

GW - _____ 001 _____

**EMERGENCY
RIVER
CONTINGENCY
PLAN**

2010

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 04, 2010 4:11 PM
To: Schmaltz, Randy
Cc: Perrin, Charlie, EMNRD; Monzeglio, Hope, NMENV
Subject: Bloomfield Refinery (GW-001) Emergency River Contingency Plan

Randy:

Good afternoon. This message is to inform you that OCD is in receipt of the above subject plan.

It will be into OCD Online under "GW-1" and the "Emergency River Conitingency Plan" thumbnail.

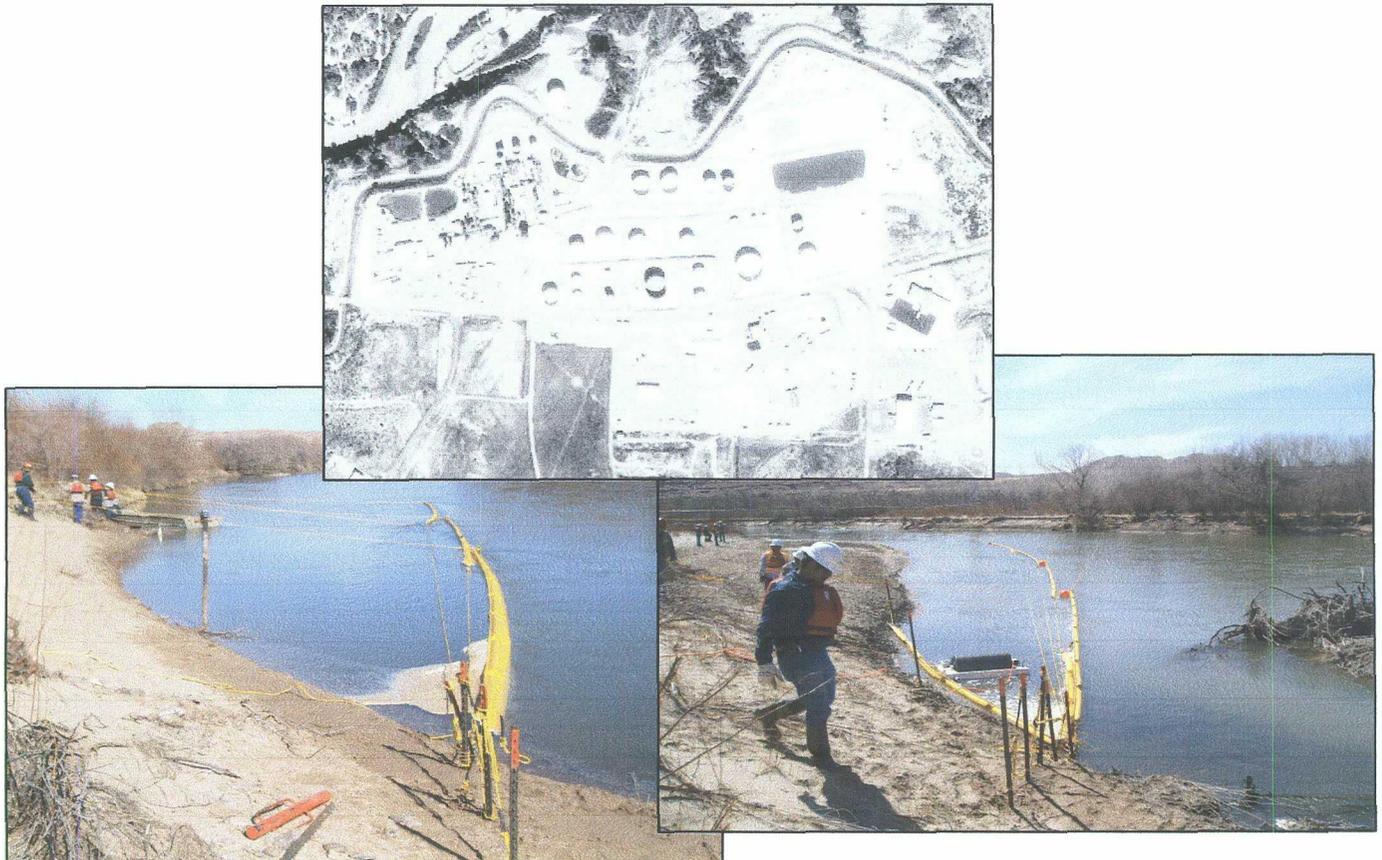
Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

GIANT

REFINING COMPANY

BLOOMFIELD REFINERY



U.S. Environmental Protection Agency – Region VI

Non-Transportation-Related Onshore

FACILITY RESPONSE PLAN

In Compliance with US EPA 40 CFR 112.20

Last Update: July, 2006

PREPARED BY

DOWCAR ENVIRONMENTAL MANAGEMENT, INC.

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**GIANT REFINING COMPANY
BLOOMFIELD REFINERY – FACILITY RESPONSE PLAN**

TABLE OF CONTENTS

Letters of Authority

Section

1. Section 1.1 Emergency Response Action Plan
 - 1.1.1 Qualified Individual Phone Numbers
Map 1 – Diagram of Bloomfield Refinery Facility
 - 1.1.2 Emergency Notification Procedures and Phone List
Spill Response Notification Form
National Response Center Reporting Form
 - 1.1.3 Facility Response Equipment List
 - 1.1.4 Response Equipment Testing/Deployment
 - 1.1.5 Emergency Response Personnel
Organization Charts
Emergency Response Contractors
Responsibilities and Duties of the ICS Team
 - 1.1.6 Evacuation Plans
Map 2 – Spill Flow Direction at Bloomfield Refinery
Map 3 – Location of Bloomfield Refinery
Map 4 – Routes for Emergency Response Personnel & Equipment
Map 5 – Evacuation Routes to Evacuation Assembly Area
Map 6 – Tank Locations and Contents at Bloomfield Refinery
Material Safety Data Sheets
 - 1.1.7 Immediate Action Plan
Map 8 – Emergency Response Personnel & Equipment Assembly and Staging Areas
Overview of Recommended Oil Spill Boom Deployment, Containment and Recovery Sites
2. Section 1.2 Facility Information
3. Section 1.3 Emergency Response Information
 - 1.3.1 Emergency Notification Procedures and Phone List
Spill Response Notification Form
National Response Center Reporting Form

Section	
1.3.2	Facility Response Equipment List
1.3.3	Response Equipment Testing/Deployment
1.3.4	Emergency Response Personnel Organization Charts Emergency Response Contractors OSRO Contract and Equipment from H2O OSRO Responsibilities and Duties of the ICS Team
1.3.5	Evacuation Plans Map 2 – Spill Flow Direction at Bloomfield Refinery Map 3 – Location of Bloomfield Refinery Map 4 – Routes for Emergency Response Personnel & Equipment Map 5 – Evacuation Routes to Evacuation Assembly Area Map 6 – Tank Locations and Contents at Bloomfield Refinery Material Safety Data Sheets
1.3.6	Qualified Individual's Duties ICS Forms
4.	Section 1.4 Hazard Evaluation
1.4.1	Hazard Identification Hazard Identification Tanks Hazard Identification Surface Impoundments Map 7 – Aboveground Storage Tanks and Secondary Containment at Bloomfield Refinery
1.4.2	Vulnerability Analysis
1.4.3	Analysis of the Potential for an Oil Spill Calculations 1 and 2
1.4.4	Facility Reportable Oil Spill History
5.	Section 1.5 Discharge Scenarios
1.5.1	Small Discharges
1.5.2	Medium Discharges
1.5.3	Worst Case Discharge

Section

- 6. Section 1.6 Discharge Detection Systems
 - 1.6.1 Discharge Detection by Personnel and Initial Response Decisions
 - Figure 1 – Spill Estimating Factors
 - Figure 2 – Spill Size in Fractions of a Square Mile
 - Figure 3 – Examples of Oil Movement on Water Surfaces
 - Figure 4 – Equipment Options for Recovery and Containment
 - Figure 5 – Optimum Boom Deployment Angles
 - Figure 6 – Oily Waste Separation Methods
 - Figure 7 – Temporary Storage Methods
 - Figure 8 – Shoreline Cleanup Techniques
 - Figure 9 – Recovery and Restoration Following an Oil Spill
 - Figure 10 – Spill Response Transportation Modes
 - 1.6.2 Automated Discharge Detection
- 7. Section 1.7 Plan Implementation
 - 1.7.1 Response Resources for Small, Medium and Worst Case Spills
 - Map 8 – Emergency Response Personnel & Equipment Assembly and Staging Areas
 - Figure 11 – Equipment for Recovery and Containment Spills on Land
 - Oil Spill Booming Techniques
 - Overview of Recommended Oil Spill Boom Deployment, Containment and Recovery Sites
 - 1.7.2 Disposal Plans
 - 1.7.3 Containment and Drainage Planning
- 8. Section 1.8 Self-Inspection, Drills/Exercises and Response Training
 - 1.8.1 Facility Self-Inspection
 - 1.8.1.1 Tank Inspection Checklist
 - 1.8.1.2 Response Equipment Inspection Checklist
 - 1.8.1.3 Secondary Containment Inspection Checklist
 - 1.8.2 Facility Drills/Exercises/Forms
 - 1.8.2.1 Qualified Individual Notification Exercise and Log
 - 1.8.2.2 Spill Management Team Tabletop Exercise and Log
 - 1.8.2.3 Emergency Procedures Exercise
 - 1.8.2.4 Equipment Deployment Exercise (Co. Owned Equip.)
 - 1.8.2.5 Equipment Deployment Exercise (OSRO Equip.)
 - 1.8.2.6 Government Initiated Exercises
 - 1.8.2.7 Qualified Individual Internal Notification Documentation Form

Section

- 1.8.2.8 Emergency Procedures Exercise Documentation Form
- 1.8.2.9 Spill Management Team Tabletop Exercise Documentation Form
- 1.8.2.10 Equipment Deployment Exercise Documentation Form

1.8.3 Training and Meeting Log Forms

- 1.8.3.1 Qualified Individual Training
 - 1.8.3.2 Spill Management Team Training
 - 1.8.3.3 Facility Personnel Oil Spill Training
 - 1.8.3.4 OSHA-HAZWOPER Responder Training
 - 1.8.3.5 Annual Refresher Training –Oil Spill Response
 - 1.8.3.6 *Annual Refresher Training – HAZWOPER*
 - 1.8.3.7 Personnel Response Training Log Form
 - 1.8.3.8 Discharge Prevention Meeting Logs Form
- 15 Response Plan Core Components

9. Section 1.9 List of Diagrams and Figures

10. Section 1.10 Security

Section 2.0 Response Plan Cover Sheet

Section 3.0 Acronyms

Section 4.0

- Glossary
- Area Contingency Plan Sample Format
- Incident Situation Display

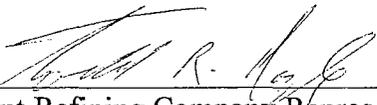
GIANT

REFINING COMPANY

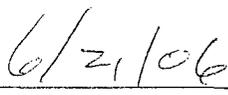
To Whom it May Concern:

This plan has been prepared in accordance with 40 CFR 112.20 and under the authority of the U. S. Environmental Protection Agency, as required for all non-transportation related onshore facilities containing one or more response zones which meet the criteria for substantial harm response zones.

As a representative of and Qualified Individual (QI) for the operator, Giant Refining Company, I certify that I have reviewed the National Contingency Plan (NCP) and the EPA Regional Plans and that this response plan is consistent with these existing plans.



Giant Refining Company Representative



Date



Title

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

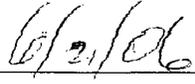


To Whom it May Concern:

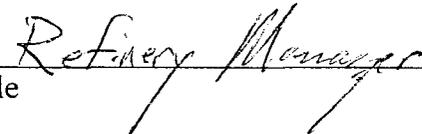
As a representative of and Qualified Individual (QI) for the operator, Giant Refining Company, I certify that the Giant Bloomfield Refinery has obtained, through contract with a Classified Oil Spill Removal Organization (OSRO) or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such discharge.



Giant Refining Co. – Bloomfield Refinery
Qualified Individual



Date



Title



In the event of a Petroleum Products Discharge at Giant Refining Company – Bloomfield Refinery, TODD R. DOYLE, the designated Qualified Individual, is hereby granted full authority to undertake all the roles and responsibilities of the Qualified Individual including the following:

- 1.) Activate and Engage in contracting with Oil Spill Removal Organizations;
- 2.) Act as a Liaison with the Pre-designated Federal On-Scene Coordinator (OSC); and
- 3.) Obligate Funds required to carry out response activities.

Signature: 
Owner/Operator

Date: 6/21/06



In the event of a Petroleum Products Discharge at Giant Refining Company – Bloomfield Refinery, Ed Rios, the designated alternate Qualified Individual, is hereby granted full authority to undertake all the roles and responsibilities of the Qualified Individual including the following:

- 1.) Activate and Engage in contracting with Oil Spill Removal Organizations;
- 2.) Act as a Liaison with the Pre-designated Federal On-Scene Coordinator (OSC); and
- 3.) Obligate Funds required to carry out response activities.

Signature: _____

Ed Rios
Owner/Operator

Date: _____

7/10/06

SECTION 1.1.1

QUALIFIED INDIVIDUAL PHONE NUMBERS

***MAP 1 – DIAGRAM OF BLOOMFIELD
REFINERY***

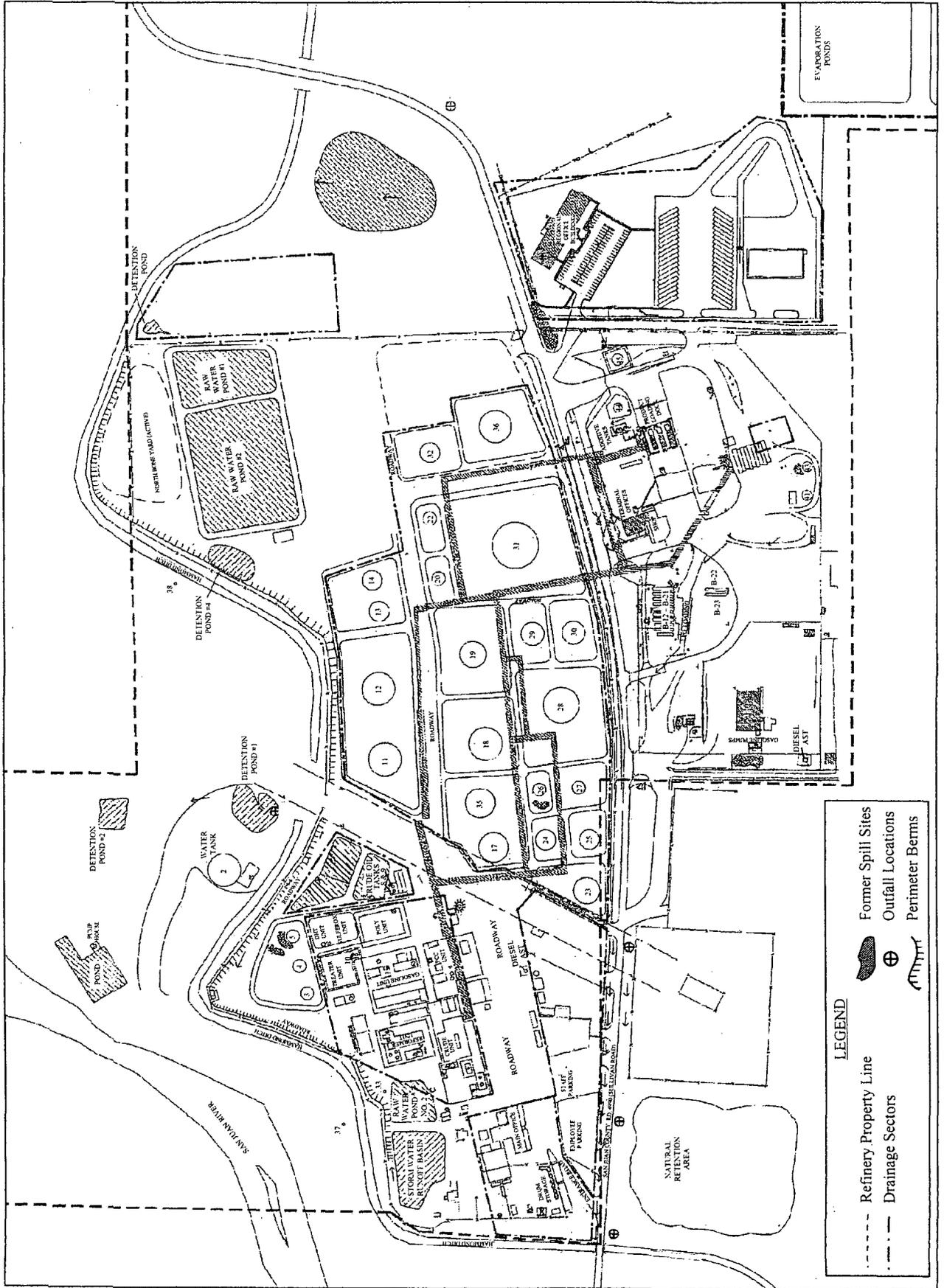
Section 1.1.1 – Qualified Individual Phone Numbers

<u>Qualified Individual</u>	<u>Phone Number</u>
Victor (Cotton) McDaniel	(505) 632-4146 office (505) 947-1584 cell (505) 632-9408 evening

Ron Copple	(505) 632-4044 office (505) 947-7246 cell
------------	--

<u>Alternate Qualified Individuals</u>	<u>Phone Numbers</u>
Ron Weaver	(505) 632-4185 office (505) 320-7074 cell
Roy Armenta	(505) 632-4009 office (505) 320-2152 cell

Map 1 - Diagram of Giant Refining Co. - Bloomfield Refinery



LEGEND

- Refinery Property Line
- - - Drainage Sectors
- ◼ Former Spill Sites
- ⊕ Outfall Locations
- ~ Perimeter Berms

SECTION 1.1.2

***EMERGENCY NOTIFICATION PROCEDURES
AND PHONE LIST***

SPILL RESPONSE NOTIFICATION FORM

***NATIONAL RESPONSE CENTER
REPORTING FORM***

Section 1.1.2 – Emergency Notification Procedures and Phone List

Emergency Notification Procedures

1. Primary and Secondary Means of Communications

The primary verbal communications system is through the use of cellular telephones

2. Notification of Operations Control Center

Upon initial discovery of a spill, the first responder should notify the Bloomfield Refinery Main Office.

3. Notification of Qualified Individual

The Bloomfield Refinery Main Office personnel will then notify the Qualified Individual who will then notify the required agencies, corporate spill management personnel first responders. The Qualified Individuals and Response Personnel can be reached 24 hours a day at the numbers listed in the Emergency Notification Phone List that follows this page.

4. Information Provided in Initial and Follow Up Notifications

See the following forms in this section:

Spill Response Notification Form
National Response Center Notification Form

Organization	Phone Number	Y/N
Bureau of Land Management – Farmington	<u>(505) 599-8900</u>	_____
NM Department of Environmental Protection Hazardous Materials Emergency Response	<u>(505) 476-9603</u>	_____
State of New Mexico Environmental Dept.	<u>(505) 827-0187</u>	_____
New Mexico Department of Public Safety Hazardous Response	<u>(505) 476-9610</u>	_____
NM Oil Conservation Division - Aztec	<u>(505) 334-6178</u>	_____
New Mexico One Call	<u>(800) 321-ALERT (2537)</u>	_____
Local Emergency Planning Committee (LEPC) Don Cooper	<u>(505) 334-9481</u> <u>(505) 334-6156</u>	_____
State Emergency Response Commission (SERC)	<u>(505) 827-9126</u>	_____

2. Qualified Individual:

Name: Todd Doyle

Office:

(505) 632-4145

Cell Phone:

(505) 947-7339

Evening Phone:

(505) 327-4539

Name: Ed Rios

Office:

(505) 722-3833

Evening Phone:

(505) 863-4302

3. Company Response Team:

(505) 632-8013

Jim Stiffler, Safety Superintendent

Home:

(505) 632-2140

Frank Sullivan, Safety Supervisor

Home:

(505) 632-2067

Randy Schmaltz, Environmental Mgr.

Home:

(505) 327-0985

Richard Alexander, Shift Supervisor

Home:

(505) 632-2730

Organization	Phone Number	Y/N
Larry Hawkins, Operations Supervisor Home:	<u>(505) 326-0822</u>	_____
Ed Lohman, Operations Trainer Home:	<u>(505) 326-2268</u>	_____
Victor McDaniel, Operations Manager Home:	<u>(505) 632-9408</u>	_____
Richard DeLeon, Shift Supervisor Home:	<u>(505) 632-1560</u>	_____
Jim Hartle, Shift Supervisor Home:	<u>(505) 634-1981</u>	_____
Dale Roberts, Shift Supervisor Home:	<u>(505) 632-0516</u>	_____

Other Response Personnel will be contacted by Supervisors as needed.

4. Additional Notifications To Be Used As Needed:

Federal Bureau of Investigation Farmington, NM Office	<u>(505) 326-5534</u>	_____
NM State Police Non-Emergency Dispatch Farmington	<u>911</u> <u>(505) 334-6622</u> <u>(505) 325-7547</u>	_____ _____ _____
Hammond Conservancy District	<u>(505) 632-3043</u>	_____
City Police Shiprock, NM Farmington, NM Bloomfield, NM	<u>(505) 368-1350</u> <u>(505) 327-0222</u> <u>(505) 632-8011</u>	_____ _____ _____
San Juan County Sheriff's Office	<u>911</u>	_____
Fire Departments Bloomfield FD San Juan County FD	<u>911</u> <u>911</u>	_____ _____
Ambulance and Emergency Medical Services Fire and Emergency Dispatching Farmington, NM	<u>911</u> or <u>(505) 334-6622</u>	_____ _____

Organization	Phone Number	Y/N
H2O OSRO, Inc.	(866) 426-6770	_____
Contact: Carl Oskins	Fax (505) 751-1418	_____
	Cell (505) 770-0528	_____
	Home (505) 751-3688	_____
Navajo Reservoir Superintendent	(505) 632-3115	_____
City of Farmington Water Department	(505) 326-1918	_____
Media		
Radio Station KENN	(505) 325-3541	_____
Radio Station KTRA	(505) 326-6553	_____
Television Station KOBF	(505) 326-1141	_____
Weather Service (Albuquerque)	(505) 243-0702	_____
Poison Control	(800) 432-6866	_____
Hospitals		
San Juan Regional Medical Center Farmington, NM	(505) 325-5011	_____
Corporate Insurance		
Jacque Cumbie	(480) 585-8762	_____
Aircraft Charter and Rental Services		
Seven Bar Four Corners Aviation	(505) 325-2867	_____
	or (800) 695-4949	_____
7 Bar Flight Patrol	(505) 325-2867	_____
Rafting Companies		
AAM's Mild to Wild Rafting	(800) 567-6745	_____
Flexible Flyers Rating	(970) 247-4628	_____
Mountain Waters Rafting Inc.	(800) 748-2507	_____
Outlaw Rivers and Jeep Tours	(877) 259-1800	_____
Crazy Canyon Tours	(505) 793-0974	_____
5. Available Contractors with Equipment:		
Envirotech Inc.	(505) 632-0615	_____
Foutz & Bursum Construction Co. Inc.	(505) 634-4000	_____
273 Highway 544, Bloomfield, NM 87413		
Calder Services	(505) 325-8771	_____

Organization	Phone Number	Y/N
6. <u>Other Available Resources:</u>		
Farmington		
Best Western Inn & Suites	<u>(505) 327-5221</u>	_____
Courtyard by Marriott	<u>(505) 325-5111</u>	_____
Holiday Inn Express	<u>(505) 325-2545</u>	_____
Environmental and Ecological Services		
Alpha Bioscience Co. (Soil and Water Bioremediation) Farmington, NM	<u>(505) 325-5036</u>	_____
Envirotech, Inc. (Soil and Water Bioremediation) Farmington, NM	<u>(505) 632-0615</u>	_____
Conference and Meeting Rooms		
Courtyard by Marriott Farmington	<u>(505) 325-5111</u>	_____
Wildlife and Volunteer Organizations		
Audubon New Mexico Santa Fe, NM	<u>(505) 983-4609</u>	_____

SPILL RESPONSE NOTIFICATION FORM

Spill Response Notification Form

Reporter's Last Name: _____

First: _____ M.I.: _____

Position: _____

Phone Numbers: Day: (505) 632-8013 Evening: _____

Company: Giant Refining Company – Bloomfield Refinery

Organization Type: _____

Address: 50 County Road 4990
Bloomfield, NM 87413

Were Materials Discharged? _____ (Y/N) Confidential? _____ (Y/N)

Meeting Federal Obligations to Report? _____ (Y/N) Date Called: _____

Calling for Responsible Party? _____ (Y/N) Time Called: _____ (Y/N)

Incident Description

Source and/or Cause of Incident:

Date of Incident: _____

Time of Incident: _____ AM/PM

Incident Address/Location: _____

Nearest City: _____ State: _____ County: _____ Zip: _____

Distance from City: _____ Units of Measure: _____ Direction from City: _____

Section: _____ Township: _____ Range: _____ Borough: _____

Spill Response Notification Form

Container Type: _____ Tank Oil Storage Capacity: _____ Units of Measure: gallons

(Container Type is AST (Aboveground Storage.)

Facility Oil Storage Capacity: _____ Units of Measure: _____

Facility Latitude: Degrees: 36 Minutes: 41 Seconds: 50

Facility Longitude: Degrees: 107 Minutes: 58 Seconds: 20

Material

CHRIS Code	Discharged Quantity	Unit of Measure	Material Discharged in Water	Quantity	Unit of Measure

Response Action

Actions Taken to Correct, Control or Mitigate Incident:

Impact

Number of Injuries: _____ Number of Deaths: _____ Were there Evacuations? _____ (Y/N)

Number Evacuated: _____ Was there any Damage? _____ (Y/N)

Damage in Dollars (approximate): _____ Medium Affected: _____

Description: _____

More Information About Medium: _____

Additional Information

Any information about the incident not recorded elsewhere in the report:

Caller Notifications

EPA? _____ (Y/N) USCG? _____ (Y/N) State? _____ (Y/N) Other? _____ (Y/N)

Describe: _____

***NATIONAL RESPONSE CENTER
REPORTING FORM***

NATIONAL RESPONSE CENTER

1-800-424-8802

Online Report Forms

[[NRC Background](#)] | [[Reporting a Spill](#)] | [[Legislative Requirements](#)]
 [[Chem/Bio Hotline](#)] | [[Contact Us](#)] | [[National Response System](#)]

[[Home](#)] | [[INSUMS](#)] | [[Organization](#)] | [[What's New](#)] | [[Online Report Forms](#)]
 [[Query Data](#)] | [[Statistics](#)] | [[Links](#)] | [[NRT Home](#)] | [[EPA Home](#)] | [[USCG Home](#)]

STORAGE TANK

Fields in RED are mandatory entries. If you are unable to provide data for any of these fields, enter NONE or N/A.

IS THIS A DRILL REPORT ? YES NO YOUR E-MAIL ADDRESS:

REPORTING PARTY

SUSPECTED RESPONSIBLE PART

Phone 1: Type: Phone Type

Last Name:

Last Name:

First Name:

First Name:

Phone 1: Type: Phone Type

Phone 2: Type: Phone Type

Phone 2: Type: Phone Type

Phone 3: Type: Phone Type

Phone 3: Type: Phone Type

Company:

Company:

Org Type: Organization Type

Org Type: Organization Type

Address:

Address:

City:

City:

State: Choose State

State: Choose State

ZIP:

ZIP:

Does the caller wish to remain Confidential ? Yes No

Are you calling on behalf of responsible party ? Yes No

Are you or your company responsible for the Material released ? Yes No

INCIDENT DESCRIPTION

Description of Incident:

Incident Date: (DD/MM/YY) Time: Occurred/Discovered/Planned: Choose ODP

Type of Incident: STORAGE TANK Incident Cause: Choose Cause

ACCIDENT LOCATION

Location Description:

Address Location: State: Choose State

County:

ZIP:

Nearest City: Distance from Nearest City: Units: Choose Unit

Direction: Choose Direction Range: Section: Township:

Latitude: Degrees: Minutes: Seconds: Quadrant: Choose Quadrant

Longitude: Degrees: Minutes: Seconds: Quadrant: Choose Quadrant

TANK/CONTAINER DETAILS

Tank/Container Description: Tank/Container ID:

Above/Below Ground: Above Below Transportable: Yes No Unknown

Regulated: Yes No Unknown: Regulated by:

Tank/Container Capacity: Choose Unit Amount in Tank: Choose Unit

MATERIAL INVOLVED

Material	Chris Code	Release Amount	Units
			Choose Unit

MATERIAL IN WATER INFORMATION

Amount in Water: Units: Choose Unit Body of Water Affected:

Offshore: Yes No River Mile Marker: Tributary of:
 Water Supply Contaminated: Yes No Unknown Water Temperature: Units: Choose Unit
 Wave Condition: Choose Condition Speed: Units: Choose Unit Direction: Choose Direction

SHEEN INFORMATION

Sheen Length: Units: Choose Unit Sheen Width: Units: Choose Unit
 Color: Choose Color Direction of Movement: Choose Direction
 Odor Description:

IMPACT INFORMATION

Medium Affected: Choose Medium Detailed Medium Information:
 Fire ? Yes No Unknown Fire Extinguished ? Yes No Unknown
 Injuries ? Yes No Unknown Number of Injuries ?
 Fatalities ? Yes No Unknown Number of Fatalities ?
 Evacuations ? Yes No Unknown Number of Evacuations ?
 Damages ? Yes No Unknown Damage in Dollars:
 Road Closed ? Yes No Unknown Road:
 Track Closed ? Yes No Unknown Track:
 Air Corridor Closed ? Yes No Unknown Air Corridor:
 Waterway Closed ? Yes No Unknown Waterway:
 Community Impact Due to Material ? Yes No Media Interest: Choose Media Interest

WEATHER INFORMATION

Weather Conditions: Choose WX Air Temperature: Choose Unit
 Wind Speed: Unit: Choose Unit Wind Direction: Choose Wind Direction

REMEDIAL ACTION INFORMATION

Remedial Action Taken:
 Release Secured ? Yes No Unknown Duration of Release ? Unit: Choose Unit
 Rate of Release ? Unit: Choose Unit Per: Choose Rate

ADDITIONAL AGENCY INFORMATION

Federal Agency Notified:

State/Local Agency Notified:

State/Local Agency On-Scene:

State Agency's Report Number:

ADDITIONAL INFORMATION

Additional Information:

Submit Tank/Container Report

[\[E-Mail\]](#) | [\[Home\]](#)

SECTION 1.1.3

FACILITY RESPONSE EQUIPMENT LIST

Section 1.1.3 – Facility Response Equipment List

1. Skimmers/Pumps- Operational Status: Operational

Number: 2 Capacity: 1000 gpm

Storage Location(s): Maintenance Storage

2. Boom – Operational Status: Operational

Type, Model, and Year: 50' Sections of 6 x 12 Boom, Year Unknown

Number: 3 Size (length): 50'

Storage Location(s): Maintenance Storage

3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule).

Type:	Amount:	Date Purchased:	Treatment Capacity:	Storage Location:
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

4. Dispersant Dispensing Equipment – Operational Status: N/A

Type and Year:	Capacity:	Storage Location:	Response Time: (Minutes)
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

5. Sorbents – Operational Status: None

Type and Year Purchased: Sorbent Blankets

Amount: 3' x 150' x 3/8"

Storage Location(s): Warehouse

6. Hand Tools – Operational Status: Operational Location: Maintenance Storage

Facility Response Equipment List**Page 2**7. Communication Equipment (include operating frequency and/or cellular phone numbers):
Operational Status: Operational

Type and Year:	Quantity:	Storage Location/Number:
<u>2-way Radios</u>	<u>29</u>	<u>Personnel</u>
<u>Cellular Telephones</u>	<u>3</u>	<u>Personnel</u>

8. Fire Fighting and Personnel Protective Equipment – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
<u>Fire Fighting Truck – 100 gallon Foam Tank</u>	<u>1</u>	<u>Firehouse</u>
<u>Fire Fighting Trailer – 1000 gallon Foam Tank</u>	<u>1</u>	<u>Firehouse</u>
<u>SCBAs</u>	<u>10</u>	<u>Maintenance Storage</u>

9. Other (e.g. Heavy Equipment, Boats, Motors, etc.) – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
<u>Backhoe</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Winch Truck</u>	<u>2</u>	<u>Maintenance Yard</u>
<u>Connection Hose</u>	<u>1</u>	<u>Maintenance Storage</u>
<u>Flat Bottom Boat</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Vac Truck – 80 barrel capacity</u>	<u>1</u>	<u>Maintenance Storage</u>
<u>Winch Truck</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Dump Truck</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Pick-up Trucks</u>	<u>6</u>	<u>Maintenance Yard</u>
<u>Mobile Cranes</u>	<u>2</u>	<u>Maintenance Yard</u>

Facility Response Equipment List

10. Personal Protective Equipment: Operational

Type and Year:	Quantity:	Storage Location:
<u>Hard Hats</u>	<u>1 per employee</u>	<u>Personnel</u>
<u>Safety Goggles</u>	<u>1 per employee</u> <u>+ some for</u> <u>visitors</u>	<u>Personnel</u>

SECTION 1.1.4

***RESPONSE EQUIPMENT
TESTING/DEPLOYMENT***

Section 1.1.4 – Response Equipment Testing/Deployment Drill Log

Response Equipment Testing records are kept in the Bloomfield Refinery Main Office.

