5.	Area Map (optional)	
6.	Tactical Objective	Enter a brief statement of the tactical objective to accomplish for the specified area.
7.	Description of Work	Enter a brief description of work to be accomplished to meet the objective specified for the area.
8.	Location of Work	Enter directions how to access the site or work area.
9.	Safety Message	Enter information such as known safety hazards and specific precautions to be observed in the area.
10.	Environmental Considerations	Enter any environmental issues or areas to consider.
11.	Operational Personnel, Phone, Radio, & Pager	Enter the operational personnel in charge of the area along with contact information for each.
12.	Equipment Resources	Enter the resource information for each resource assigned to the area or site such as supplier, resource type, description, quantity, and status.
13.	Manpower Resources	Enter the manpower assigned to the area or site such as supplier, resource type, description, quantity, and status.
14.	Prepared By	Enter the name of the Resources Unit Member or person completing the form.
15.	Approved By	Enter the name of the person approving the form (usually the Planning Section Chief).
16.	Date/Time Approved	Enter the date/time the form was approved.

ICS 204 - Assignment List					
Incident:			Branch:		
Period: / / : to / / :			Division:		
Operations Personnel					
Title	Name	Affiliation	Contact Number(s)		
Operations Section Chief					
Branch Director					
Division/Group/STAM					
Incident Resources – Equipment					
Supplier	Resource Type	Description	Quantity	Size	Status
Assignments					
Special Instructions for Division/Group					
Communications					
Name/Function	Radio: Frequency/System/Channel	Phone	Cell/Pager		
Emergency Communications					
Medical	Evacuation	Other			
Prepared by (Resource Unit Leader):		Approved by (Planning Section Chief):	Date/Time Approved:		
ICS 204 Assignment List				© 1997-2012 TRG/dbSoft, Inc.	

ICS 204 - Assignment List		
Incident:	Branch:	
Period: / / : to / / :	Division:	
Prepared by Signature:	Task Force:	
Approved by Signature:	Group:	
Tactical Objective		
Description of Work		
Location of Work		
Work Assignment Special Instructions		
Special Equipment/Supplies Needed for Assignment		
Special Environmental Considerations		
Special Site-Specific Safety Considerations		
Shoreline Cleanup Assessment Team (SCAT) Considerations		
Prepared by (Resource Unit Leader):	Approved by (Planning Section Chief):	Date/Time Approved:
ICS 204 Assignment List		© 1997-2012 TRG/dbSoft, Inc.

COMMUNICATIONS PLAN (ICS 205)

Purpose: The Communications Plan provides, in one location, information on all phone & radio frequency assignments for each operational period. Information from the Communications Plan on phone and frequency assignments is normally placed on the appropriate Assignment List (ICS Form 204).

Preparation: The Communications Plan is prepared by the Communications Unit Leader and given to the Planning Section Chief.

Distribution: The Communications Plan is duplicated and given to all recipients of the Incident Action Plan including the Incident Communications Center. Information from the plan is normally placed on the appropriate Assignment List(s) (ICS Form 204).

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Communications Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Operational Period	Enter the date and time interval for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Phone Listing	Enter the phone numbers assigned to each person to be used on the incident.
	Name	Enter the name of the person
	Phone, Fax, & Radio	Enter the phone, fax, and radio number assigned to each person
	Radio Utilization	Enter the radio channel/frequency assigned to each person, place, or resource used on the incident.
6.	System	Enter the name of the communication system
	Channel	Enter the radio channel being utilized
	Function	Enter what function the frequency is being used for
	Frequency	Enter the frequency being utilized
	Assignment	Enter the communication system assignment
	Notes	Enter any notes or comments about the system

ICS 205 - Communications Plan

Incident:	Prepared By:	at:
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Period: <u> </u> / <u> </u> / <u> </u> : <u> </u> to <u> </u> / <u> </u> / <u> </u> : <u> </u>	Version Name:
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Basic Radio Channel Use	
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[illegible]

ICS 205 Communications Plan			© 1997-2012 TRG/dbSoft, Inc.
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ICS 205 Communications Plan			© 1997-2012 TRG/dbSoft, Inc.
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ICS 205a - Communications List

Incident:	Prepared By:	at:
Period: __/__/____ :__ to __/__/____ :__	Version Name:	

Incident Assigned Position	Name	Phone	Other Number – Desc.	Email Address

MEDICAL PLAN (ICS FORM 206)

Purpose: The Medical Plan provides information on incident medical aid stations, transportation services, hospitals and medical emergency procedures.

Preparation: The Medical Plan is prepared by the Medical Unit Leader and reviewed by the Safety Officer.

Distribution: The Medical Plan may be an attachment to the Response Objectives Form (ICS 202), or information from the plan pertaining to incident medical aid stations and medical emergency procedures may be taken from the plan and placed on the Assignment list(s) (ICS Form 204).

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Medical Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Operational Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	First Aid Stations	Enter name, location, and contact information for the incident medical first aid stations (e.g. Staging Area, Camp Ground) and indicate if paramedics are located at the site by entering "Yes" or "No" in the Paramedics (EMT) field.
6.	Transportation	
	Ground Ambulance Services	List name and address of ambulance services (e.g. Shaeffer, 4358 Brown Parkway, Corona). Provide phone numbers and indicate if ambulance company has paramedics by entering "Yes" or "No" in the Paramedics (EMT) field.
7.	Air Ambulance Services	List name and address of ambulance services (e.g. Shaeffer, 4358 Brown Parkway, Corona). Provide phone numbers and indicate if ambulance company has paramedics or doctors by entering "Yes" or "No" in the Doctor and Paramedics (EMT) field.
8.	Hospitals	List hospitals, which will serve this incident. Hospital name, address, phone number, radio and enter "Yes" or "No" to indicate whether the hospital has a burn center and/or helipad.
9.	Medical Emergency Procedures	Note any special emergency instructions for use by incident personnel.

ICS 206 - Medical Plan					
Incident:			Prepared By: _____ at: _____		
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :			Version Name: _____		
First Aid Stations					
Name	Location	EMT (On-Site)	Phone	Radio	
Transportation (Ground and/or Ambulance Services)					
Name	Location	EMT	Phone	Radio	
Air Ambulances					
Name	Location	Doctor/Nurse	EMT	Phone	Radio
Hospitals					
Name	Location	Helipad	Burn Center	Phone	Radio
Special Medical Emergency Procedures					
ICS 206 Medical Plan					© 1997-2012 TRG/dbSoft, Inc.

INCIDENT ORGANIZATION CHART (ICS FORM 207)

Purpose: The Incident Organization Chart is used to indicate what ICS organizational elements are currently activated and the names of personnel staffing each element. The attached chart is an example of the kind of Organizational Chart used in the ICS. Personnel responsible for managing organizational positions would be listed in each box as appropriate.

Preparation: The organization chart is prepared by the Resources Unit and posted along with other displays at the Incident Command Post. A chart is completed for each operational period and updated when organizational changes occur.

Distribution: When completed, the chart is posted on the display board located at the Incident Command Post.

Wall Size Chart. The ICS Form 207 WS is a large chart that is primarily used to post on the command post display board for better visibility.

ICS 207 Organization Chart	
Incident: _____	Prepared By: _____ at: __: __
Period: __/__/__ __: __ to __/__/__ __: __	Version Name: _____
<p>The diagram illustrates the organizational structure of an ICS 207 incident response. At the top is the INCIDENT COMMAND box, which includes fields for Federal, State, and Incident Commander. To the right of Incident Command are the Information Officer, Safety Officer, and Liaison Officer boxes. A dashed line labeled "Indicates initial" connects the Liaison Officer to a set of three empty boxes. Below Incident Command are four main sections: Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance Section Chief. Each section has a corresponding deputy box. The Operations Section includes an On-Scene Commander and a Staging Area Manager. The Operations Section is further divided into the Recovery & Prot. Branch (with Protection, On Water, Disposal, and Decon groups) and the Emergency Resp. Branch. The Planning Section includes a Resource Unit Leader, Situation Unit Leader, NRDA Representative, Doc. Unit Leader, Environmental Unit, and Check-In Status Recorder. The Logistics Section includes a Support Branch Dir, Supply Unit Leader, Security Unit Leader, Services Branch Dir, Food Unit Leader, and Medical Unit Leader. The Finance Section includes a Cost Unit Leader and a Comp./Claims Unit Leader. The Wildlife Branch (under Staging Area Manager) includes Wildlife Rehab, Recovery of Supv, Air Ops Branch, and Air Support Group.</p>	
ICS 207 Organization Chart	
ICS 207 Organization Chart	© 1997-2012 TRG/dbSoft, Inc.

SITE SAFETY AND HEALTH PLAN (ICS FORM 208)

Purpose: The Site Safety and Health Plan (SSHP) is a site-specific document required by state and federal OSHA regulations and specified in the Area Contingency Plan. The SSHP, at minimum addresses, includes, or contains the following elements: health and safety hazard analysis for each site task or operation, comprehensive operations work plan, personnel training requirements, PPE selection criteria, site-specific medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefings (tailgate meetings), pre-operations commencement health and safety briefings for all incident participants, and quality assurance of SSHP effectiveness,

Preparation: The Safety Officer prepares the SSHP with input from the Industrial Hygienist and Medical Unit Leader.

Distribution: The SSHP is distributed to the Operations Section Chief for implementation and promulgation to all operational groups and responding agencies. A copy is provided to the Incident Commander, the Command Staff, and the General Staff.