Inspection and Testing/Drill Log Form

Last Inspection or Response Equipment Test Date: _____
(See attached Equipment Deployment Exercise Certification)

Inspection Frequency: Quarterly

Last Deployment Drill Date: _____

Deployment Frequency: Semi-annually

Oil Spill Removal Organization Certification (if applicable): Not Applicable

SECTION 1.1.5

EMERGENCY RESPONSE PERSONNEL

ORGANIZATION CHARTS

EMERGENCY RESPONSE CONTRACTORS

***RESPONSIBILITIES AND DUTIES OF
THE ICS TEAM***

**Section 1.1.5 – Emergency Response Personnel
Facility Response Team**

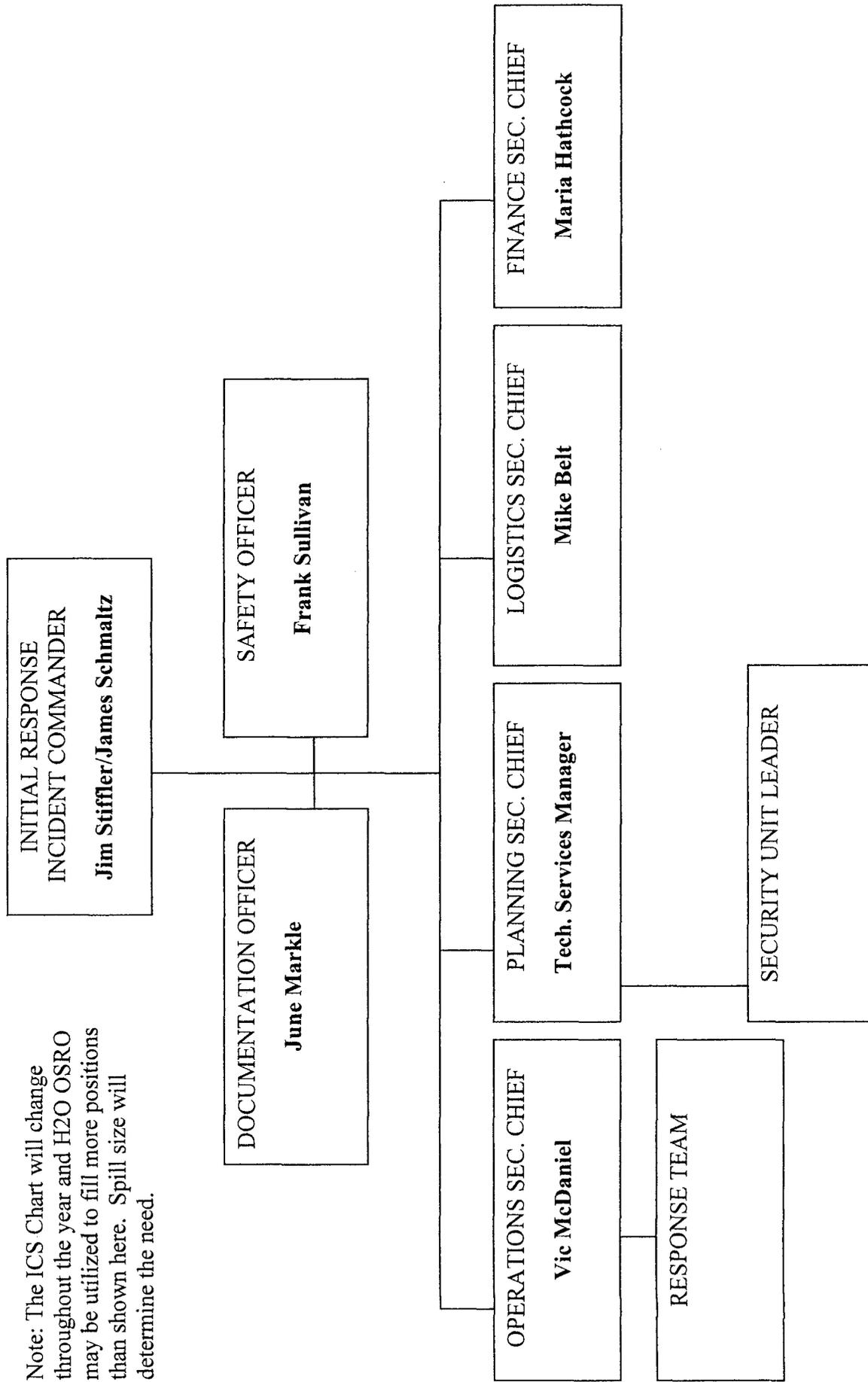
Name	Response Time (Minutes)	Responsibility	Response Training/Date
Jim Stiffler	30	Command (IC)	OSHA 1910.120 / annual
Randy Schmaltz	60	Command (IC)	OSHA 1910.120 / annual
Richard Alexander	30	Team Leader (IC)	OSHA 1910.120 / annual
Larry Hawkins	60	Team Leader (IC)	OSHA 1910.120 / annual
Ed Lohman	60	Team Leader (IC)	OSHA 1910.120 / annual
Vic McDaniel	30	Team Leader (IC)	OSHA 1910.120 / annual
Frank Sullivan	30	Command (IC)	OSHA 1910.120 / annual
Cecil Cunningham	30	Team Leader	OSHA 1910.120 / annual
Ron Weaver	90	Team Leader	OSHA 1910.120 / annual
Don Wimsatt	60	Team Leader	OSHA 1910.120 / annual
Chad King	90	Command	OSHA 1910.120 / annual
Gene Allen	60	Crew	OSHA 1910.120 / annual
Bengie Armenta	30	Crew	OSHA 1910.120 / annual
Irvin Ashley	120	Crew	OSHA 1910.120 / annual
Hanley Begay	60	Crew	OSHA 1910.120 / annual
Nelson Bia	120	Crew	OSHA 1910.120 / annual
Tom Boswell	30	Crew	OSHA 1910.120 / annual
Jacob Ellis	30	Crew	OSHA 1910.120 / annual
Todd Brown	30	Crew	OSHA 1910.120 / annual
Ron Buczinski	60	Crew	OSHA 1910.120 / annual
Mike Charley	30	Crew	OSHA 1910.120 / annual
Bill Cochran	30	Crew	OSHA 1910.120 / annual
Frank Dooling	30	Crew	OSHA 1910.120 / annual
Richard DeLeon	30	Team Leader	OSHA 1910.120 / annual
Bob Heath	30	Crew	OSHA 1910.120 / annual
Emile Ervin	60	Crew	OSHA 1910.120 / annual
Wil Etcitty	60	Crew	OSHA 1910.120 / annual
Mark Hathcock	60	Crew	OSHA 1910.120 / annual
Bill Gibson	30	Crew	OSHA 1910.120 / annual
Hal Hamlow	60	Crew	OSHA 1910.120 / annual
Korbi Hart	30	Crew	OSHA 1910.120 / annual
Jim Hartle	60	Crew	OSHA 1910.120 / annual
Cindy Hurtado	60	Crew	OSHA 1910.120 / annual
Frank Herman	30	Crew	OSHA 1910.120 / annual
Carl Jess	60	Crew	OSHA 1910.120 / annual
Lyle Howard	30	Crew	OSHA 1910.120 / annual
Melvin Lasster	60	Crew	OSHA 1910.120 / annual
Dan Lovell	30	Crew	OSHA 1910.120 / annual
Sam Dearing	60	Team Leader	OSHA 1910.120 / annual
Barney Lucero	60	Team Leader	OSHA 1910.120 / annual

Name	Response Time (Minutes)	Responsibility	Response Training/Date
Dale Roberts	30	Team Leader	OSHA 1910.120 / annual
Johnny Mascarenas	30	Crew	OSHA 1910.120 / annual
Marc Mansur	60	Crew	OSHA 1910.120 / annual
Rick Montoya	30	Crew	OSHA 1910.120 / annual
Al Nolan	30	Crew	OSHA 1910.120 / annual
Dean Prugh	60	Crew	OSHA 1910.120 / annual
Alex Salazar	30	Crew	OSHA 1910.120 / annual
Rudy Salazar	60	Crew	OSHA 1910.120 / annual
Raymond Sanchez	30	Crew	OSHA 1910.120 / annual
Toby Purvis	60	Crew	OSHA 1910.120 / annual
Larry Todacheene	30	Crew	OSHA 1910.120 / annual
Matt Rutter	30	Team Leader	OSHA 1910.120 / annual
Tony Martinez	30	Crew	OSHA 1910.120 / annual
Les May	30	Crew	OSHA 1910.120 / annual
Mike Perez	60	Crew	OSHA 1910.120 / annual
Dwight Poland	30	Crew	OSHA 1910.120 / annual
Tony Tristano	60	Crew	OSHA 1910.120 / annual
Kay Ramos	30	Crew	OSHA 1910.120 / annual
Herbert Willie	30	Crew	OSHA 1910.120 / annual
Mike Belt	60	Support	OSHA 1910.120 / annual
Fred Scruggs	30	Crew	OSHA 1910.120 / annual
Trish Garret	30	Support	OSHA 1910.120 / annual
Janet Mackey	30	Support	OSHA 1910.120 / annual
Diane Walters	60	Support	OSHA 1910.120 / annual
Sammy Lewis	30	Crew	OSHA 1910.120 / annual
Kasey Ortega	30	Team Leader	OSHA 1910.120 / annual
Jodi Melton	30	Crew	OSHA 1910.120 / annual
Angela Folk	30	Crew	OSHA 1910.120 / annual
Bruce Cauthen	30	Crew	OSHA 1910.120 / annual
Jene Stone	30	Crew	OSHA 1910.120 / annual
Marcus Johnson	90	Crew	OSHA 1910.120 / annual

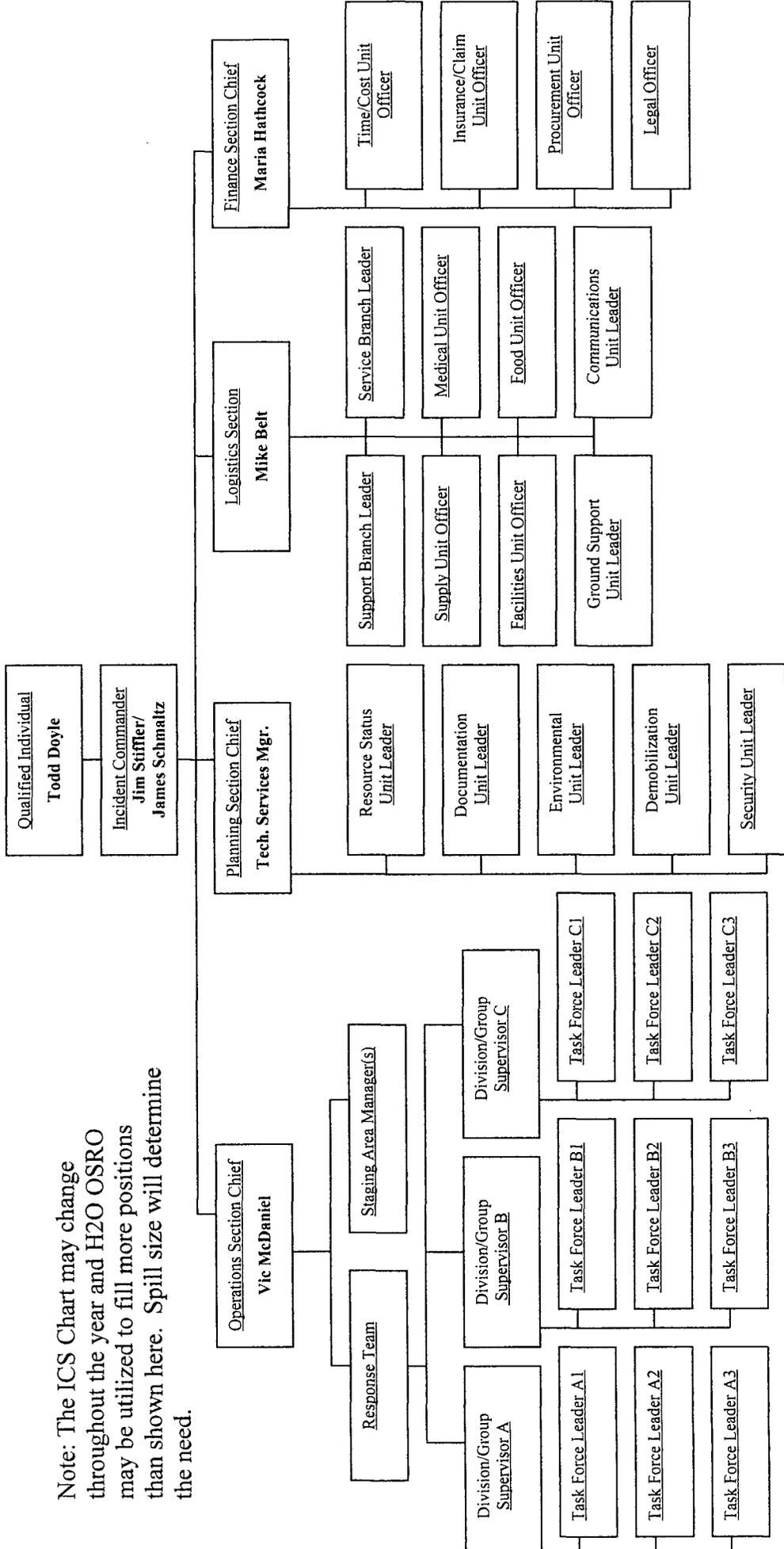
ORGANIZATION CHARTS

**EMERGENCY RESPONSE PERSONNEL
INCIDENT COMMAND SYSTEM – ORGANIZATION CHART
SMALL LEVEL SPILL**

Note: The ICS Chart will change throughout the year and H2O OSRO may be utilized to fill more positions than shown here. Spill size will determine the need.



**EMERGENCY RESPONSE PERSONNEL
INCIDENT COMMAND SYSTEM – ORGANIZATION CHART
WORST CASE LEVEL SPILL**



Note: The ICS Chart may change throughout the year and H2O OSRO may be utilized to fill more positions than shown here. Spill size will determine the need.

EMERGENCY RESPONSE CONTRACTORS

Section 1.1.5 - Emergency Response Contractors

Contractor	Phone	Response Time	Contract Responsibility
<u>Oil Spill Response Organization (OSRO):</u>			
H2O OSRO PO Box 2638 Ranchos de Taos, NM 87557 Contact: Carl Oskins	(866) 426-6770 (505) 751-1447 (505) 751-1418 fax	5 to 12 hours	Emergency Response, Oil Spill Cleanup, Waste Management Services
<u>Oil Spill Containment, Cleanup Equipment and Supplies:</u>			
Elastec/American Marine P. O. Box 940, Cocoa, FL 32922 Contact: Jeff Pierce	(407) 636-5783 (407) 636-5787 fax	24 hours	Oil Spill Boom and Skimmer Manufacturer and Supplier
<u>Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:</u>			
H2O Environmental 4280 N. Pecos Rd. Las Vegas, NV 89115	(702) 396-4148 (702) 643-8635 fax	8 – 12 hours	Pumping/Vacuum Services Oil Spill Cleanup, Waste Oil/ Debris Removal and Disposal, Emergency Response
Envirotech Inc. 5796 US Highway 64 Farmington, NM 87401	(505) 632-0615 (505) 632-1865 fax	1 – 2 hours	Spill Response Containment and Cleanup Emergency Response Team Remediation Services
Foutz & Bursum Construction Co. Inc. 3201 N. 1 st Street Bloomfield, NM 87413	(505) 634-4000	1 – 2 hours	Equipment – dozers, backhoes Cleanup Services
Calder Services 207 S Fairview Ave. Farmington, NM	(505) 325-8771	1 – 2 hours	Equipment

***RESPONSIBILITIES AND DUTIES
OF THE ICS TEAM***

Section 1.1.5 - Responsibilities and Duties of the ICS Team

Common Responsibilities

The following responsibilities apply to all ICS personnel:

- a. Receive assignment, notification, reporting location, reporting time, and travel instructions from your home agency.
- b. Upon arrival at the incident, check in at designated check-in locations. Check-in locations may be found at:
 - Incident Command Post,
 - Base or Camps, Staging Areas
 - Division Supervisors (for direct line assignments).
- c. Agency representatives from assisting or cooperating agencies report to Liaison Officer at the Command Post after checking in.
- d. All radio communications to Incident Communications Center will be addressed: "(Incident Name) Communications".
- e. Use clear text and ICS terminology (no codes) in all radio transmissions.
- f. Receive briefing from immediate supervisor.
- g. Acquire work materials.
- h. Organize, assign, and brief subordinates.
- i. Complete forms and reports required of the assigned position and send material through supervisor to Documentation Unit.
- j. Ensure continuity using in/out briefings.
- k. Respond to demobilization orders.
- l. Brief subordinates regarding demobilization.

Unit Leader Responsibilities

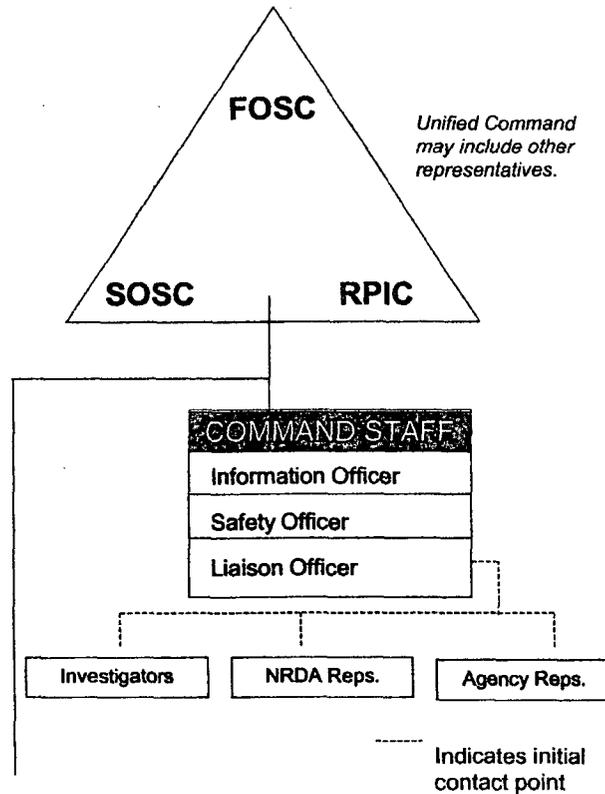
Common responsibilities that must be accomplished by all Unit Leaders include (these responsibilities are not repeated in each Unit listing):

- a. Participate in incident planning meetings, as required.
- b. Determine current status of unit activities.
- c. Confirm dispatch and estimated time of arrival of staff and supplies.
- d. Assign specific duties to staff; supervise staff.
- e. Determine resource needs.
- f. Develop and implement accountability, safety, and security measures for personnel and resources.
- g. Supervise demobilization of unit, including storage of supplies.
- h. Provide Supply Unit Leader with a list of supplies to be replenished.
- i. Maintain unit records, including Unit/Activity Log (ICS 214).

Command Section Responsibilities and Duties

Incident Command

Unified Command Structure/Incident Command System



Incident Commander

On most incidents, a single Incident Commander carries out the Command activity. The Incident Commander is selected through pre-designation, qualifications, or experience.

The Incident Commander may have a deputy, who may be from the same entity or from an assisting entity. Deputies must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.

- a. Review common responsibilities.
- b. Assess the situation and/or obtain a briefing from the prior Incident Commander.
- c. Determine incident objectives and strategies.
- d. Establish the immediate priorities.
- e. Establish an Incident Command Post.
- f. Establish an appropriate organization.
- g. Approve and authorize implementation of an Incident Action Plan.

Command Section

Page 2

- h. Ensure that adequate safety measures are in place.
- i. Coordinate activity of all Command and General Staff.
- j. Coordinate with key stakeholders and officials through the Liaison Officer.
- k. Approve requests for additional resources or for the release of resources.
- l. Keep agency or authorizing entity (Responsible Party) informed about incident status.
- m. Approve, if appropriate, the use of trainees, volunteers, or auxiliary personnel.
- n. Authorize release of information through the Information Officer.
- o. Ensure incident funding is available.
- p. Notify natural resource trustees(s) and coordinate with NRDA Representative(s).
- q. Coordinate incident investigation responsibilities.
- r. Seek appropriate legal counsel.
- s. Order the demobilization of incident resources, when appropriate.

Unified Command

While a single Incident Commander normally handles the command function, an ICS organization may be expanded into a Unified Command for complex response that cross-jurisdictional boundaries or involve multiple agencies with geographic or functional jurisdiction. The Unified Command brings together the "Incident Commanders" of all major organizations involved in the response to function as a team with a common set of incident objectives and strategies.

The Unified Command will typically include:

- The pre-designated Federal On-Scene Coordinator,
- The State On-Scene Coordinator,
- The Incident Commander for the responsible party, and
- Other incident commanders or on-scene coordinators (when appropriate).

Actual Unified Command makeup for a specific incident will be determined on a case-by-case basis taking into account: (1) the specific of the incident; (2) determinations outlined in the Area Contingency Plan; or (3) decisions reached during the initial meeting of the Unified Command. The makeup of the Unified Command may change as an incident progresses, in order to account for changes in the situation.

The Unified Command is responsible for overall management of the incident. The Unified Command directs incident activities, including development and implementation of overall objectives and strategies, and approves ordering and releasing of resources. Each Unified Command member may assign Deputy Incident Commander(s) to assist in carrying out Incident Command responsibilities. Unified Command members may also be assigned individual legal and administrative support from their own organizations.

As a component of an ICS, the Unified Command facilitates and coordinates the effective involvement of various agencies and responders. It links the organizations responding to the incident and provides a forum for these agencies to make consensus decisions. Under Unified

Command Section

Page 3

Command, the various jurisdictions and/or agencies, and non-government responders may blend together throughout the Incident Command System organization to create an integrated response team. Assisting or cooperating agencies that are not part of the Unified Command can also participate through Agency Representatives working with the Liaison Officer. It is important to note that participation in a Unified Command occurs without any agency abdicating authority, responsibility, nor accountability.

Information Officer

The Information Officer 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 incident operating under Unified Command and multi-jurisdictional incidents. The Information Officer may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions.

- a. Review Common Responsibilities.
- b. Determine from the Incident Commander if there are any limits on information release.
- c. Develop material for use in news briefings.
- d. Obtain Incident commander approval for news media releases.
- e. Inform news media and conduct news briefings.
- f. Arrange for tours and other interviews or briefings that may be required.
- g. Obtain news media information that may be useful for incident planning.
- h. Maintain current information summaries and/or displays on the incident.
- i. Provide information on status of incident to assigned personnel.
- j. Establish and staff a Joint Information Center (JIC), as necessary.
- k. Maintain Unit/Activity Log (ICS 214).

Safety Officer

The Safety Officer is responsible for monitoring and assessing hazardous and unsafe situations and developing measures to assure personnel safety. The Safety Officer will correct unsafe acts or conditions through the regular line of authority, although the Safety Officer may exercise emergency authority to prevent or stop unsafe acts when immediate action is required. The Safety Officer maintains awareness of active and developing situations, ensures the Site Safety and Health Plan is prepared and implemented, and includes safety messages in each Incident Action Plan.

Only one Safety Officer will be assigned for each incident, including incidents operating under Unified Command and multi-jurisdiction incidents. The Safety Officer may have assisting agencies or jurisdictions.

- a. Review Common Responsibilities.

Command Section

Page 4

- b. During initial response, document the hazard analysis process addressing hazard identification, personal protective equipment, control zones, and decontamination area.
- c. Participate in planning meetings to identify any health and safety concerns inherent in the operation daily work plan.
- d. Review the Incident Action Plan for safety implications.
- e. Exercise emergency authority to prevent or stop unsafe acts.
- f. Investigate accidents that have occurred within incident areas.
- g. Ensure preparation and implementation of Site Safety and Health Plan (SSHP) in accordance with the Area Contingency Plan (ACP) and state and Federal OSHA regulations. The SSHP shall, at a minimum, address, include, or contain 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: 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 SSHP effectiveness.
- h. Assign assistants and manage the incident safety organization.
- i. Review and approve the Medical Plan (ICS 206).
- j. Maintain Unit/Activity Log (ICS 214).

Liaison Officer

Incidents that are multi-jurisdictional, or involve several agencies, may require the establishment of the Liaison Officer position on the Command Staff. The Liaison Officer is the point of contact for the assisting and cooperating Agency Representatives and stakeholder groups.

Only one Liaison Officer will be assigned for each incident, including incidents operating under Unified Command and multi-jurisdiction incidents. The Liaison Officer may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions.

- a. Review Common Responsibilities.
- b. Provide a point of contact for assisting and cooperating Agency Representatives.
- c. Identify Agency Representatives from each agency, including communications link and location.
- d. Maintain a list of assisting and cooperating agency and stakeholder group contacts.
- e. Assist in establishing and coordinating interagency contacts.
- f. Keep agencies supporting incident aware of incident status.
- g. Monitor incident operations to identify current or potential inter-organizational issues and advise Incident Command, as appropriate.

Command Section

Page 5

- h. Participate in planning meetings, provide current resource status information, including limitations and capabilities of assisting agency resources.
- i. Provide information and support to local government officials and stakeholder groups.
- j. Maintain Unit/Activity Log (ICS 214).

Agency Representatives

In many incidents involving multiple jurisdictions, an agency or jurisdiction will send a representative to assist in coordination efforts.

An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident. Agency Representatives report to the Liaison Officer, or to the Incident Commander in the absence of the Liaison Officer.

- a. Review Common Responsibilities.
- b. Ensure that all agency resources are properly checked-in at the incident.
- c. Obtain briefing from the Liaison Officer or Incident Commander.
- d. Inform assisting or cooperating agency personnel on the incident that the Agency Representative position for that agency has been filled.
- e. Attend briefings and planning meetings, as required.
- f. Provide input on the use of agency resources unless resource technical specialists are assigned from the agency.
- g. Cooperate fully with the Incident Commander and the General Staff on agency involvement at the incident.
- h. Ensure the well being of the agency personnel assigned to the incident.
- i. Advise the Liaison Officer of any special agency needs or requirements.
- j. Report to home agency or headquarters on a prearranged schedule.
- k. Ensure that all agency personnel and equipment are properly accounted for and released prior to departure.
- l. Ensure that all required agency forms, reports, and documents are complete prior to departure.
- m. Meet with the Liaison Officer or Incident Commander for debriefing prior to departure.

NRDA Representative

The Natural Resource Damage Assessment (NRDA) Representatives are responsible for coordinating the NRDA needs and activities of the trustee team. NRDA activities generally do not occur within the structure, processes, and control of the Incident Command System.

However, particularly in the early phases of a spill response, many

Command Section

Page 6

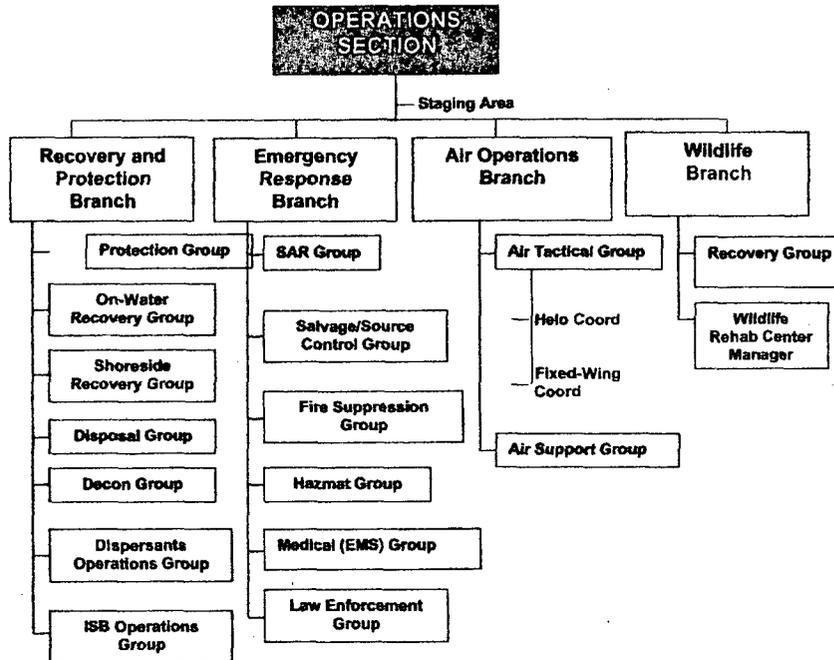
NRDA activities overlap with environmental assessment performed for the sake of spill response. Because NRDA is carried out by natural resource trustee agencies and /or their contractors, personnel limitations may require staff to perform both NRDA and response activities simultaneously. Therefore, NRDA representatives should remain coordinated with the spill response organization through the Liaison Officer, and may need to work directly with the Unified Command, Environmental Unit, Wildlife Branch or the NOAA Scientific Support Coordinator to resolve any problems or address areas of overlap. While NRDA resource requirements and costs may fall outside the responsibility of the Logistics and Finance/Admin sections, coordination is important.

Incident Investigation

Investigators from Federal, state, and local agencies will not normally be a part of the Incident Command System. While investigation personnel may report to individuals who are part of the Unified Command, the investigators should be separate so as not to introduce polarizing forces into the Incident Command System. The initial point of contact may be the Liaison Officer.

Operations Section Responsibilities and Duties

OPERATIONS SECTION



Operations Section Chief

The Operations Section Chief, a member of the General Staff, is responsible for managing all operations directly applicable to the primary mission. The Operations Section Chief activates and supervises elements in accordance with the Incident Action Plan and directs its execution; activates and executes the Site Safety and Health Plan; directs the preparation of unit operational plans; requests or releases resources; makes expedient changes to the Incident Action Plans as necessary; and reports such to the Incident Commander.

- a. Review Common Responsibilities.
- b. Develop operations portion of Incident Action Plan.
- c. Brief and assign operations personnel in accordance with Incident Action Plan.
- d. Supervise execution of the Incident Action Plan for Operations.
- e. Request resources needed to implement Operation's tactics as part of the Incident Action Plan development (ICS 215)
- f. Ensure safe tactical operations

Operations Section

Page 2

- g. Make, or approve, expedient changes to the Incident Action Plan during the operational period, as necessary.
- h. Approve suggested list of resources to be released from assigned status (not released from the incident).
- i. Assemble and disassemble teams/task forces assigned to operations section.
- j. Report information about changes in the implementation of the IAP, special activities, events, and occurrences to Incident Commander as well as to Planning Section Chief and Information Officer.
- k. Maintain Unit/Activity Log (ICS 214).

Staging Area Manager

Under the Operations Section Chief, the Staging Area Manager is responsible for managing all activities within the designated staging areas.

- a. Review common Responsibilities.
- b. Implement pertinent sections of the Incident Action Plan.
- c. Establish and maintain boundaries of staging areas.
- d. Post signs form identification and traffic control.
- e. Establish check-in function, as appropriate.
- f. Determine and request logistical support for personnel and /or equipment, as needed.
- g. Advise Operations Section Chief of all changing situation/conditions on scene.
- h. Respond to request for resource assignments.
- i. Respond to requests for information, as required.
- j. Demobilize or reposition staging area, as needed.
- k. Maintain Unit/Activity log (ICS 214).

Branch Director

The Branch Directors, when activated, are under the direction of the Operations Section Chief, and are responsible for implementing the portion of the Incident Action Plan appropriate to the Branches.

- a. Review Common Responsibilities.
- b. Develop, with subordinates, alternatives for Branch control operations.
- c. Attend planning meetings at the request of the Operations Section Chief.
- d. Review Division/Group Assignment Lists (ICS 204).
- e. Assign specific work tasks to Division/Group Supervisors.
- f. Supervise Branch operations.
- g. Resolve logistics problems reported by subordinates.
- h. Report to Operations Section Chief when: Incident Action Plan is to be modified; additional resources are needed; surplus resources are available; hazardous situations or significant events occur.

Operations Section**Page 3**

- i. Approve accident and medical reports (home agency forms) originating within the Branch.
- j. Maintain Unit/Activity Log (ICS 214).

Division/Group Supervisor

The Division and /or Group Supervisor reports to the Operations Section Chief or Branch Director, when activated. The supervisor is responsible for implementing the assigned portion of the Incident Action Plan, assigning resources within the division/group, and reporting progress of control operations and status of resources within the division/group.

- a. Review Common Responsibilities.
- b. Implement Incident Action Plan for division/group.
- c. Provide available Incident Action Plan to team/task force leaders.
- d. Identify geographic areas or functions assigned to the divisions and groups.
- e. Review division/group assignments and incident activities with subordinates and assign tasks.
- f. Keep Incident Communications and /or Resources Unit advised of all changes in status of resources assigned to the division and/or group.
- g. Coordinate activities with other divisions.
- h. Determine need for assistance on assigned tasks.
- i. Submit situation and resources status information to Branch Director or Operations Section Chief.
- j. Report special occurrences or events such as accidents or sickness to the immediate supervisor.
- k. Resolve logistics problems within the division/group.
- l. Participate in developing Branch plans for the next operational period.
- m. Maintain Unit/Activity Log (ICS 214).

Strike Team/Task Force Leader

The Strike Team/Task Force Leader reports to a Division/Group Supervisor and is responsible for performing tactical assignments assigned to the Strike Team or Task Force. The leader reports work progress, resource status, and other important information to a division/group supervisor, and maintains work records on assigned personnel.

- a. Review Common Responsibilities.
- b. Monitor work progress and make changes, when necessary.
- c. Coordinate activities with other Strike Teams, Task Forces, and single resources.
- d. Submit situation and resource status information to Division/Group Supervisor.
- e. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 4

Single Resource

The person in charge of a single tactical resource will carry the unit designation of the resource.

- a. Review Common Responsibilities.
- b. Review assignments.
- c. Obtain necessary equipment/supplies.
- d. Review weather/environmental conditions for assignment area.
- e. Brief subordinates on safety measures.
- f. Monitor work progress.
- g. Ensure adequate communications with supervisor and subordinates.
- h. Keep supervisor informed of progress and any changes.
- i. Inform supervisor of problems with assigned resources.
- j. Brief relief personnel, and advise them of any change in conditions.
- k. Return equipment and supplies to appropriate unit.

Protection Group Supervisor

Under the Recovery and Protection Branch Director, the Protection Group Supervisor is responsible for deploying containment, diversion, and absorbent boom in designated locations. Depending on the size of the incident, the Protection Group may be further divided into Strike Team, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement Protection Strategies in Incident Action Plan.
- c. Direct, coordinate, assess effectiveness of protective actions.
- d. Modify protective actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

On-Water Recovery Group Supervisor

Under the Recovery and Protection Branch Director, the On-Water Recovery Group Supervisor is responsible for managing on-water recovery operations in compliance with the Incident Action Plan. The Group may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement recovery strategies in Incident Action Plan.
- c. Direct, coordinate, and assess effectiveness of on-water recovery actions.
- d. Modify recovery actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 5

Shoreside Recovery Group Supervisor

Under the Recovery and Protection Branch Director, the Shoreside Recovery Group Supervisor is responsible for managing shoreside cleanup operations in compliance with the Incident Action Plan. The group may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement recovery strategies in Incident Action Plan.
- c. Direct, coordinate, and assess effectiveness of shoreside recovery actions.
- d. Modify recovery actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Disposal Group Supervisor

Under the Recovery and Protection Branch Director, the Disposal Group Supervisor is responsible for coordinating the on-site activities of personnel engaged in collecting, storing, transporting, or disposing of waste materials. Depending on the size and location of the spill, the disposal groups may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement disposal portion of Incident Action Plan.
- c. Ensure compliance with all hazardous waste laws and regulations.
- d. Maintain accurate records of recovered material.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Decontamination Group Supervisor

Under the Recovery and Protection Branch Director, the Decontamination Group Supervisor is responsible for decontamination of personnel and response equipment in compliance with approved statutes.

- a. Review Common Responsibilities.
- b. Implement Decontamination Plan.
- c. Determine resource needs.
- d. Direct and coordinate decontamination activities.
- e. Brief Safety Officer on conditions.
- f. Brief the Recovery and Protection Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 6

Emergency Response Branch Director

The Emergency Response Branch Director is primarily responsible for overseeing and implementing emergency measures to protect life, mitigate further damage to the environment, and stabilize the situation.

- a. Review Common Responsibilities.
- b. Participate in planning meetings, as required.
- c. Develop operations portion of Incident Action Plan.
- d. Supervise operations.
- e. Determine need for, and request, additional resources.
- f. Review suggested list of resources to be released and initiate recommendation for release of resources.
- g. Report information about special activities, events, and occurrences to Operations Section Chief.
- h. Maintain Unit/Activity Log (ICS 214).

Search and Rescue (SAR) Group Supervisor

Under the direction of the Emergency Response Branch Director, the SAR Group Supervisor is Responsible for prioritizing and coordinating all Search and Rescue missions directly related to a Specific incident.

- a. Review Common Responsibilities.
- b. Prioritize Search and Rescue missions.
- c. Determine resource needs.
- d. Direct and coordinate Search and Rescue missions.
- e. Manage dedicated Search and Rescue resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Salvage/Source Control Group Supervisor

Under the direction of the Emergency Response Branch Director, the Salvage/Source Control Group Supervisor is responsible for coordinating and directing all salvage/source control activities related to an incident.

- a. Review Common Responsibilities.
- b. Coordinate development of Salvage/Source Control Plan.
- c. Determine resource needs.
- d. Direct and coordinate implementation of the Salvage/Source Control Plan.
- e. Manage dedicated salvage/source control resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 7

Fire Suppression Group Supervisor

Under the direction of the Emergency Response Branch Director, the Fire Suppression Group Supervisor is responsible for coordinating and directing all firefighting activities related to the incident.

- a. Review Common Responsibilities.
- b. Prioritize responses to incident-related fires.
- c. Determine resource needs.
- d. Direct and coordinate firefighting mission.
- e. Manage dedicated firefighting resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Hazardous Materials Group Supervisor

Under the direction of the Emergency Response Branch Director, the Hazardous Material Group Supervisor is responsible for coordinating and directing all hazardous materials activities related to the incident.

- a. Review Common Responsibilities.
- b. Prioritize HazMat responses related to the incident.
- c. Determine resource requirements.
- d. Direct and coordinate HazMat responses.
- e. Manage dedicated HazMat resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Medical (EMS) Group Supervisor

Under the direction of the Emergency Response Branch Director, the Medical (EMS) Group Supervisor is responsible for coordinating and directing all emergency medical services related to an incident.

- a. Review Common Responsibilities.
- b. Prioritize EMS responses related to the incident.
- c. Determine resource requirements.
- d. Direct and coordinate EMS responses.
- e. Manage dedicated EMS resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 8

Law Enforcement Group Supervisor

Under the direction of the Emergency Response Branch Director, the Law Enforcement Group Supervisor is responsible for coordinating and directing all law enforcement activities related to an incident, including but not limited to, isolating the incident, crowd control, traffic control, evacuations, beach closures, and/or perimeter security.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Direct and coordinate law enforcement response.
- d. Manage dedicated law enforcement resources.
- e. Manage public protection action (e.g., evacuations, beach closures, etc.)
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Wildlife Branch Director

The Wildlife Branch Director is responsible for minimizing wildlife losses during spill responses; coordinating early aerial and ground reconnaissance of wildlife at the spill site, and reporting results to the Situation Unit Leader, employing wildlife hazing measures as Authorized in the Incident Action Plan; and recovering and rehabilitating impacted wildlife. A central wildlife processing center should be identified and maintained for: evidence tagging, transportation, veterinary services, treatment and rehabilitation, storage, and other support needs. The activities of private wildlife care groups, including those employed by the responsible party, will be overseen and coordinated by the Wildlife Branch Director.

- a. Review Common Responsibilities.
- b. Develop Wildlife Branch portion of the Incident Action Plan.
- c. Supervise Wildlife Branch operations.
- d. Determine resource needs.
- e. Review suggested list of resources to be released and initiate recommendation for release of resources.
- f. Assemble and disassemble Strike Teams/Task Forces assigned to the Wildlife Branch.
- g. Report information about special activities, events, and occurrences to Operations Section Chief.
- h. Maintain Unit/Activity Log (ICS 214).

Wildlife Recovery Group Supervisor

Under the direction of the Wildlife Branch Director, the Wildlife Recovery Group Supervisor is responsible for coordinating the search, collection, and field tagging of dead and live impacted wildlife and transporting them to processing center(s). This group should coordinate with Planning (Situation Unit) in conducting aerial and ground surveys of wildlife in the vicinity of the spill. They should also deploy acoustic and visual wildlife hazing equipment, as needed.

Operations Section

Page 9

- a. Review common Responsibilities.
- b. Determine resource needs.
- c. Establish and implement protocols for collection and logging of impacted wildlife.
- d. Coordinate transportation of wildlife to processing station(s).
- e. Brief the Wildlife Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

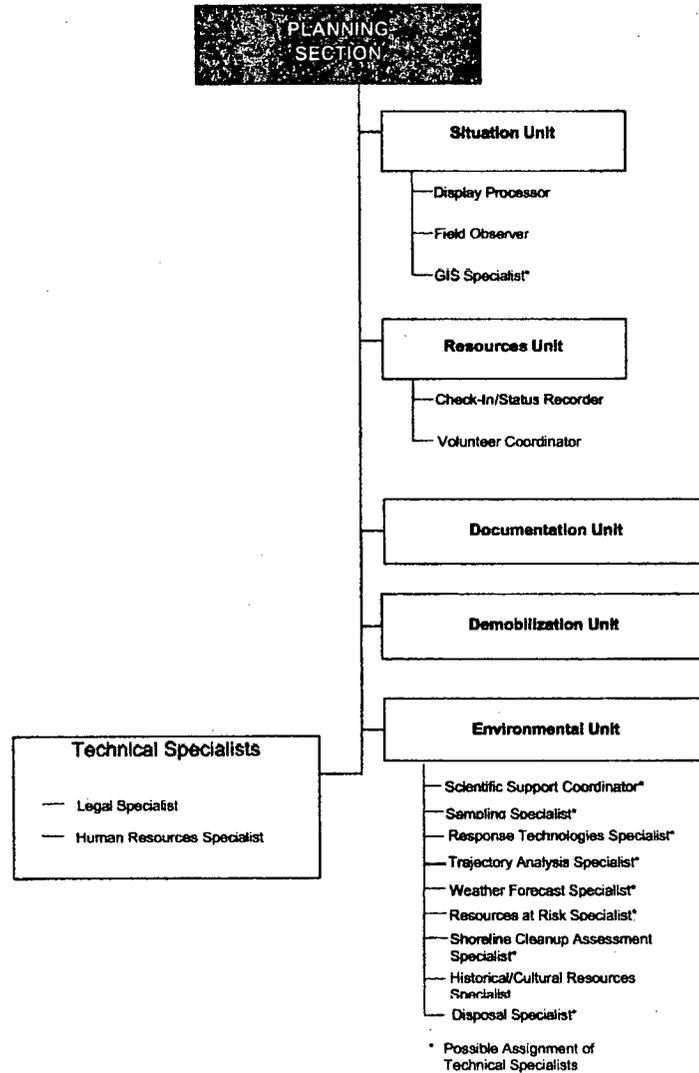
Wildlife Rehabilitation Center Manager

Under the direction of the Wildlife Branch Director, the Wildlife Rehabilitation Center Manager is responsible for receiving oiled wildlife at the processing center, recording essential information, collecting necessary samples, and conducting triage, stabilization, treatment, transport, and rehabilitation of oiled wildlife. The manager is responsible for assuring proper wildlife transportation to appropriate treatment centers for oiled animals requiring extended care and treatment.

- a. Review Common Responsibilities.
- b. Determine resource needs and establish processing station for impacted wildlife.
- c. Process impacted wildlife and maintain logs.
- d. Collect numbers/types/status of impacted wildlife and brief the Wildlife Branch director.
- e. Coordinate transport of wildlife to other facilities.
- f. Coordinate release of recovered wildlife.
- g. Implement demobilization plan.
- h. Brief the Wildlife Branch Director on activities.
- i. Maintain Unit/Activity Log (ICS 214).

Planning Section Responsibilities and Duties

PLANNING SECTION



Planning Section Chief

The Planning Section Chief, a member of the General Staff, is responsible for collecting, evaluating, disseminating, and using information about the incident and status of resources. Information is needed to: (1) understand the current situation, (2) predict probable course of incident events, and (3) prepare alternative strategies for the incident.

- a. Review Common Responsibilities.

Planning Section

Page 2

- b. Activate Planning Section units.
- c. Assign available personnel already on site to ICS organizational positions, as appropriate.
- d. Collect and process information about the incident.
- e. Supervise Incident Action Plan preparation.
- f. Provide input to the Incident Command and Operations Section Chief in preparing the Incident Action Plan.
- g. Participate in planning and other meetings, as required.
- h. Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the Incident Action Plan.
- i. Determine need for any specialized resources in support of the incident.
- j. Provide Resources Unit with the Planning Section's organizational structure, including names and locations of assigned personnel.
- k. Assign Technical Specialists, where needed.
- l. Assemble information on alternative strategies.
- m. Assemble and disassemble Strike Teams or Task Forces, as necessary.
- n. Provide periodic predictions on incident potential.
- o. Compile and display incident status summary information.
- p. Provide status reports to appropriate requesters.
- q. Advise General Staff of any significant changes in incident status.
- r. Incorporate the incident Traffic Plan (from Ground Support Unit), Vessel Routing Plan (from Vessel Support Unit) and other supporting plans in the Incident Action Plan.
- s. Instruct Planning Section Units in distribution and routing of incident information.
- t. Prepare resource release recommendations for submission to the Incident Command.
- u. Maintain Section records.
- v. Maintain Unit/Activity Log (ICS 214).

Situation Unit Leader

The Situation Unit Leader is responsible for collecting and evaluating information about the current, and possible future, status of the spill and the spill response operations. This responsibility includes compiling information regarding the type and amount of oil spilled, the amount of oil recovered, the oil's current location and anticipated trajectory, and impacts on natural resources. This also includes providing information to the GIS Specialist(s) for mapping the current and possible future situation, and preparing reports for the Planning Section Chief.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in planning meetings, as required.
- e. Prepare and maintain Incident Situation Display.
- f. Collect and maintain current incident data.
- g. Prepare periodic predictions, as requested by the Planning Section Chief.

Planning Section

Page 3

- h. Prepare, post, and disseminate resource and situation status information, as required in the Incident Information Center.
- i. Prepare the Incident Status Summary (ICS 209).

Resources Unit Leader

The Resources Unit Leader (RUL) is responsible for maintaining the status of all resources (primary and support) at an incident. The RUL achieves this by developing and maintaining 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 determining the availability of resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Meetings, as required.
- e. Establish check-in function at incident locations.
- f. Using the Incident Briefing (ICS 201), prepare and maintain the Incident Situation Display (organization chart and resource allocation and deployment sections).
- g. Establish contacts with incident facilities to track resource status.
- h. Gather, post, and maintain incident resource status.
- i. Maintain master roster of all resources checked in at the incident.
- j. Prepare Organization Assignment List (ICS 203) and Organization Chart (ICS 207).
- k. Prepare appropriate parts of Assignment Lists (ICS 204).
- l. Provide status reports to appropriate requesters.

Check-In/Status Recorder

Check-in/Status recorders are needed at each check-in location to ensure that all resources assigned to an incident are accounted for:

- a. Review Common Responsibilities.
- b. Obtain briefing from RUL.
- c. Obtain work materials, including Check-in Lists (ICS 211), Resource Status Cards (ICS 219), and status display boards.
- d. Establish communications with the Communication Center.
- e. Post signs so check-in locations can be easily found.
- f. Record check-in information on Check-in Lists (ICS 211).
- g. Transmit check-in information to Resources Unit on regular, arranged schedule, or as needed.
- h. Receive, record, and maintain status information on Resource Status Cards (ICS 219) for incident resources.

Planning Section

Page 4

- i. Forward completed Check-in Lists (ICS 211) and Status Change Cards (ICS 210) to the Resources Unit.
- j. Maintain files of Check-in Lists (ICS 211).

Volunteer Coordinator

The Volunteer Coordinator is responsible for managing and overseeing all aspects of volunteer participation, including recruitment, induction, and deployment. The Volunteer Coordinator is part of the Planning Section and reports to the Resources Unit Leader.

- a. Review Common Responsibilities.
- b. Coordinate with Resources Unit to determine where volunteers are needed.
- c. Identify any necessary skills and training needs.
- d. Verify minimum training needed, as necessary, with Safety Officer or units requesting volunteers (if special skill is required).
- e. Activate, as necessary, standby contractors for various training needs.
- f. Coordinate nearby or on-site training as part of the deployment process.
- g. Identify and secure other equipment, materials, and supplies, as needed.
- h. Induct convergent (on the scene) volunteers.
- i. Activate other volunteers if needed (individuals who have applied prior to an incident and are on file with the Volunteer Coordinator or other participating volunteer organizations).
- j. Recruit additional volunteers through news media appeals (if needed).
- k. Assess, train, and assign volunteers to requesting units.
- l. Coordinate with Logistics for volunteer housing and meal accommodations.
- m. Assist volunteers with other special needs.
- n. Maintain Unit/Activity Log (ICS 214).

Documentation Unit Leader

The Documentation Unit Leader is responsible for maintaining accurate, up-to-date incident files such as: Incident Action Plan, incident reports, communication logs, injury claims, and situation status reports, etc. Thorough documentation is critical to post-incident analysis. Some of these documents may originate in other sections. This unit will ensure each section is maintaining and providing appropriate documents. Incident files will be stored for legal, analytical, and historical purposes. The Documentation Unit also provides duplication and copying services.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Meetings, as required.
- e. Establish and organize incident files.
- f. Establish duplication service and respond to requests.
- g. File copies of all official forms and reports.

Planning Section

Page 5

- h. Check on accuracy and completeness of records submitted for files and correct errors or omissions by contacting appropriate ICS units.
- i. Provide incident documentation to appropriate requesters.

Demobilization Unit Leader

The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan, and assisting Sections/Units in ensuring that orderly, safe, and cost-effective demobilization of personnel and equipment is accomplished.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Review incident resource records to determine probable size of demobilization effort.
- e. Participate in planning meetings, as required.
- f. Evaluate logistics and transportation capabilities required to support demobilization.
- g. Prepare and obtain approval of Demobilization Plan, including required decontamination.
- h. Distribute Demobilization Plan to each processing point.
- i. Ensure that all Sections/Units understand their responsibilities within the Demobilization Plan.
- j. Monitor implementation and assist in coordinating the Demobilization Plan.
- k. Brief Planning Section Chief on progress of demobilization.
- l. Provide status reports to appropriate requesters.

Environmental Unit Leader

The Environmental Unit Leader is responsible for environmental matters associated with the response, including strategic assessment, modeling, surveillance, and environmental monitoring and permitting. The Environmental Unit prepares environmental data for the Situation Unit. Technical Specialists frequently assigned to the Environmental Unit include the Scientific Support Coordinator and Specialists for Sampling, Response Technologies, Trajectory Analysis, Weather Forecast, Resources at Risk, Shoreline Cleanup Assessment, Historical/Cultural Resources, and Disposal.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Section Meetings.
- e. Identify sensitive areas and recommend response priorities.
- f. Determine the extent, fate, and effects of contamination.
- g. Acquire, distribute, and provide analysis of weather forecasts.
- h. Monitor the environmental consequences of cleanup actions.
- i. Develop shoreline cleanup and assessment plans.

Planning Section

Page 6

- j. Identify the need for, and prepare, any special advisories or orders.
- k. Identify the need for, and obtain, permits, consultations, and other authorizations.
- l. Identify and develop plans for protection of affected historical/cultural resources.
- m. Evaluate the opportunities to use various Response Technologies.
- n. Develop disposal plans.
- o. Develop plan for collecting, transporting, and analyzing samples.
- p. Maintain Unit/Activity Log (ICS 214).

Technical Specialists

Technical Specialists are advisors with special skills needed to support the incident. Technical Specialists may be assigned anywhere in the ICS organization. If necessary, Technical Specialists may be formed into a separate unit. The Planning Section will maintain a list of available specialists and will assign them where needed. The following are example position descriptions of Technical Specialists that might be used during an oil spill response.

Scientific Support Coordinator

The Scientific Support Coordinator (SSC) is a technical specialist is defined in the National Contingency Plan as the principal advisor to the FOSC for scientific issues. The SSC is responsible for providing expertise on chemical hazards, field observations, trajectory analysis, resources at risk, environmental tradeoffs of countermeasures and cleanup methods, and information management. The SSC is also charged with gaining consensus on scientific issues affecting the response, but ensuring that differing opinions within the scientific community are communicated to the Incident Command. The SSC is the point of contact for the Scientific Support Team from NOAA's Office of Response and Restoration (OR&R). Additionally, the SSC is responsible for providing data on weather, tides and currents, and other applicable environmental conditions. The SSC can serve as the Environmental Unit Leader.

- a. Review Common Responsibilities.
- b. Attend planning meetings.
- c. Determine resource needs.
- d. Provide overflight maps and trajectory analysis to the Situation Unit.
- e. Provide weather, tidal, and current information.
- f. Obtain consensus on scientific issues affecting the response.
- g. Develop a prioritized list of the resources at risk.
- h. Provide information on chemical hazards.
- i. Evaluate environmental tradeoffs of countermeasures and cleanup methods, and response endpoints.
- j. Maintain Unit/Activity Log (ICS 214).

Planning Section

Page 7

Sampling Specialist

The Sampling Specialist is responsible for providing a sampling plan to coordinate collection, documentation, storage, transportation, and submittal of samples to appropriate laboratories for analysis or storage.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Participate in planning meetings, as required.
- d. Identify and alert appropriate laboratories.
- e. Meet with team to develop initial sampling plan and strategy and review sampling and labeling procedures.
- f. Set up site map to monitor location of samples collected and coordinate with GIS staff.
- g. Coordinate sampling activities with NRDA Representative(s), Incident Investigators, and Legal Specialists.
- h. Provide status reports to appropriate requesters.
- i. Maintain Unit/Activity Log (ICS 214).

Trajectory Analysis Specialist

The Trajectory Analysis Specialist is responsible for providing projections and estimates of the movement and behavior of the spill. The specialist will combine visual observations, remote sensing information, and computer modeling, as well as observed and predicted tidal, current, and weather data to form these analyses. Additionally, the specialist is responsible for coordinating with local experts (weather service, academia, researchers, etc.) in formulating these analyses. Trajectory maps, overflight maps, and tides and current data will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.

- a. Review Common Responsibilities.
- b. Schedule and conduct spill observations/overflights, as needed.
- c. Gather pertinent information on tides and currents from all available sources.
- d. Provide trajectory and overflight maps, and tidal and current information.
- e. Provide briefing on observations and analyses to the proper personnel.
- f. Maintain Unit/Activity Log (ICS 214).

Weather Forecast Specialist

The Weather Forecast Specialist is responsible for acquiring and reporting incident-specific weather forecasts. The Specialist will interpret and analyze data from the NOAA's National Weather Service and other sources. This person will be available to answer specific weather-related response questions and coordinate with the Scientific Support Coordinator and Trajectory Analysis Specialist, as needed. Weather forecasts will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.

Planning Section

Page 8

- a. Review Common Responsibilities.
- b. Gather pertinent weather information from all appropriate sources.
- c. Provide incident-specific weather forecasts on an assigned schedule.
- d. Provide briefing on weather observations and forecasts to the proper personnel.
- e. Maintain Unit/Activity Log (ICS 214).

Resources at Risk (RAR) Specialist

The Resources at Risk Specialist is responsible for identifying resources thought to be at risk from exposure to the spilled oil by analyzing known and anticipated oil movement and the location of natural, cultural and economic resources. The Resources at Risk Specialist considers the relative importance of the resources and the relative risk to develop a priority list for protection.

- a. Review Common Responsibilities.
- b. Participate in Planning Meetings, as required.
- c. Determine resource needs.
- d. Obtain current and forecasted status information from Situation Unit.
- e. Identify natural resources at risk.
- f. Identify archaeo-cultural resources at risk.
- g. Identify socioeconomic resources at risk.
- h. Develop a prioritized list of the resources at risk for use by the Planning Section.
- i. Provide status reports to appropriate requesters.
- j. Maintain Unit/Activity Log (ICS 214).

Shoreline Cleanup Assessment Specialist

The Shoreline Cleanup Assessment (SCA) Specialist is responsible for providing appropriate cleanup recommendations as to the types of the various shorelines and the degree to which they have been impacted. This specialist will recommend the need for, and the numbers of, Shoreline Cleanup Assessment Teams (SCATs) and will be responsible for making cleanup recommendations to the Environmental Unit Leader. Additionally, this specialist will recommend cleanup endpoints that address the question of "How Clean is Clean?"

- a. Review Common Responsibilities.
- b. Obtain briefing and special instructions from the Environmental Unit Leader.
- c. Participate in planning section meetings.
- d. Recommend the need for and number of SCATs.
- e. Describe shoreline types and oiling conditions.
- f. Identify sensitive resources (ecological, recreational, and cultural).
- g. Recommend the need for cleanup.
- h. Recommend cleanup priorities.
- i. Monitor cleanup effectiveness.

Planning Section

Page 9

- j. Recommend shoreline cleanup methods and endpoints.
- k. Maintain Unit/Activity Log (ICS 214).

Disposal (Waste Management) Specialist

The Disposal (Waste Management) Specialist is responsible for providing the Planning Section Chief with a Disposal Plan that details the collection, sampling, monitoring, temporary storage, transportation, recycling, and disposal of all anticipated response wastes.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Participate in planning meetings, as required.
- d. Develop a Cleanup Plan and monitor cleanup operations, if appropriate.
- e. Develop a detailed Waste Management Plan.
- f. Calculate and verify the volume of petroleum recovered, including petroleum collected with sediment/sand, etc.
- g. Provide status reports to appropriate requesters.
- h. Maintain Unit/Activity Log (ICS 214).

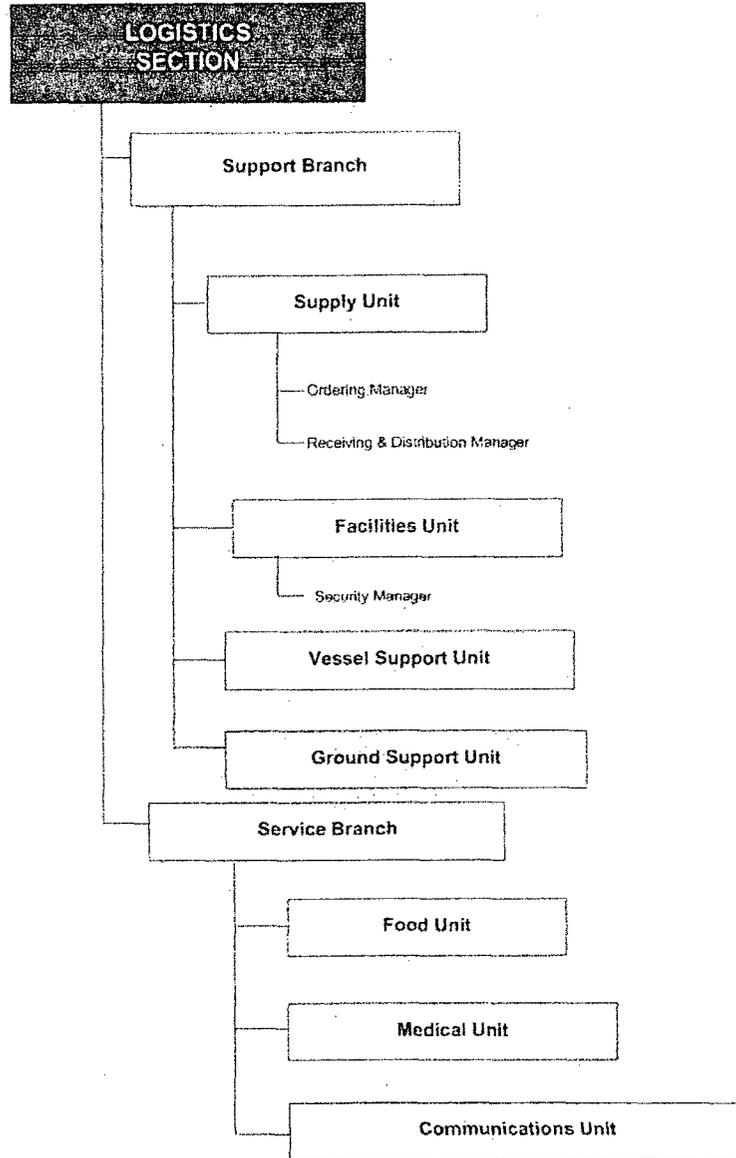
Legal Specialist

The Legal Specialist will act in an advisory capacity during an oil spill response.

- a. Review Common Responsibilities.
- b. Participate in planning meetings, if requested.
- c. Advise on legal issues relating to in-situ burning, dispersants, and other response technologies.
- d. Advise on legal issues relating to Natural Resource Damage Assessment.
- e. Advise on legal issues relating to investigation.
- f. Advise on legal issues relating to finance and claims.
- g. Advise on response related legal issues.
- h. Maintain Unit/Activity Log (ICS 214).

Logistics Section Responsibilities and Duties

LOGISTICS SECTION



Logistics Section Chief

The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident response. The Logistics Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises Branches and Units within the Logistics Section.

- a. Review Common Responsibilities.

Logistics Section

Page 2

- b. Plan organization of Logistics Section.
- c. Assign work locations and preliminary work tasks to Section personnel.
- d. Notify Resources Unit of Logistics Section units activated including names and locations of assigned personnel.
- e. Assemble and brief Branch Directors and Unit Leaders.
- f. Participate in Incident Action Plan preparation.
- g. Identify service and support requirements for planned and expected operations.
- h. Provide input to, and review, Communications Plan, Medical Plan, Traffic Plan, and Vessel Routing Plan.
- i. Coordinate and process requests for additional resources.
- j. Review Incident Action Plan and estimate Section needs for next operational period.
- k. Advise on current service and support capabilities.
- l. Prepare service and support elements of the Incident Action Plan.
- m. Estimate future service and support requirements.
- n. Provide input to Demobilization Plan as required by Planning Section.
- o. Recommend release of unit resources in conformance with Demobilization Plan.
- p. Ensure general welfare and safety of Logistics Section personnel.
- q. Maintain Unit/Activity Log (ICS 214).

Service Branch Director

The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for managing all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical, and Food Units.

- a. Review Common Responsibilities.
- b. Obtain working materials from Logistics Kit.
- c. Determine level of service required to support operations
- d. Confirm dispatch of Branch personnel.
- e. Participate in planning meetings of Logistics Section personnel.
- f. Review Incident Action Plan.
- g. Coordinate activities of Service Branch Units.
- h. Inform Logistics Section Chief of activities.
- i. Resolve Service Branch problems.
- j. Maintain Unit/Activity Log (ICS 214).

Communications Unit Leader

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; installing and testing communications equipment; supervising the Incident Communications Center; distributing communications equipment to incident personnel; and communications equipment maintenance and repair.

Logistics Section

Page 3

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Determine unit personnel needs.
- e. Advise on communications capabilities/limitations.
- f. Prepare and implement the incident Radio Communications Plan (ICS 205).
- g. Ensure the Incident Communications Center and Message Center are established.
- h. Set up telephone and public address systems.
- i. Establish appropriate communications distribution/maintenance locations.
- j. Ensure communications systems are installed and tested.
- k. Ensure an equipment accountability system is established.
- l. Ensure personal portable radio equipment from cache is distributed per radio plan.
- m. Provide technical information, as required on:
 - 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.
- n. Supervise Communications Unit activities.
- o. Maintain records on all communications equipment, as appropriate.
- p. Ensure equipment is tested and repaired.
- q. Recover equipment from relieved or released units.
- r. Maintain Unit/Activity Log (ICS 214).

Medical Unit Leader

The Medical Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for developing the Medical Emergency Plan, obtaining medical aid and transportation for injured and ill incident personnel, and preparing 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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Participate in Logistics Section/Service Branch planning activities.
- e. Determine level of emergency medical activities performed prior to activation of Medical Unit.
- f. Activate Medical Unit.
- g. Prepare the Medical Plan (ICS 206).
- h. Prepare procedures for major medical emergency.
- i. Declare major medical emergency, as appropriate.
- j. Respond to requests for medical aid.
- k. Respond to requests for medical transportation.

Logistics Section

Page 4

- l. Respond to requests for medical supplies.
- m. Prepare medical reports and submit, as directed.
- n. Maintain Unit/Activity Log (ICS 214).

Food Unit Leader

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, including: menu planning; determining cooking facilities required; food preparation; serving; providing potable water; and general maintenance of the food service areas.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Determine location of working assignment, and number and location of personnel to be fed.
- e. Determine method of feeding to best fit each situation.
- f. Obtain necessary equipment and supplies to operate food service facilities.
- g. Set up Food Unit Equipment.
- h. Prepare menus to ensure incident personnel receive well-balanced meals.
- i. Ensure that sufficient potable water is available to meet all incident needs.
- j. Ensure that all appropriate health and safety measures are taken.
- k. Supervise cooks and other Food Unit personnel.
- l. Keep inventory of food on hand and receive food orders.
- m. Provide Supply Unit Leader food supply orders.
- n. Maintain Unit/Activity Log (ICS 214).

Support Branch Director

The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for developing and implementing logistics plans in support of the Incident Action Plan, including providing personnel, equipment, facilities, and supplies to support incident operations. The Support Branch Director supervises the operation of the Supply, Facilities, Ground Support, and Vessel Support Units.

- a. Review Common Responsibilities.
- b. Obtain work materials from Logistics Kit.
- c. Identify Support Branch personnel dispatched to the incident.
- d. Determine initial support operations in coordination with Logistics Section Chief and Service Branch Director.
- e. Prepare initial organization and assignments for support operations.
- f. Determine resource needs.
- g. Maintain surveillance of assigned unit work progress and inform Logistics Section Chief of activities.
- h. Resolve problems associated with requests from Operations Section.

Logistics Section

Page 5

- i. Maintain Unit/Activity Log (ICS 214).

Supply Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain a briefing from the Support Branch Director or Logistics Section Chief.
- d. Participate in Logistics Section/Support Branch planning activities.
- e. Provide Kits to Planning, Logistics and Finance Sections.
- f. Determine the type and amount of supplies enroute.
- g. Arrange for receiving ordered supplies.
- h. Review Incident Action Plan for information on operations of the Supply Unit.
- i. Develop and implement safety and security requirements.
- j. Order, receive, distribute, and store supplies and equipment and coordinate contracts and resource orders with the Finance Section.
- k. Receive, and respond to, requests for personnel, supplies, and equipment.
- l. Maintain inventory of supplies and equipment.
- m. Coordinate service of reusable equipment.
- n. Submit reports to the Support Branch Director.
- o. Maintain Unit/Activity Log (ICS 214).

Facilities Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from the Support Branch Director or Logistics Section Chief.
- d. Review Incident Action Plan.
- e. Participate in Logistics Section/Support Branch planning activities.
- f. Determine requirements for each facility to be established.
- g. Determine requirements for the Incident Command Post.
- h. Prepare layouts of incident facilities.
- i. Notify unit leaders of facility layout.

Logistics Section

Page 6

- j. Activate incident facilities.
- k. Provide Base and Camp Managers.
- l. Obtain personnel to operate facilities.
- m. Provide sleeping facilities.
- n. Provide security services.
- o. Provide facility maintenance services – sanitation, lighting and cleanup.
- p. Demobilize base and camp facilities.
- q. Maintain Facilities Unit records.
- r. Maintain Unit/Activity Log (ICS 214).

Security Manager

The Security Manager is responsible to provide safeguards for protecting personnel and property from loss or damage.

- a. Review Common Responsibilities.
- b. Establish contacts with local law enforcement agencies, as required.
- c. Contact Agency Representatives to discuss any special custodial requirements that may affect operations.
- d. Request required personnel support to accomplish work assignments.
- e. Ensure that support personnel are qualified to manage security problems.
- f. Develop Security Plan for incident facilities.
- g. Adjust Security Plan for personnel and equipment changes and releases.
- h. Coordinate security activities with appropriate incident personnel.
- i. Keep the peace, prevent assaults, and settle disputes by coordinating with Agency Representatives.
- j. Prevent theft of government and personal property.
- k. Document all complaints and suspicious occurrences.
- l. Maintain Unit/Activity Log (ICS 214).

Ground Support Unit Leader

The Ground Support Unit Leader is primarily responsible for (1) coordinating transportation of personnel, supplies, food, and equipment on land; (2) fueling, servicing, maintaining and repairing vehicles and other ground support equipment; (3) implementing the Incident Traffic Plan; and (4) supporting out-of-service shoreside resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Support Branch Director or Logistic Section Chief.
- d. Participate in Support Branch/Logistics Section planning activities.
- e. Coordinate development of the Traffic Plan with the Planning Section.
- f. Support out-of-service shoreside resources.
- g. Notify Resources Unit of all status changes on support and transportation vehicles.