ICS 208 - Site Safety Plan			
Incident:		Prepared by: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :		Version Name: _____	
Revision: _____			
Applies To Site: _____			
Products: _____ (Attach MSDS)			
SITE CHARACTERIZATION <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Water: _____</p> <p>Wave Height: _____</p> <p>Current Speed: _____</p> <p>Land: _____</p> <p>Weather: _____</p> <p>Wind Speed: _____</p> </div> <div style="width: 45%;"> <p>Wave Direction: _____</p> <p>Current Direction: _____</p> <p>Use: _____</p> <p>Temp: _____</p> <p>Wind Direction: _____</p> </div> </div> <p>Pathways for Dispersion:</p> <p>Site Hazards</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> Boat Safety <input type="checkbox"/> Chemical hazards <input type="checkbox"/> Cold Stress <input type="checkbox"/> Confined Spaces <input type="checkbox"/> Drum handling <input type="checkbox"/> Equipment operations <input type="checkbox"/> Electrical operations <input type="checkbox"/> Fatigue <input type="checkbox"/> Other </div> <div style="width: 30%;"> <input type="checkbox"/> Fire, explosion, in-situ burning <input type="checkbox"/> Heat stress <input type="checkbox"/> Helicopter operations <input type="checkbox"/> Lifting <input type="checkbox"/> Motor vehicles <input type="checkbox"/> Noise <input type="checkbox"/> Overhead/buried utilities <input type="checkbox"/> Plants/wildlife <input type="checkbox"/> Other </div> <div style="width: 30%;"> <input type="checkbox"/> Pump hose <input type="checkbox"/> Slips, trips, and falls <input type="checkbox"/> Steam and hot water <input type="checkbox"/> Trenching/Excavation <input type="checkbox"/> UV Radiation <input type="checkbox"/> Visibility <input type="checkbox"/> Weather <input type="checkbox"/> Work near water <input type="checkbox"/> Other </div> </div>			
Air Monitoring <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>%O₂: _____</p> <p>ppm H₂S: _____</p> </div> <div style="width: 30%;"> <p>%LEL: _____</p> <p><input type="checkbox"/> Other (Specify): _____</p> </div> <div style="width: 30%;"> <p>ppm Benzene: _____</p> </div> </div>			
CONTROL MEASURES <p>Engineering Controls</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> Source of release secured <input type="checkbox"/> Site secured </div> <div style="width: 30%;"> <input type="checkbox"/> Valve(s) closed <input type="checkbox"/> Facility shut down </div> <div style="width: 30%;"> <input type="checkbox"/> Energy source locked/tagged out <input type="checkbox"/> Other _____ </div> </div> <p>Personal Protective Equipment</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Impervious suit <input type="checkbox"/> Inner gloves <input type="checkbox"/> Outer gloves <input type="checkbox"/> Flame resistance clothing <input type="checkbox"/> Hard hats </div> <div style="width: 45%;"> <input type="checkbox"/> Respirators <input type="checkbox"/> Eye protection <input type="checkbox"/> Personal floatation <input type="checkbox"/> Boots <input type="checkbox"/> Other _____ </div> </div> <p>Additional Control Measures</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Decontamination <input type="checkbox"/> Sanitation <input type="checkbox"/> Illumination <input type="checkbox"/> Medical Surveillance </div> <div style="width: 45%;"> <input type="checkbox"/> Stations established <input type="checkbox"/> Facilities provided <input type="checkbox"/> Facilities provided <input type="checkbox"/> Provided </div> </div>			
ICS 208 Site Safety Plan		© 1997-2012 TRG/dbSoft, Inc.	

ICS 208 – Site Safety Plan																											
Incident:		Prepared By: _____ at: _____																									
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :		Version Name: _____																									
WORK PLAN <input type="checkbox"/> Booming <input type="checkbox"/> Skimming <input type="checkbox"/> Vac trucks <input type="checkbox"/> Pumping <input type="checkbox"/> Excavation <input type="checkbox"/> Heavy Equip <input type="checkbox"/> Sorbent pads <input type="checkbox"/> Patching <input type="checkbox"/> Hot work <input type="checkbox"/> Appropriate permits used <input type="checkbox"/> Other _____																											
TRAINING <input type="checkbox"/> Verified site workers trained																											
ORGANIZATION <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"><u>Title</u></th> <th style="text-align: left; width: 35%;"><u>Name</u></th> <th style="text-align: left; width: 30%;"><u>Telephone/Radio</u></th> </tr> </thead> <tbody> <tr> <td>Incident Commander:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Deputy Incident Commander:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Safety Officer:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Public Affaire Officer:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Other:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>				<u>Title</u>	<u>Name</u>	<u>Telephone/Radio</u>	Incident Commander:	_____	_____	Deputy Incident Commander:	_____	_____	Safety Officer:	_____	_____	Public Affaire Officer:	_____	_____	Other:	_____	_____	_____	_____	_____			
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Public Affaire Officer:	_____	_____																									
Other:	_____	_____																									
_____	_____	_____																									
EMERGENCY PLAN <input type="checkbox"/> Alarm system: _____ <input type="checkbox"/> Evacuation plan: _____ <input type="checkbox"/> First aid location: _____																											
Notified <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 35%;"><input type="checkbox"/> Hospital</td> <td style="width: 35%;">_____</td> <td style="width: 30%;">Phone: _____</td> </tr> <tr> <td><input type="checkbox"/> Ambulance</td> <td>_____</td> <td>Phone: _____</td> </tr> <tr> <td><input type="checkbox"/> Air ambulance</td> <td>_____</td> <td>Phone: _____</td> </tr> <tr> <td><input type="checkbox"/> Fire</td> <td>_____</td> <td>Phone: _____</td> </tr> <tr> <td><input type="checkbox"/> Law enforcement</td> <td>_____</td> <td>Phone: _____</td> </tr> <tr> <td><input type="checkbox"/> Emergency response/rescue</td> <td>_____</td> <td>Phone: _____</td> </tr> </tbody> </table>				<input type="checkbox"/> Hospital	_____	Phone: _____	<input type="checkbox"/> Ambulance	_____	Phone: _____	<input type="checkbox"/> Air ambulance	_____	Phone: _____	<input type="checkbox"/> Fire	_____	Phone: _____	<input type="checkbox"/> Law enforcement	_____	Phone: _____	<input type="checkbox"/> Emergency response/rescue	_____	Phone: _____						
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PRE-ENTRY BRIEFING <input type="checkbox"/> Initial briefing prepared for each site																											
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ICS 208 – Site Safety Plan		© 1997-2012 TRG/dbSoft, Inc.																									

INCIDENT STATUS SUMMARY (ICS FORM OS-209 – OIL SPILL)

Purpose: The Incident Status Summary serves the following purposes:

1. Used by Situation Unit personnel for posting information on Status Boards.
2. When duplicated and provided to Command Staff members, it provides them with basic information for use in planning for the next operational period.
3. It provides information to the Information Officer for preparation of media releases.
4. It summarizes incident information for local and off-site coordination centers.

Preparation: The Situation Unit prepares the Incident Status Summary. Resources information should be obtained from the Resources Unit. It is scheduled for presentation to the Planning Section Chief and other General Staff members prior to each Planning Meeting and may be required at more frequent intervals by the Incident Command or Planning Section Chief.

Distribution: When completed, the form is duplicated and copies are distributed to the Incident Command and staff, and all Section Chiefs, Planning Section Unit Leaders, and the Joint Information Center. It is also posted on a status board located at the ICP.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Situation Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Spill Status	Enter the estimated amounts in barrels or gallons for each category.
6.	Mass Balance	Enter the estimated amounts in barrels or gallons for each category initially using a trajectory model or the NOAA Adios model. Actual numbers reported by operations should be used when available.
7.	Waste Management	Enter the estimated amounts in barrels or gallons for each category based on report from operations.
8.	Shoreline Impacts	Enter the total miles of shoreline oiled categorized by the degree of oiling(light, medium, heavy).
9.	Wildlife Impacts	Indicate the number of oiled wildlife.
10.	Safety Status	Indicate the number of serious injuries.
11.	Onshore Equipment Resources	Indicate which types are deployed, are expected on scene, and their availability.
12.	Offshore Equipment Resources	Indicate which types are deployed, are expected on scene, and their availability.
13.	Personnel Resources	Indicate the numbers of personnel assigned by agency.
14.	Comments	Use this area for other information

CHECK IN LIST (ICS FORM 211)

Purpose: Provides written documentation as to when personnel and equipment arrive at various incident locations. Check-in consists of reporting specific information, which is recorded on the Check-In List.

Initiation of Form: The Check-in List is initiated at a number of incident locations including: Staging areas, base, camps, helibases, and ICP. Managers at these locations record the information and give it to the Resources Unit as soon as possible.

Distribution: Check-In Lists, which are completed by personnel at the various check-in locations, are provided to both the Resources Unit and the Finance Section. The Resources Unit maintains a master list of all equipment and personnel that have reported to the incident.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Check-in Location	Check the appropriate location.
3.	Operational Period	Enter the date and time interval for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Date/Time Prepared	Enter date & time prepared (e.g. 09/17/2000 1500hrs.).
5.	Prepared By	Enter the name of the Resource Unit Leader or person preparing the form.
6.	Name	Enter name (last, first).
7.	Classification	Enter job classification (e.g. spill tech, supervisor...).
8.	Company	Enter name of individual's employer.
9.	Check-In Date/Time	Enter date and time entering site (01/01/01 / 0600 hr).
10.	Check-Out Date/Time	Enter date and time exiting site (01/01/01 / 0600 hr).
11.	Home Base	Location at which the resource/individual is normally assigned. (May not be departure location).
12.	Method of travel	Means of travel to incident (bus, truck, engine, personal vehicle, etc.)
13.	Assigned Position	Assignment at time of dispatch.

ICS 211p - Check-In List (Personnel)					
Incident:			Prepared By: at:		
Period: / / : to / / :			Version Name:		
Check-In Location - - <input type="checkbox"/> Command Post <input type="checkbox"/> Staging Area <input type="checkbox"/> Other: -- > Location Name:					
Personnel Check-In Information					
Name (Last, First) & Contact Information	Classification & Company/Agency	Assigned Section & Position	Quantity	Check-In Date/Time	Check-Out Date/Time/Destination
ICS 211P Check-In List (Personnel)			© 1997-2012 TRG/dbSoft, Inc.		

ICS 211e - Check-In List (Equipment)							
Incident:				Prepared By: _____ at: _____			
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :				Version Name: _____			
Check-In Location: <input type="checkbox"/> Command Post <input type="checkbox"/> Staging Area <input type="checkbox"/> Other -- > Location Name: _____							
Equipment Check-In Information							
Equipment Description & Identifier	Supplier & Contact Information	Quantity & UOM		Size & UOM		Check-In Date/Time	Check-Out Date/Time/Destination
ICS 211e Check-In List (Equipment)						© 1997-2012 TRG/dbSoft, Inc.	

REQUISITION (ICS FORM 213)

REQUESTOR: The requestor must fill in Blocks 1 through 8.

Item	Item Title	Instructions
1.	Requested by	Person requesting resource(s).
2.	Priority	Low, Medium, High, or Immediate. This information is needed for the ordering official. This will be considered routine or low priority unless otherwise indicated.
3.	Approval	This must be approved by the Section Chief or Deputy Section Chief.
4.	Requested Delivery Date/Time	When resources need to be delivered.
5.	Requested Delivery Location	Initial delivery location for resources (Staging Areas).
6.	Final Destination	Where resources will be deployed.
7.	Notes	Suggested Sources: Enter applicable information if known.
8.	Items requested	Must include quantity, resource type, detailed description of requirements, estimated time needed (for rentals), and estimated price. BE AS SPECIFIC AS POSSIBLE.