Logistics Section

Page 7

- h. Arrange for, and activate, fueling, maintenance, and repair of ground transportation resources.
- i. Maintain inventory of support and transportation vehicles (ICS 218).
- j. Coordinate transportation services.
- k. Maintain usage information on rented equipment.
- l. Requisition maintenance and repair supplies (e.g., fuel, spare parts).
- m. Coordinate incident road maintenance.
- n. Submit reports to Support Branch Director, as directed.
- o. Maintain Unit/Activity Log (ICS 214).

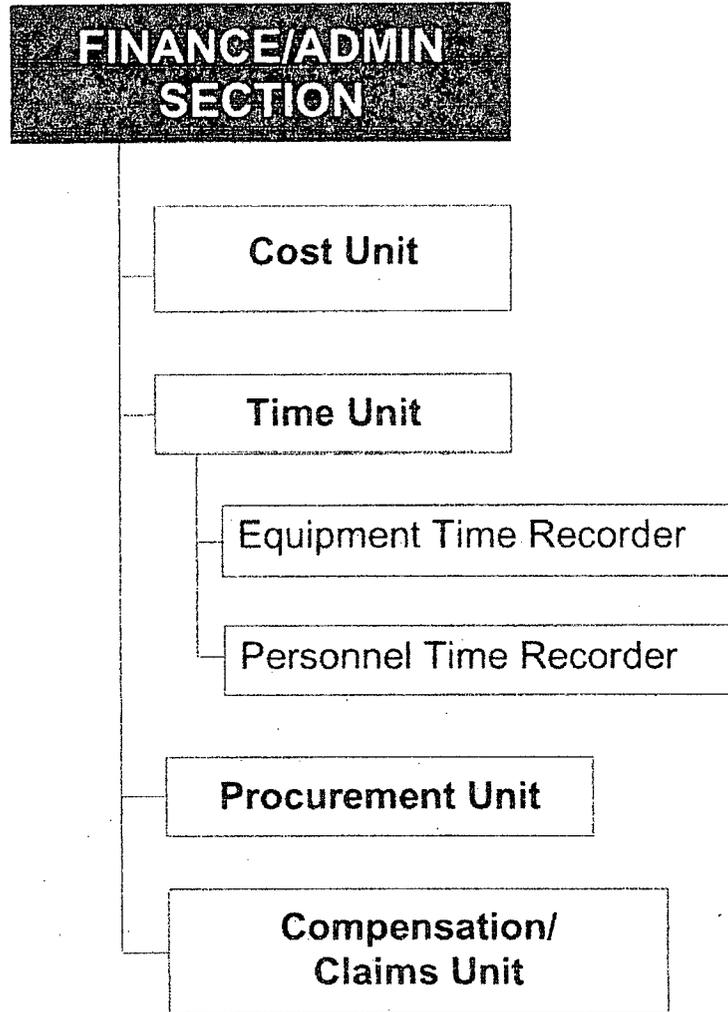
Vessel Support Unit Leader

The Vessel Support Unit Leader is primarily responsible for (1) coordinating transportation of personnel, supplies, food, and equipment for waterborne resources; (2) fueling, servicing, maintaining and repairing vessels and other vessel support equipment; (3) implementing the Vessel Routing Plan; and (4) supporting out-of-service waterborne resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Support Branch Director or Logistic Section Chief.
- d. Participate in Support Branch/Logistics Section planning activities.
- e. Coordinate Vessel Routing Plan development.
- f. Coordinate vessel transportation assignments with the Protection and Recovery Branch or other sources of vessel transportation.
- g. Coordinate water-to-land transportation with Ground Support Unit, as necessary.
- h. Maintain a prioritized list of transportation requirements to be scheduled with the transportation source.
- i. Support out-of-service vessel resources, as requested.
- j. Arrange for fueling, maintenance, and repair of vessel resources, as requested.
- k. Maintain inventory of support and transportation vessels.
- l. Maintain Unit/Activity Log (ICS 214).

Finance Section Responsibilities and Duties

FINANCE/ADMINISTRATION SECTION



Finance/Administration Section Chief

The Finance/Administration Section Chief, a member of the General Staff, is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section.

- a. Review Common Responsibilities.
- b. Attend briefing with responsible company/agency to gather information.
- c. Attend planning meetings to gather information on overall strategy.
- d. Determine resource needs.

Finance Section

Page 2

- e. Develop an operating plan for Finance/Administration function on incident.
- f. Prepare work objectives for subordinates, brief staff, make assignments, and evaluate performance.
- g. Inform members of the Unified Command and General Staff when Section is fully operational.
- h. Meet with assisting and cooperating company/agency representatives, as required.
- i. Provide input in all planning sessions on financial and cost analysis matters.
- j. Maintain daily contact with company/agency(s) administrative headquarters on finance matters.
- k. Ensure that all personnel time records are transmitted to home company/agency according to policy.
- l. Participate in all demobilization planning.
- m. Ensure that all obligation documents initiated at the incident are properly prepared and completed.
- n. Brief agency administration personnel on all incident related business management issues needing attention and follow-up prior to leaving incident.

Cost Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Coordinate with company/agency headquarters on cost-reporting procedures.
- e. Obtain and record all cost data.
- f. Prepare incident cost summaries.
- g. Prepare resource-use cost estimates for Planning.
- h. Make recommendations for cost-savings to Finance/Administration Section Chief.
- i. Maintain cumulative incident cost records.
- j. Ensure that all cost documents are accurately prepared.
- k. Complete all records prior to demobilization.
- l. Provide reports to Finance/Administration Section Chief.
- m. Maintain Unit/Activity Log (ICS 214).

Time Unit Leader

The Time Unit Leader is responsible for equipment and personnel time records.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.

Finance Section

Page 3

- d. Determine resource needs.
- e. Establish contact with appropriate company/agency personnel/representatives.
- f. Organize and establish Time Unit.
- g. Establish Time Unit objectives.
- h. Ensure that daily personnel and equipment time recording documents are prepared in compliance with time policies.
- i. Submit cost estimate data forms to Cost Unit, as required.
- j. Provide for records security.
- k. Ensure that all records are current or complete prior to demobilization.
- l. Release time reports from assisting organizational entities to the respective Representatives prior to demobilization.
- m. Brief Finance/Administration Section Chief on current problems, recommendations, outstanding issues, and follow-up requirements.
- n. Maintain Unit/Activity Log (ICS 214).

Procurement Unit Leader

The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Contact appropriate unit leaders on incident needs and any special procedures.
- e. Coordinate with local jurisdictions on plans and supply sources.
- f. Prepare and sign contracts and land use agreements, as needed.
- g. Draft memorandums of understanding.
- h. Establish contracts with supply vendors, as required.
- i. Interpret contracts/agreements and resolve claims or disputes within delegated authority.
- j. Coordinate with Compensation/Claims Unit on procedures for handling claims.
- k. Finalize all agreements and contracts.
- l. Coordinate use of imprest funds, as required.
- m. Complete final processing and send documents for payment.
- n. Coordinate cost data in contracts with Cost Unit Leader.
- o. Maintain Unit/Activity Log (ICS 214).

Compensation/Claims Unit Leader

The Compensation/Claims Unit Leader is responsible for the overall management and direction of all administrative matters pertaining to compensation-for-injury and claims-related activity for an incident.

Finance Section

Page 4

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Establish contact with Safety Officer, Liaison Officer and Company/Agency Representatives.
- e. Determine the need for Compensation for injury and Claims Specialists and order personnel, as needed.
- f. If possible, co-locate Compensation-for-injury work area with the Medical Unit.
- g. Obtain a copy of the Incident Medical Plan.
- h. Coordinate with Procurement Unit on procedures for handling claims.
- i. Periodically review documents produced by subordinates.
- j. Obtain Demobilization Plan and ensure that Compensation-for-injury and Claims Specialists are adequately briefed on Demobilization Plan.
- k. Ensure that all Compensation-for-injury and Claims documents are up to date and routed to the proper company/agency.
- l. Maintain Unit/Activity Log (ICS 214).

SECTION 1.1.6

EVACUATION PLANS

MAP 2 – SPILL FLOW DIRECTION

MAP 3 – LOCATION OF REFINERY

***MAP 4 – ROUTES FOR EMERGENCY
RESPONSE PERSONNEL AND EQUIPMENT***

MAP 5 – EVACUATION ROUTES

MAP 6 – TANK LOCATIONS AND CONTENTS

MATERIAL SAFETY DATA SHEETS

Section 1.1.6 – Evacuation Plans

In the event that circumstances necessitate an evacuation of the refinery or the surrounding vicinity, the person designated as the Emergency Coordinator is Randy Schmaltz.

1. Location of Stored Materials:

Petroleum feedstocks and products are stored in various tanks as shown on *Map 6 – Tank Locations and Contents at Bloomfield Refinery*. The largest concentration of storage is in the Tank Farm. Several tanks are also located in the Process Area and the Loading and Unloading Area. Drums and totes containing various lubricants, chemicals, additives and used oils are located in the Storage Yard at the west end of the refinery. A typical inventory may include thirty 55 gallon drums and ten 350 gallon totes. (See *Map 6 – Tank Locations and Contents at the Bloomfield Refinery*.)

2. Hazard Imposed by Spilled Material:

Possible additional hazards imposed by spilled petroleum feedstocks and products into and on the San Juan River and the Bloomfield area include the following:

- * Fire.
- * Contamination of Water Resources could potentially affect irrigation, agricultural and drinking water resources.
- * Infiltrate and affect the surrounding ground water in the Bloomfield area.
- * Vapor Cloud Explosion cause by pressurized hydrocarbons.
- * Personnel exposure hazards including contact burns and toxic vapor inhalation.

3. Spill Flow Direction:

A discharge from the Aboveground Storage Tanks would possibly flow in the following directions:

- a. A Discharge from the Aboveground Storage Tanks could possibly flow in the following directions: (See *Map 2 – Spill Flow Direction at the Bloomfield Refinery*)
 - i. The Flow Path provides for the initial Spill Flow direction to be North or Northwest over land into the Hammond Ditch and the San Juan River. The distance from the Bloomfield Refinery to the San Juan River is approximately 100 - 300 feet and the time for the product to travel this far is 4 – 33 seconds worst case.

4. Prevailing Wind Direction and Speed:

The prevailing wind direction in the vicinity of the refinery is west to east, however east to west winds are common as well. Orange colored wind socks are located throughout

the refinery to aid in identifying the current local wind direction. Average wind speed is approximately 9 mph.

5. Water Currents, Tides, or Wave Conditions:

Primary locations where discharges may occur have No Viable Water Currents, Tides and No Wave Action since the facility is not located close to an ocean or lake. Both the San Juan River and the Hammond Irrigation Ditch flow from east to west. The San Juan River flows year-round. The Hammond Irrigation Ditch flows only during irrigation season from mid-April through mid-October and is otherwise empty and dry.

6. Arrival Route of Emergency Response Personnel and Equipment:

Emergency Response Personnel and Equipment will arrive via the following routes:
(See *Map 4 – Routes for Emergency Response Personnel & Equipment.*)

- a. From the South, travel North on US Highway 550 (State Route 44) to County Road 4990 (Sullivan Road) and turn East. Continue to the Main Entrance of the Bloomfield Refinery.
- b. From the East, travel West on US Highway 64 to US Highway 550 South (State Route 44) and turn South. Travel to County Road 4990 and turn East. Proceed on County Road 4990 to the Bloomfield Refinery entrance on the North side of the road.
- c. From the North, travel South on US Highway 550 (State Road 44) to US Highway 64 and turn West. Continue for approximately ¼ mile and turn South on US Highway 550 (State Route 44). Travel to County Road 4990 (Sullivan Road) and turn East. Proceed to the Bloomfield Refinery entrance on the North side of the road.
- d. From the West, travel East on US Highway 64 to travel on US Highway 64 to US Highway 50 South (State Route 44) and turn South. Travel to County Road 4990 and turn East. Proceed on County Road 4990 to the Bloomfield Refinery entrance on the North side of the road.

7. Evacuation Route:

In the event of an Emergency Response Incident at the Bloomfield Refinery, the Refinery Manager will act as the Initial Incident Commander and utilize available automobiles to evacuate all personnel to the designated Evacuation Assembly Area which is the Main Office Building to be accounted for and then, if necessary, out the main entrance and across County Road 4990 off the property. (See *Map 5 – Evacuation Routes to Evacuation Assembly Area.*) Supervisory personnel will assist in the safe and orderly evacuation of all personnel. Prior to evacuating, supervisors will check the immediate area they are located in to ensure that all personnel are properly evacuated.

8. Alternative Route of Evacuation:

Personnel at the east side of the refinery and at the Loading and Unloading Area may evacuate to the east along County Road 4990. Should the primary Evacuation route be unavailable, personnel use this eastern route to evacuate. (See Map 5 – Evacuation Routes to Evacuation Assembly Area.)

9. Transportation of Injured Personnel to Nearest Emergency Medical Facility:

Injured personnel will be transported to the San Juan Regional Medical Center in Farmington via County Road 4990, State Route 44, and US Highway 64.

10. Location of Alarm/Notification Systems:

The following are the Primary Customer Personnel and Employee Alarm/Notification Systems to provide warning to all personnel and their locations.

In the event of an Emergency Response Incident at the Bloomfield Refinery, the refinery alarm horn may be used to signal an alert to all employees. This horn can be activated from outside the Control Room and the east side of the Motor Control Center.

11. Centralized Check-in/Assembly Area for Evacuation Validation:

The centralized check-in location for evacuating personnel will be the Main Office located near the entrance to the refinery at 50 County Road 4990. If personnel cannot get to this location, they may proceed to the parking lot south of the Regional Office Building. Once personnel are all accounted for, they will be evacuated from the area.

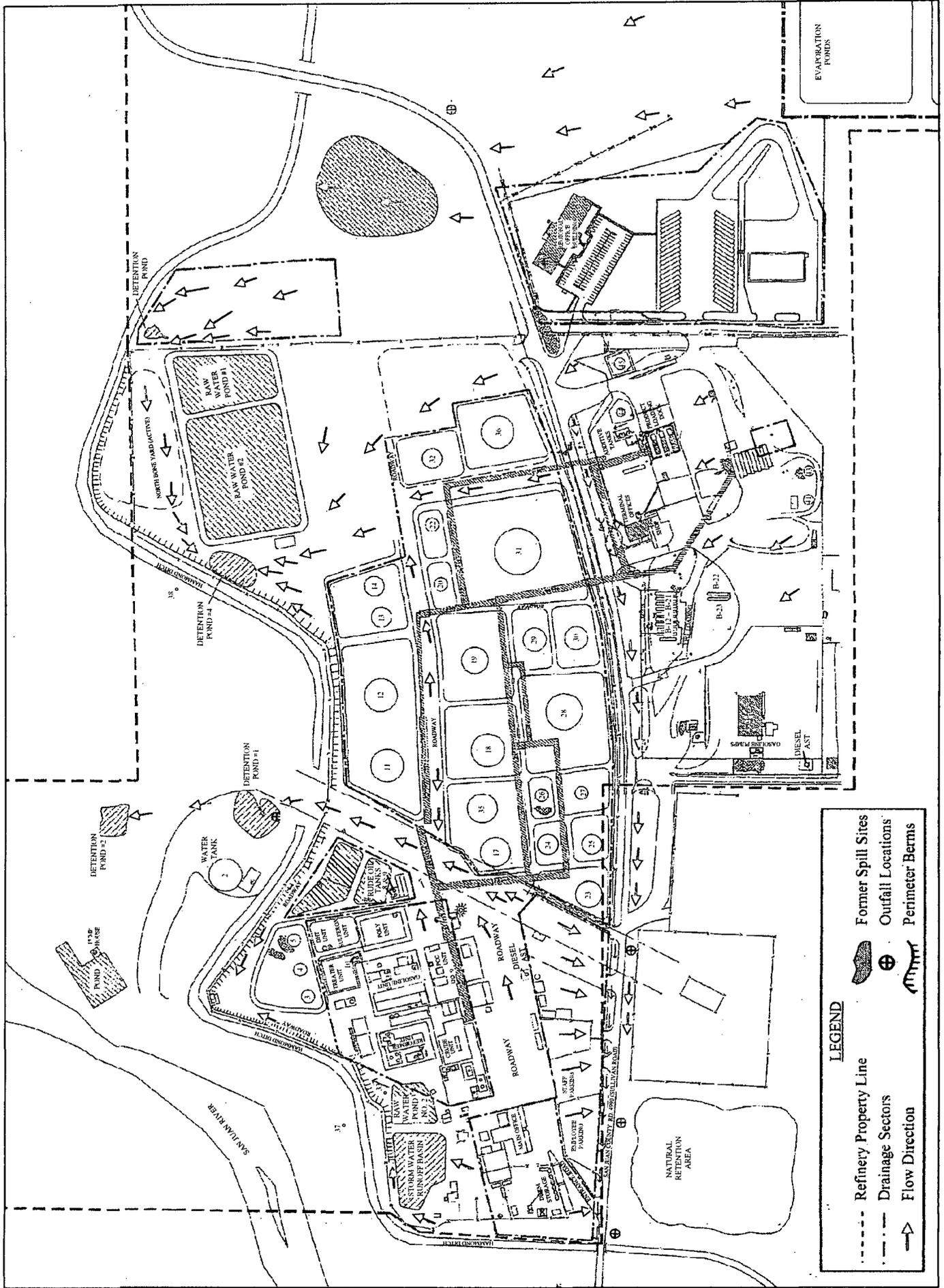
12. Selection of Incident Command Post:

The Incident Command Post will be set up in the Conference Room in the Bloomfield Refinery Main Office located at 50 County Road 4990. An Operations Center will be set as close to the site of the spill as is deemed safe by the Safety Officer.

13. Optional Evacuation Shelter:

As an alternative to evacuation off-site, the Incident Commander in charge of the response may use the Refinery Firehouse Building as an Assembly Area for the duration of the response, provided that it is safe to do so.

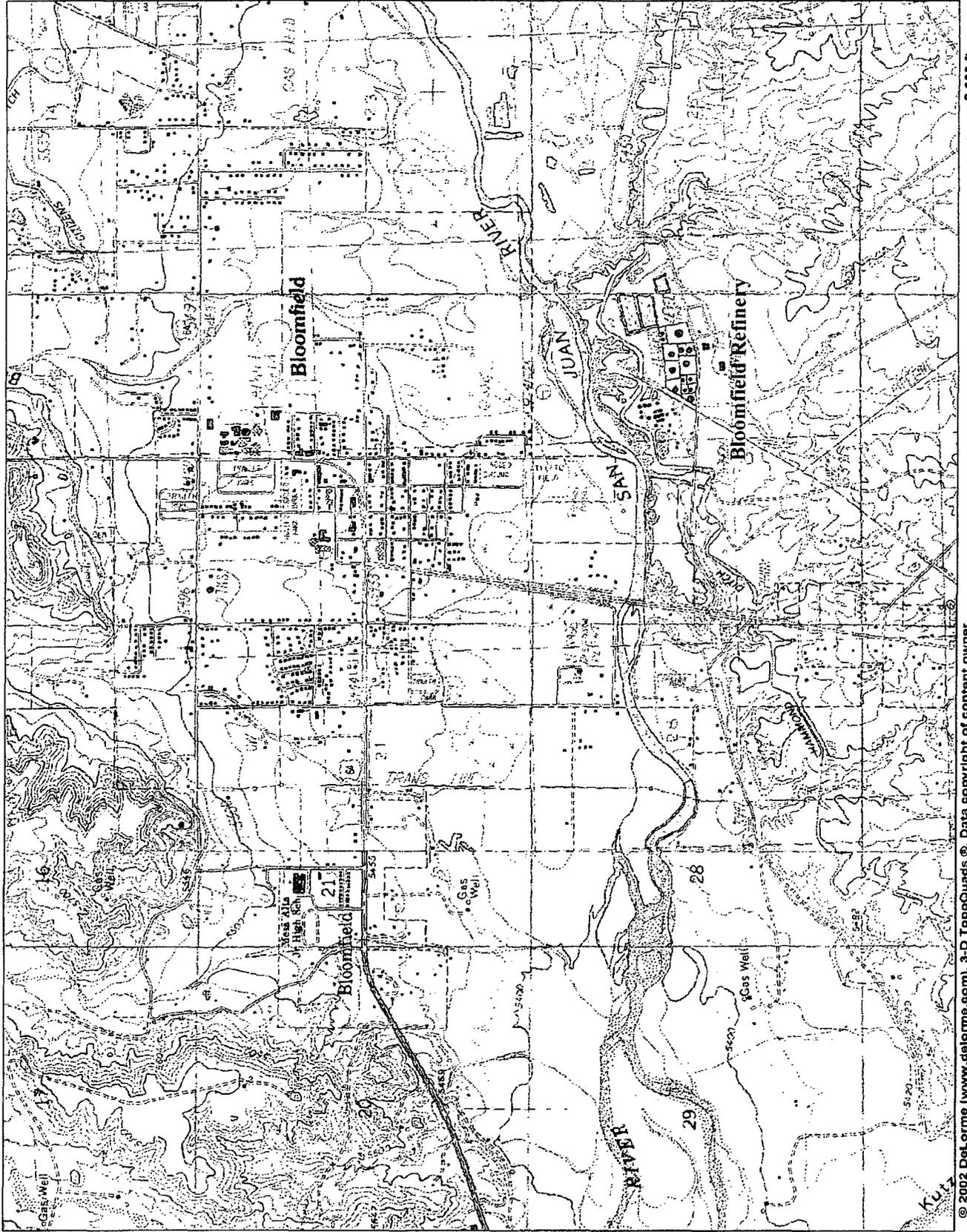
Map 2 - Spill Flow Direction at the Bloomfield Refinery



LEGEND

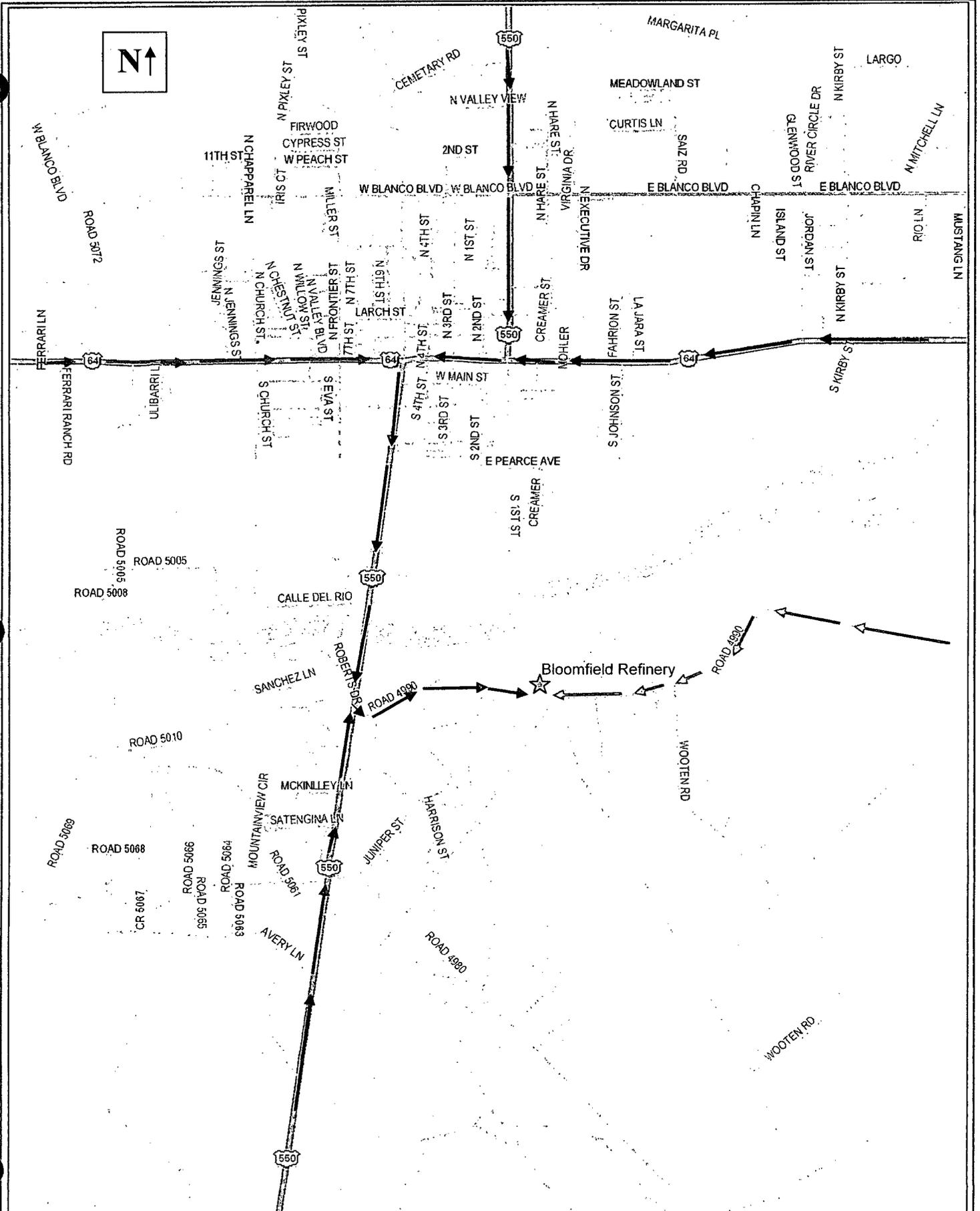
- Refinery Property Line
- - - Drainage Sectors
- Flow Direction
- █ Former Spill Sites
- ⊕ Outfall Locations
- ▬ Perimeter Berms

Map 3 – Location of Bloomfield Refinery

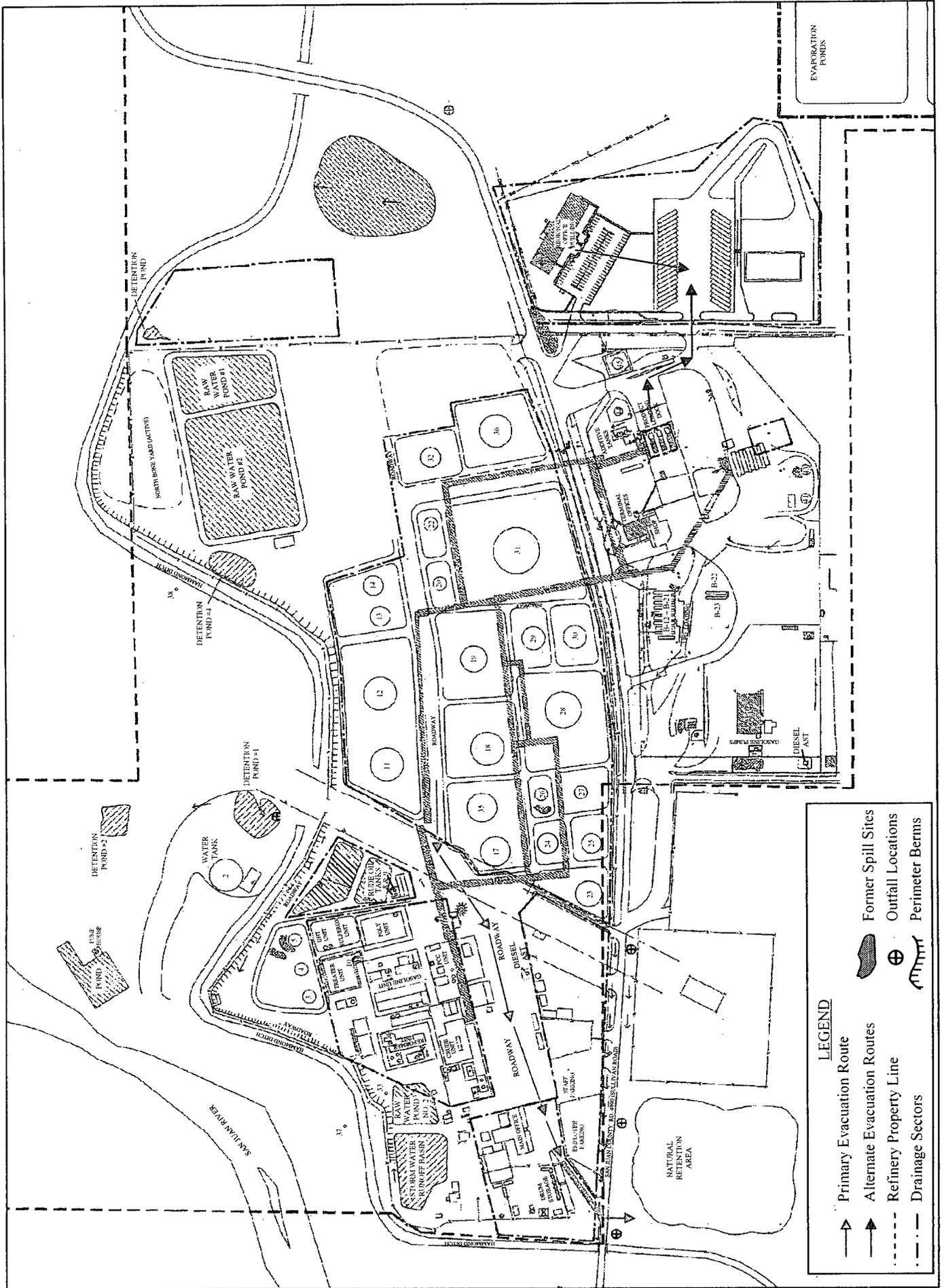


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Scale: 1 : 25,000 Map Rotation: 0° Magnetic Declination: 0.0°E

Map 4 – Routes for Emergency Response Personnel and Equipment



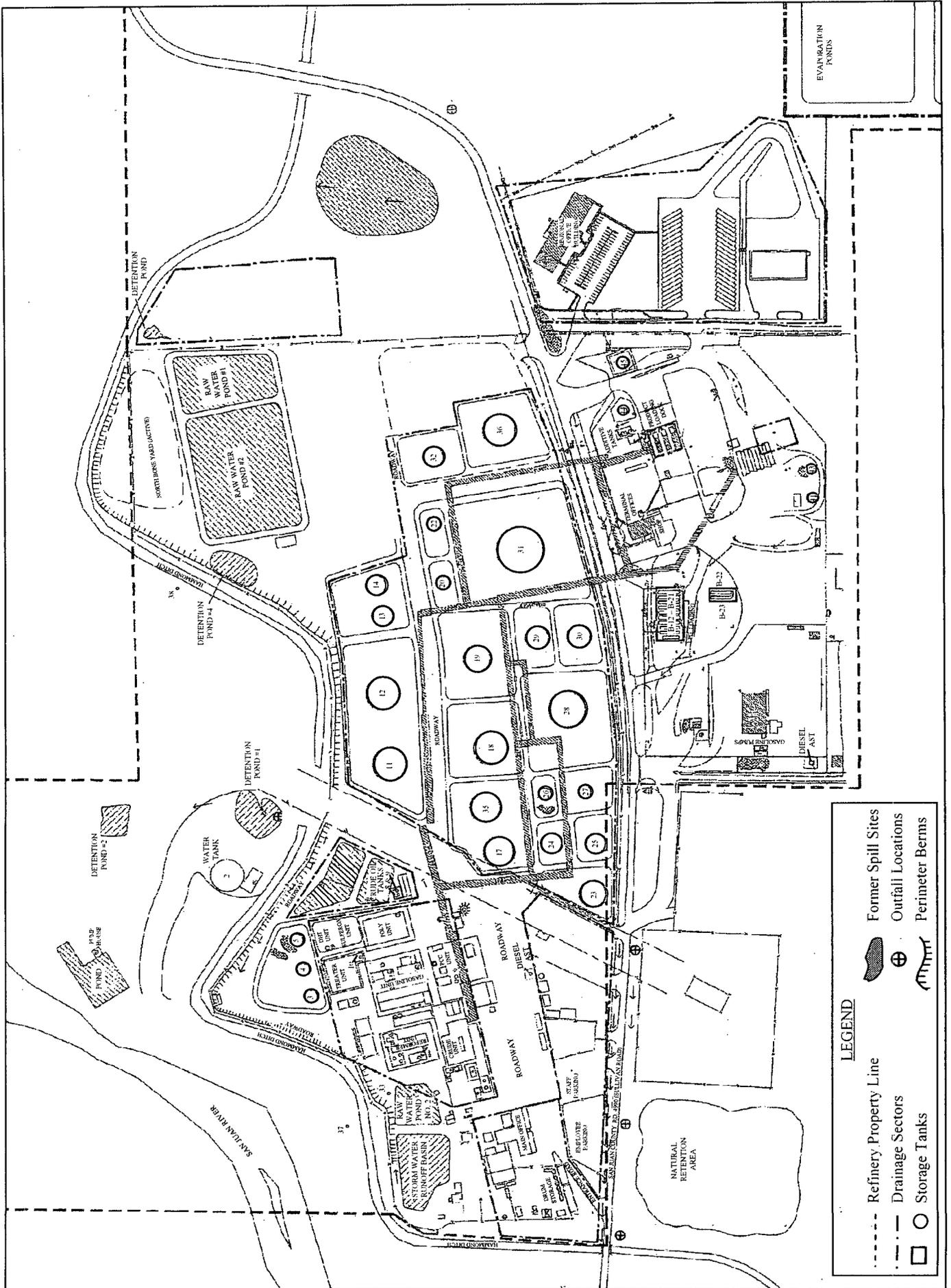
Map 5 - Evacuation Routes to Evacuation Assembly Areas



LEGEND

- ↑ Primary Evacuation Route
- ↑ Alternate Evacuation Routes
- - - Refinery Property Line
- · · Drainage Sectors
- ◼ Former Spill Sites
- ⊕ Outfall Locations
- ⊕ Perimeter Berms

Map 6 – Tank Locations at Bloomfield Refinery
 (Tank Contents are listed by Tank Number on the following page.)



LEGEND

	Refinery Property Line		Former Spill Sites
	Drainage Sectors		Outfall Locations
	Storage Tanks		Perimeter Berms

Aboveground Storage Tank Numbers and Contents
(Refer to Map 6 – Tank Locations and Contents at Bloomfield Refinery)

<u>Tank Number</u>	<u>Tank Contents</u>
3	Mid Grade
4	Mid Grade
5	Isomerate
8	Slop Oil
9	Slop Oil
10	Out of Service
11	Reformate
12	Poly/Cat Mix
13	Gasoline
14	Gasoline
17	Reduced Crude
18	Diesel
19	Diesel
20	FCC Slop Oil
22	Out of Service
23	Gasoline
24	Diesel
25	Diesel
26	Sweet Naphtha
27	Residual Oil or Burner Fuel
28	Crude Oil
29	Diesel Slop
30	Premium Blend
31	Crude Oil
32	Premium Sales
33	Recovered Water
35	Reformer Feed
36	Poly/Cat Mix
37	French Drain
38	Recovered Ground Water
41	Crude Oil
43	Crude Oil
44	VRU Naphtha
45	Ethanol
B12	Light Natural
B-13 – B-14	Butane
B-15	Propane
B-16 – B-19	Poly Feed
B-20 – B-21	Butane
B-22 – B-23	LPG

MATERIAL SAFETY DATA SHEETS

Section 1.1.6 Material Safety Data Sheets

Material Safety Data Sheets for the primary products used in the Bloomfield Refinery can be found in this section. All other Material Safety Data Sheets are located in the Bloomfield Refinery Main Office.

Material Safety Data Sheets for the following products are contained in this section:

- 1 Diesel
- Base Gas/Cat Gasoline
- Burner Fuel
- Butane
- Crude Oil
- Heavy Cycle Oil
- Isomate
- Kerosene
- Light Cycle Oil
- Light Straight Run
- Naphtha
- Premium Unleaded Gasoline
- Propane
- Reduced Crude
- Reformate
- Unleaded Gasoline
- Unleaded Midgrade Gasoline

MATERIAL SAFETY DATA SHEET 00318

GIANT REFINING - BLOOMFIELD

08-28-97
CSS-14004

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARATION/REVISION DATE: 03-14-97

PREPARER/CONTACT: JIM STIFFLER

LOCATIONS:
UNITS LAB

TRADE NAME/SYNONYMS: #1 DIESEL

CHEMICAL NAME/SYNONYMS: FUEL OIL #1

CHEMICAL FAMILY: HYDROCARBON

FORMULA: MIXTURE

PRODUCT CODE:

HAZARDS MATERIAL IDENTIFICATION SYSTEM (HMIS)

HEALTH = 1
FLAMMABILITY = 2
REACTIVITY = 0
PROTECTION = Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA TLV-ACGIH
PETROLEUM DIESEL - COMBINATION OF STRAIGHT MIXTURE CUTBACK AND CRACKED HYDROCARBONS. ADDITIVE INCLUDED NOT OF ANY CONSEQUENCE.		100	100 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

INGESTION:

HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA, AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

PRIMARY ROUTES OF ENTRY -

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES:

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN.

SKIN:

REMOVE CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS. GET MEDICAL ATTENTION.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. CALL A PHYSICIAN.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 347

SPECIFIC GRAVITY (WATER=1): .81

VAPOR PRESSURE (MMHG) : N/A

PERCENT VOLATILE BY VOLUME (%) : 100

VAPOR DENSITY (AIR=1) : N/A

EVAPORATION RATE (BUTYL ACETATE = 1) : N/A

SOLUBILITY IN WATER : N/A

APPEARANCE AND ODOR INFORMATION:

PALE YELLOW TO WATERY WHITE OILY LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED) : 100-120 F

FLAMMABLE LIMITS:

LEL = 0.7

UEL = 5.0

EXTINGUISHING MEDIA:

WATER SPRAY, FOAM, DRY CHEMICAL OR CO2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT IDENTIFIED USE WATER SPRAY TO DISPERSE THE VAPORS. WATER SPRAY MAY BE USED TO FLUSH SPILLS FROM EXPOSURES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: LARGE SPILLS. ISOLATE HAZARD AREA. DENY ENTRY TO UNNECESSARY PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND CLOTHING. SHUT OFF SOURCE OF LEAK IF POSSIBLE. DIKE AND CONTAIN.

REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, ETC. PLACE IN D.O.T. AUTHORIZED CONTAINERS. SMALL SPILLS. TAKE UP WITH ABSORBENT MATERIAL SUCH AS SAND OR CLAY AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: BELOW PEL
MECHANICAL (GENERAL): CONFINED SPACES
SPECIAL: N/A
OTHER: BELOW FLAM. LIMITS.

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES: WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00183

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10/5/95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: BASE GAS / CAT GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY < 1%	N/A	100	300 PPM	300 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1%			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: PULMONARY LUNG DISEASES

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100
SPECIFIC GRAVITY (WATER=1): .71
VAPOR PRESSURE (MMHG): 9-15
PERCENT VOLATILE BY VOLUME (%): 100
VAPOR DENSITY (AIR=1): 3.5
EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00081

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-01-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: BURNER FUEL
CHEMICAL NAME/SYNONYMS: SLURRY: #6 FUEL OIL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: NO INFORMATION
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
A COMPLEX COMBINATION OF HIGH BOILING POINT HYDROCARBONS (NOMINALLY 500 F) OCCURRING NATURALLY IN CRUDE. MAY CONTAIN 5% OR GREATER 4 TO 6 MEMBER CONDENSED RING AROMATIC HYDROCARBONS (PNAs). MAY CONTAIN LOW LEVELS OF BENZENE.	68476-33-5	100	N/I	N/I
			1 PPM	

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION OF HIGH VAPOR CONCENTRATIONS MAY CAUSE EYE AND RESPIRATORY IRRITATION, DIZZINESS, HEADACHES, NAUSEA OR UNCONSCIOUSNESS. PROLONGED OR REPEATED CONTACT WITH PRODUCT AT WARM OR NEAR AMBIENT TEMPERATURES MAY CAUSE SKIN IRRITATION.

CAUTION:

PRODUCT NORMALLY SHIPPED HOT (EG., 110-245 F). PROTECT AGAINST BURNS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH CLEAR WATER FOR 15 MINUTES OR UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, CALL A PHYSICIAN.

SKIN:
IF BURNED BY HOT PRODUCT, OBTAIN MEDICAL ATTENTION IMMEDIATELY. OTHERWISE WASH THOROUGHLY WITH SOAP AND WATER. REMOVAL OF PRODUCT FROM SKIN MAY BE AIDED BY USE OF WATERLESS HANDCLEANER.

INHALATION:
REMOVE TO FRESH AIR AND CALL A PHYSICIAN IMMEDIATELY. IF BREATHING HAS STOPPED OR IS IRREGULAR, START RESUSCITATION, ADMINISTER OXYGEN.

INGESTION:
CALL A PHYSICIAN IMMEDIATELY.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 490 F
SPECIFIC GRAVITY (WATER=1): 1.02
VAPOR PRESSURE (MMHG): N/A
PERCENT VOLATILE BY VOLUME (%): 5
VAPOR DENSITY (AIR=1.): N/A
EVAPORATION RATE (BUTYL ACETATE = 1): .01

SOLUBILITY IN WATER: NONE

APPEARANCE AND ODOR INFORMATION:

DA GREEN AND VISCOUS. PETROLEUM HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 168 F ASTM

FLAMMABLE LIMITS:

LEL=.9

UEL=7

EXTINGUISHING MEDIA:

FOAM, WATER MIST OR SPRAY, DRY CHEMICAL, OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED-AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS SUCH AS LIQUID CHLORINE OR CONC. OXYGEN. DO NOT PRESSURIZE, CUT, HEAT, WELD, OR EXPOSE EMPTY CONTAINERS OR VESSELS TO FLAME OR OTHER SOURCES OF IGNITION UNLESS ADEQUATELY PREPARED.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDANTS SUCH AS: LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM- OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:

FUMES, SMOKE AND CARBON MONOXIDE, IN CASES OF INCOMPLETE COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: STRONG OXIDANTS.

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: STRONG OXIDANTS.

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE PRODUCT. ADD SAND, EARTH OR OTHER SUITABLE ABSORBENT TO SPILL AREA. MINIMIZE BREATHING VAPORS. VENTILATE. KEEP PRODUCT OUT OF SEWERS AND WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE AUTHORITIES IF PRODUCT HAS OR MAY ENTER SEWERS, WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL SITE OR FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: BELOW PEL
MECHANICAL (GENERAL): CONFINED SPACES
SPECIAL: N/A
OTHER: BELOW FLAM. LIMITS

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED AT AMBIENT TEMPERATURES. USE SUPPLIED-AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES OR WHEN HANDLING HOT PRODUCT. SUPPLIED AIR SHOULD BE USED IN AREAS WHERE VAPORS ARE PRESENT.

PROTECTIVE GLOVES: CHEMICAL RESISTANT

OTHER PROTECTIVE EQUIPMENT:

SPLASH GOGGLES OR FACE SHIELD. CHEMICAL RESISTANT APRON.
USE PROTECTIVE EQUIPMENT TO ELIMINATE ALL CONTACT WITH SKIN. WASH THOROUGHLY IF PRODUCT CONTACTS SKIN.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: AVOID SKIN CONTACT AND BREATHING VAPORS.

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DO NOT REUSE CONTAINERS. KEEP AWAY FROM HEAT AND OPEN FLAME. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: RUNOFF TO SEWERS MAY CREATE FIRE OR EXPLOSION HAZARD.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00108

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: BUTANE
CHEMICAL NAME/SYNONYMS: N-BUTANE: LIQUIFIED PETROLEUM GAS
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 0
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT HYDROCARBON COMBINATION OF C 4 COMPONENTS BOTH OLEFINS AND SATURATES.	106-97-8	100	N/I	800 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURE TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN. BY RAPID EVAPORATION THIS PRODUCT MAY CAUSE FROST BITE.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
RINSE EYES WITH PLENTY OF WATER THEN TRANSPORT TO A DOCTOR.

SKIN:
IN CASE OF FROST BITE WARM AFFECTED AREA WITH WARM WATER (NOT HOT). IF WARM WATER IS NOT AVAILABLE WRAP THE AFFECTED PART GENTLY WITH SHEETS, BLANKETS OR OTHER CLOTHING. DO NOT RUB THE AFFECTED AREA. GET MEDICAL ATTENTION.

INHALATION:
REMOVE TO FRESH AIR. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 20 F
SPECIFIC GRAVITY (WATER=1): .56
VAPOR PRESSURE (MMHG): 65 PSI
PERCENT VOLATILE BY VOLUME (%): 100
VAPOR DENSITY (AIR=1): 2.0
EVAPORATION RATE (BUTYL ACETATE = 1): N/I
SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
AS A VAPOR BUTANE WILL APPEAR AS A CLOUD. HYDROCARBON ODOR UNLESS ODORIZER IS PRESENT.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -76 F C. CU

FLAMMABLE LIMITS:

LEL 1.8

UEL 8.4

EXTINGUISHING MEDIA:

STOP FLOW OF GAS. PROTECT FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP FLOW OF GAS. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL AND PROTECT MEN EFFECTING THE SHUT OFF. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE GAS OR VAPOR.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

EVACUATE DANGER AREA OF UNNECESSARY PERSONS. SHUT OFF SUPPLY OF FUEL. CONTAINER CAN BE EXTREMELY DANGEROUS WHEN EXPOSED TO DIRECT FLAME. KEEP CONTAINERS COOL. IF NOT POSSIBLE EVACUATE ALL PERSONS A SAFE DISTANCE AND ALLOW TO BURN OUT.

INCOMPATIBILITY (MATERIALS TO AVOID): OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: WHEN HEATED EMITS ACRID FUMES.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

TURN LEAKING CYLINDERS WITH LEAK TO TOP IF POSSIBLE TO DECREASE AMOUNT (VOLUME) OF DISCHARGE. EVACUATE DANGER AREA TO UPWIND SIDE AND OUT OF LOW AREAS, DISPERSE VAPORS WITH WATER FOG. EXTINGUISH ALL IGNITION SOURCES. CONTACT LOCAL EMERGENCY PERSONNEL.

WASTE DISPOSAL METHODS: CONTROLLED INCINERATION.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS.

MECHANICAL (GENERAL): EXPLOSION PROOF

SPECIAL: 60 fpm

OTHER: N/A

RESPIRATORY PROTECTION:

CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE WHEN CONCENTRATION IS LOW, MEASURABLE, AND CONSTANT.

PROTECTIVE GLOVES: RUBBER

OTHER PROTECTIVE EQUIPMENT:
SAFETY GLASSES AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: N/I

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00114

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
SULLIVAN RD
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-432-9300

PREPARER/CONTACT: JIM STIFFLER

PREPARATION/REVISION DATE: 10-02-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: CRUDE OIL
CHEMICAL NAME/SYNONYMS: CRUDE FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: NOT APPLICABLE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 0
FLAMMABILITY: 4
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
H2S HYDROGEN SULFIDE	N/A	< 1	10 PPM	10 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
(MAY CONTAIN) AROMATIC HYDROCARBONS-PNA	N/A	5-15			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT THE SKIN LEADING TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER. HOT LIQUID MAY CAUSE BURNS.

IF INGESTED, HAS A LOW ORDER OF ACUTE TOXICITY.

MAY CAUSE SLIGHT EYE IRRITATION.

MORE LIKELY ENCOUNTERED AS AN AEROSOL RATHER THAN A VAPOR.

PROLONGED OR REPEATED INHALATION AS AN AEROSOL MAY RESULT IN DROPLET DEPOSITION AND SUBSEQUENT IRRITATION, SCAR TISSUE FORMATION, AND INFECTION OR OTHER DISEASES OF THE RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY:
SKIN CONTACT; RESPIRATORY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SENSITIZED SKIN

EMERGENCY FIRST AID PROCEDURES

IF OVERCOME BY FUMES, REMOVE FROM EXPOSURE IMMEDIATELY; CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

IF INGESTED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT REMOVE ANY CONTAMINATED CLOTHING, AND WASH SKIN WITH SOAP AND WARM WATER.

IF SPLASHED INTO THE EYES, FLUSH EYES WITH CLEAR WATER FOR 15 MIN. OR UNTIL IRRITATION SUBSIDES.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 155AVG

SPECIFIC GRAVITY (WATER=1): .81AVG

VAPOR PRESSURE (MMHG): 207AVG

PERCENT VOLATILE BY VOLUME (%): NEGLIG

VAPOR DENSITY (AIR=1): > 10

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

STRAW TO DARK-COLORED VISCOUS LIQUID, WITH HEAVY HYDROCARBON ODOR

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 20-40F COC

FLAMMABLE LIMITS:

LEL=.5

UEL=7

EXTINGUISHING MEDIA:

FOAM; WATER MIST OR SPRAY; DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS, OR CONCENTRATED O₂. EMPTY CONTAINERS OR VESSELS MAY RETAIN PRODUCT RESIDUE, DO NOT CUT, WELD OR EXPOSE CONTAINERS FROM OTHER SOURCES OF IGNITION WITH ADEQUATE PREPARATIONS AND PROCEDURES.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS SUCH AS CHLORINE, OXYGEN, OR HTH

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE AND CARBON MONOXIDE

WILL HAZARDOUS POLYMERIZATION OCCUR: NO

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: CAPTURE FUMES
MECHANICAL (GENERAL): EXPLOSION PROOF EQUI
SPECIAL: 60 fpm FACE VELOCITY
OTHER: N/I

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED. MINIMIZE BREATHING VAPORS OR FUMES; AVOID BREATHING OIL MIST. USE DUST/FUME RESPIRATOR TO PROTECT AGAINST LIGHT MIST. USE SUPPLIED-AIR RESPIRATOR IN CONFINED OR ENCLOSED SPACES.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL GOGGLES; USE CHEMICAL RESISTANT CLOTHING IF NEEDED TO AVOID CONTAMINATION.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH WARM WATER AND SOAP AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARK, FLAME, OR STRONG OXIDANTS. VENTILATION MUST BE PRESENT TO PREVENT BUILD-UP OF TOXIC OR EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00138

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: HEAVY CYCLE OIL
CHEMICAL NAME/SYNONYMS: HEAVY CAT GAS OIL, FCC HEAVY CYCLE OIL
CHEMICAL FAMILY: DISTILLATES (PETROLEUM)
FORMULA: COMBINATION OF HYDROCARBONS
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
HEAVY CYCLE OIL	64741-61-3	95	5	5 MG/M3
POLYNUCLEAR AROMATIC COMPOUNDS	N/I	5	0.2	0.1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
HEAVY CYCLE OIL	N/I	N/I	YES	YES	NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
MODERATELY IRRITATING, HEATED PRODUCT MAY CAUSE THERMAL BURNS.

SKIN:
MODERATELY IRRITATING, CAUSING THERMAL BURNS AND DRYING OF THE SKIN.

INHALATION:
POSSIBLE EFFECTS INCLUDE HEADACHE, NASAL AND RESPIRATORY IRRITATION, NAUSEA, DROWSINESS, FATIGUE, PNEUMONITIS AND PULMONARY EDEMA.

INGESTION:
CAN BE IRRITATING TO THE MOUTH, THROAT AND DIGESTIVE TRACT. ASPIRATION INTO THE LUNGS THROUGH VOMITING MAY CAUSE HEMORRHAGING, PULMONARY EDEMA AND CHEMICAL PNEUMONITIS.

CHRONIC:
PROLONGED AND REPEATED SKIN CONTACT MAY CAUSE DERMATITIS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH THOROUGHLY WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN:
COOL THE EXPOSED AREA IMMEDIATELY. REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH THE AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD LOWER THAN THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 500+

SPECIFIC GRAVITY (WATER=1): 0.90
VAPOR PRESSURE (MMHG): NEGLIG
PERCENT VOLATILE BY VOLUME (%): N/I
VAPOR DENSITY (AIR=1): HEAVIE
EVAPORATION RATE (BUTYL ACETATE = 1): SLOWER
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR INFORMATION:
BROWN LIQUID COLOR. AROMATIC ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 250 + F
FLAMMABLE LIMITS:
LEL=N/A
UEL=N/A
EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS. USE A SMOTHERING TECHNIQUE. DO NOT USE A FORCED WATER STREAM. FIRE-FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
FLOWING OIL CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY. CONTAINERS SHOULD BE GROUNDED OR BONDED. CHECK FOR COMBUSTIBLE VAPORS PRIOR TO AND DURING WELDING OR TORCH CUTTING ON VESSELS OR TANKS.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZING AGENTS, HEAT, SPARK, FLAME AND BUILD UP OF STATIC ELECTRICITY.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO 2, SO 2, REACTIVE HYDROCARBONS.
WILL HAZARDOUS POLYMERIZATION OCCUR: NO
CONDITIONS TO AVOID FOR POLYMERIZATION: N/I
IS THE PRODUCT STABLE: YES, UNDER NORMAL CONDITIONS OF USE.
CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REMOVE SOURCES OF IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER
TOOLS. CLEAN UP SPILL, BUT DO NOT FLUSH TO SEWER OR SURFACE WATER. VENTILATE
AREA AND PREVENT SKIN CONTACT.

WASTE DISPOSAL METHODS:
DISPOSE THROUGH A LICENSED WASTE DISPOSAL COMPANY. FOLLOW FEDERAL, STATE AND
LOCAL REGULATIONS.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTION IN SITUATIONS WHERE AIRBORNE CONCENTRATIONS
MAY EXCEED OCCUPATIONAL EXPOSURE LEVELS.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES. IMPERVIOUS APRON, LONG SLEEVES, BOOTS AND
FACE SHIELD.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH HANDS BEFORE EATING, DRINKING, OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF
IGNITION OR HEAT. GROUND OR BOND ALL TRANSFER AND STORAGE EQUIPMENT TO PREVENT
STATIC SPARKS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

MATERIAL SAFETY DATA SHEET 00049

GIANT REFINING COMPANY
ROUTE 3, BOX 7
GALLUP, NEW MEXICO 87301

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO.
ROUTE 3, BOX 7
GALLUP, NM 87301

EMERGENCY PHONE: 505-722-3833
INFORMATION PHONE: 505-722-3833
LAST REVISION: 05/20/97

SUBSTANCE: ISOMERATE

SYNONYMS: ISOMERIZATION NAPHTHA, ISOMERIZED PENTANE; I-PENTANE

CHEMICAL FAMILY: PETROLEUM HYDROCARBON

CAS NO.: 64741-70-4 (ISOMERIZATION NAPHTHA), 78-78-4 (ISOPENTANE),

CHEMICAL FORMULA: MIXTURE. (ISOPENTANE, THE PREDOMINANT COMPONENT, IS C₅H₁₂)

MOLECULAR WEIGHT: 72.15

NFPA RATINGS (SCALE 0-4): HEALTH = 1 FIRE = 4 REACTIVITY = 0

SECTION 2 - HAZARDOUS INGREDIENTS

PRIMARY COMPONENTS AND CONTAMINANTS

COMPONENT / CONCENTRATION:

ISOPENTANE: 55 - 65%

NAPHTHA: 2 - 3%

DIMETHYLBUTANES: 5 - 10%

METHYLPENTANES: 18 - 22%

METHYLCYCLOPENTANE: 4 - 5%

CYCLOHEXANE 1- 2 %

BENZENE: 0 - 0.6%

SECTION 3 - HEALTH HAZARD DATA

ROUTES OF ENTRY: COMMON ROUTES OF ENTRY ARE BY INHALATION, AND SKIN CONTACT.

INHALATION: ASPHYXIANT/NARCOTIC. 1500 PPM (4500 MG/M³) IDLH.

FIRST AID: REMOVE TO FRESH AIR. RESPIRATORY SUPPORT MAY BE NECESSARY.

INGESTION: MAY CAUSE NAUSEA. GENERAL IRRITANT.

FIRST AID: SEEK MEDICAL ATTENTION IMMEDIATELY. DO NOT INDUCE VOMITING.

SKIN CONTACT: MAY CAUSE DERMAL IRRITATION.

FIRST AID: WASH THOROUGHLY WITH WATER. FOR EYE CONTACT, IRRIGATE THOROUGHLY WITH WATER.

PEL: 1000 PPM (2950 MG/M³)

MIXTURE MAY CONTAIN UP TO APPROXIMATELY 0.6% BENZENE. CHRONIC EXPOSURE TO BENZENE MAY CAUSE CANCER AND OTHER SYSTEMIC EFFECTS.

SECTION 4 - CHEMICAL DATA

APPEARANCE: CLEAR, COLORLESS SOLUTION.

ODOR: MILD GASOLINE-LIKE ODOR.

SOLUBILITY: INSOLUBLE IN WATER.

BOILING POINT: 28 DEG C (82 DEG F)

MELTING POINT: -159 DEG C (-255 DEG F)
SPECIFIC GRAVITY: 0.62
VAPOR DENSITY (AIR-1): 2.5
VAPOR PRESSURE (MM HG): ~480 @ 20 DEG C (68 DEG F)
EVAPORATION RATE: ND

SECTION 5 - PHYSICAL HAZARD DATA

FIRE AND EXPLOSION INFORMATION

EXTREMELY FLAMMABLE LIQUID!
FLASH POINT <-49 DEG C (-57 DEG F) CLOSED CUP
AUTO-IGNITION TEMPERATURE: ND
FLAMMABLE LIMITS IN AIR, % BY VOLUME LEL: 1.5; UEL: 7.8

EXPLOSION: ABOVE FLASH POINT, VAPOR-AIR MIXTURES ARE EXPLOSIVE WITHIN FLAMMABLE LIMITS NOTED ABOVE. VAPORS CAN FLOW ALONG SURFACES TO DISTANT IGNITION SOURCE AND FLASH BACK.

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL.

SPECIAL INFORMATION: IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WILL FULL FACE PIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE. THIS HIGHLY FLAMMABLE LIQUID MUST BE KEPT FROM SPARKS, OPEN FLAME, HOT SURFACES, AND ALL SOURCES OF HEAT AND IGNITION.

SECTION 6 - SPILL OR LEAK PROCEDURES

CLEANUP PROCEDURES

LEAK/SPILL DISPOSAL INFORMATION: VENTILATE AREA OF LEAK OR SPILL. REMOVE ALL SOURCES OF IGNITION. CLEAN-UP PERSONNEL REQUIRE PROTECTIVE CLOTHING AND RESPIRATORY PROTECTION FROM VAPORS. SMALL SPILLS MAY BE ABSORBED ON PAPER TOWELS AND EVAPORATED IN A FUME HOOD. ALLOW ENOUGH TIME FOR FUMES TO CLEAR HOOD, THEN IGNITE PAPER IN A SUITABLE LOCATION AWAY FROM COMBUSTIBLE MATERIALS. CONTAIN AND RECOVER LIQUID FOR RECLAMATION WHEN POSSIBLE. LARGER SPILLS AND LOT SIZES CAN BE COLLECTED AS HAZARDOUS WASTE AND ATOMIZED IN A SUITABLE RCRA APPROVED COMBUSTION CHAMBER, OR ABSORBED WITH VERMICULITE, DRY SAND, EARTH OR SIMILAR MATERIAL FOR DISPOSAL AS HAZARDOUS WASTE IN AN RCRA APPROVED FACILITY. DO NOT FLUSH TO SEWER!

SECTION 7 - EXPOSURE CONTROL INFORMATION

ENVIRONMENTAL DATA SHEET

SUPPLEMENT TO MSDS: ISOMERATE
LAST REVISION: 5/20/97

SARA - TITLE III INFORMATION

THIS MATERIAL IS REGULATED UNDER THE INDICATED SECTION(S) OF TITLE III OF THE SUPERFUND AMENDMENTS AND THE REAUTHORIZATION ACT ("SARA"), 42 U.S.C. SECTION 11001 ET SEQ. PLEASE NOTE THAT REGULATIONS PERTAINING TO SECTIONS 302 AND 304 OF SARA ARE FOUND IN THE CODE OF FEDERAL REGULATIONS AT 40 CFR PART 355 AND THAT REGULATIONS PERTAINING TO SECTION 313 OF SARA ARE FOUND AT 40 CFR PART 372.

1. THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS (SECTION 313):

CHEMICAL NAME	CAS#	WT%
HEXANE	110-54-3	<0.2
BENZENE	71-43-2	0 - 0.6
CYCLOHEXANE	110-83-8	1.0 - 2.0
TOLUENE	108-88-3	<0.1

IF YOU ARE UNSURE IF YOU ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313, OR NEED MORE INFORMATION, CALL THE EPA EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW INFORMATION HOTLINE: (800) 535-0202. YOUR OTHER SUPPLIERS SHOULD BE NOTIFYING YOU IF SECTION 313 CHEMICALS ARE PRESENT IN MIXTURES, TRADE NAME PRODUCTS, OR CHEMICALS THEY SELL TO YOU. PLEASE NOTE THAT IF YOU REPACKAGE OR REDISTRIBUTE THIS PRODUCT TO INDUSTRIAL CUSTOMERS, A NOTICE SHOULD BE SENT TO THOSE CUSTOMERS.

2. THIS PRODUCT CONTAINS THE FOLLOWING EXTREMELY HAZARDOUS SUBSTANCE(S) (SECTION 302 AND 304):

CHEMICAL NAME TPQ (LBS) RQ(LBS)

NONE N/A N/A

3. THIS PRODUCT CONTAINS THE FOLLOWING CERCLA HAZARDOUS SUBSTANCE(S) (SECTION 302 AND 304):

CHEMICAL NAME WT% RQ(LBS)

UNLISTED HAZARDOUS WASTE 100 100
CHARACTERISTIC OF IGNITABILITY <0.2 5,000
HEXANE 0 - 0.6 10
CYCLOHEXANE 1.0 - 2.0 1,000
2,2,4 - TRIMETHYLPENTANE <0.1 1,000
TOLUENE <0.1 1,000

NOTE: SECTIONS 2 AND 3 ARE REQUIRED FOR EMERGENCY RESPONSE REPORTING. THIS ENVIRONMENTAL DATA SHEET ("EDS") IS A SUPPLEMENT TO THE MATERIAL SAFETY DATA SHEET ("MSDS". IT IS AN INTEGRAL PART OF THE MSDS AND MUST NOT BE DETACHED FROM MSDS. IF THE MSDS IS COPIED, THIS EDS MUST ALSO BE COPIED. IF THE MSDS IS REDISTRIBUTED, THIS EDS MUST BE REDISTRIBUTED WITH THE MSDS.

SECTION 8 - SPECIAL PRECAUTIONS

REACTIVITY DATA

STABILITY: STABLE UNDER ORDINARY CONDITIONS OF USE AND STORAGE.

HAZARDOUS DECOMPOSITION PRODUCTS: TOXIC GASES AND VAPORS MAY BE RELEASED IF INVOLVED IN A FIRE. THERMAL-OXIDATIVE DECOMPOSITION PRODUCTS IN AIR CAN INCLUDE OXIDES OF CARBON.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

INCOMPATIBILITIES: STRONG OXIDIZERS, HEAT, FLAME.

PRECAUTIONARY MEASURES:

DANGER! EXTREMELY FLAMMABLE. HARMFUL IF SWALLOWED OR INHALED.

KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION. AVOID BREATHING MIST. WASH THOROUGHLY AFTER HANDLING.

EMERGENCY / FIRST AID

IF SWALLOWED, DO NOT INDUCE VOMITING! GIVE LARGE QUANTITIES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IN ALL CASES, CALL A PHYSICIAN.

HANDLING AND STORAGE

EMPTY CONTAINERS MAY CONTAIN FLAMMABLE/COMBUSTIBLE OR EXPLOSIVE RESIDUE OR VAPORS. DO NOT CUT, GRIND, DRILL, WELD OR REUSE CONTAINERS UNLESS ADEQUATE PRECAUTIONS ARE TAKEN AGAINST THESE HAZARDS. STORE IN TIGHTLY CLOSED CONTAINERS IN COOL, DRY

Common Name : ISOMERATE
Manufacturer : GIANT REFINING
Revision Date :

Internal ID : 900025
File Name : 900025

ISOLATED, WELL VENTILATED AREA AWAY FROM HEAT, SOURCES OF IGNITION AND INCOMPATIBLES.

TRANSPORTATION REQUIREMENTS

HAZARD CLASS: 3
ID NUMBER: UN1265
PACKING GROUP NO.: I, EXCEPTIONS 49 CFR 173.150

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00087

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-1-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: KEROSENE
CHEMICAL NAME/SYNONYMS: FUEL OIL # 1
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
PETROLEUM KEROSENE	8008206	100		100 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

INGESTION:

HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN.

SKIN:

REMOVE CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. CALL A PHYSICIAN.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 347

SPECIFIC GRAVITY (WATER=1): .81

VAPOR PRESSURE (MMHG): N/A

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
PALE YELLOW TO WATERY WHITE OILY LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 100 - 120 F

FLAMMABLE LIMITS:

LEL=0.7

UEL=5.0

EXTINGUISHING MEDIA: WATER SPRAY, FOAM, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT
IGNITED USE WATER SPRAY TO DISPERSE THE VAPORS. WATER SPRAY MAY BE USED TO FLUSH
SPILLS FROM EXPOSURES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR
ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

LARGE SPILLS:

ISOLATE HAZARD AREA. DENY ENTRY TO UNNECESSARY PERSONNEL.

WEAR APPROPRIATE RESPIRATOR AND CLOTHING.

SHUT OFF SOURCE OF LEAK IF POSSIBLE.

DIKE AND CONTAIN.

REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS.

SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, ETC. PLACE IN D.O.T.

AUTHORIZED CONTAINERS.

SMALL SPILLS:

TAKE UP WITH ABSORBENT MATERIAL SUCH AS SAND OR CLAY AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:
RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:
LOCAL EXHAUST: BELOW PEL
MECHANICAL (GENERAL): CONFINED SPACES
SPECIAL: N/A
OTHER: BELOW FLAM. LIMITS.

RESPIRATORY PROTECTION:
UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:
FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00137

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: LIGHT CYCLE OIL
CHEMICAL NAME/SYNONYMS: LIGHT CAT GAS OIL, FCC LIGHT CYCLE OIL
CHEMICAL FAMILY: AROMATIC HYDROCARBON
FORMULA: COMPLEX COMBINATION OF HYDROCARBONS
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT CYCLE OIL	64741-59-9	99	5	5 MG/M3
POLYNUCLEAR AROMATIC COMPOUNDS	N/A	0 - 1	0.2	0.1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
LIGHT CYCLE OIL	N/I	N/I	YES	YES	NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
MODERATELY IRRITATING, HEATED PRODUCT MAY CAUSE THERMAL BURNS.

SKIN:
MODERATELY IRRITATING, CAUSING THERMAL BURNS AND DRYING OF THE SKIN.

INHALATION:
POSSIBLE EFFECTS INCLUDE HEADACHE, NASAL AND RESPIRATORY IRRITATION, NAUSEA, DROWSINESS, FATIGUE, PNEUMONITIS AND PULMONARY EDEMA.

INGESTION:
CAN BE IRRITATING TO THE MOUTH, THROAT, AND DIGESTIVE TRACT. ASPIRATION INTO THE LUNGS THROUGH VOMITING MAY CAUSE HEMORRHAGING, PULMONARY EDEMA AND CHEMICAL PNEUMONITIS.

CHRONIC:
PROLONGED AND REPEATED SKIN CONTACT MAY CAUSE DERMATITIS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER IMMEDIATELY FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN:
COOL THE EXPOSED AREA IMMEDIATELY. REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL ATTENTION.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD LOWER THAN HIPS TO PREVENT ASPIRATION INTO THE LUNGS.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 340

SPECIFIC GRAVITY (WATER=1): 0.92
VAPOR PRESSURE (MMHG): 0.6
PERCENT VOLATILE BY VOLUME (%): 100
VAPOR DENSITY (AIR=1): 8.0
EVAPORATION RATE (BUTYL ACETATE = 1): N/A
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR INFORMATION: LIGHT OIL COLOR. PETROLEUM ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 170 TYPICAL
FLAMMABLE LIMITS:
LEL=N/A
UEL=N/A
EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS. USE A SMOTHERING TECHNIQUE. DO NOT USE FORCED WATER STREAM DIRECTLY ON OIL FIRE. FIRE-FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
FLOWING OIL CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY, CONTAINERS SHOULD BE GROUNDED OR BONDED. CHECK FOR COMBUSTIBLE VAPORS PRIOR TO AND DURING WELDING OR TORCH CUTTING ON VESSELS OR TANKS.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZING AGENTS, HEAT SPARK, FLAME AND BUILD UP OF STATIC ELECTRICITY.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO 2, SO 2, REACTIVE HYDROCARBONS.
WILL HAZARDOUS POLYMERIZATION OCCUR: NO
CONDITIONS TO AVOID FOR POLYMERIZATION: N/I
IS THE PRODUCT STABLE: YES
CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SOURCES OF HEAT OR IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER TOOLS. CLEAN UP SPILL, BUT DO NOT FLUSH TO SEWER OR SURFACE WATER. VENTILATE AREA AND PREVENT SKIN CONTACT.