LOGISTICS SECTION: The following blocks are to be filled out by the Supply Unit.

9.	Checked Out By	Person fulfilling request.
10.	Checked Out Date/Time	
11.	Supplier	This information is needed for Credit Card purchases and/or Purchase Orders, and Resource Tracking.
12.	Items procured	Must include detailed description resource, quantity, estimated time of arrival, unit price, and rental/purchase.

ICS 213 Resource Request										
Incident: _____					Prepared By: _____ at: __: __					
Period: __/__/____ __: __ to __/__/____ __: __					Version Name: _____					
Requisition Number: _____		Created Date/Time: _____		Requested Delivery Date/Time: _____ Requested Delivery Location: _____ Final Destination: _____						
Requested By: _____		Requestor Phone: _____								
Priority: _____		Completed By: _____								
Notes: _____										
Requested (Requestor)				Procured (Logistics)						
Quantity	Resource Type	Description	Size	Supplier	Quantit	Size	ETA	Rental?	Unit Price	P.O. #
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
								Yes/No		
Supplier Contact Information										
Supplier		Contact Name	Phone 1	Phone 2	Fax		Email			
Approvals										
Name/Position			Name/Position			Name/Position				
ICS 213 Resource Request						© 1997-2012 TRG/dbSoft, Inc.				

UNIT LOG (ICS FORM 214)

Purpose: The Unit Log is used to record details of unit activity including specialized team activity (e.g., Strike Team). The file of these logs provides a basic reference from which to extract information for inclusion in any after-action report.

Initiation of Form: A Unit Log is initiated and maintained by Command Staff members, Division/Group Supervisors, Air Operations Groups, Strike Team/Task Force Leaders, and Unit Leaders. Completed logs are forwarded to supervisors who provide copies to the Documentation Unit.

Distribution: The Documentation Unit maintains a file of all Unit Logs. It is necessary that one copy of each log be submitted to the Documentation Unit.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Unit Name/Designators	Enter the title of the organizational unit or resource designator (e.g., Facilities Unit, Safety Officer, Strike Team).
6.	Unit Leader	Enter the name of the individual in charge of the Unit.
7.	Personnel Roster Assigned	List the name, position, and home base of each member assigned to the unit during the operational period.
8.	Activity Log	Enter the time and briefly describe each significant occurrence or event (e.g., task assignments, task completions, injuries, difficulties encountered, etc.)

ICS 214a Individual Logs

Incident:

Prepared By:

at: ____ : ____

Period: ____/____/____ ____:____ to ____/____/____ ____:____

Version Name:

Activity Log

Date/Time

Events/Notes

[illegible]

ICS 214a Individual Logs

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OPERATIONAL PLANNING WORKSHEET (ICS FORM 215)

Purpose: The purpose of this form is to communicate the decisions made during the Planning Meeting concerning resource assignments to the Resources Unit. The Worksheet is used by the Resources Unit to complete Assignment Lists and by the Logistics Section Chief for ordering resources for the incident.

Initiation of Form: The Operations & Planning Section Chiefs initiate this form at each Planning Meeting. It is recommended that the format be drawn on the chalkboard, and when decisions are reached, the information is recorded on the form.

Distribution: When the division work assignments and accompanying resource allocations are agreed to, the form is distributed to the Resources Unit to assist in the preparation of the Assignment Lists. The Planning Section will use a copy of this worksheet for preparing requests for resources required for the next operational period.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Date / Time Prepared	Enter date (e.g. 09/17/1996) and time (e.g. 1530) prepared.
3.	Operational Period	Enter the time interval for which the information applies (e.g. 1800 09/17/1996 to 0600 09/18/1996).
4.	Area of Operation	Enter the Division letter or location of the work assignment for the resources.
5.	Work Assignments	Enter the specific work assignments given to each of the Divisions.
6.	Resource	Complete resource headings, both for kind and type appropriate for the incident. Enter, for the appropriate resources, the number of resources by type (engines, crew, etc.) required "REQ", and the number of resources available "HAVE" to perform the work assignment. The number of resources needed "NEED" is automatically calculated.
7.	Reporting Location	Enter the specific location the "needed" resources are to report for the work assignments (staging area, etc.).
8.	Requested Arrival Time	Enter time resources are requested to arrive at the reporting location (e.g. 1530).
9.	Total Resources Required, On Hand, Needed	Enter the total number of resources by type (crew, dozers, etc.) required, on hand). The number of resources needed is automatically calculated.
10.	Prepared By	Record the name and position of the person completing the form.

ICS 215 Operational Planning Worksheet

Incident:	Prepared By:	at: __: __
Period: __/__/____ __: __ to __/__/____ __: __	Version Name:	

Branch/ Division/Area of Operation	Work Assignments								Reporting Location	Requested Arrival Date/Time
		Resource								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								
		Req								
		Have								
		Need								

INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS FORM 215A-CG)

Purpose: This form communicates to the Operations and Planning Section Chiefs safety and health issues identified by the Safety Officer. The Worksheet is used by the Resources Unit to complete ICS 204 Forms and Operations briefings.

Preparation: This form is principally crafted by the Safety Officer. Use additional sheets, as needed.

Distribution: When the safety analysis is completed, the form is distributed to the Resources Unit to help Prepare Operations briefing packages. All completed original forms MUST be given to the Documentation Unit.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Date / Time Prepared	Enter date (e.g. 09/17/1996) and time (e.g. 1530) prepared.
3.	Operational Period	Enter the time interval for which the information applies (e.g. 1800 09/17/1996 to 0600 09/18/1996).
4.	Area of Operation	Enter the Division letter or location of the work assignment for the resources.
5.	Work Assignments	Obtain specific work assignments from Operations given to each of the Areas of Operations.
6.	Blank Risk Header	Enter appropriate title for risk.
7.	Blank Risk Mitigation Header	Enter appropriate title for risk mitigation.
8.	Blank Risk Cells	Enter an X to indicate a risk type of concern in a Division/group.
9.	Blank Risk Mitigation Cells	Enter an X to indicate mitigation for risk to Division or group.
10.	Prepared By	Record the name and position of the person completing the form.

ICS 215a – CG: Safety Analysis																			
Incident: _____										Prepared By: _____ at: _____									
Period: ____/____/____ : ____ to ____/____/____ :										Version Name: _____									
			Hazards						Controls										
Area/Division/Group	Work Assignment	Gain													S E V E R I T Y	P R O B .	E X P O S U R E	G A R	
		Human Health <input type="checkbox"/> Security <input type="checkbox"/> Environment <input type="checkbox"/> Economy <input type="checkbox"/>																	
		Human Health <input type="checkbox"/> Security <input type="checkbox"/> Environment <input type="checkbox"/> Economy <input type="checkbox"/>																	
		Human Health <input type="checkbox"/> Security <input type="checkbox"/> Environment <input type="checkbox"/> Economy <input type="checkbox"/>																	
		Human Health <input type="checkbox"/> Security <input type="checkbox"/> Environment <input type="checkbox"/> Economy <input type="checkbox"/>																	
		Human Health <input type="checkbox"/> Security <input type="checkbox"/> Environment <input type="checkbox"/> Economy <input type="checkbox"/>																	
Operational Risk Management Key		Scale	1	2	3	4	5	GAR Scale	#	1-19	20-39	40-59	60-79	80-100					
		Severity	Slight	Minimal	Significant	Major	Catas-Trophic		Risk	Slight	Possible	Substantial	High	Very High					
		Probability	Remote	Unlikely	50/50	>50%	Very Likely		Color	Green	Amber	Red	Red	Red					
		Exposure	Below Avg	Avg	Above Avg	Great	N/A		Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop					
ICS 215a-CG: Safety Analysis								© 1997-2012 TRG/dbSoft, Inc.											

Support Vehicle/Equipment Inventory (ICS Form 218)

Purpose: The Support Vehicle/Equipment Inventory (ICS 218) provides an inventory of all transportation and support vehicles and equipment assigned to the incident. The information is used by the Ground Support Unit to maintain a record of the types and locations of vehicles and equipment on the incident. The Resources Unit uses the information to initiate and maintain status/resource information.

Preparation: The ICS 218 is prepared by Ground Support Unit personnel at intervals specified by the Ground Support Unit Leader.

Distribution: Initial inventory information recorded on the form should be given to the Resources Unit. Subsequent changes to the status or location of transportation and support vehicles and equipment should be provided to the Resources Unit immediately.

Item	Item Name	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Incident Number	Enter the number assigned to the incident.
3.	Date/Time Prepared	Enter the date (month/day/year) and time (using the 24-hour clock) the form is prepared.
4.	Vehicle/Equipment Category	Enter the specific vehicle or equipment category (e.g., buses, generators, dozers, pickups/sedans, rental cars, etc.). Use a separate sheet for each vehicle or equipment category.
5.	Vehicle/Equipment Information	Record the following information:
	Incident Identification Number	Enter any special incident identification numbers or agency radio identifier assigned to the piece of equipment used only during the incident, if this system is used (e.g., "Decontamination Unit 2," or "Water Tender 14").
	Type	Enter the specific vehicle or equipment classification (e.g., bus, backhoe, Type 2 engine, etc.) as relevant.
	Make	Enter the vehicle or equipment manufacturer name (e.g., "GMC," "International").
	Capacity, or Size	Enter the vehicle or equipment category/kind/type, capacity, or size (e.g., 30- person bus, 3/4-ton truck, 50 kW generator).
	Owner	Enter the operator name and/or contact information (cell phone, radio frequency, etc.).
	Location & Release Date/ Time	Enter where the vehicle or equipment will be located at the incident and its function (use abbreviations per discipline or jurisdiction).

ICS 218 - Support Vehicle Inventory						
Incident: _____			Prepared By: _____ at _____			
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :			Version Name: _____			
Vehicle Information						
Type	Make	Capacity or Size	Owner	ID Number	Location	Release Date/Time
ICS 218 - Support Vehicle Inventory					© 1997-2012 TRG/dbSoft, Inc.	

AIR OPERATIONS SUMMARY (ICS FORM 220)

Purpose: This form provides Air Operations Unit with the number, type, location and specific assignments of helicopters and fixed-wing aircraft.

Initiation of Form: The Unit Leader of the Air Operations Unit or Logistics Section Chief completes the summary during each Planning Meeting. The Air and Fixed-Wing Support Groups provide specific designators of the air resources assigned to the incident.