WASTE DISPOSAL METHODS:

DISPOSE OF THROUGH A LICENSED WASTE CONTROL COMPANY. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7 EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTIVE EQUIPMENT IN SITUATIONS WHERE AIRBORNE CONCENTRATIONS MAY EXCEED OCCUPATIONAL EXPOSURE LEVELS.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES. IMPERVIOUS APRON, LONG SLEEVES, BOOTS AND FACE SHIELD.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH HANDS BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF HEAT OR IGNITION. BOND AND GROUND ALL TRANSFER AND STORAGE EQUIPMENT TO PREVENT STATIC SPARKS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00049

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 11-11-86

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: LIGHT STRAIGHT RUN
CHEMICAL NAME/SYNONYMS: LSR GASOLINE, GASOLINE
CHEMICAL FAMILY: COMPLEX COMBINATION OF HYDROCARBONS
FORMULA: SATURATED ALIPHATIC/AROMATIC HYDROCARBON
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
GASOLINE	68606-11-1	98	N/A	300 PPM
BENZENE	71-43-2	2	10	10 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
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BENZENE 71-43-2 0-2 Y

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
SLIGHT TO MODERATE EYE IRRITATION.

SKIN:
MODERATELY IRRITATING, CAUSING REDNESS, DRYING OF SKIN.

INHALATION:
IRRITATING TO MUCOUS MEMBRANES AND RESPIRATORY TRACT. WILL PRODUCE SYMPTOMS OF INTOXICATION. CAN ACT AS A SIMPLE ASPHYXIANT.

INGESTION:
MILD EXCITATION, LOSS OF CONSCIOUSNESS, CONVULSIONS, CYANOSIS CONGESTION AND CAPILLARY HEMORRHAGING OF THE LUNG AND INTERNAL ORGANS.

CHRONIC:
SKIN IRRITATION. RECENT STUDIES INDICATE KIDNEY DAMAGE AND KIDNEY CANCER IN RATS AND LIVER CANCER IN MICE.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
MAY AGGRAVATE PRE-EXISTING DERMATITIS.

EMERGENCY FIRST AID PROCEDURES

EYES:
IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN:
REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH AFFECTED AREAS WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 70-360

SPECIFIC GRAVITY (WATER=1): 0.64

VAPOR PRESSURE (MMHG): 10-20

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): >1

EVAPORATION RATE (BUTYL ACETATE = 1): >1

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION: COLORLESS LIQUID. GASOLINE LIKE ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): <0 F

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.1

EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER MAY BE INEFFECTIVE ON FLAMES BUT SHOULD BE USED TO COOL FIRE EXPOSED CONTAINERS. FIREFIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

FLOWING GASOLINE CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY: CONTAINERS SHOULD BE BONDED OR GROUNDED.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZING AGENTS, HEAT, SPARKS, FLAME AND BUILD UP OF STATIC ELECTRICITY, HALOGENS, STRONG ACIDS AND ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE, CARBON DIOXIDE, AND HYDROCARBONS.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SOURCES OF IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER TOOLS. CLEAN UP SPILL, RECOVER LIQUID AND FLUSH TO OILY WATER. DO NOT PUSH TO SURFACE WATER. VENTILATE AREA AND AVOID BREATHING VAPORS OR MISTS.

WASTE DISPOSAL METHODS:

DISPOSE THROUGH A LICENSED WASTE DISPOSAL COMPANY. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7 EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTIVE EQUIPMENT FOR CLEANING LARGE SPILLS OR ENTRY INTO LARGE TANKS, VESSELS OR OTHER CONFINED SPACE.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF HEAT OR IGNITION. GROUND AND BOND ALL TRANSFER AND STORAGE EQUIPMENT AND EQUIP WITH SELF CLOSING VALVES, PRESSURE VACUUM BUNGS AND FLAME ARRESTORS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00109

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: NAPHTHA
CHEMICAL NAME/SYNONYMS: REFORMER FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: COMPLEX COMBINATION/PETROLEUM HYDROCARBON
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
NAPHTHA	N/I	100	100 PPM	300 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
MAY CONTAIN BENZENE	N/I	N/I	N/I	N/I	N/I

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION OF HIGH VAPOR CONCENTRATIONS MAY HAVE RESULTS RANGING FROM DIZZINESS AND HEADACHES TO UNCONSCIOUSNESS OR DEATH. IRRITATING TO EYES AND RESPIRATORY TRACT AT LOWER CONCENTRATIONS.

IF INGESTED, HAS A LOW ORDER OF TOXICITY, BUT VERY SMALL AMOUNTS ASPIRATED INTO THE LUNGS DURING INGESTION OR SUBSEQUENT VOMITING MAY CAUSE SEVERE LUNG INJURY OR DEATH. PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT SKIN AND LEAD TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER OR OTHER CONDITIONS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES, OR UNTIL IRRITATION SUBSIDES.

SKIN:
REMOVE CONTAMINATED CLOTHING AND WASH SKIN THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE FROM EXPOSURE IMMEDIATELY. CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

INGESTION:
DO NOT INDUCE VOMITING. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 200 F

SPECIFIC GRAVITY (WATER=1): 0.8

VAPOR PRESSURE (MMHG): 10-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 2-5

EVAPORATION RATE (BUTYL ACETATE = 1): 1-10

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:
CLEAR TO PALE STRAW COLORED LIQUID. LIGHT HYDROCARBON ODOR.

SECTION 5: PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 30-50 DEG F

FLAMMABLE LIMITS:

LEL=1

UEL=7

EXTINGUISHING MEDIA: FOAM, WATER MIST OR SPRAY, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS. COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY. MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

KEEP AWAY FROM SOURCES OF IGNITION AND DEVICES THAT SPARK. FLAMMABLE LIQUID. VAPORS MAY IGNITE EXPLOSIVELY. RUNOFF TO SEWERS MAY CREATE FIRE OR EXPLOSION HAZARD.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDANTS: LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM-OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:

FUMES, SMOKE AND CARBON MONOXIDE, IN THE CASE OF INCOMPLETE COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE ALL IGNITION SOURCES. KEEP PEOPLE AWAY. RECOVER FREE LIQUID. ADD ABSORBENT (SAND, EARTH, ETC.) TO SPILL AREA. MINIMIZE BREATHING VAPORS. VENTILATE CONFINED SPACES. MINIMIZE INFLUX OF MATERIAL INTO SEWERS AND KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER SEWERS, WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ATTEND TO CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL SITE OR FACILITY. CONTINUE TO OBSERVE PRECAUTIONS FOR VOLATILE, FLAMMABLE VAPORS FROM ABSORBED MATERIAL.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: FACE VELOCITY >60 fpm
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: ADEQUATE VENTILATION
OTHER: N/I

RESPIRATORY PROTECTION:

SUPPLIED AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES IF NEEDED.

PROTECTIVE GLOVES: CHEMICAL RESISTANT

OTHER PROTECTIVE EQUIPMENT:

SPLASH GOGGLES, OR FACE SHIELD. CHEMICAL RESISTANT APRON OR CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARKS, FLAME, OR STRONG OXIDANTS. ADEQUATE VENTILATION REQUIRED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

MINIMIZE BREATHING VAPORS. AVOID BREATHING OIL MIST. REMOVE OIL-SOILED CLOTHING AND LAUNDER BEFORE RE-USE. REMOVE CONTAMINATED SHOES AND THOROUGHLY DRY BEFORE RE-USE. WASH SKIN THOROUGHLY WITH SOAP AND WATER AFTER CONTACT, BEFORE BREAKS AND MEALS.

ADDITIONAL COMMENTS: N/I

~~08-28-97~~
CSS-14004

MATERIAL SAFETY DATA SHEET 900074

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER

PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: PREMIUM UNLEADED GASOLINE

CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL

CHEMICAL FAMILY: HYDROCARBON

FORMULA: MIXTURE

PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1

FLAMMABILITY: 3

REACTIVITY: 0

PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
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PREMIUM UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM
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A COMPLEX COMBINATION OF
HYDROCARBONS LARGELY C-4
THROUGH C-12. BENZENE CONTENT
TYPICALLY 1 %. ALSO CONTAINS
SMALL AMOUNTS OF OTHER ADDITIVES
WHICH ARE NOT CONSIDERED TO BE
HAZARDOUS AT THE CONCENTRATIONS USED.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC):

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:

FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

REDISH, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

~~RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE~~
CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE
AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS
DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER
RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED
RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-
SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO
PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE.
ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS.
ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZ;E IS IN CONTACT
WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT
FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

Common Name : PREMIUM UNLEADED GASOLINE
Manufacturer : GIANT REFINING
Revision Date : 06-12-2000

Internal ID : 900074
File Name : 900074

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00117

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: PROPANE
CHEMICAL NAME/SYNONYMS: DIMETHYLMETHANE
CHEMICAL FAMILY: HYDROCARBON
FORMULA: NO INFORMATION
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 4
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT HYDROCARBON COMBINATION, INCLUDING OLEFINS AND SATURATES. PROPANE IS NOT CHARACTERIZED BY ITS TOXICITY BUT RATHER BY ITS ABILITY AT HIGH CONCENTRATIONS TO CAUSE A DEFICIENCY OF OXYGEN WITH THE RISK OF UNCONSCIOUSNESS.	74-98-6	100	N/I	N/I

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC)

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN. BY RAPID EVAPORATION THIS PRODUCT MAY CAUSE FROST BITE.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

IMMEDIATELY RINSE WITH PLENTY OF WATER THEN TRANSPORT TO A DOCTOR.

SKIN:

IN CASE OF FROST BITE WARM AFFECTED AREA BY RINSING OR SUBMERGING AFFECTED PART IN WARM (NOT HOT) WATER. IF WATER IS NOT AVAILABLE, USE SHEETS, BLANKETS OR OTHER CLOTHING TO WARM AREA. DO NOT RUB. DO NOT REMOVE CLOTHING THAT MIGHT BE STUCK TO THE SKIN.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): -45 F

SPECIFIC GRAVITY (WATER=1): .52

VAPOR PRESSURE (MMHG): 208PSI

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 1.56

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION: N/I

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -156 CLO. C

FLAMMABLE LIMITS:

LEL=2.3

UEL=13

EXTINGUISHING MEDIA:

STOP FLOW OF GAS. PROTECT FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP FLOW OF GAS. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL AND PROTECT MEN EFFECTING THE SHUT OFF. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE GAS OR VAPOR AND TO PROTECT FIREFIGHTERS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS CAN BE EXTREMELY DANGEROUS WHEN EXPOSED TO DIRECT FLAME CONTACT. IF POSSIBLE, KEEP CONTAINERS COOL WITH LARGE QUANTITIES OF WATER. IF NOT POSSIBLE EVACUATE ALL PERSONNEL A SAFE DISTANCE AND ALLOW TO BURN OUT.

INCOMPATIBILITY (MATERIALS TO AVOID):

DUE TO LOW ELECTRIC CONDUCTIVITY THIS SUBSTANCE CAN GENERATE ELECTROSTATIC CHARGES AS A RESULT OF FLOW, AGITATION, ETC. EXPLOSION HAZARD HIGH WHEN CONTAINERS EXPOSED TO FLAME CONTACT. AVOID EXPOSURE TO OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: WHEN HEATED EMITS ACRID FUMES.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

TURN LEAKING CYLINDERS WITH LEAK TO TOP IF POSSIBLE TO DECREASE AMOUNT OF DISCHARGE. EVACUATE DANGER AREA TO UPWIND SIDE AND OUT OF LOW AREAS, DISPERSE VAPORS WITH WATER FOG. EXTINGUISH ALL IGNITION SOURCES. CONTACT LOCAL EMERGENCY PERSONNEL.

WASTE DISPOSAL METHODS: CONTROLLED INCINERATION.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:
LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:
NO PERSONNEL ENTRY INTO GAS AREA IS RECOMMENDED. S.C.B.A. OR AIRLINE RESPIRATOR WITH POSITIVE PRESSURE.

PROTECTIVE GLOVES: RUBBER GLOVES

OTHER PROTECTIVE EQUIPMENT: SAFETY GLASSES, PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING AND AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
DO NOT GET IN EYES OR ON SKIN. DO NOT BREATHE VAPORS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:
PERSONNEL SHOULD NOT ENTER VAPOR AREAS OF LEAK.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00113

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
SULLIVAN RD
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-432-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-02-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: REDUCED CRUDE
CHEMICAL NAME/SYNONYMS: VIRGIN GAS OIL; CAT-FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: NOT APPLICABLE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
REDUCED CRUDE	N/A	100	1 MG/M3	1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
(MAY CONTAIN) AROMATIC HYDROCARBONS-PNA	N/A	5%			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC)

PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT THE SKIN LEADING TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER. HOT LIQUID MAY CAUSE BURNS.

IF INGESTED, HAS A LOW ORDER OF ACUTE TOXICITY.

MAY CAUSE SLIGHT EYE IRRITATION.

MORE LIKELY ENCOUNTERED AS AN AEROSOL RATHER THAN A VAPOR.

PROLONGED OR REPEATED INHALATION AS AN AEROSOL MAY RESULT IN DROPLET DEPOSITION AND SUBSEQUENT IRRITATION, SCAR TISSUE FORMATION, AND INFECTION OR OTHER DISEASES OF THE RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY:
SKIN CONTACT; RESPIRATORY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SENSITIZED SKIN

EMERGENCY FIRST AID PROCEDURES

IF OVERCOME BY FUMES, REMOVE FROM EXPOSURE IMMEDIATELY; CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

IF INGESTED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT REMOVE ANY CONTAMINATED CLOTHING, AND WASH SKIN WITH SOAP AND WARM WATER.

IF SPLASHED INTO EYES, FLUSH EYES WITH CLEAR WATER FOR 15 MIN. OR UNTIL IRRITATION SUBSIDES.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 500 F

SPECIFIC GRAVITY (WATER=1): .95

VAPOR PRESSURE (MMHG): <1 @ 200

PERCENT VOLATILE BY VOLUME (%): NEGLIG

VAPOR DENSITY (AIR=1): > 10

EVAPORATION RATE (BUTYL ACETATE = 1): < .01

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

STRAW TO DARK-COLORED VISCOUS LIQUID, WITH HEAVY HYDROCARBON ODOR

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): >200F COC

FLAMMABLE LIMITS:

LEL=.5

UEL=7

EXTINGUISHING MEDIA: FOAM; WATER MIST OR SPRAY; DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS, OR CONCENTRATED O2. EMPTY CONTAINERS OR VESSELS MAY RETAIN PRODUCT RESIDUE, DO NOT CUT, WELD OR EXPOSE CONTAINERS FLAME OR OTHER SOURCES OF IGNITION WITH ADEQUATE PREPARATIONS AND PROCEDURES.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS SUCH AS CHLORINE, OXYGEN, OR HTH

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE AND CARBON MONOXIDE

WILL HAZARDOUS POLYMERIZATION OCCUR: NO

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: CAPTURE FUMES
MECHANICAL (GENERAL): EXPLOSION PROOF EQUI
SPECIAL: 60 fpm FACE VELOCITY
OTHER: N/I

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED. MINIMIZE BREATHING VAPORS OR FUMES; AVOID BREATHING OIL MIST. USE DUST/FUME RESPIRATOR TO PROTECT AGAINST LIGHT MIST. USE SUPPLIED-AIR RESPIRATOR IN CONFINED OR ENCLOSED SPACES.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL GOGGLES; USE CHEMICAL RESISTANT CLOTHING IF NEEDED TO AVOID CONTAMINATION.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH WARM WATER AND SOAP AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARK FLAME, OR STRONG OXIDANTS. VENTILATION MUST BE PRESENT TO PREVENT BUILD-UP OF TOXIC OR EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00123

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: REFORMATE
CHEMICAL NAME/SYNONYMS: BASE GAS
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
REFORMATE - INTERMEDIATE FEEDSTOCK A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY 1 %. ALSO CONTAINS SMALL AMOUNTS OF OTHER ADDITIVES WHICH ARE NOT CONSIDERED TO BE HAZARDOUS AT THE CONCENTRATIONS USED.	N/A	100	300 PPM	300 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA) : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC):

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:

FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR

APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00122

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: UNLEADED GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM
A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY 1 % OR LESS. ALSO SMALL AMOUNTS OF OTHER ADDITIVES WHICH ARE NOT CONSIDERED TO BE HAZARDOUS AT THE CONCENTRATIONS USED.				

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -
REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100
SPECIFIC GRAVITY (WATER=1): .71
VAPOR PRESSURE (MMHG): 9-15
PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE. ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS. ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZLE IS IN CONTACT WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 900075

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: UNLEADED MIDGRADE GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
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UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM
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A COMPLEX COMBINATION OF
HYDROCARBONS LARGELY C-4
THROUGH C-12. BENZENE CONTENT
TYPICALLY 1 % OR LESS. ALSO
SMALL AMOUNTS OF OTHER ADDITIVES
WHICH ARE NOT CONSIDERED TO BE
HAZARDOUS AT THE CONCENTRATIONS
USED.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:

FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO₂. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE. ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS. ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZLE IS IN CONTACT WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

SECTION 1.1.7

IMMEDIATE ACTION PLAN

***MAP 8 – EMERGENCY RESPONSE
PERSONNEL AND EQUIPMENT ASSEMBLY
AND STAGING AREAS***

***OVERVIEW OF RECOMMENDED OIL SPILL
BOOM DEPLOYMENT, CONTAINMENT AND
RECOVERY SITES***

Section 1.1.7 - Immediate Action Plan

A. In the Event of a Spill at Bloomfield Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill, if possible. Contact the Incident Commander/Qualified Individual.
2. Alert personnel in the area and evacuate nonessential personnel and customers upwind and uphill, if possible. Remove vehicles from the area if possible to do so safely.
3. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.
4. Activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Petroleum Spills is presently the Bloomfield Refinery Main Office located at 50 County Road 4990. (see *Map 8 – Emergency Response Personnel and Equipment Assembly Area* at the end of this section).

The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Parking Lot South of the Main Office and the Parking Lot South of the Regional Office Building.

5. Perform necessary Notifications of Bloomfield Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations.
6. Notify Downstream Water Users and those responsible for Public Drinking Water Intakes and the Hammond Irrigation Ditch Intakes.
7. Evacuate all Non-Essential Personnel: Customers, Building/Maintenance Contractors, Residents and Bloomfield Refinery Employees from the area.
8. Activate and Mobilize Bloomfield Refinery Facility Oil Spill Containment, Recovery, Storage and Disposal Equipment.
9. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Product Spill at any level.
10. Conduct the following Spill Response Activities:
 - a. Trench and Dike any Culverts and Open Channels that would allow flowing Petroleum Product off Bloomfield Refinery's property.

- b. If spill impacts County Road 4990, blockade the road at both ends.
- c. Construct Dams and Wiers and in the Hammond Irrigation Ditch to contain the spill there and attempt to prevent it from reaching the San Juan River. (See Spills on Land at the end of Section 1.7.1)
- d. Deploy boom in the designated San Juan River locations, depending upon the flow path of the Spill. (See Boom Deployment, Containment and Recovery Sites Overview at the end of this section)

According to CFR 40, Section 112, Appendix E, Table 1, should boom deployment be necessary the boom should be at least 6 – 18 inches in height. Bloomfield Refinery has boom with an 18” (6” x 12”) height and H2O OSRO has boom with a 10” (4’ x 6”) height.

- e. Deployment in the San Juan River at pre-designated boom sites depending upon the flow path of the spilled product. (See *Boom Deployment, Containment and Recovery Sites Overview* at the end of this section)
 - f. Deploy sand, sorbent pads and sorbent boom in the Secondary Containment Area to absorb spilled product .
11. Implement Countermeasures to include the following:
- a. Mitigate contamination of water supplies, if applicable.
 - b. Establish neutralization procedures.
12. Collect and remove Crude Oil, Naphtha and/or Diesel fuel from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 1.*)
- a. Backhoes
 - b. Pumps
 - c. Vacuum Trucks
 - d. Oil Sorbents
 - e. Physical/Chemical Treatment

13. Mitigate impact to Environmentally Sensitive Areas.
14. Reclaim, Treat and/or Dispose of Recovered Naphtha, Crude Oil and/or Diesel and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

B. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

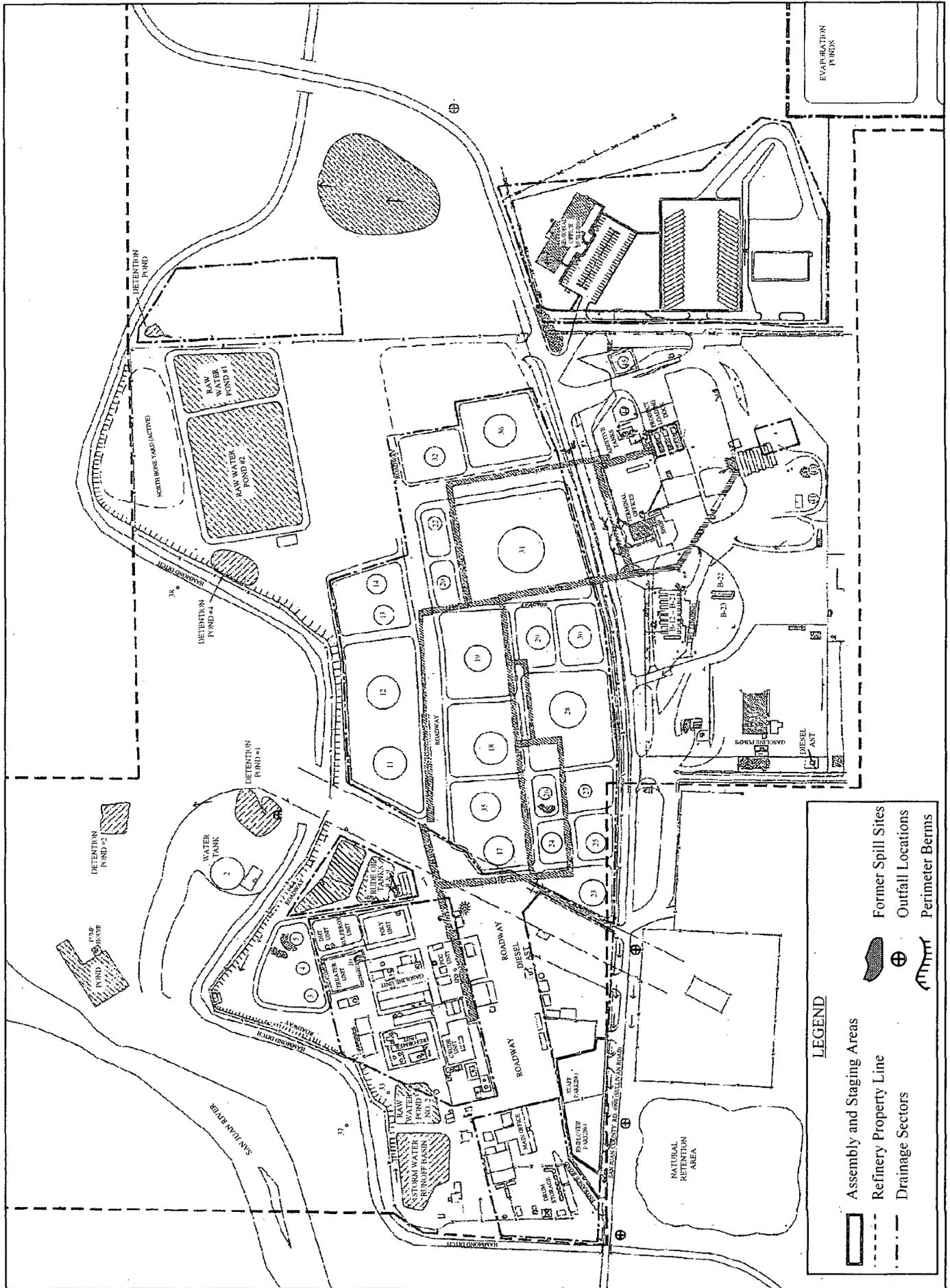
Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Bloomfield Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Crude Oil, Naphtha and/or Diesel Fuel Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.
 - a. A Crude Oil, Naphtha and/or Diesel Fuel Spill will initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.
 - b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Bloomfield Refinery. Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.
2. Amount of Contamination: The amount of Crude Oil, Naphtha and/or Diesel Fuel spilled is initially determined visually, then verified analytically. Decontamination required for heavily contaminated shoreline response and cleanup.
3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.

4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.
5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., all easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.
6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

Map 8 – Emergency Response Personnel and Equipment Assembly and Staging Areas



LEGEND

- Assembly and Staging Areas
- Refinery Property Line
- Drainage Sectors
- Former Spill Sites
- Outfall Locations
- Perimeter Berms

***OVERVIEW OF RECOMMENDED OIL SPILL BOOM
DEPLOYMENT, CONTAINMENT
AND RECOVERY SITES***

Overview of Oil Spill Boom Deployment, Containment and Recovery Sites

The following page lists twelve sites along the San Juan River from Bloomfield, New Mexico to Mexican Hat, Utah that are potential oil spill boom deployment, containment and recovery sites that could be utilized in the event of an accidental discharge of an oil product.

The maps and plans for each of these sites can be found in a separate document entitled Bloomfield Refinery – San Juan River Geographical Response Plan for Inland Oil Spills. A copy of this document has been made as a companion for each Bloomfield Facility Response Plan, one of which can be found in the Bloomfield Refinery Main Office.

Section 1.2 – Facility Information Form

Facility Name: Giant Refining Company – Bloomfield Refinery

Location (Street Address): 50 County Road 4990

City: Bloomfield State: New Mexico

County: San Juan Phone Number: (505) 632-8013

Fax: (505) 632-3911

Latitude: N Degrees: 36° Minutes: 41' Seconds: 50"

Longitude: W Degrees: 107° Minutes: 58' Seconds: 20"

Wellhead Protection Area: Not Applicable

Owner/Operator: San Juan Refining Company

Owner Location (Street Address): 23733 North Scottsdale Road

City: Scottsdale State: Arizona

County: Maricopa Phone Number: (480) 585-8888

SIC/NAIC Code: 2911/32411

EPA ID Number: NMD089416416

NPDES Permit Number: NMR05B159

Qualified Individual(s):

Name: Todd Doyle Position: Refinery Manager

Work Address: 50 County Road 4990, Bloomfield, NM 87413

Emergency Phone Numbers: (505) 632-4145 Work

Name: Position:

Work Address:

Emergency Phone Numbers:

Date of Oil Storage Start-up: 1960

Current Operations:

The Bloomfield Refinery receives and processes approximately 12,000 barrels per day (504,000 gallons per day) and can ramp up to 18,000 barrels per day of crude oil (approximately 750,000 gallons per day) and produces propane, butane, gasoline, kerosene, fuel oil, and residual fuel. Processing units include distillation, catalytic cracking, reforming, polymerization, hydrotreating, and desulfurization. Processing vessels, pumps, pipelines, and related equipment are located in the Process Area. Day to day operations involve pumping various feedstocks and products throughout the refinery. Typical flow rates may range from 1 to 500 gallons per minute. In addition, chlorine, sulfuric acid, and caustic are used on-site.

Crude oil, intermediate feedstocks, and refined products are stored in various storage tanks located on-site. Most of these tanks are located within a central Tank Farm in the main part of the refinery. A few tanks are located near the refinery Process Area and others are located at the Terminal Area south of County Road 4990.

Some crude oil is received via tank truck and unloaded into refinery tanks for subsequent processing. Some products are unloaded from refinery storage tanks into tank trucks and then shipped out to customers. The maximum transfer rate for loading and unloading operations is approximately 120,000 gallons per hour; however, a typical transfer rate is closer to 30,000 gallons per hour.

The refinery is located in northwestern New Mexico, approximately 1 mile south of the City of Bloomfield in San Juan County. It is approximately 1/2 mile east of State Route 44 on County Road 4990 (a.k.a. Sullivan Road).

The refinery is situated on an elevated terrace south of the San Juan River and the Hammond Irrigation Ditch. This terrace is approximately 100 feet above the river level and 20 feet above the irrigation ditch. The northern refinery fence line adjoins the irrigation ditch and the distance from the refinery to the river's edge varies from approximately 300 to 1,000 feet.

The main part of the refinery is located on a 45 acre site north of County Road 4990 and includes the following general areas:

- Office Area (buildings, warehouse, storage yard, & parking lots)
- Process Area
- Wastewater Treatment Unit (WWTU)
- Tank Farm
- Firefighting Training Area

A loading and unloading facility is located on a 15 acre site south of County Road 4990 and includes the following general areas:

- Regional Office Building & Parking Lot
- Vehicle Maintenance Facility & Tank Truck Parking Lot
- Crude Oil Unloading Station & Storage Tank Area

- Product Loading Station & Storage Tank Area
- High Pressure Storage Bullets Area.
-

There is a total maximum storage capacity of 572,483 barrels with an average daily throughput of 12,000 barrels a day.

Date(s) and Type(s) of Substantial Expansions:

<u>Date</u>	<u>Description</u>
1959	Original plant constructed.
1960	Installed Tanks 1, 24, & 25 and Bullets B-1, B-2, B-12, B-13 & B-14.
1961	Installed Tank 17.
1962	Installed Tank 23.
1966	Expanded crude unit. Installed reformer, hydro-treater, and Tanks 3, 4, & 5.
1967	Installed Tanks 26 & 27.
1969	Installed Tank 28.
1974	Installed Tanks 18, 29, & 30.
1975	Expanded crude unit.
1976	Installed Tanks 20 & 21.
1977	Installed Tank 31.
1978	Installed Tank 2 and Bullets B-15 through B-20.
1979	Expanded crude unit, reformer, and hydro-treater. Installed catalytic cracker, and gas processing unit. Installed Tanks 41, 42, & 43.
1980	Installed Tank 22.
1982	Installed Tanks 11 & 12.
1983	Installed Bullet B-21.
1986	Installed Tank 10.
1987	Expanded reformer. Installed Tanks 8, 9, 13, & 14.
1988	Installed polymerization unit. Installed Tanks 32 & 33 and Bullets B-22 & B-23. Installed cathodic protection system on tanks and underground piping. Installed concrete paving and curbing in Process Area.
1989	Expanded reformer. Installed Tank 44 and evaporation ponds.
1993	Installed hydrodesulfurization and sulfur recovery unit.
1994	Installed liners in WWTU ponds and new wastewater injection well.
1995	Installed Tanks 35 & 36.
1998	Installed Tanks 37 & 45.

<u>Date</u>	<u>Description</u>
2002	Installed concrete liner in the Hammond Ditch.
2006	Installed Tanks 24 & 25.

Section 1.3 – Emergency Response Information for the Bloomfield Refinery

The information provided in this section will describe what will be needed in an Actual Emergency involving the Discharge of Oil (Petroleum Products) at the Bloomfield Refinery Facility. The Emergency Response Information of this plan will include the following components:

1. Emergency Notification Phone List
2. The Spill Response Notification Form
3. Description of the Emergency Response Equipment
4. Response Equipment Testing and Deployment Logs
5. Facility Response Personnel List and Emergency Response Personnel List
6. Evacuation Plans
7. Qualified Individual's Responsibilities and Duties

SECTION 1.3.1

***EMERGENCY NOTIFICATION PROCEDURES
AND PHONE LIST***

SPILL RESPONSE NOTIFICATION FORM

***NATIONAL RESPONSE CENTER
REPORTING FORM***

Section 1.3.1 – Emergency Notification Procedures and Phone List

Emergency Notification Procedures

1. Primary and Secondary Means of Communications

The primary verbal communications system is through the use of cellular telephones

2. Notification of Operations Control Center

Upon initial discovery of a spill, the first responder should notify the Bloomfield Refinery Main Office.

3. Notification of Qualified Individual

The Bloomfield Refinery Main Office personnel will then notify the Qualified Individual who will then notify the required agencies, corporate spill management personnel first responders. The Qualified Individuals and Response Personnel can be reached 24 hours a day at the numbers listed in the Emergency Notification Phone List that follows this page.

4. Information Provided in Initial and Follow Up Notifications

See the following forms in this section:

Spill Response Notification Form
National Response Center Notification Form

Organization	Phone Number	Y/N
Bureau of Land Management – Farmington	<u>(505) 599-8900</u>	_____
NM Department of Environmental Protection Hazardous Materials Emergency Response	<u>(505) 476-9603</u>	_____
State of New Mexico Environmental Dept.	<u>(505) 827-0187</u>	_____
New Mexico Department of Public Safety Hazardous Response	<u>(505) 476-9610</u>	_____
NM Oil Conservation Division - Aztec	<u>(505) 334-6178</u>	_____
New Mexico One Call	<u>(800) 321-ALERT (2537)</u>	_____
Local Emergency Planning Committee (LEPC) Don Cooper	<u>(505) 334-9481</u> <u>(505) 334-6156</u>	_____
State Emergency Response Commission (SERC)	<u>(505) 827-9126</u>	_____

2. Qualified Individual:

Name: Todd Doyle

Office:

(505) 632-4145

Cell Phone:

(505) 947-7339

Evening Phone:

(505) 327-4539

Name: Ed Rios

Office:

(505) 722-3833

Evening Phone:

(505) 863-4302

3. Company Response Team:

Jim Stiffler, Safety Superintendent

Home:

(505) 632-2140

Frank Sullivan, Safety Supervisor

Home:

(505) 632-2067

Randy Schmaltz, Environmental Mgr.