Distribution: After the summary is completed by Air Ops. Personnel, the form is given to the Air Support Group Leader and Fixed Wing Support Personnel. These personnel complete the form by indicating the designators of the helicopters and fixed-wing aircraft assigned missions during the specified operational period. This information is provided to Air Operations personnel who, in turn, give the information to the Resources Unit.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Air Operations, Logistic Section Chief, or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Type of Aircraft	Enter the type of aircraft being used for the incident. (e.g. Helo Bell 206, Fixed Wing DC-4)
6.	Operating Base	Enter the base (helibase, helispot, fixed-wing base) from which each air resource is expected to initiate operations.
7.	Aircraft Company	Enter the name of the company providing the aircraft.
8.	Passenger Capacity	Indicate the numbers of passengers the aircraft will accommodate.
9.	Purpose	Indicate the function or role the aircraft is being used for the incident.
10.	Scheduled Flights	Indicate when aircraft will be available for use and when flights are scheduled.

ICS 220 - Air Operations					
Incident:			Prepared By: _____ at: _____		
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ :			Version Name: _____		
Personnel and Communications					
Title/Position	Name	Air/Air Frequency	Air/Ground Frequency	Phone	
Planned Flight Information					
Type Of Aircraft	Operating Base	Aircraft Company	Passenger Capacity	Purpose	Scheduled Flights
Notes (Special Instructions, Safety Notes, Hazards, Priorities)					
ICS 220 - Air Operations				© 1997-2012 TRG/dbSoft, Inc.	

DEMOBILIZATION CHECK OUT (ICS FORM 221)

Purpose: The Demobilization Check Out form is used to provide information to the Planning Section about resources that are released from the incident response.

Preparation: The Demobilization Unit Leader or the Planning Section Chief prepares the Demobilization Check Out form. The Demobilization Unit Leader completes the top portion of the form after the resource supervisor has given written notification that the resource is no longer needed.

Distribution: The individual resource will have the unit leader initial the appropriate box(es) in item 5 prior to release from the incident. After completion, the form is returned to the Demobilization Unit Leader or the Planning Section. All completed original forms MUST be given to the Documentation Unit.

For each released resource, enter the unit/personnel released, released time/date, resource type, description, supplier, quantity and size. Use more than one line per resource if necessary. Obtain the appropriate signatures for authorization.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Demobilization Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Unit/Personnel Released	Enter the specific name of the resource being released.
6.	Released Date/Time	Enter the date and time the resource was released (e.g. 09/17/2000 1500hrs.).
7.	Resource Type	Enter the type of the resource released.
8.	Description	Enter a description of the resource released
9.	Supplier	Enter the name of the company that provided the resource.
10.	Quantity	Enter the quantity of the resource released.
11.	Size	Enter the size of the resource released (if applicable).

ICS 221 - Demob. Check Out				
Incident:		Prepared By: _____ at: _____		
Period: __/__/__:__ to __/__/__:__		Version Name:		
Unit/Personnel Released:				
Released Date/Time:				
You and your resources have been released, subject to signoff from the following:				
Resources				
Resource Type	Description	Supplier	Quantity	Size
Signatures				
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
Comments				
ICS 221 Demobilization Check Out				© 1997-2012 TRG/dbSoft, Inc.

The Daily Meeting Schedule (ICS FORM OS-230)

Purpose: The Daily Meeting Schedule is use to record daily scheduled meeting activities, for information purposes.

PREPARATION: THE SITUATION UNIT LEADER AND PLANNING SECTION CHIEF PREPARE THE DAILY MEETING SCHEDULE COORDINATED THROUGH THE INCIDENT COMMAND FOR DAILY MEETING SCHEDULE (ICS FORM OS-230) each Operational Period or as needed.

Distribution: After coordination with the Incident Command, the Situation Unit Leader will duplicate and post a copy at the command post and distribute to the Command Staff, Section Chiefs, Branch Directors, Division/Group Supervisors, and appropriate Unit Leaders.

For each scheduled meeting, enter the time, meeting name, purpose and location. Use more than one line per meeting if necessary.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Situation Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Meeting Date/Time	Enter the date/time the meeting is planned for.
6.	Meeting Name	Enter the meeting name.
7.	Purpose	Enter the purpose of the meeting.
8.	Attendees	Enter who should attend the meeting.
9.	Location	Enter the location the meeting will be held.

ICS 230 - Daily Meeting Schedule				
Incident:			Prepared By:	
			at:	
Period: __/__/__ :__ to __/__/__ :__			Version Name:	
Meeting Name & Date/Time	Purpose	Attendees	Location	
ICS 230 – Daily Meeting Schedule				© 1997-2012 TRG/dbSoft, Inc.

RESOURCES AT RISK (ICS FORM OS-232)

Purpose: The Resources at Risk Summary is used to record and identify details of the Situation Unit including Technical Specialist activity. It also serves as the Environmental Operations Plan.

Preparation: The Situation Unit Leader in coordination with the Scientific Support Coordinator (SSC) Specialist, with input from the Resources at Risk (RAR) Technical Specialists, and other resources trustees, will complete this form for each Operational Period.

Distribution: Each Operational Period, a copy must be forwarded to the Planning Section Chief for the Incident Command to serve as an Environmental Operations Plan (part of the Incident Action Plan). The SSC Specialist must also maintain a copy.

Item	Item Title	Instructions
1.	Incident	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Environmental Unit Leader or person preparing the form and the date & time prepared (e.g. 09/17/2000 1500hrs.).
3.	Period	Enter the date and time interval of the operational period for which the form applies (e.g. 0600 09/17/2000 to 0600 09/18/2000).
4.	Version Name	
5.	Site Number	Enter number assigned to site.
6.	Priority	Enter priority as it relates to degree of sensitivity.
7.	Site Name &/or Location	Enter the site name and the physical location of the site.
8.	Site Issues	Enter a narrative clarifying the sites and wildlife issues described for each.

ICS 232 - Resources at Risk			
Incident:		Prepared By: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____		Version Name: _____	
Environmentally Sensitive Areas and Wildlife Issues			
Site #	Priority	Site Name and/or Physical Location	Site Issues
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Archaeo-cultural and Socio-economic Issues			
Site #	Priority	Site Name and/or Physical Location	Site Issues
Notes:			
Notes:			
Notes:			
Notes:			
ICS 232 Resources at Risk			© 1997-2012 TRG/dbSoft, Inc.

ACP SITE INDEX (ICS FORM 232A-OS)

Special Note: This optional form is designed to be a key to the site numbers or site names shown on the Situation Map. The information on priorities for environmentally-sensitive areas and archaeo-cultural and socio-economic issues from the ICS form 232-OS may be transferred to ICS form 232a-OS, which provides more information on the Area Contingency Plan (ACP) or Geographic Response Plan (GRP) site numbers or names shown on the Situation Map.

Purpose: If used, this form is posted next to the Situation Map, providing a key to the ACP/GRP sites shown on the map.

Preparation: The Situation Unit personnel responsible for the Situation Map prepare this form, using ICS form 232-OS prepared by the Environmental Unit.

Distribution: This form is posted next to the Situation Map and copies of this form should accompany any distributed copies of the Situation Map. All completed original forms MUST be given to the Documentation Unit.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident
2.	Operational Period	Enter the time interval for which the form applies Record the start and end date and time.
3.	Index to ACP/GRP sites shown on Situation Map	Enter site information from the Area Contingency Plan (ACP) or Geographic Response Plan (GRP) or other sources specified to this incident
4.	Site Number	Can come from an Area Contingency Plan (ACP) of Geographic Response Plan (GRP) or can be created during an incident.
5.	Priority	Priority specific to this incident.
6.	Site Name and/or Physical Location	Name of the site (e.g., Marsh Point., Glacier Creek, etc.) and/or physical location (e.g., address, lat/long, landmarks, etc.)
7.	Action	Actions to be taken for designated protection and collection strategies or for other sites identified specifically for this incident.
8.	Status	Status of site action implementation (e.g., scheduled, in progress, completed).
9.	Prepared By Date/Time	Enter name and title of the person preparing the form. Enter date (month, day, year) and time prepared (24-hour clock).

ICS 232a - ACP Site Index

Incident:		Prepared By: _____ at: _____		
Period: ____/____/____ : ____ to ____/____/____ : ____		Version Name: _____		
Index to ACP/GRP sites shown on Situation Map				
Site #	Priority	Site Name and/or Physical Location	Action	Status
Notes:				
Notes:				
Notes:				
Notes:				
Notes:				
Notes:				
Notes:				
Notes:				
Notes:				
ICS 232a ACP Site Index				© 1997-2012 TRG/dbSoft, Inc.

OPEN ACTION TRACKER (ICS 233)

Purpose: Open Action Tracker

1. Is used by the Incident Commander/Unified Command (IC/UC) to assign and track tasks/actions to IMT personnel that do not rise to the level of being an Incident Objective.
2. Is duplicated and provided to Command and General Staff members, giving them the open tasks/actions needing to be completed and a means to track the open tasks/actions they have been assigned.

Note: This form may also be used by Command and General Staff for tracking tasks/actions within a Section/Staff element.

Preparation: The Planning Section Chief (PSC) is responsible for maintaining the Open Action Tracker for the IC/UC and typically utilizes the Documentation Unit Leader (DOCL) to assist in this forms development and updating. The PSC should ensure all Command and General Staff are prepared to discuss their assigned tasks/actions during the Command and General Staff and Planning Meetings.

Distribution: When completed. The form is duplicated and copies are distributed to the Unified Command and Command and General Staff. It is also posted on a status board located at the ICP. All completed original forms MUST be given to the Documentation Unit.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	No.	Enter number of task in sequential order (1,2,3,...).
3.	Item	Enter short descriptive of the task/action to be completed. Task/Actions are important to be completed but are not an Incident Objective which are documented on the ICS-202 form.
4.	For/POC	Enter the Point of contact (POC), the responsible person/section.
5.	Briefed to POC	Enter "X" when the task/action has been briefed to the POC/responsible person. This is to ensure that tasks/actions identified outside of the POC's presence (during Unified Command Meeting for example) are briefed to and acknowledged by the identified POC.
6.	Start Date	Enter the date the task/action was initially assigned under "Start Date."
7.	Status	Enter Status of item. For example: "Awaiting Le Gear", Updated needed", "Awaiting Feedback". When the item is completed, the word "completed" is entered and if working in MS Excel, the task is cut and pasted into the worksheet labeled "COMPLETED."
8.	Target Date	Enter deadline task/action should be completed. In the Excel Worksheet, there is a hidden formula that shows green, yellow and red blocks. When the target date is one day away, the block turns yellow. When it is overdue it turns red. When the block is yellow, it serves as a reminder to the UC/POC that the target date is nearing and the POC needs to complete the task or the target date needs to be updated.
9.	Actual Date	Enter actual date task/action completed
	Note:	In order to ensure the red and yellow reminders work for new tasks, the user simply copies a task line, inserts it into the worksheet and overtypes the new task information.

WORK ANALYSIS MATRIX FORM INSTRUCTIONS (ICS FORM 234)

Purpose: The Work Analysis Matrix is designed to help select the best strategies and tactics to achieve the operational objectives. This optional form assists staff in carrying out incident objectives by outlining the who, what, where, when, and how of the response. The tactics from this form carry forward to the “Work Assignment” on the ICS-215. Another purpose of the ICS-234 is that it presents alternative (or what-if) strategies and tactics to respond to bad weather, sudden changes in operational conditions. etc. This form is simply a formalized version of how OSCs tend to think in order to turn objectives into tactical field work.

Preparation: The Work Analysis Matrix, if used, is usually completed by the Operations Section Chief and Planning Section Chief prior to the Tactics Meeting.

Distribution: All completed original forms must be submitted to the Documentation Unit.

Item	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Operational Objectives	Enter the relevant Operational Objectives from the ICS 202, with numbers.
4.	Operational Strategies	Enter all strategies that could be used to meet the objective (“how”)
5.	Tactics/Work Assignments	Enter details, including as much as possible, who, what, where, and when. Of work assignments to carry out Operational Strategies.
6.	Prepared By	Enter the name and position of the person preparing the form.
7.	Date/Time	Enter the date and time (24-hour format) the form was prepared.

ICS 234 - Work Analysis Matrix			
Incident: _____		Prepared By: _____ at: _____	
Period: ____ / ____ / ____ : ____ to ____ / ____ / ____ : ____		Version Name: _____	
Objectives			
Operations Objectives	Optional Strategies	Tactics/Work Assignments	
ICS 234 – Work Analysis Matrix			© 1997-2012 dbSoft, Inc.

Air Monitoring Plan

Marathon Oil Company Air Monitoring Plan

INCIDENT INFORMATION FORM

Incident Name:		Location:	
Date/Time Prepared:		Prepared by:	
Date/Time of Incident:		Type of Incident: (spill, gas/vapor release, fire, etc.)	
Product(s) of Concern:			
(Attach MSDS)			
Product Components of Concern	Exposure Limit	Test Method	
<input type="checkbox"/> Benzene	1 ppm	Ultra RAE/GC	
<input type="checkbox"/> Hydrocarbons (VOC's)		Multigas/PID	
<input type="checkbox"/> LEL	10%	Multigas	
<input type="checkbox"/> Oxygen	<19.5% or >23.5%	Multigas	
<input type="checkbox"/> Hydrogen Sulfide	10 ppm	Chemical sensor/Detector Tube	
<input type="checkbox"/> Hydrogen Fluoride	3 ppm	Chemical sensor/Detector Tube	
<input type="checkbox"/> Carbon Monoxide	25 ppm	Chemical sensor/Detector Tube	
<input type="checkbox"/> Sulfur Dioxide	2 ppm	Chemical sensor/Detector Tube	
<input type="checkbox"/> Ammonia	25 ppm	Detector tube	
Other Contaminants			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
CURRENT SITUATION			
Incident Status (Source Control & Response:			
Environmental Conditions:			
<input type="checkbox"/> Ice <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Other _____ Temp. _____ ° F Wind: Direction _____ MPH _____ Barometric Pressure _____ inches Hg Relative Humidity _____ %			
SITE SAFETY PLAN (attach ICS 208)			
Employee Impact:			
Community Impact:			

Incident Information, Page 2

Initial Air Monitoring Data:	
_____ % O ₂	_____ % LEL _____ ppmH ₂ S _____ ppm Benzene Other: _____
Personal Protective Equipment Required:	
<input type="checkbox"/> Impervious suits _____	<input type="checkbox"/> Respirators _____
<input type="checkbox"/> Gloves _____	<input type="checkbox"/> Eye Protection _____
<input type="checkbox"/> Flame resistant clothing _____	<input type="checkbox"/> Personal flotation _____
<input type="checkbox"/> Hard hats _____	<input type="checkbox"/> Boots _____
<input type="checkbox"/> Hearing Protection _____	<input type="checkbox"/> Other _____
Monitoring Personnel Required:	
Monitoring Equipment Required: (including where equipment is being sourced from):	
Diagram with impacted areas, landmarks, wind direction, etc. indicated:	

EXPOSURE ASSESSMENT PLAN

[illegible]

(See reverse side)

Diagram of Area Monitoring Locations

(Notating potentially sensitive areas; indicating monitoring methods)

Resources

Air Monitoring Teams

Name/Organization	Name/Organization	Work hours

Monitoring Equipment

Manufacturer	Model	Cal. Gas Required	Expendables Required

Included Attachments/Appendices

<input type="checkbox"/> Map(s) <input type="checkbox"/> Real-Time Air Monitoring Field Data Form(s) <input type="checkbox"/> Marathon Urine Phenol Protocol <input type="checkbox"/> Residential Clearance Monitoring Form(s) <input type="checkbox"/> Hydrocarbons Exposure Assessment Procedure <input type="checkbox"/> Hydrogen Sulfide/Toxic Gases Exposure Procedure <input type="checkbox"/> Particulate Exposure Assessment Procedure <input type="checkbox"/> Environmental Noise Exposure Assessment Procedure	<input type="checkbox"/> OVM Protocol <input type="checkbox"/> PID Protocol <input type="checkbox"/> Summa Canister Protocol <input type="checkbox"/> Area RAE Protocol <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____
--	--

INDUSTRIAL HYGIENE SAMPLE FORM

Incident Name:			Sampler Name:			Date:		
Environmental Conditions		<input type="checkbox"/> Ice <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Other _____ Temp. _____ °F Wind: Direction _____ MPH _____ Barometric Pressure _____ inches Hg Relative Humidity _____ %						
Employee Name Component/Contractor	ID No.	Start	Stop	Badge No.	PPE Worn	Specific Area Worked/ Task		

6

AIR MONITORING TEAM FIELD DATA FORM

Monitoring Results								
Location ID	Location Description/GPS Coordinates	Time	VOC (ppm)	Benzene (ppm)	LEL%	H ₂ S	Other (List)	Observations/Comments

HOT ZONE PERSONNEL TRACKING

(Any personnel entering /departing a work area shall report to the site supervisor or designated representative).		
NAME & COMPANY	LOCATION	TIME-ENTRY/EXIT

INSTRUMENT CALIBRATION CHECK

Calibration Results must be in the following range:

LEL: ____% to ____% O₂: ____% to ____% PID: ____ppm to ____ppm

Other: ____ ppm to ____ ppm Other: ____ ppm to ____ ppm

Other: ____ ppm to ____ ppm Other: ____ ppm to ____ ppm

If instruments cannot be calibrated to the above manufacturer's listed ranges, the instrument must be taken out of service and repaired.

Instrument ID	Date	Time	Calibration Results	Name	Comments
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		
			LEL ____% O ₂ ____% PID ____ ppm ____ ____ ppm ____ ____ ppm ____		

MARATHON OIL COMPANY/CONTRACTOR EMPLOYEES URINE PHENOL RESULTS

Incident Name:		Location:	
Collection Date /Time	Accession Number*	Results (mg/l)	
OSHA Limit – End of Shift Determination		75 mg/L	

*Accession numbers are provided to maintain medical confidentiality. This is the unique number of an individual's laboratory report.

PERSONAL EXPOSURE MONITORING RESULTS

[illegible]

PHOTOGRAPH LOG

Incident Name:	Location:		
Photographer(s):	Date:	Time:	

		Sequence or ID# of this photograph:
		Location of the subject within the area:
		General compass direction of the orientation of this photograph:
		General description of this subject:

		Sequence or ID# of this photograph:
		Location of the subject within the area:
		General compass direction of the orientation of this photograph:
		General description of this subject:

		Sequence or ID# of this photograph:
		Location of the subject within the area:
		General compass direction of the orientation of this photograph:
		General description of this subject:

RESIDENTIAL MONITORING FORM

Incident Name:		Location:		
Date:		Time:		
Occupant Name:		Address:		
Survey Team:				
MPC/Contractor Representative:				
MPC/Contractor Representative:				
Diagram	Floor Location	Measurement Location	VOC Conc. (ppm)¹	Benzene Conc. (ppm)¹
<div style="border: 1px solid black; width: 150px; height: 100px; margin: 10px auto;"></div> <div style="border: 1px solid black; width: 150px; height: 100px; margin: 10px auto;"></div> <div style="border: 1px solid black; width: 150px; height: 100px; margin: 10px auto;"></div>	First Floor	1.		
	Second Floor	2.		
		3.		
		4.		
		5.		
	Basement	6.		
		7.		
		8.		
		9.		
		10.		
		11		
		12.		
Note: If garage is present, note location at appropriate level and record sample point.		X Measurement location on diagram		
Observations:				
Odors: No ____ Yes ____ If yes, describe: _____ Containers of VOC sources: _____ _____ Indication of Smoking in residence: No ____ Yes ____ Comments: _____ _____ _____				

Note: Equipment S/N and Calibration information recorded on calibration forms.