Home:

(505) 327-0985

Richard Alexander, Shift Supervisor

Home:

(505) 632-2730

Organization	Phone Number	Y/N
Larry Hawkins, Operations Supervisor Home:	<u>(505) 326-0822</u>	_____
Ed Lohman, Operations Trainer Home:	<u>(505) 326-2268</u>	_____
Victor McDaniel, Operations Manager Home:	<u>(505) 632-9408</u>	_____
Richard DeLeon, Shift Supervisor Home:	<u>(505) 632-1560</u>	_____
Jim Hartle, Shift Supervisor Home:	<u>(505) 634-1981</u>	_____
Dale Roberts, Shift Supervisor Home:	<u>(505) 632-0516</u>	_____

Other Response Personnel will be contacted by Supervisors as needed.

4. Additional Notifications To Be Used As Needed:

Federal Bureau of Investigation Farmington, NM Office	<u>(505) 326-5534</u>	_____
NM State Police Non-Emergency Dispatch Farmington	<u>911</u> <u>(505) 334-6622</u> <u>(505) 325-7547</u>	_____ _____ _____
Hammond Conservancy District	<u>(505) 632-3043</u>	_____
City Police Shiprock, NM Farmington, NM Bloomfield, NM	<u>(505) 368-1350</u> <u>(505) 327-0222</u> <u>(505) 632-8011</u>	_____ _____ _____
San Juan County Sheriff's Office	<u>911</u>	_____
Fire Departments Bloomfield FD San Juan County FD	<u>911</u> <u>911</u>	_____ _____
Ambulance and Emergency Medical Services Fire and Emergency Dispatching Farmington, NM	<u>911</u> or <u>(505) 334-6622</u>	_____ _____

Organization	Phone Number	Y/N
H2O OSRO, Inc.	<u>(866) 426-6770</u>	_____
Contact: Carl Oskins	Fax <u>(505) 751-1418</u>	_____
	Cell <u>(505) 770-0528</u>	_____
	Home <u>(505) 751-3688</u>	_____
Navajo Reservoir Superintendent	<u>(505) 632-3115</u>	_____
City of Farmington Water Department	<u>(505) 326-1918</u>	_____
Media		
Radio Station KENN	<u>(505) 325-3541</u>	_____
Radio Station KTRA	<u>(505) 326-6553</u>	_____
Television Station KOBF	<u>(505) 326-1141</u>	_____
Weather Service (Albuquerque)	<u>(505) 243-0702</u>	_____
Poison Control	<u>(800) 432-6866</u>	_____
Hospitals		
San Juan Regional Medical Center Farmington, NM	<u>(505) 325-5011</u>	_____
Corporate Insurance		
Jacque Cumbie	<u>(480) 585-8762</u>	_____
Aircraft Charter and Rental Services		
Seven Bar Four Corners Aviation	<u>(505) 325-2867</u>	_____
	or <u>(800) 695-4949</u>	_____
7 Bar Flight Patrol	<u>(505) 325-2867</u>	_____
Rafting Companies		
AAM's Mild to Wild Rafting	<u>(800) 567-6745</u>	_____
Flexible Flyers Rating	<u>(970) 247-4628</u>	_____
Mountain Waters Rafting Inc.	<u>(800) 748-2507</u>	_____
Outlaw Rivers and Jeep Tours	<u>(877) 259-1800</u>	_____
Crazy Canyon Tours	<u>(505) 793-0974</u>	_____

5. Available Contractors with Equipment:

Envirotech Inc.	<u>(505) 632-0615</u>	_____
Foutz & Bursum Construction Co. Inc. 273 Highway 544, Bloomfield, NM 87413	<u>(505) 634-4000</u>	_____
Calder Services	<u>(505) 325-8771</u>	_____

Organization	Phone Number	Y/N
6. Other Available Resources:		
Farmington		
Best Western Inn & Suites	<u>(505) 327-5221</u>	_____
Courtyard by Marriott	<u>(505) 325-5111</u>	_____
Holiday Inn Express	<u>(505) 325-2545</u>	_____
Environmental and Ecological Services		
Alpha Bioscience Co. (Soil and Water Bioremediation) Farmington, NM	<u>(505) 325-5036</u>	_____
Envirotech, Inc. (Soil and Water Bioremediation) Farmington, NM	<u>(505) 632-0615</u>	_____
Conference and Meeting Rooms		
Courtyard by Marriott Farmington	<u>(505) 325-5111</u>	_____
Wildlife and Volunteer Organizations		
Audubon New Mexico Santa Fe, NM	<u>(505) 983-4609</u>	_____

SPILL RESPONSE NOTIFICATION FORM

Spill Response Notification Form

Reporter's Last Name: _____

First: _____ M.I.: _____

Position: _____

Phone Numbers: Day: (505) 632-8013 Evening: _____

Company: Giant Refining Company – Bloomfield Refinery

Organization Type: _____

Address: 50 County Road 4990
Bloomfield, NM 87413

Were Materials Discharged? _____ (Y/N) Confidential? _____ (Y/N)

Meeting Federal Obligations to Report? _____ (Y/N) Date Called: _____

Calling for Responsible Party? _____ (Y/N) Time Called: _____ (Y/N)

Incident Description

Source and/or Cause of Incident:

Date of Incident: _____

Time of Incident: _____ AM/PM

Incident Address/Location: _____

Nearest City: _____ State: _____ County: _____ Zip: _____

Distance from City: _____ Units of Measure: _____ Direction from City: _____

Section: _____ Township: _____ Range: _____ Borough: _____

Spill Response Notification Form

Container Type: _____ Tank Oil Storage Capacity: _____ Units of Measure: gallons
(Container Type is AST (Aboveground Storage.)

Facility Oil Storage Capacity: _____ Units of Measure: _____

Facility Latitude: Degrees: 36 Minutes: 41 Seconds: 50

Facility Longitude: Degrees: 107 Minutes: 58 Seconds: 20

Material

CHRIS Code	Discharged Quantity	Unit of Measure	Material Discharged in Water	Quantity	Unit of Measure

Response Action

Actions Taken to Correct, Control or Mitigate Incident:

Impact

Number of Injuries: _____ Number of Deaths: _____ Were there Evacuations? _____ (Y/N)

Number Evacuated: _____ Was there any Damage? _____ (Y/N)

Damage in Dollars (approximate): _____ Medium Affected: _____

Description: _____

More Information About Medium: _____

Additional Information

Any information about the incident not recorded elsewhere in the report:

Caller Notifications

EPA? _____ (Y/N) USCG? _____ (Y/N) State? _____ (Y/N) Other? _____ (Y/N)

Describe: _____

***NATIONAL RESPONSE CENTER
REPORTING FORM***

NATIONAL RESPONSE CENTER

1-800-424-8802

Online Report Forms

[[NRC Background](#)] | [[Reporting a Spill](#)] | [[Legislative Requirements](#)]
 [[Chem/Bio Hotline](#)] | [[Contact Us](#)] | [[National Response System](#)]

[[Home](#)] | [[INSUMS](#)] | [[Organization](#)] | [[What's New](#)] | [[Online Report Forms](#)]
 [[Query Data](#)] | [[Statistics](#)] | [[Links](#)] | [[NRT Home](#)] | [[EPA Home](#)] | [[USCG Home](#)]

STORAGE TANK

Fields in RED are mandatory entries. If you are unable to provide data for any of these fields, enter NONE or N/A.

IS THIS A DRILL REPORT ? YES NO YOUR E-MAIL ADDRESS:

REPORTING PARTY

SUSPECTED RESPONSIBLE PART

Phone 1: Type: Phone Type

Last Name:

Last Name:

First Name:

First Name:

Phone 1: Type: Phone Type

Phone 2: Type: Phone Type

Phone 2: Type: Phone Type

Phone 3: Type: Phone Type

Phone 3: Type: Phone Type

Company:

Company:

Org Type: Organization Type

Org Type: Organization Type

Address:

Address:

City:

City:

State: Choose State

State: Choose State

ZIP:

ZIP:

Does the caller wish to remain Confidential ? Yes No

Are you calling on behalf of responsible party ? Yes No

Are you or your company responsible for the Material released ? Yes No

INCIDENT DESCRIPTION

Description of Incident:

Incident Date: (DD/MM/YY) Time: Occurred/Discovered/Planned: Choose ODP

Type of Incident: STORAGE TANK Incident Cause: Choose Cause

ACCIDENT LOCATION

Location Description:

Address Location: State: Choose State

County:

ZIP:

Nearest City: Distance from Nearest City: Units: Choose Unit

Direction: Choose Direction Range: Section: Township:

Latitude: Degrees: Minutes: Seconds: Quadrant: Choose Quadrant

Longitude: Degrees: Minutes: Seconds: Quadrant: Choose Quadrant

TANK/CONTAINER DETAILS

Tank/Container Description: Tank/Container ID:

Above/Below Ground: Above Below Transportable: Yes No Unknown

Regulated: Yes No Unknown Regulated by:

Tank/Container Capacity: Choose Unit Amount in Tank: Choose Unit

MATERIAL INVOLVED

Table with 4 columns: Material, Chris Code, Release Amount, Units. Contains 5 rows of data with 'Choose Unit' in the Units column.

MATERIAL IN WATER INFORMATION

Amount in Water: Units: Choose Unit Body of Water Affected:

Offshore: Yes No River Mile Marker: Tributary of:
 Water Supply Contaminated: Yes No Unknown Water Temperature: Units: Choose Unit
 Wave Condition: Choose Condition Speed: Units: Choose Unit Direction: Choose Direction

SHEEN INFORMATION

Sheen Length: Units: Choose Unit Sheen Width: Units: Choose Unit
 Color: Choose Color Direction of Movement: Choose Direction
 Odor Description:

IMPACT INFORMATION

Medium Affected: Choose Medium Detailed Medium Information:
 Fire ? Yes No Unknown Fire Extinguished ? Yes No Unknown
 Injuries ? Yes No Unknown Number of Injuries ?
 Fatalities ? Yes No Unknown Number of Fatalities ?
 Evacuations ? Yes No Unknown Number of Evacuations ?
 Damages ? Yes No Unknown Damage in Dollars:
 Road Closed ? Yes No Unknown Road:
 Track Closed ? Yes No Unknown Track:
 Air Corridor Closed ? Yes No Unknown Air Corridor:
 Waterway Closed ? Yes No Unknown Waterway:
 Community Impact Due to Material ? Yes No Media Interest: Choose Media Interest

WEATHER INFORMATION

Weather Conditions: Choose WX Air Temperature: Choose Unit
 Wind Speed: Unit: Choose Unit Wind Direction: Choose Wind Direction

REMEDIAL ACTION INFORMATION

Remedial Action Taken:
 Release Secured ? Yes No Unknown Duration of Release ? Unit: Choose Unit
 Rate of Release ? Unit: Choose Unit Per: Choose Rate

ADDITIONAL AGENCY INFORMATION

Federal Agency Notified:

State/Local Agency Notified:

State/Local Agency On-Scene:

State Agency's Report Number:

ADDITIONAL INFORMATION

Additional Information:

Submit Tank/Container Report

[\[E-Mail\]](#) | [\[Home\]](#)

SECTION 1.3.2

FACILITY RESPONSE EQUIPMENT LIST

Section 1.3.2 – Facility Response Equipment List

1. Skimmers/Pumps- Operational Status: Operational

Number: 2 Capacity: 1000 gpm

Storage Location(s): Maintenance Storage

2. Boom – Operational Status: Operational

Type, Model, and Year: 50' Sections of 6 x 12 Boom, Year Unknown

Number: 3 Size (length): 50'

Storage Location(s): Maintenance Storage

3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule).

Type:	Amount:	Date Purchased:	Treatment Capacity:	Storage Location:
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

4. Dispersant Dispensing Equipment – Operational Status: N/A

Type and Year:	Capacity:	Storage Location:	Response Time: (Minutes)
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

5. Sorbents – Operational Status: None

Type and Year Purchased: Sorbent Blankets

Amount: 3' x 150' x 3/8"

Storage Location(s): Warehouse

6. Hand Tools – Operational Status: Operational Location: Maintenance Storage

Facility Response Equipment List**Page 2**7. Communication Equipment (include operating frequency and/or cellular phone numbers):
Operational Status: Operational

Type and Year:	Quantity:	Storage Location/Number:
<u>2-way Radios</u>	<u>29</u>	<u>Personnel</u>
<u>Cellular Telephones</u>	<u>3</u>	<u>Personnel</u>

8. Fire Fighting and Personnel Protective Equipment – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
<u>Fire Fighting Truck – 100 gallon Foam Tank</u>	<u>1</u>	<u>Firehouse</u>
<u>Fire Fighting Trailer – 1000 gallon Foam Tank</u>	<u>1</u>	<u>Firehouse</u>
<u>SCBAs</u>	<u>10</u>	<u>Maintenance Storage</u>

9. Other (e.g. Heavy Equipment, Boats, Motors, etc.) – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
<u>Backhoe</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Winch Truck</u>	<u>2</u>	<u>Maintenance Yard</u>
<u>Connection Hose</u>	<u>1</u>	<u>Maintenance Storage</u>
<u>Flat Bottom Boat</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Vac Truck – 80 barrel capacity</u>	<u>1</u>	<u>Maintenance Storage</u>
<u>Winch Truck</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Dump Truck</u>	<u>1</u>	<u>Maintenance Yard</u>
<u>Pick-up Trucks</u>	<u>6</u>	<u>Maintenance Yard</u>
<u>Mobile Cranes</u>	<u>2</u>	<u>Maintenance Yard</u>

Facility Response Equipment List

10. Personal Protective Equipment: Operational

Type and Year:	Quantity:	Storage Location:
<u>Hard Hats</u>	<u>1 per employee</u>	<u>Personnel</u>
<u>Safety Goggles</u>	<u>1 per employee</u> <u>+ some for</u> <u>visitors</u>	<u>Personnel</u>

SECTION 1.3.3

***RESPONSE EQUIPMENT
TESTING/DEPLOYMENT***

Section 1.3.3 – Response Equipment Testing/Deployment Drill Log

Response Equipment Testing records are kept in the Bloomfield Refinery Main Office.

Inspection and Testing/Drill Log Form

Last Inspection or Response Equipment Test Date: _____
(See attached Equipment Deployment Exercise Certification)

Inspection Frequency: Quarterly

Last Deployment Drill Date: _____

Deployment Frequency: Semi-annually

Oil Spill Removal Organization Certification (if applicable): Not Applicable

SECTION 1.3.4

EMERGENCY RESPONSE PERSONNEL

ORGANIZATION CHARTS

EMERGENCY RESPONSE CONTRACTORS

***RESPONSIBILITIES AND DUTIES OF
THE ICS TEAM***

**Section 1.3.4 – Emergency Response Personnel
Facility Response Team**

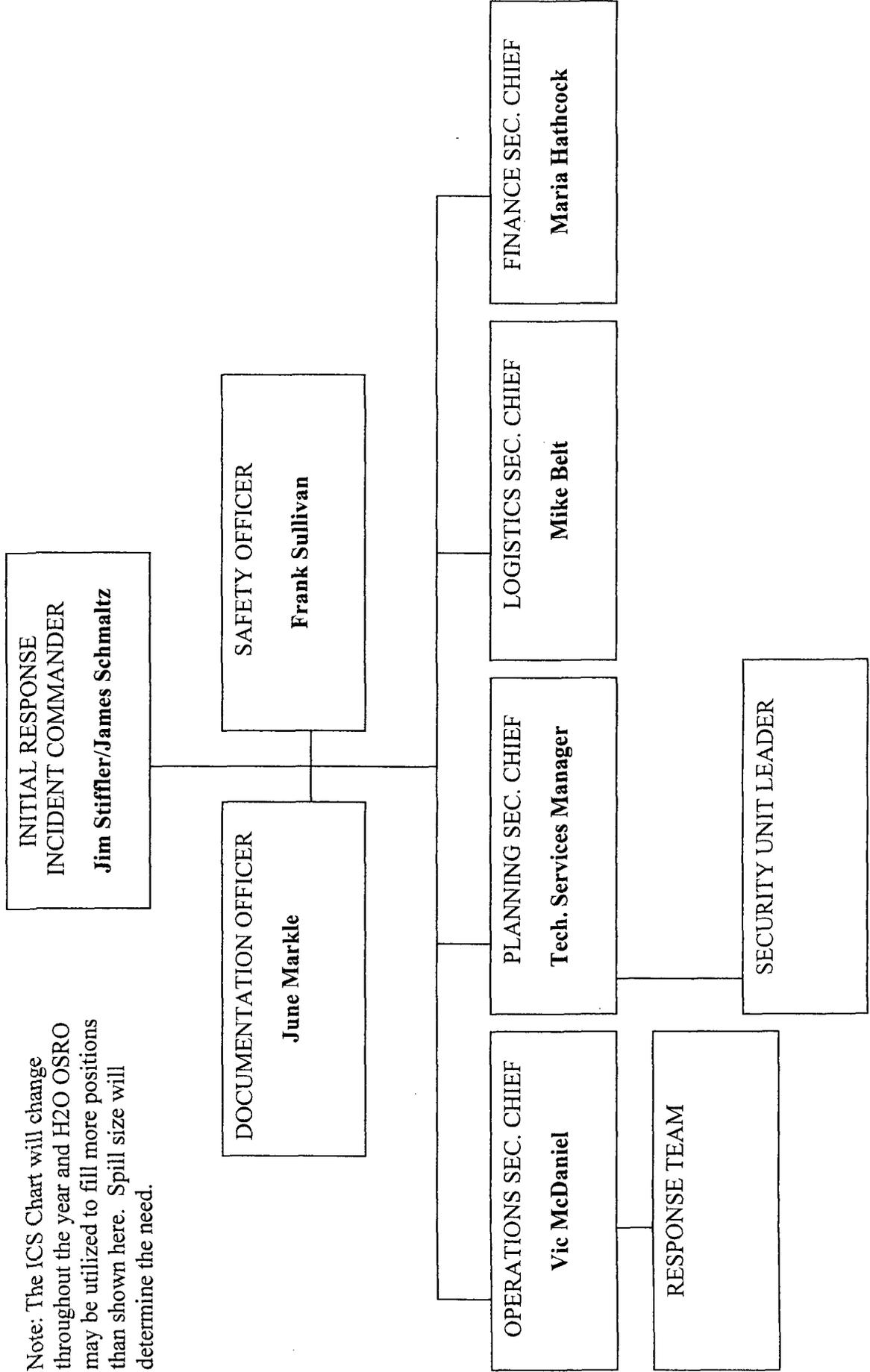
Name	Response Time (Minutes)	Responsibility	Response Training/Date
Jim Stiffler	30	Command (IC)	OSHA 1910.120 / annual
Randy Schmaltz	60	Command (IC)	OSHA 1910.120 / annual
Richard Alexander	30	Team Leader (IC)	OSHA 1910.120 / annual
Larry Hawkins	60	Team Leader (IC)	OSHA 1910.120 / annual
Ed Lohman	60	Team Leader (IC)	OSHA 1910.120 / annual
Vic McDaniel	30	Team Leader (IC)	OSHA 1910.120 / annual
Frank Sullivan	30	Command (IC)	OSHA 1910.120 / annual
Cecil Cunningham	30	Team Leader	OSHA 1910.120 / annual
Ron Weaver	90	Team Leader	OSHA 1910.120 / annual
Don Wimsatt	60	Team Leader	OSHA 1910.120 / annual
Chad King	90	Command	OSHA 1910.120 / annual
Gene Allen	60	Crew	OSHA 1910.120 / annual
Bengie Armenta	30	Crew	OSHA 1910.120 / annual
Irvin Ashley	120	Crew	OSHA 1910.120 / annual
Hanley Begay	60	Crew	OSHA 1910.120 / annual
Nelson Bia	120	Crew	OSHA 1910.120 / annual
Tom Boswell	30	Crew	OSHA 1910.120 / annual
Jacob Ellis	30	Crew	OSHA 1910.120 / annual
Todd Brown	30	Crew	OSHA 1910.120 / annual
Ron Buczinski	60	Crew	OSHA 1910.120 / annual
Mike Charley	30	Crew	OSHA 1910.120 / annual
Bill Cochran	30	Crew	OSHA 1910.120 / annual
Frank Dooling	30	Crew	OSHA 1910.120 / annual
Richard DeLeon	30	Team Leader	OSHA 1910.120 / annual
Bob Heath	30	Crew	OSHA 1910.120 / annual
Emile Ervin	60	Crew	OSHA 1910.120 / annual
Wil Etcitty	60	Crew	OSHA 1910.120 / annual
Mark Hathcock	60	Crew	OSHA 1910.120 / annual
Bill Gibson	30	Crew	OSHA 1910.120 / annual
Hal Hamlow	60	Crew	OSHA 1910.120 / annual
Korbi Hart	30	Crew	OSHA 1910.120 / annual
Jim Hartle	60	Crew	OSHA 1910.120 / annual
Cindy Hurtado	60	Crew	OSHA 1910.120 / annual
Frank Herman	30	Crew	OSHA 1910.120 / annual
Carl Jess	60	Crew	OSHA 1910.120 / annual
Lyle Howard	30	Crew	OSHA 1910.120 / annual
Melvin Lasster	60	Crew	OSHA 1910.120 / annual
Dan Lovell	30	Crew	OSHA 1910.120 / annual
Sam Dearing	60	Team Leader	OSHA 1910.120 / annual
Barney Lucero	60	Team Leader	OSHA 1910.120 / annual

Name	Response Time (Minutes)	Responsibility	Response Training/Date
Dale Roberts	30	Team Leader	OSHA 1910.120 / annual
Johnny Mascarenas	30	Crew	OSHA 1910.120 / annual
Marc Mansur	60	Crew	OSHA 1910.120 / annual
Rick Montoya	30	Crew	OSHA 1910.120 / annual
Al Nolan	30	Crew	OSHA 1910.120 / annual
Dean Prugh	60	Crew	OSHA 1910.120 / annual
Alex Salazar	30	Crew	OSHA 1910.120 / annual
Rudy Salazar	60	Crew	OSHA 1910.120 / annual
Raymond Sanchez	30	Crew	OSHA 1910.120 / annual
Toby Purvis	60	Crew	OSHA 1910.120 / annual
Larry Todacheene	30	Crew	OSHA 1910.120 / annual
Matt Rutter	30	Team Leader	OSHA 1910.120 / annual
Tony Martinez	30	Crew	OSHA 1910.120 / annual
Les May	30	Crew	OSHA 1910.120 / annual
Mike Perez	60	Crew	OSHA 1910.120 / annual
Dwight Poland	30	Crew	OSHA 1910.120 / annual
Tony Tristano	60	Crew	OSHA 1910.120 / annual
Kay Ramos	30	Crew	OSHA 1910.120 / annual
Herbert Willie	30	Crew	OSHA 1910.120 / annual
Mike Belt	60	Support	OSHA 1910.120 / annual
Fred Scruggs	30	Crew	OSHA 1910.120 / annual
Trish Garret	30	Support	OSHA 1910.120 / annual
Janet Mackey	30	Support	OSHA 1910.120 / annual
Diane Walters	60	Support	OSHA 1910.120 / annual
Sammy Lewis	30	Crew	OSHA 1910.120 / annual
Kasey Ortega	30	Team Leader	OSHA 1910.120 / annual
Jodi Melton	30	Crew	OSHA 1910.120 / annual
Angela Folk	30	Crew	OSHA 1910.120 / annual
Bruce Cauthen	30	Crew	OSHA 1910.120 / annual
Jene Stone	30	Crew	OSHA 1910.120 / annual
Marcus Johnson	90	Crew	OSHA 1910.120 / annual

ORGANIZATION CHARTS

**EMERGENCY RESPONSE PERSONNEL
INCIDENT COMMAND SYSTEM – ORGANIZATION CHART
SMALL LEVEL SPILL**

Note: The ICS Chart will change throughout the year and H2O OSRO may be utilized to fill more positions than shown here. Spill size will determine the need.

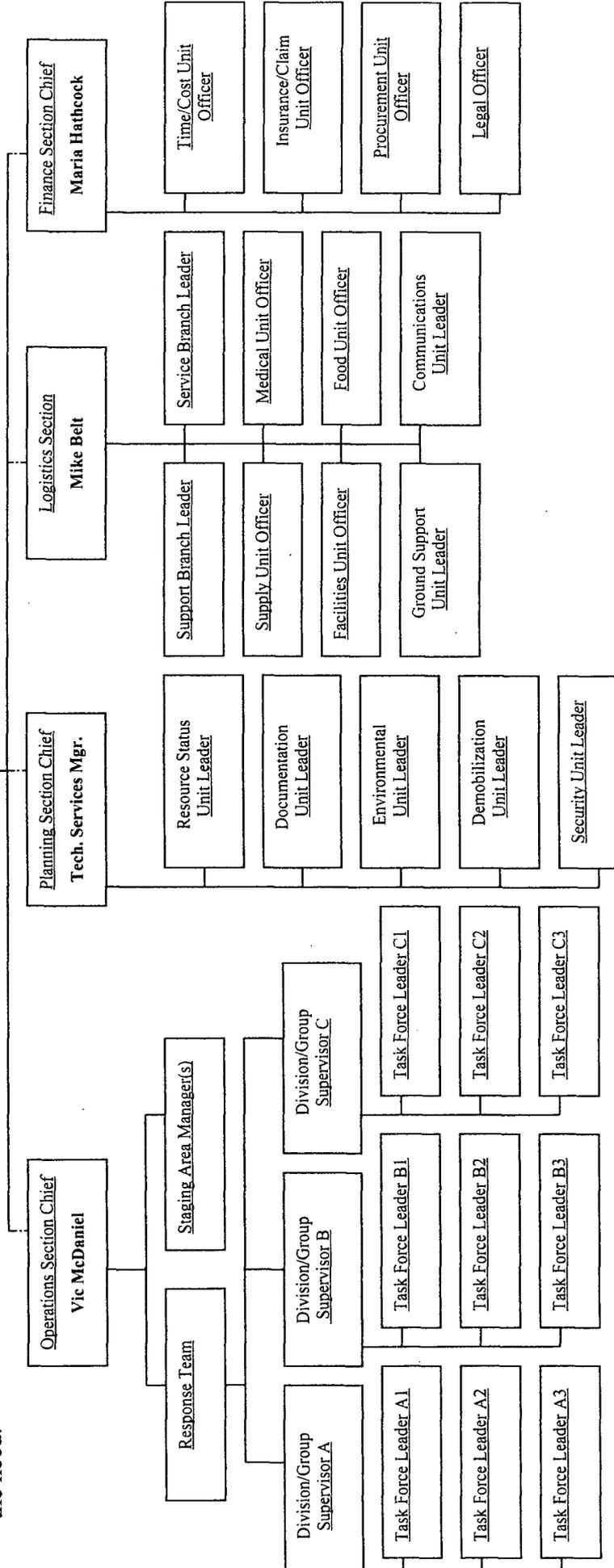


**EMERGENCY RESPONSE PERSONNEL
INCIDENT COMMAND SYSTEM – ORGANIZATION CHART
WORST CASE LEVEL SPILL**

Qualified Individual
Todd Doyle

Incident Commander
**Jim Stiffner/
James Schmitz**

Note: The ICS Chart may change throughout the year and H2O OSRO may be utilized to fill more positions than shown here. Spill size will determine the need.



EMERGENCY RESPONSE CONTRACTORS

Section 1.3.4 - Emergency Response Contractors

Contractor	Phone	Response Time	Contract Responsibility
<u>Oil Spill Response Organization (OSRO):</u>			
H2O OSRO PO Box 2638 Ranchos de Taos, NM 87557 Contact: Carl Oskins	(866) 426-6770 (505) 751-1447 (505) 751-1418 fax	5 to 12 hours	Emergency Response, Oil Spill Cleanup, Waste Management Services
<u>Oil Spill Containment, Cleanup Equipment and Supplies:</u>			
Elastec/American Marine P. O. Box 940, Cocoa, FL 32922 Contact: Jeff Pierce	(407) 636-5783 (407) 636-5787 fax	24 hours	Oil Spill Boom and Skimmer Manufacturer and Supplier
<u>Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:</u>			
H2O Environmental 4280 N. Pecos Rd. Las Vegas, NV 89115	(702) 396-4148 (702) 643-8635 fax	8 - 12 hours	Pumping/Vacuum Services Oil Spill Cleanup, Waste Oil/ Debris Removal and Disposal, Emergency Response
Envirotech Inc. 5796 US Highway 64 Farmington, NM 87401	(505) 632-0615 (505) 632-1865 fax	1 - 2 hours	Spill Response Containment and Cleanup Emergency Response Team Remediation Services
Foutz & Bursum Construction Co. Inc. 3201 N. 1 st Street Bloomfield, NM 87413	(505) 634-4000	1 - 2 hours	Equipment - dozers, backhoes Cleanup Services
Calder Services 207 S Fairview Ave. Farmington, NM	(505) 325-8771	1 - 2 hours	Equipment

***OSRO CONTRACT AND EQUIPMENT
FROM H2O OSRO***

EMERGENCY RESPONSE AGREEMENT

1-866/426-6770 – Toll Free

www.H2O-OSRO.com

OIL & HAZMAT
EMERGENCY SPILL RESPONSE SERVICES
WORLDWIDE

H2O OSRO EMERGENCY SPILL RESPONSE AGREEMENT

The Parties of this Agreement are:

Owner/Responsible Party:

Giant Industries Arizona, Inc. and
its affiliates and subsidiaries

P.O. Box 159

Bloomfield, NM 87413

Contractor:

H2O OSRO

P. O. Box 2638

Ranchos de Taos, NM 87557

(866) 426-6770

Fax (505) 751-1418

Owner and Contractor are referred to herein individually as a "Party" and collectively as the "Parties".

EFFECTIVE DATE: This Agreement is effective as of December 1, 2005. This Agreement shall remain in effect for a period of three (3) years from the date written above.

TERMINATION: Either party may cancel this work Agreement by giving the other party thirty (30) days written notice of cancellation. Neither party hereto shall, by the termination of this work Agreement, be relieved of such party's respective liabilities arising from, growing out of, or incident to work performed hereunder prior to the time such work Agreement is terminated.

PURPOSE: It is specifically understood that the Contractor intends to commit response resources to the Owner in the event of an emergency spill response, provided that the Contractor has not committed all its resources to another on going spill response. It is further understood that if resources are committed to an on going spill that the response resources may not be immediately available. The types of work contemplated to be done by the Contractor are: Spill Response Control/Cleanup and such other work as is generally performed by the Contractor in its usual line of service.

EMERGENCY RESPONSE TEAM: During the term of this Agreement, the Contractor will make available to the Owner a 24-hour Standby Emergency Response Team for the Response, Containment, Cleanup and Transportation of any Oil/Petroleum Products/Hazardous Materials Waste Spills.

THIS 24-HOUR STANDBY EMERGENCY RESPONSE TEAM SHALL INCLUDE:

- * A 24-hour Monitored Toll Free Telephone Contact Number (866-426-6770) for the Initiation of Emergency Spill Response,
- * A Staff of 24-hour on-call Trained Personnel who can Mobilize to Respond to an Oil/Petroleum Products/Hazardous Materials Waste Spill Incident,
- * Emergency Response Resources, as listed in H2O OSRO's Statement of Mission and Qualifications.
- * Containment, Recovery, Waste Minimization, Disposal Assistance, and Other Services and equipment within its rating as may be reasonably requested by the Owner or others (including appropriate government agencies) authorized by the Owner to request such services and equipment.

SCOPE of WORK: This work Agreement being a time and materials work Agreement, the Contractor will begin each part of the work covered by this work Agreement at such time as Owner initiates a request to respond to a spill of a substance by a direct telephone call to Contractor at (866-426-6770). The person initiating the response shall provide the Contractor with:

- * His or Her Name and Title,
- * Owner's Name, Address, and Telephone Number
- * The Location of the Spill,
- * The Nature of the Substances Involved in the Spill Incident,
- * The Approximate Time of the Spill Incident,
- * Any Other Pertinent Information Relating to Spill (*i.e. size, fire involvement, injuries, etc.*)

Upon receiving the call, the Contractor will use due diligence to mobilize resources within the allotted response time.

RETAINER FEE: A fee of \$3,000.00 per Facility and/or Facility Response Plan each year shall be charged to the Owner to cover initial expenses incurred by the Contractor should a response become necessary. In the event of a spill, this \$3,000.00 shall be applied against expenses incurred during the spill incident. Any charges after the initial \$3,000.00 shall be charged and invoiced to the Owner. The retainer fee is not transferable from one year to the next and must be paid on each yearly anniversary of this contract as long as this contract is in effect.

EMERGENCY RESPONSE SERVICE CHARGES: In the event emergency response services are requested by or for the Owner from the Contractor, the Owner shall pay the fees and charges of the Contractor as described in H2O OSRO's Response Rate Schedule and any expenses (including subcontractor's charges) incurred by the Contractor in providing such services.



OSRO

P.O. Box 2638
Ranchos de Taos, NM 87557
505/751-1447: Fax 505/751-1418
Las Vegas, NV Office
702/396-4148: Fax 702/643-8635
Reno/Sparks, NV Office
775/351-2237: Fax 775/351-2219
1-866-426-6770 - Toll Free

An OIL SPILL REMOVAL & RESPONSE ORGANIZATION for the WEST

H2O OSRO is a U.S. Coast Guard Classified Oil Spill Removal Organization (OSRO) No. 147 providing Oil/Petroleum Products and Hazardous Materials Emergency Response Services to the WESTERN USA.

We presently have Emergency Response Offices in Sacramento, CA, Las Vegas & Reno, Nevada and Taos, New Mexico. H2O OSRO can and is prepared to respond to Emergency Response Spill Incidents such as Oil and/or Hazardous Materials Spills on LAND and/or in RIVERS, STREAMS, CREEKS, PONDS and LAKES through out the WESTERN USA.

All of our Emergency Response Personnel are Professionally Trained at the HAZMAT TECHNICIAN LEVEL. We at H2O OSRO are Ready to Respond Effectively & Safely 24 HOURS A DAY, 7 DAYS A WEEK though out the WESTERN USA.

H2O OSRO is committed to helping companies in the WESTERN USA coexist with Mother Nature by providing a QUICK, EFFECTIVE & COST CONSCIOUS EMERGENCY RESPONSE should any mishap occur. We at H2O OSRO are the EXPERTS in FAST RIVER BOOMING and are pledged to provide Oil Spill Removal Organization coverage that does not currently exists for Oil Companies located in locations from Montana to Arizona, California to Texas.