SAMPLING PUMP CALIBRATION LOG

Incident Name:					Location:			
Equipment ID	Mfg/Model	Serial No.	Date	Time	Flowrate {ml/min or lpm}	Method of Calibration	Sampling Media	Calibration by

Appendix D: Diagrams

Piceance Basin, CO

List of Diagram/Maps for Piceance Basin, CO	
✓	Piceance Basin – Overview Map
✓	Piceance Basin – Detailed Overview Map
✓	Piceance Basin – Stormwater Management Vicinity Map
✓	Piceance Basin – Pipeline Map
✓	Piceance Basin – Well Pad and Tower Locations
✓	Piceance Basin – Marathon Leasehold with Surface Ownership
✓	Piceance Basin – Facilities with American Peregrine Falcon Activity
✓	Piceance Basin – Facilities with Sage Grouse, Eagle and Raptor Activity
✓	Piceance Basin – Greater Sage-grouse Lek Sites

Appendix E: Waterline Maps

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✓	Piceance Northern Waterline Map
✓	Piceance Southern Waterline Map
✓	Piceance Eastern Waterline Map
✓	Piceance Western Waterline Map
✓	Piceance Central Waterline Map
✓	Piceance Waterline and Valve Can Location Map
✓	Piceance Waterline and Cathodic Test Station Location Map
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Appendix F: Oil Spill Waste Management & Disposal Plan

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1.0 PURPOSE AND SCOPE OF WASTE MANAGEMENT AND DISPOSAL PLAN

- 1.1 Typical Reclaimable Materials and Waste Streams
- 1.2 General Waste Management Practices
- 1.3 Waste Handlers

2.0 WASTE DESIGNATION

- 2.1 Waste Characterization
- 2.2 Waste Sampling Procedures
- 2.3 Sampling Guidelines
- 2.4 General Management Guidelines
- 2.5 Accumulation of Hazardous Waste
- 2.6 Management of RCRA-Regulated Waste

3.0 INTERIM STORAGE, SEGREGATION AND TRACKING

- 3.1 Locations for Temporary Waste Storage Areas
- 3.2 Waste Storage Area Construction Materials and Supplies
- 3.3 Waste Segregation, Containerization and Inventory
 - 3.3.1 Contaminated Soil
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 - 3.3.3 Contaminated Sorbent Material and PPE
 - 3.3.4 Contaminated Rinsate Water from Decontamination Stations
 - 3.3.5 Hazardous Waste
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 - 3.3.7 Sewage/Sanitary Waste from Spill Response Activities
- 3.4 Tracking of Waste Types and Amounts
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4.0 WASTE DISPOSITION AND FINAL DISPOSAL

- 4.1 Available Disposal Options
 - 4.1.1 Incineration
 - 4.1.2 Land filling
 - 4.1.3 Bioremediation and Off-Site Biodegradation
- 4.2 Final Report

LIST OF ATTACHMENTS

Attachment A	Approved Oil Reclamation Contractors and Disposal Facilities
Attachment B	Oil Spill Waste Management Disposal Plan Form
Attachment C	Hazardous Waste Manifest
Attachment D	Land Disposal Restriction Notification
Attachment E	Daily Survey Waste Tabulation Form
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Table 1	Hazardous Waste Accumulation Area Inspection Form
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LIST OF FIGURES

Figure 1	Waste Staging Area Schematic
Figure 2	Waste Staging Area Site Location Map
Figure 3	Incident Status Summary - ICS Form 209

NOTE:

Associated materials not included herein: Supplemental Spill Response Documents

OIL SPILL WASTE MANAGEMENT AND DISPOSAL PLAN

Incident Name: _____
Responsible Party: _____
Spilled Material: _____
Spill Volume (estimate): _____
Spill Location: _____
Spill Date / Time: _____
Report Update Time: _____

Disposal Plan Authorization

This plan is written at the request of the FOSC or SOSC. The responsible party will recover the maximum feasible amount of oil spilled during the above named incident. In addition an unknown quantity of oily waste debris (including plastics, sands, etc.) will be recovered. When disposing of this material, the responsible party will abide by all applicable state, local and federal laws and regulations. Disposed material will be tracked to provide an accurate means of estimating total oil recovered.

This plan may be amended as necessary to ensure compliance with all applicable laws and regulations. Amendment may occur only upon mutual agreement of the responsible party, the Federal OSC (USCG/EPA), and/or the State OSC.

Submitted By: _____
Waste Management Specialist

Approved By: _____
Environmental Unit Leader

1.0 PURPOSE AND SCOPE OF WASTE MANAGEMENT AND DISPOSAL PLAN

This is an incident-specific plan to address management of oily wastewater and solid waste materials during the emergency phase of a marine or other oil spill response. Wastes generated during a spill response effort are collected, containerized, and managed by the Operations Section. The Environmental Unit in the Planning Section provides guidance on waste management and makes waste disposal decisions. The Incident Management Team roster and ICS organization chart should be used to identify roles and responsibilities.

The goal of the spill response effort is to remove oil from impacted areas as soon as possible and to treat, recycle, or dispose of recovered oily material in the most efficient and environmentally sound manner. This plan provides guidance on how to manage the waste generated during an oil spill response effort and forms to document actions taken. A final report or incident action plan (IAP) should be developed at the conclusion of response activities detailing what waste was generated, and how it was disposed of/and or treated. The information generated during the spill response effort should provide this information.

1.1 Typical Reclaimable Materials and Waste Streams

Spill response, cleanup, and decontamination will typically produce the following wastes and reclaimable materials:	
✓	Recovered oil (crude or refined petroleum product) from the release
✓	Oily residue from vessels, debris, and other oiled material
✓	Oily water (oil and seawater or oil and fresh water), including decontamination and wash water
✓	Oil-saturated booms and sorbents from clean-up of the spilled oil
✓	Other debris, including oil contaminated sand, vegetation, and soil that may become waste

1.2 General Waste Management Practices

The following management practices must be followed in the management of wastes generated in a spill response effort:	
✓	Dispose or manage wastes and recoverable materials in permitted or otherwise authorized locations and facilities only. Unauthorized disposal or management will not be tolerated.
✓	Reduce waste generation whenever practical. This is known as waste minimization or pollution prevention.
✓	Reuse or recycle materials whenever practical. This not only lowers consumption of raw materials; it also eliminates the need for waste disposal. Recycling and reuse of recovered oil and oily water is the preferred option.
✓	Avoid co-mingling wastes of different classifications. For example, never place non-hazardous wastes in the same container as hazardous waste. In addition, keep recyclable material separate from non-recyclable waste. It may be difficult or impossible to separate wastes after they are generated.

1.2 General Waste Management Practices (Cont'd)

The following management practices must be followed in the management of wastes generated in a spill response effort:

✓	Maintain good housekeeping practices. Employees and contractors should maintain neat, clean work areas to reduce the need for additional clean up and the wastes it would generate.
✓	Properly store wastes, especially hazardous wastes, to avoid releases to soil, water, or air, until they can be appropriately managed.
✓	Clearly identify waste containers. Use a label or other means to clearly identify the contents of containers of hazardous, non-hazardous and inert wastes.
✓	Document quantities and disposition of all hazardous and non-hazardous wastes as instructed in this plan. Waste tracking can help to manage costs, and is required for all hazardous wastes. This information will be included in the final report developed at the conclusion of response activities.
✓	Recovered liquids (oil, water, sludge) should be collected and stored in as large a container as possible (Department of Transportation [DOT] drum, tote tank, frac tank, or barge) to maximize decanting potential, facilitate uninterrupted recovery, and to minimize equipment decontamination requirements.
✓	Communicate your ideas for waste minimization or waste management improvements to supervisors and fellow employees in different areas.

1.3 Waste Handlers

Liquid materials recovered will be collected for proper disposal or recycling by one of the approved contractors listed in Appendix A of this plan.

2.0 WASTE DESIGNATION

The process of classifying waste as solid or hazardous waste is termed “waste designation.” Petroleum products such as diesel generally do not designate as hazardous waste. Recovered oily liquids and other materials contaminated by oil that are not designated as hazardous waste may be recycled, burned, or blended for fuel without following the requirements for management of hazardous waste. Recovered oily liquids and other materials contaminated by oil that cannot be recycled, burned or blended for fuel are considered solid waste and subject to designation as a hazardous waste as determined through testing. If they do not designate as a hazardous waste they are classified and managed as a solid waste.

2.1 Waste Characterization

Wastes that can typically be identified as non-hazardous via operator or generator knowledge include non-oiled waste from the response activities and minimally oiled wastes such as some discarded decontaminated or personal protective equipment (PPE). Knowledge of the material spilled, (e.g., marine diesel fuel) can be used to classify all of the released material. Marine diesel fuel-impacted material would be classified as 100 percent non-hazardous.

Some oiled waste material may be tested to determine if the waste is a federal or state hazardous waste. If the waste is designated as not hazardous, testing will identify if the waste concentration is low enough in total oil and grease or total organic carbon to be accepted in the local landfill or Resource Conservation and Recovery Act (RCRA) Class III disposal facility. Spent oiled boom and sorbent material as well as contaminated soil, sand or other loose, natural material would be composite sampled as means to classify the material.

All oily waste streams will be characterized to ensure the wastes are managed in accordance with federal and state hazardous waste regulations. The testing results will determine the final disposition and disposal of the waste. A minimum of 10 percent of a waste stream (e.g. oily waste bags) will be tested if operator knowledge indicates hazardous waste may be present. Sample analyses will include toxicity characteristic (benzene only), reactivity, ignitability; and other analyses, as necessary.

2.2 Waste Sampling Procedures

Samples will be collected in pre-cleaned glass containers and stored and transported in specially designated portable coolers. These supplies will be provided by accredited analytical laboratory. See list of approved laboratories in Appendix A of this plan.

Containers will be labeled with date and time, sample type, sample location (waste storage area number), unique sample number, and the samplers' signature. The contract analytical laboratory will provide labels.

Samples will be collected with the assistance of a clean scooping device such as a hand trowel (either a one-time disposable or a device that can be decontaminated between each sample). Reusable sampling equipment will be decontaminated with isopropyl alcohol and water between collection of each sample. Nitrile gloves will be worn during the collection of each individual sample and changed between samples.

The samples will be stored in the field in chilled coolers (4° C). The samples then will be moved to a refrigerator or delivered to an analytical laboratory within the sample holding time specified for the analytical methods selected. Proper chain of custody protocol will be followed.

2.3 Sampling Guidelines

For oil sampling exercises, the following guidelines will be used:

✓	Third party contractors will be used to collect all neat and contaminated material samples.
✓	Third party contractors will be used to gauge all tanks containing oil-water mixtures.
✓	Samples will be collected in pre-cleaned glass containers provided by an accredited analytical laboratory.
✓	Containers will be labeled with information such as the date, sample type, and sample location.
✓	Solid material type samples (e.g., PPE) will be collected with the assistance of a utility knife or scissors.
✓	Liquid type samples will be collected with the assistance of an appropriate liquid sampling device.
✓	Sampling equipment will be decontaminated with isopropyl alcohol and water and thoroughly rinsed between each sample collected.
✓	Nitrile gloves will be used for sample collection, and changed between samples to prevent cross contamination.
✓	All spent sampling equipment and contaminated material associated with sampling will be consolidated, containerized and moved to the waste staging area.
✓	Proper chain of custody protocol will always be followed.

2.4 General Management Guidelines

All waste generated during oil spill response efforts should be managed using the following guidelines:

✓	Solid waste will be placed in a lined/bermed area for subsequent off-site transport, treatment and disposal.
✓	Temporary storage of oil-contaminated materials will be in closed-top, 55-gallon drums, sealed plastic bags or roll-off boxes, all segregated within the lined/bermed containment areas.
✓	Wastes accumulated in temporary storage locations will be categorized, segregated, inventoried and transported off-site for recycling or disposal.
✓	Ultimate disposal of recovered materials will be determined, in part, by the cleanup criteria established by the regulatory agency with jurisdiction over the event. The Company's responsible person (RP) and the unified command (U.C.) will determine the most feasible disposal alternative for recovered materials that meets federal, state, and local requirements.
✓	Testing of accumulated materials will be performed in accordance with appropriate regulatory guidelines.
✓	Necessary permits will be obtained for transportation to and disposal of any wastes at approved landfills.

2.5 Accumulation of Hazardous Waste

No permits are needed for collection and temporary storage of hazardous waste in an emergency oil spill clean-up as long as waste is properly contained, labeled, and stored. Storage requirements for hazardous waste are more stringent than for non-hazardous waste. A hazardous waste storage area inspection form, provided as **Table 1**, should be used to document that waste was appropriately managed. Generators of hazardous waste must obtain a state/Environmental Protection Agency (EPA) identification number since hazardous waste may not be shipped off-site without an identification number.

Use the Oil Spill Waste Management Disposal Plan Form in **Attachment B** to summarize the event and site-specific implementation of this waste management and disposal plan. Hazardous waste manifest requirements will be fulfilled to transport the waste off site. Examples of Hazardous Waste Manifest and Land Disposal Restriction Notification Forms are provided in **Attachments C** and **D**, respectively. Originals of these forms must be completed and accompany waste transported off-site for disposal. Forms from **Attachments B**, **C**, and **D** and portions or portions of this plan may be submitted as part of the IAP for this response activity. Materials safety data sheet (MSDS) information should be included in the IAP with the Waste Management Disposal Plan to facilitate residuals management decision-making by the U.C.

2.6 Management of RCRA-Regulated Waste

Many hydrocarbon products contain benzene, which can be considered a hazardous waste under the RCRA toxicity characteristic rule. As a result, oily waste (excluding marine diesel fuel-contaminated wastes) that cannot be recycled or reclaimed will be analyzed for hazardous characteristics before choosing a treatment or disposal option. The Company will use standard procedures approved by RCRA regulations for sampling, analyzing, and monitoring oil and oily waste material. Representative samples will be collected and analyzed for hazardous characteristics (ignitability, corrosivity, reactivity, or toxicity) by the Toxicity Characteristic Leaching Procedure (TCLP) to determine if the waste should be handled as hazardous.

If oily waste is determined to be hazardous under RCRA, the wastes will be sent to an EPA- or state-permitted hazardous waste management facility for treatment and disposal. If the material spilled is itself a RCRA-listed hazardous waste, any resulting spill residue is automatically a RCRA-listed hazardous waste.

Use the Oil Spill Waste Management Disposal Plan Forms contained in **Attachment B** to summarize the event and site-specific implementation of this Oil Spill Waste Management and Disposal Plan. Forms from **Attachment B**, and portions of this entire plan, should be submitted as part of the IAP for this response activity. MSDS information should be included in the IAP with the Waste Management Disposal Plan to facilitate residuals management decision-making by the U.C.

3.0 INTERIM STORAGE, SEGREGATION, AND TRACKING

This section provides information on the interim storage of spill-generated waste, includes guidance on the segregation of different types of waste to facilitate proper and efficient management, and provides waste disposition tracking forms.

3.1 Locations for Temporary Waste Storage Areas

Temporary waste staging areas (Waste Staging Areas) will be established in the following locations.

A. Waste Staging Area Location Number 1: B. Waste Staging Area Location Number 2: C. Waste Staging Area Location Number 3:

It is important to show how each site will be constructed, bermed, or covered to minimize rainwater infiltration and leaching. Maps should be provided to locate the Waste Staging Areas for the IAP.

Describe below the measures that will be taken following completion of spill response activities to return the waste staging areas to their original condition. Include in the discussion, at a minimum, efforts to: classify and containerize materials used to construct the temporary storage areas; decontaminate the location; and collect and dispose of wash down/rinsate that may evolve during temporary waste staging area decommissioning.

3.2 Waste Storage Area Construction Materials and Supplies

Typical material and supplies needed for constructing a Waste Staging Area include the following:	
✓	Reinforced visqueen or rolled polyethylene liner
✓	Railroad ties, hay bales, or other berm material for under visqueen
✓	Roll-off boxes and/or dumpsters (empty containers used to accumulate waste collected in satellite accumulation areas)
✓	Yellow caution or "Do Not Enter" tape
✓	Temporary fencing and/or barricades, if needed
✓	Traffic cones
✓	Absorbent materials and pads
✓	Wooden pallets for drum storage
✓	Drums
✓	Plastic bags (55-gallon drum size)
✓	Decontamination equipment (potable water, soap, brushes, tubs, etc.) in portable totes
✓	PPE

A tally of construction material and supplies needed for this event is presented in **Table 2**. A schematic diagram of the Waste Staging Area(s) is presented in **Figure 1**. A site map that presents Waste Staging Area locations appears as **Figure 2**. Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements for personnel entering the waste staging area are summarized in the Site Safety Plan contained in the IAP.

3.3 Waste Segregation, Containerization and Inventory

All loads moving into the temporary Waste Staging Area should be weighed prior to off-loading the waste. Oiled sand/soil should be placed into visqueen-lined dump trucks or roll-off boxes and transported off-site or to the non-liquid waste storage section in the temporary Waste Staging Area. All loads of oily sand and soil must be weighed and documented.

The on-site weighing location for waste management during this spill response is described below.

Label all containers (bags, drums, roll-off boxes, totes, dumpsters, etc.) with the following information:

✓	Type of material (oiled boom, absorbent pads, etc.)
✓	Location (waste generation site)
✓	Date
✓	Name and phone number of contact person
✓	Include the term "Recovered Oil- _____(put type of material here, such as sand, PPE, debris) Contaminated Material."

Oily wastes will be placed in leak-proof containers to prevent leakage during handling and transportation. The containers may be 55-gallon drums, portable tanks, tank trucks, roll-off boxes, dumpsters, storage barges, or containers that can be sealed and covered to prevent spillage. Double-walled plastic bags may be used for this purpose or all oil-contaminated materials can be double-bagged and tied or closed with duct tape. Not more than 20 pounds of debris are to be placed in each double bag. Each container of collected debris will be labeled as to its contents (tar balls, oily debris, or non-oily rubbish). Similar waste types should be staged together as a key task in the spill response waste segregation strategy.

All equipment used to excavate the sand or soil must be decontaminated and the wash waters managed per the procedures provided in the Decontamination Plan included in the IAP.

The management of recovered oil and oil/water mixtures will be addressed in the *Recovered Oil and Water Management Plan*. This section includes the segregation and management of contaminated soil, oiled debris, oiled sorbent material and PPE, rinsate water from decontamination stations, hazardous waste, non-oiled waste and sewage/sanitary waste generated from spill response activities.

Where possible, waste should be segregated according to media and degree of toxicity, as described below.

3.3.1 Contaminated Soil

Contaminated soil and shell material can be stockpiled in designated lay-down areas near cleanup activities. Paved areas or areas prepared for stockpiling impacted materials are preferred. Stockpile areas underlain with visqueen and covered with visqueen or other sheeting may be required to prevent rainfall infiltration and runoff. Stockpiling of contaminated soils should be viewed as a temporary measure, as the soil will eventually be containerized for off-site treatment and/or disposal. Soil will be characterized and stored as per direction from the Environmental Unit.

3.3.2 Oiled Organic Debris

Oiled organic debris includes wood, grasses, aquatic vegetation, and similar organic matter that cannot be treated and restored. Oiled organic debris should be segregated from dissimilar debris and containerized in clear plastic bags so the contents inside can be viewed. This material typically is designated for disposal at an approved solid waste landfill.

3.3.3 Oiled Debris

Oiled debris includes equipment and materials that are not deemed to be treatable or material that cannot be returned to its original service. This may include oiled wooden material from beaches, oiled nets and floats; buoys, oiled trash collected from the beach, and oiled equipment. Oiled debris will be containerized in 55-gallon drums or roll-off boxes and/or dumpsters. This material typically is designated for disposal at an approved solid waste landfill. See **Attachment A** or disposal facilities intended for use during the response.

3.3.4 Contaminated Sorbent Material and PPE

Contaminated sorbents (absorbent booms, pads, wipes, etc.) will be transferred from decontamination areas to the nearest waste staging area. Oiled sorbents and PPE will be containerized in plastic bags, drums, roll-off boxes, or dumpsters as appropriate. Plastic bags, taped closed and stored in roll-off boxes is the preferred technique.

3.3.5 Contaminated Rinsate Water from Decontamination Stations

Contaminated rinsate from personnel or equipment decontamination areas will be containerized in open top 55-gallon drums fitted with bung-sealing lids. Contaminated rinse water and other oily water generated during the spill response typically will be transported by vacuum truck from points of generation to frac tanks and portable oily water storage tanks supplied by the oil spill response organization or oily water reclamation contractor. The frac or Baker tanks typically will be co-located with the Waste Staging Areas. See **Figure 2** for site-specific frac/Baker tank locations.

3.3.6 Hazardous Waste

Hazardous waste will be kept in designated areas within the temporary waste staging areas. Hazardous waste will typically be containerized in drums or visqueen-lined roll-off boxes with volatile organic compound (VOC) controls, if necessary. Hazardous waste will not be co-mingled with non-hazardous waste. An example of a hazardous waste manifest, needed for transportation and disposal of any hazardous waste, is provided in **Attachment C**. **Attachment D** contains an example Land Disposal Restriction Notification that must be filled out and accompany the waste and waste manifest.

3.3.7 Non-Oiled Waste Generated from Spill Response Activities

Non-oiled waste material includes trash generated at the on-site oil spill response center(s), trash generated from response boats, and packing material that cannot be recycled. Non-oiled waste may be kept in plastic bags at the Waste Staging Area, but must be clearly identified as non-hazardous garbage (e.g., using color-coded plastic bags or color-coded bag tags).

3.3.8 Sewage/Sanitary Waste from Spill Response Activities

Oil spill cleanup operations produce large amounts of liquid sewage wastes that originate from domestic sources such as toilets, laundry and shower facilities, cooking, and gathering centers. This waste must be characterized by type and disposed of properly.

3.4 Tracking of Waste Types and Amounts

Daily Survey Waste Tabulation and Field Survey Waste Removal/Transfer Forms are provided in **Attachments E** and **F** to document the amount of waste generated during the spill response effort. Continually reporting and updating the Situation Unit with waste management data is a crucial aspect of response. Waste management data are used to assess the progress of the response and to determine potential response needs. Typically waste management data will be summarized on ICS Form 209 (**Figure 3**), which includes total volumes recovered, stored, and disposed. The Environmental Unit in conjunction with the Situation Unit must assure that this information is accurately reported. Clear lines of communication must be quickly established with Operations to assure that an adequate tracking system is in place. Waste disposal plans should describe the waste tracking system. The use of waste disposition tracking forms is highly recommended.

3.5 Agency Approval of Temporary Waste Storage Areas

Agencies such as the State Department of Environmental Protection request consultation and approval to maintain a Temporary Waste Storage Area (TWSA). The following information will be provided to IC/UC and gain approval for the TWSA operation continuance:

- Location of TWSA
- Materials managed
- Summary of TWSA oversight
- Rationales for continuing operation
- Anticipated duration
- Approval signature of FOSC or SOSC

4.0 WASTE DISPOSITION AND FINAL DISPOSAL

The waste management data for this spill response effort should be summarized on ICS Form 209 (**Figure 3**). This form includes total volumes recovered, stored, and disposed of. Other waste disposition forms provided in this document can also be used to complement ICS Form 209.

Following the collection of information needed to estimate the quantity of recovered oil, absorbent materials affected by the released oil and other oily waste debris such as oily solids, oil-stained rock and soil/sand mixtures, tar balls, and other miscellaneous combustible wastes, it must first be determined that all proper tracking forms have been completed. Once tracking of waste generated has been confirmed, waste may be disposed of through one or more of the following methods: (1) incineration, (2) land filling, and (3) off-site bioremediation. Copies of receipts from disposal facilities must be kept with the completed ICS Form 209.

4.1 Available Disposal Options

Information for each of these disposal methods, including possible permitting requirements, is provided below.

4.1.1 Incineration

Incineration can be used to dispose of oily waste materials (including oily wood, oiled debris, PPE, sorbents, and other organic material) collected during cleanup operations) if a facility is within a logistically feasible transportation distance. Permitting, transportation and facility availability issues should be addressed and approved by the Incident Command.

The debris will be transported from the interim storage site by _____ to
Transporter(s) Facility _____.

4.1.2 Land filling

Land filling of waste materials produced as part of a spill response will occur only at a commercial facility permitted for the disposal of hazardous and non-hazardous solid waste. Coordination with the landfill is required to 1) verify that appropriate waste characterization analyses have been completed, 2) verify that the landfill is permitted to receive the waste, and 3) identify the labeling, transportation, and manifesting requirements for the landfill to receive the waste.

The following transporters will transport waste suitable for land filling to the identified facilities.

Transporter(s) _____
Facility _____

4.1.3 Bioremediation and Off-Site Biodegradation

Bioremediation involves adding nutrients (nitrogen and phosphorous) to enhance indigenous microbial activity to degrade the hydrocarbon-impacted material. Successful bioremediation can accelerate the cleanup of a spill and reduce the amount of oily wastes requiring disposal. Bioremediation can be conducted either in-situ (where the spill occurred) or *ex situ* (remove the contaminated material and place into a biotreatment area designed and built for that purpose). This technique is limited to impacted soils and sediments.

Ex-situ land farming is a preferred method of oily waste management. In land farming, oily sludges are spread on a selected site and then combined with soil, moisture and nutrients in the presence of oxygen to promote bacterial degradation of the hydrocarbon components. Smaller items, such as sand, pebbles, short seaweed (less than 6" long) sludges, and contaminated soils can also be processed this way. This method requires approval by the SOSC and/or FOSC, a permit, and monitoring. Often the treated soils can be placed back into the area from which they were excavated.

4.2 Final Report

A final report must be developed at the conclusion of response activities. The final report should state in detail the types of waste generated as well as the amount of each waste type generated, disposed of, or treated. Other forms used here can be attached to supplement this information.

ATTACHMENT A: Approved Oil Reclamation Contractors

See Appendix A of this plan.

APPROVED DISPOSAL FACILITIES

See Appendix A of this plan.

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM*Page 1 of 10*

Incident Name: _____

Date Prepared: _____

Time Prepared: _____

Location(s)/Division(s) Covered By Plan: _____

ACP/Other References Consulted: _____

GENERAL INFORMATION

Source of Spill: _____

Total Amount Spilled: _____

Total Amount At Risk: _____

Type of Material Spilled: _____

AGENCY INFORMATION

Lead Agency: _____

Agency Representative(s): _____

Telephone(s): _____

Comments: _____

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)

Page 2 of 10

VARIANCES

Inquiry Made to Obtain Variances on: _____

Individual(s) Contacted for Variances: _____

Telephones(s): Comments: _____

SAMPLES

Media(s)/Date(s) Sampled:

Sample(s) Sent Via: Laboratory Name(s):

Sampling/Analysis Plan(s) Attached?

Yes

No

Chain of Custody Form(s) Attached?

Yes

No

Comments: _____

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)

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SOLIDS

<u>TYPE</u>	<u>Description(s)</u>	<u>Estimated Volume(s)</u>
Oiled Natural Inorganic (Sand, pebbles, etc.)	_____	_____
Oiled Natural Organic (Driftwood, seaweed, etc.)	_____	_____
Man-Made Materials (PPE, sorbents, etc.)	_____	_____
Unoled Solids	_____	_____
	_____	_____
Other(s)	_____	_____
	_____	_____

Suspected Hazardous Waste? ☐ Yes ☐ No

Determination By Generator Knowledge? ☐ Yes ☐ No

Hazardous Waste Code: _____

Comments:

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)*Page 4 of 10*

TYPES	LIQUIDS (Description)	ESTIMATED VOL(s)
Oil/Water Mixtures		
Uncontaminated Petroleum Products		
Waste Water		
Spent Solvents / Fuels		
Other(s)		

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)

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Suspected Hazardous Waste?

☐ **Yes**
☐ **No**

Determination By Generator Knowledge?

☐ **Yes**
☐ **No**

Hazardous Waste Code(s):

Comments:

TEMPORARY WASTE STORAGE

Estimated Storage Required (roll-offs, tanks, etc.):

Storage Type

**Estimated Capacity/Number
Required**

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)Page 6 of 10Preferred Location(s):

Permit(s) Required For Temporary Storage:

Ground/Runoff Protection Required For Storage Area?

☐

Yes

☐

No

Liners/Cover Protection Required For Storage?

Yes

No

Comments:

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)*Page 7 of 10***ATTACHMENT B: WASTE TRANSPORTATION Proposed Transportation Method (s):****Waste Type/Description****Proposed Transport Method**

_____	_____
_____	_____
_____	_____

Permit(s)/license(s) required for transportation: _____**Liners/cover protection required for transportation?**☐**Yes**☐**No****Comments:**

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)

Page 8 of 10

DISPOSAL METHOD(S)

Method	Waste Type / Description	Available / Selected
Natural Degradation / Dispersion		
Wastewater Treatment Plan		
Landfill		
Land Farms		
In Situ Burning		
Open Pit Burning		
Portable Incineration		
Process Incineration		
Reprocessing		
Recycling		
Well Injection		
Other		

Comments: _____

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)

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DISPOSAL RESOURCE (S)

Proposed resources(s) for disposal method(s) selected (landfill operators, incinerator facilities, etc.):

Disposal Method

Resource (s)

Permit(s) required for disposal:

Comments:

OIL SPILL WASTE MANAGEMENT DISPOSAL PLAN FORM (Cont'd)*Page 10 of 10***HEALTH AND SAFETY PROCEDURES**

Health/Safety Plan Attached?

Yes

No

Comments:

ADDITIONAL COMMENTS

CONTACTS AND APPROVALS

Contact For Further Information:

Approved By:

Time/Date:

HAZARDOUS WASTE MANIFEST

Insert copy of Hazardous Waste Manifest

LAND DISPOSAL RESTRICTION NOTIFICATION

Insert Restrictions if any:

DAILY SURVEY WASTE TABULATION FORM

A detailed survey of the wastes will be undertaken to identify appropriate management options. The following list summarizes the type of data to be collected:

What is it?

- Origin or source of the waste:

Where is it and how much is there?

- Location(s): _____
- Number of people working and hours worked: _____ / _____

Container	No.	Contents	Capacity/Mass	Samples
Drums				
Red/Orange Oily Bags				
Blue, Regular Trash Bags				
Clear Bags for Oiled				
Dumpsters				

ATTACHMENT F**FIELD SURVEY WASTE REMOVAL TRANSFER FORM****What is it?**

- Origin or source of the waste:

- Type of waste:

Where is it and how much is there?

- Location (s):

- Volume or weight that must be managed:

- Means of containerization (e.g., in drums, barges, bags):

- Drums:

- Roll-off:

- Dumpsters:

- Bags:

HAZARDOUS WASTE ACCUMULATION AREA INSPECTION FORM

Inspector's Name:		Inspection Location		
Inspector's Title		Inspection Date / Time:		
Item	Area-Specific Information	Acceptable	Not Acceptable	Recommendation
Container Placement	Access, drums on concrete, aisle spacing			
Container Condition	Drum condition, bungs in place, liquid residue			
Container Labeling	Proper labels and accumulation date			
Incompatible Waste	Acids vs. bases, oxidizers, flammables			
Area Security	Limited access			
Fire Extinguisher	Accessible, charged, inspected			
Spill Control Equipment	Absorbent, shovel, etc.			
Shower/Eye Wash	Functioning properly, regular inspections			
Warning Signs	No smoking, hazardous waste area, etc.			
PPE & Other Equipment	Gloves, goggles, level of PPE			
Signature: _____ Comments:				

TABLE 2
**SUMMARY OF CONSTRUCTION MATERIALS AND EQUIPMENT FOR TEMPORARY
WASTE STAGING AREA(S)**

Visqueen (square feet)	Railroad Ties or Bails (feet)	Roll-Off Boxes or Dumpsters (#)	Caution Tape (feet)	Temporary Fencing / Barricades (feet)	Traffic Cones (#)	Absorbent Pads (#)
Total						

Table 3 – Environmental Unit Summary

SENSITIVE SITES/RESPONSE ACTIONS					
Priority	Site ID	Site Description	Assignment	Action	Status
Status Board		Date:	Time:	Page of	

Figure 1 Waste Staging Area Schematic

Insert Information on Site Layout

Figure 2. Waste Staging Area Site Location Map

Insert Maps of Waste Staging Locations

Additional Comments or Information:

Appendix G: Well Control Emergency Management

Well Control Emergency Management Document Below:

Appendix H: Inland Spills Response Tactics Guide

See Guide Below -