Please find enclosed additional information about our exciting new OSRO Company. Also, visit our website at www.h2o-osro.com. If you would like to speak to one of our representatives, you can email us at h2o@laplaza.org or call us Toll Free at 1-866-H2O-OSRO (426-6770).

We believe that H2O OSRO provides a service that is lacking and much needed in the WESTERN USA. We invite you to contact us and let H2O OSRO provide the services to provide your organization with a COMPREHENSIVE SOLUTION to ENVIRONMENTAL EMERGENCY RESPONSE INCIDENTS of ALL KINDS.

H2O OSRO

Carl J. Oskins
QUALIFIED INDIVIDUAL/INCIDENT COMMANDER

OIL & HAZMAT EMERGENCY SPILL RESPONSE SERVICES
WORLDWIDE

It is understood that the rates and prices set forth in H2O OSRO's Response Rate Schedule are subject to change by the Contractor upon Ten Days written notice to the Owner. Any change shall not apply to work then in progress or on order. The rates to be paid to the Contractor by the Owner shall be for the actual performance of the work and shall be in addition to any charges for materials or supplies furnished by the Contractor for use in the work and any charges for transportation of tools, equipment and labor or time required to transport tools, equipment and labor to and from the job.

INVOICES: The Contractor will submit invoices for services and expenses rendered periodically. These invoices shall be due and payable immediately upon submission to the Owner. Invoices shall clearly describe the project name, services rendered, and any Owner-required data. Invoices must be paid within 15 days of the invoice date and if not paid within such time, shall be subject to a late charge of 1.5% per month on the unpaid balance or the highest rate permitted by law.

Owner agrees to make payment to the Contractor for services rendered in the amounts and the terms specified above, regardless of whether the Owner or another person or entity is legally responsible for remediation or abatement of the environmental conditions involved and, regardless of whether the Owner is entitled to reimbursement for such costs from his or from some other person's entity's insurance carrier.

INDEPENDENT CONTRACTOR RELATIONSHIPS: In the performance of the work herein contemplated the Contractor is an independent contractor, with the authority to control and direct the performance of the details of the work, the Owner being interested only in the results obtained; but the work contemplated herein shall meet the approval of the Owner and be subject to the general right of the Owner to inspect the work to secure the satisfactory completion thereof.

INDEMNIFICATION by the CONTRACTOR: The Contractor agrees to indemnify, defend and hold harmless the Owner from and against any Costs or Claims which the Owner reasonably incurs to the extent such Costs and Claims are caused solely by the gross negligence or willful misconduct of the Contractor in the performance of services under this Agreement.

INDEMNIFICATION by the OWNER: Except as otherwise provided above, the Owner shall indemnify, defend and hold harmless the Contractor, its affiliates, directors, officers, shareholders, employees, agents and subcontractors from and against any costs, liabilities, claims, demands, and causes of action arising from the performance of services under this Agreement.

Owner shall indemnify, defend, and hold Contractor harmless from any claim arising out of Owner's willful misconduct or negligence in connection with the performance of this Agreement, any actual or potential environmental pollution or contamination, including failure to detect or properly evaluate the presence of such substances.

LIMITATION of LIABILITY: The Contractor shall not be liable in connection with this Agreement or the services provided under this Agreement for lost profits or any other consequential, incidental or natural resource damages. Owner agrees that the liability of the Contractor and all officers, employees, agents and subcontractors of Contractor for all claims or other proceedings arising from the performance of services under this Agreement, including, but not limited to, Contractor's professional negligence, errors or omissions or other professional acts, shall be limited to actual damages or the fee, whichever is more. Not in any event shall Contractor's liability exceed the insurance coverage carried by the Contractor.

FORCE MAJEUR: It is agreed that in the event of either party being rendered unable wholly or in part by force majeure to carry out its obligations under this work Agreement, other than its obligations to make payments of money due hereunder, then on such party's giving notice and full particulars of such force majeure in writing to the other party immediately after the occurrence of the cause relied on, then the obligation of that party giving such notice, so far as it is affected by such force majeure, shall be suspended during the continuance of any inability so caused, but for no longer period and such cause shall, as far as possible, be remedied with all reasonable dispatch. The term "force majeure" as employed herein, shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of rulers and people, civil disturbances, explosions, inability with reasonable diligence to obtain materials and any other causes not within the reasonable control of the party claiming a suspension which by the exercise of due diligence such party shall not have been able to avoid or overcome. In no event, however, shall the forgoing limit the rights of the Contractor or Owner to terminate this work Agreement of the work as otherwise provided herein.

MISCELLANEOUS:

1. COMPLIANCE with LAWS: The Contractor agrees to comply with all laws, rules, and regulations, Federal, State, and Municipal, which are now, or in the future may become, applicable to the Contractor, the Contractor's business, equipment, sub-contractors and personnel engaged in operations covered by this instrument, or accruing out of the performance of such operations.
2. PROPERTY DAMAGE: With respect to property damage sustained by the Contractor or Owner or their employees, subcontractors, or invitees or employees of such kind and character, the rights and obligations between the parties to this Agreement shall be determined by law, except as otherwise expressly provided within this Agreement.
3. BODILY INJURY: In the event that bodily injury, death or property damage is sustained by a person or entity, the rights and obligations between the parties to this work Agreement shall be determined by law, except as otherwise provided in this work Agreement.

-
4. SAFETY of OTHERS: Contractor shall not be responsible for the health and safety of any person other than its employees and representatives, nor shall it have any responsibility for the operations, procedures, or practices of persons or entities other than the Contractor's.
5. RELATION of PARTIES: The Contractor is not the Owner's employee and shall perform all services under this Agreement as an independent contractor.
6. ASSIGNMENT: The Contractor may, without the Owner's consent, enter into any subcontract(s) for the performance of its obligations under this Agreement, as the Contractor deems necessary or desirable.
7. SEVERABILITY: If any provision of this Agreement is invalid or unenforceable, such provision shall be deemed modified to the extent necessary to render such provision valid and enforceable. In any event, the validity or enforceability of any such provision shall not affect any other provision of this Agreement, and this Agreement shall be construed and enforced as if such provision had not been included.
8. AMENDMENT and WAIVER: No amendment or waiver of any provision of this Agreement shall be effective unless in writing and signed by the party against whom it is asserted. No waiver shall constitute a waiver of any subsequent breach or default.
9. ENTIRE AGREEMENT: This is the entire Agreement of the parties and supersedes any other past or present writing, oral conversation, or understanding.
10. EXECUTION: This Agreement may be executed in counterparts, and when each party hereto has signed and delivered at least one such counterpart, each counterpart shall be deemed an original. When taken together with the other signed counterparts, shall constitute one Agreement, which shall be binding upon and effective as to both parties hereto. This Agreement is not binding on either party until both parties have executed and delivered one or more counterparts to the other party.
11. ATTORNEY'S FEES: If either party finds it necessary to enforce this Agreement by litigation, arbitration, or mediation, the successful party shall, in addition to any other right conferred in this Agreement, be entitled to reasonable attorneys' fees and costs as may be awarded by any court, arbitrator, or mediator.

In Witness whereof, the parties have signed this Agreement as of the date first written above.

OWNER:

Company: GIANT INDUSTRIES ARIZONA, INC.
and its affiliates and subsidiaries
Name: MICHAEL BELT
Title: PURCHASING MANAGER
Signature: *Michael Belt*
Date: NOVEMBER 4, 2005

CONTRACTOR:

Company: H2O OIL SPILL RESPONSE ORGANIZATION (OSRO)
Name: *Carl J. Oskins*
Title: *President*
Signature: *Carl J. Oskins*
Date: *November 7, 2005*

H2O OSRO EQUIPMENT

Las Vegas Equipment

Vacuum Trucks

Volvo Gapvax – 3300 gallon capacity
Peterbilt – 3000 gallon capacity
Tanker Pup Trailer – 3000 gallon capacity
Kenworth T-800 – 5800 gallon capacity
Kenworth T-900 – 5400 gallon capacity

Boom

6600' Containment Boom and ancillary equipment

Skimmers

<u>Skimmer</u>	<u>Pump Capacity</u> gal/min	<u>EDRC</u> bbl/day
Elastec Oleophilic Drum Skimmer	35	1200
Morris Ind. Oleophilic Triangular Disc Skimmer	7	240
Douglas Eng. Skimpak 18000-300 Weir Skimmer	300	10286
Slickbar Mantaray Weir	90	3086
Alden Ind. Rope Mop Skimmer	7	240
Slickbar SLURP Weir Skimmer	40	1371

Sorbents

Sorbent Booms
Sorbent Pads and Bales

Vehicles

5 Emergency Response Vehicles (fully stocked)
5 Ton Gear Truck (fully stocked)
8 Crew Trucks

Transport Trucks

Autocar Dump Truck
3 Kenworth Double Belly Dump Trucks

H2O OSRO Equipment List

Page 2

Vans

Hyundai 48 foot van with lift gate

Boat

17' Fiberglass Utility Work Boat with Mercury 4 cycle engine

Excavation Equipment

Case 590 backhoe

Case 580L backhoe

Case 95XT Uniloaders

Cat 213 Track hoe

Cat 972 Wheel Loader

Trailers

24 foot Emergency Response Trailer

Storage

5 1000 gallon portable poly tanks

3000 gallons Pup Tank Trailer

Product Transfer Pumps

2 inch Wilden HDPE pump

2 inch Wilden poly pump

Fixed Storage

4 24,000 gallon storage tanks

Communications

Mobile Repeater with 6 Radios

Satellite Phone

Personal Safety Equipment

4 MSA SCBA's

4 SAR Units

3 LEL Meters

2 Tripods for Confined Space Entry

2 Level A Suits

10 MSA Air Purifying Respirators

Reno/Sparks Equipment

Vacuum Trucks

Volvo GapSE – 3300 gallon capacity
Kenworth T-800 – 5800 gallon capacity
Peterbilt – 3000 gallon capacity

Boom

1300' Containment Boom

Sorbents

Sorbent Booms
Sorbent Pads and Bales

Storage

1000 gallon portable tank

Vehicles

5 Emergency Response Vehicles (fully stocked)
10 Service Vehicles

Vans

Hyundai 48 foot van with lift gate

Boat

14' Aluminum Flat Bottom Work Boat

Excavation Equipment

Case 590 backhoe
Case 580L backhoe
Case 95XT Unloader
Cat 213 Track hoe
Cat 972 Wheel Loader

Trailers

24 foot Emergency Response Trailer

Storage

5 1000 gallon portable poly tanks

Product Transfer Pumps

2 inch Wilden poly pump

2 inch aluminum Wilden pump

Communications

Satellite Phone

10 Line of Site Radios with a 2 mile range

Personal Safety Equipment

2 MSA SCBA's

4 SAR Units

2 LEL Meters

2 Tripods for Confined Space Entry

4 Level A Suits

10 MSA Air Purifying Respirators



H2O OSRO Equipment List

Page 5

Taos Equipment

Boom

1000' Containment Boom and ancillary equipment

Boat

14' Aluminum skiff

Personal Safety Equipment

4 SCBA's

9 Full-Face Air Purifying Respirators

12 Half-Face Air Purifying Respirators

23 PVC Hooded Suits

24 Rubber Boots in assorted sizes

24 Hard Hats

20 Safety Glasses

20 Goggles

2 Decontamination Lines Equipment (Wet Decon)

24 Life Jackets



H2O OSRO Total Number of Trained Personnel - 29



***RESPONSIBILITIES AND DUTIES
OF THE ICS TEAM***

Section 1.3.4 - Responsibilities and Duties of the ICS Team

Common Responsibilities

The following responsibilities apply to all ICS personnel:

- a. Receive assignment, notification, reporting location, reporting time, and travel instructions from your home agency.
- b. Upon arrival at the incident, check in at designated check-in locations. Check-in locations may be found at:
 - Incident Command Post,
 - Base or Camps, Staging Areas
 - Division Supervisors (for direct line assignments).
- c. Agency representatives from assisting or cooperating agencies report to Liaison Officer at the Command Post after checking in.
- d. All radio communications to Incident Communications Center will be addressed: “(Incident Name) Communications”.
- e. Use clear text and ICS terminology (no codes) in all radio transmissions.
- f. Receive briefing from immediate supervisor.
- g. Acquire work materials.
- h. Organize, assign, and brief subordinates.
- i. Complete forms and reports required of the assigned position and send material through supervisor to Documentation Unit.
- j. Ensure continuity using in/out briefings.
- k. Respond to demobilization orders.
- l. Brief subordinates regarding demobilization.

Unit Leader Responsibilities

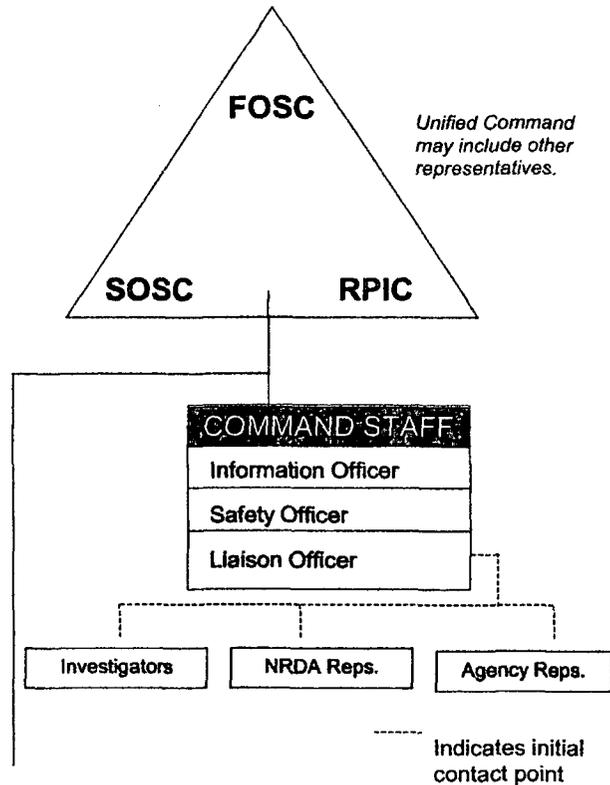
Common responsibilities that must be accomplished by all Unit Leaders include (these responsibilities are not repeated in each Unit listing):

- a. Participate in incident planning meetings, as required.
- b. Determine current status of unit activities.
- c. Confirm dispatch and estimated time of arrival of staff and supplies.
- d. Assign specific duties to staff; supervise staff.
- e. Determine resource needs.
- f. Develop and implement accountability, safety, and security measures for personnel and resources.
- g. Supervise demobilization of unit, including storage of supplies.
- h. Provide Supply Unit Leader with a list of supplies to be replenished.
- i. Maintain unit records, including Unit/Activity Log (ICS 214).

Command Section Responsibilities and Duties

Incident Command

Unified Command Structure/Incident Command System



Incident Commander

On most incidents, a single Incident Commander carries out the Command activity. The Incident Commander is selected through pre-designation, qualifications, or experience.

The Incident Commander may have a deputy, who may be from the same entity or from an assisting entity. Deputies must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.

- a. Review common responsibilities.
- b. Assess the situation and/or obtain a briefing from the prior Incident Commander.
- c. Determine incident objectives and strategies.
- d. Establish the immediate priorities.
- e. Establish an Incident Command Post.
- f. Establish an appropriate organization.
- g. Approve and authorize implementation of an Incident Action Plan.

Command Section

Page 2

- h. Ensure that adequate safety measures are in place.
- i. Coordinate activity of all Command and General Staff.
- j. Coordinate with key stakeholders and officials through the Liaison Officer.
- k. Approve requests for additional resources or for the release of resources.
- l. Keep agency or authorizing entity (Responsible Party) informed about incident status.
- m. Approve, if appropriate, the use of trainees, volunteers, or auxiliary personnel.
- n. Authorize release of information through the Information Officer.
- o. Ensure incident funding is available.
- p. Notify natural resource trustees(s) and coordinate with NRDA Representative(s).
- q. Coordinate incident investigation responsibilities.
- r. Seek appropriate legal counsel.
- s. Order the demobilization of incident resources, when appropriate.

Unified Command

While a single Incident Commander normally handles the command function, an ICS organization may be expanded into a Unified Command for complex response that cross-jurisdictional boundaries or involve multiple agencies with geographic or functional jurisdiction. The Unified Command brings together the "Incident Commanders" of all major organizations involved in the response to function as a team with a common set of incident objectives and strategies.

The Unified Command will typically include:

- The pre-designated Federal On-Scene Coordinator,
- The State On-Scene Coordinator,
- The Incident Commander for the responsible party, and
- Other incident commanders or on-scene coordinators (when appropriate).

Actual Unified Command makeup for a specific incident will be determined on a case-by-case basis taking into account: (1) the specific of the incident; (2) determinations outlined in the Area Contingency Plan; or (3) decisions reached during the initial meeting of the Unified Command. The makeup of the Unified Command may change as an incident progresses, in order to account for changes in the situation.

The Unified Command is responsible for overall management of the incident. The Unified Command directs incident activities, including development and implementation of overall objectives and strategies, and approves ordering and releasing of resources. Each Unified Command member may assign Deputy Incident Commander(s) to assist in carrying out Incident Command responsibilities. Unified Command members may also be assigned individual legal and administrative support from their own organizations.

As a component of an ICS, the Unified Command facilitates and coordinates the effective involvement of various agencies and responders. It links the organizations responding to the incident and provides a forum for these agencies to make consensus decisions. Under Unified

Command Section

Page 3

Command, the various jurisdictions and/or agencies, and non-government responders may blend together throughout the Incident Command System organization to create an integrated response team. Assisting or cooperating agencies that are not part of the Unified Command can also participate through Agency Representatives working with the Liaison Officer. It is important to note that participation in a Unified Command occurs without any agency abdicating authority, responsibility, nor accountability.

Information Officer

The Information Officer 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 incident operating under Unified Command and multi-jurisdictional incidents. The Information Officer may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions.

- a. Review Common Responsibilities.
- b. Determine from the Incident Commander if there are any limits on information release.
- c. Develop material for use in news briefings.
- d. Obtain Incident commander approval for news media releases.
- e. Inform news media and conduct news briefings.
- f. Arrange for tours and other interviews or briefings that may be required.
- g. Obtain news media information that may be useful for incident planning.
- h. Maintain current information summaries and/or displays on the incident.
- i. Provide information on status of incident to assigned personnel.
- j. Establish and staff a Joint Information Center (JIC), as necessary.
- k. Maintain Unit/Activity Log (ICS 214).

Safety Officer

The Safety Officer is responsible for monitoring and assessing hazardous and unsafe situations and developing measures to assure personnel safety. The Safety Officer will correct unsafe acts or conditions through the regular line of authority, although the Safety Officer may exercise emergency authority to prevent or stop unsafe acts when immediate action is required. The Safety Officer maintains awareness of active and developing situations, ensures the Site Safety and Health Plan is prepared and implemented, and includes safety messages in each Incident Action Plan.

Only one Safety Officer will be assigned for each incident, including incidents operating under Unified Command and multi-jurisdiction incidents. The Safety Officer may have assisting agencies or jurisdictions.

- a. Review Common Responsibilities.

Command Section

Page 4

- b. During initial response, document the hazard analysis process addressing hazard identification, personal protective equipment, control zones, and decontamination area.
- c. Participate in planning meetings to identify any health and safety concerns inherent in the operation daily work plan.
- d. Review the Incident Action Plan for safety implications.
- e. Exercise emergency authority to prevent or stop unsafe acts.
- f. Investigate accidents that have occurred within incident areas.
- g. Ensure preparation and implementation of Site Safety and Health Plan (SSHP) in accordance with the Area Contingency Plan (ACP) and state and Federal OSHA regulations. The SSHP shall, at a minimum, address, include, or contain 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: 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 SSHP effectiveness.
- h. Assign assistants and manage the incident safety organization.
- i. Review and approve the Medical Plan (ICS 206).
- j. Maintain Unit/Activity Log (ICS 214).

Liaison Officer

Incidents that are multi-jurisdictional, or involve several agencies, may require the establishment of the Liaison Officer position on the Command Staff. The Liaison Officer is the point of contact for the assisting and cooperating Agency Representatives and stakeholder groups.

Only one Liaison Officer will be assigned for each incident, including incidents operating under Unified Command and multi-jurisdiction incidents. The Liaison Officer may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions.

- a. Review Common Responsibilities.
- b. Provide a point of contact for assisting and cooperating Agency Representatives.
- c. Identify Agency Representatives from each agency, including communications link and location.
- d. Maintain a list of assisting and cooperating agency and stakeholder group contacts.
- e. Assist in establishing and coordinating interagency contacts.
- f. Keep agencies supporting incident aware of incident status.
- g. Monitor incident operations to identify current or potential inter-organizational issues and advise Incident Command, as appropriate.

Command Section

Page 5

- h. Participate in planning meetings, provide current resource status information, including limitations and capabilities of assisting agency resources.
- i. Provide information and support to local government officials and stakeholder groups.
- j. Maintain Unit/Activity Log (ICS 214).

Agency Representatives

In many incidents involving multiple jurisdictions, an agency or jurisdiction will send a representative to assist in coordination efforts.

An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident. Agency Representatives report to the Liaison Officer, or to the Incident Commander in the absence of the Liaison Officer.

- a. Review Common Responsibilities.
- b. Ensure that all agency resources are properly checked-in at the incident.
- c. Obtain briefing from the Liaison Officer or Incident Commander.
- d. Inform assisting or cooperating agency personnel on the incident that the Agency Representative position for that agency has been filled.
- e. Attend briefings and planning meetings, as required.
- f. Provide input on the use of agency resources unless resource technical specialists are assigned from the agency.
- g. Cooperate fully with the Incident Commander and the General Staff on agency involvement at the incident.
- h. Ensure the well being of the agency personnel assigned to the incident.
- i. Advise the Liaison Officer of any special agency needs or requirements.
- j. Report to home agency or headquarters on a prearranged schedule.
- k. Ensure that all agency personnel and equipment are properly accounted for and released prior to departure.
- l. Ensure that all required agency forms, reports, and documents are complete prior to departure.
- m. Meet with the Liaison Officer or Incident Commander for debriefing prior to departure.

NRDA Representative

The Natural Resource Damage Assessment (NRDA) Representatives are responsible for coordinating the NRDA needs and activities of the trustee team. NRDA activities generally do not occur within the structure, processes, and control of the Incident Command System.

However, particularly in the early phases of a spill response, many

Command Section

Page 6

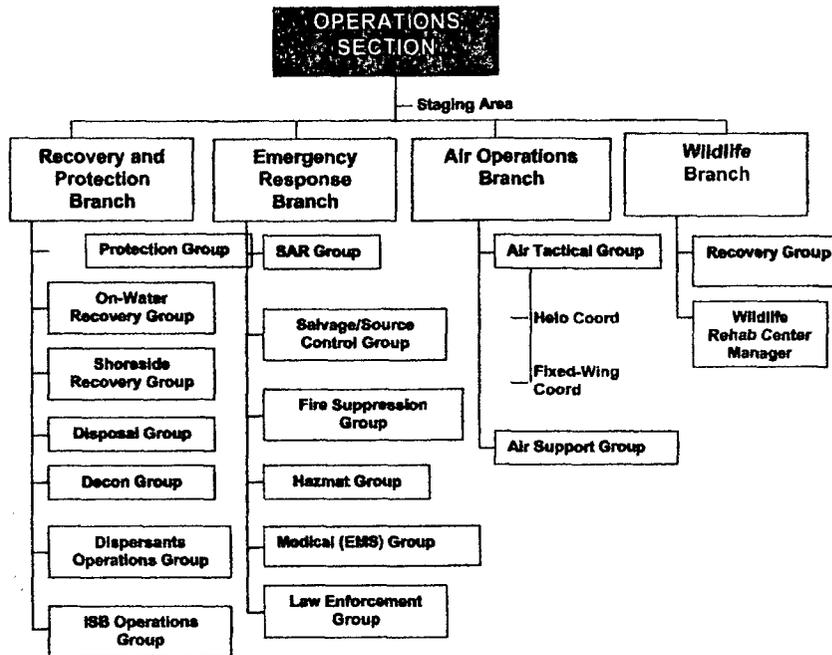
NRDA activities overlap with environmental assessment performed for the sake of spill response. Because NRDA is carried out by natural resource trustee agencies and /or their contractors, personnel limitations may require staff to perform both NRDA and response activities simultaneously. Therefore, NRDA representatives should remain coordinated with the spill response organization through the Liaison Officer, and may need to work directly with the Unified Command, Environmental Unit, Wildlife Branch or the NOAA Scientific Support Coordinator to resolve any problems or address areas of overlap. While NRDA resource requirements and costs may fall outside the responsibility of the Logistics and Finance/Admin sections, coordination is important.

Incident Investigation

Investigators from Federal, state, and local agencies will not normally be a part of the Incident Command System. While investigation personnel may report to individuals who are part of the Unified Command, the investigators should be separate so as not to introduce polarizing forces into the Incident Command System. The initial point of contact may be the Liaison Officer.

Operations Section Responsibilities and Duties

OPERATIONS SECTION



Operations Section Chief

The Operations Section Chief, a member of the General Staff, is responsible for managing all operations directly applicable to the primary mission. The Operations Section Chief activates and supervises elements in accordance with the Incident Action Plan and directs its execution; activates and executes the Site Safety and Health Plan; directs the preparation of unit operational plans; requests or releases resources; makes expedient changes to the Incident Action Plans as necessary; and reports such to the Incident Commander.

- a. Review Common Responsibilities.
- b. Develop operations portion of Incident Action Plan.
- c. Brief and assign operations personnel in accordance with Incident Action Plan.
- d. Supervise execution of the Incident Action Plan for Operations.
- e. Request resources needed to implement Operation's tactics as part of the Incident Action Plan development (ICS 215)
- f. Ensure safe tactical operations

Operations Section

Page 2

- g. Make, or approve, expedient changes to the Incident Action Plan during the operational period, as necessary.
- h. Approve suggested list of resources to be released from assigned status (not released from the incident).
- i. Assemble and disassemble teams/task forces assigned to operations section.
- j. Report information about changes in the implementation of the IAP, special activities, events, and occurrences to Incident Commander as well as to Planning Section Chief and Information Officer.
- k. Maintain Unit/Activity Log (ICS 214).

Staging Area Manager

Under the Operations Section Chief, the Staging Area Manager is responsible for managing all activities within the designated staging areas.

- a. Review common Responsibilities.
- b. Implement pertinent sections of the Incident Action Plan.
- c. Establish and maintain boundaries of staging areas.
- d. Post signs form identification and traffic control.
- e. Establish check-in function, as appropriate.
- f. Determine and request logistical support for personnel and /or equipment, as needed.
- g. Advise Operations Section Chief of all changing situation/conditions on scene.
- h. Respond to request for resource assignments.
- i. Respond to requests for information, as required.
- j. Demobilize or reposition staging area, as needed.
- k. Maintain Unit/Activity log (ICS 214).

Branch Director

The Branch Directors, when activated, are under the direction of the Operations Section Chief, and are responsible for implementing the portion of the Incident Action Plan appropriate to the Branches.

- a. Review Common Responsibilities.
- b. Develop, with subordinates, alternatives for Branch control operations.
- c. Attend planning meetings at the request of the Operations Section Chief.
- d. Review Division/Group Assignment Lists (ICS 204).
- e. Assign specific work tasks to Division/Group Supervisors.
- f. Supervise Branch operations.
- g. Resolve logistics problems reported by subordinates.
- h. Report to Operations Section Chief when: Incident Action Plan is to be modified; additional resources are needed; surplus resources are available; hazardous situations or significant events occur.

Operations Section

Page 3

- i. Approve accident and medical reports (home agency forms) originating within the Branch.
- j. Maintain Unit/Activity Log (ICS 214).

Division/Group Supervisor

The Division and /or Group Supervisor reports to the Operations Section Chief or Branch Director, when activated. The supervisor is responsible for implementing the assigned portion of the Incident Action Plan, assigning resources within the division/group, and reporting progress of control operations and status of resources within the division/group.

- a. Review Common Responsibilities.
- b. Implement Incident Action Plan for division/group.
- c. Provide available Incident Action Plan to team/task force leaders.
- d. Identify geographic areas or functions assigned to the divisions and groups.
- e. Review division/group assignments and incident activities with subordinates and assign tasks.
- f. Keep Incident Communications and /or Resources Unit advised of all changes in status of resources assigned to the division and/or group.
- g. Coordinate activities with other divisions.
- h. Determine need for assistance on assigned tasks.
- i. Submit situation and resources status information to Branch Director or Operations Section Chief.
- j. Report special occurrences or events such as accidents or sickness to the immediate supervisor.
- k. Resolve logistics problems within the division/group.
- l. Participate in developing Branch plans for the next operational period.
- m. Maintain Unit/Activity Log (ICS 214).

Strike Team/Task Force Leader

The Strike Team/Task Force Leader reports to a Division/Group Supervisor and is responsible for performing tactical assignments assigned to the Strike Team or Task Force. The leader reports work progress, resource status, and other important information to a division/group supervisor, and maintains work records on assigned personnel.

- a. Review Common Responsibilities.
- b. Monitor work progress and make changes, when necessary.
- c. Coordinate activities with other Strike Teams, Task Forces, and single resources.
- d. Submit situation and resource status information to Division/Group Supervisor.
- e. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 4

Single Resource

The person in charge of a single tactical resource will carry the unit designation of the resource.

- a. Review Common Responsibilities.
- b. Review assignments.
- c. Obtain necessary equipment/supplies.
- d. Review weather/environmental conditions for assignment area.
- e. Brief subordinates on safety measures.
- f. Monitor work progress.
- g. Ensure adequate communications with supervisor and subordinates.
- h. Keep supervisor informed of progress and any changes.
- i. Inform supervisor of problems with assigned resources.
- j. Brief relief personnel, and advise them of any change in conditions.
- k. Return equipment and supplies to appropriate unit.

Protection Group Supervisor

Under the Recovery and Protection Branch Director, the Protection Group Supervisor is responsible for deploying containment, diversion, and absorbent boom in designated locations. Depending on the size of the incident, the Protection Group may be further divided into Strike Team, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement Protection Strategies in Incident Action Plan.
- c. Direct, coordinate, assess effectiveness of protective actions.
- d. Modify protective actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

On-Water Recovery Group Supervisor

Under the Recovery and Protection Branch Director, the On-Water Recovery Group Supervisor is responsible for managing on-water recovery operations in compliance with the Incident Action Plan. The Group may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement recovery strategies in Incident Action Plan.
- c. Direct, coordinate, and assess effectiveness of on-water recovery actions.
- d. Modify recovery actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 5

Shoreside Recovery Group Supervisor

Under the Recovery and Protection Branch Director, the Shoreside Recovery Group Supervisor is responsible for managing shoreside cleanup operations in compliance with the Incident Action Plan. The group may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement recovery strategies in Incident Action Plan.
- c. Direct, coordinate, and assess effectiveness of shoreside recovery actions.
- d. Modify recovery actions, as needed.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Disposal Group Supervisor

Under the Recovery and Protection Branch Director, the Disposal Group Supervisor is responsible for coordinating the on-site activities of personnel engaged in collecting, storing, transporting, or disposing of waste materials. Depending on the size and location of the spill, the disposal groups may be further divided into Strike Teams, Task Forces, and single resources.

- a. Review Common Responsibilities.
- b. Implement disposal portion of Incident Action Plan.
- c. Ensure compliance with all hazardous waste laws and regulations.
- d. Maintain accurate records of recovered material.
- e. Brief the Recovery and Protection Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

Decontamination Group Supervisor

Under the Recovery and Protection Branch Director, the Decontamination Group Supervisor is responsible for decontamination of personnel and response equipment in compliance with approved statutes.

- a. Review Common Responsibilities.
- b. Implement Decontamination Plan.
- c. Determine resource needs.
- d. Direct and coordinate decontamination activities.
- e. Brief Safety Officer on conditions.
- f. Brief the Recovery and Protection Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Emergency Response Branch Director

The Emergency Response Branch Director is primarily responsible for overseeing and implementing emergency measures to protect life, mitigate further damage to the environment, and stabilize the situation.

- a. Review Common Responsibilities.
- b. Participate in planning meetings, as required.
- c. Develop operations portion of Incident Action Plan.
- d. Supervise operations.
- e. Determine need for, and request, additional resources.
- f. Review suggested list of resources to be released and initiate recommendation for release of resources.
- g. Report information about special activities, events, and occurrences to Operations Section Chief.
- h. Maintain Unit/Activity Log (ICS 214).

Search and Rescue (SAR) Group Supervisor

Under the direction of the Emergency Response Branch Director, the SAR Group Supervisor is Responsible for prioritizing and coordinating all Search and Rescue missions directly related to a Specific incident.

- a. Review Common Responsibilities.
- b. Prioritize Search and Rescue missions.
- c. Determine resource needs.
- d. Direct and coordinate Search and Rescue missions.
- e. Manage dedicated Search and Rescue resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Salvage/Source Control Group Supervisor

Under the direction of the Emergency Response Branch Director, the Salvage/Source Control Group Supervisor is responsible for coordinating and directing all salvage/source control activities related to an incident.

- a. Review Common Responsibilities.
- b. Coordinate development of Salvage/Source Control Plan.
- c. Determine resource needs.
- d. Direct and coordinate implementation of the Salvage/Source Control Plan.
- e. Manage dedicated salvage/source control resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 7

Fire Suppression Group Supervisor

Under the direction of the Emergency Response Branch Director, the Fire Suppression Group Supervisor is responsible for coordinating and directing all firefighting activities related to the incident.

- a. Review Common Responsibilities.
- b. Prioritize responses to incident-related fires.
- c. Determine resource needs.
- d. Direct and coordinate firefighting mission.
- e. Manage dedicated firefighting resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Hazardous Materials Group Supervisor

Under the direction of the Emergency Response Branch Director, the Hazardous Material Group Supervisor is responsible for coordinating and directing all hazardous materials activities related to the incident.

- a. Review Common Responsibilities.
- b. Prioritize HazMat responses related to the incident.
- c. Determine resource requirements.
- d. Direct and coordinate HazMat responses.
- e. Manage dedicated HazMat resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Medical (EMS) Group Supervisor

Under the direction of the Emergency Response Branch Director, the Medical (EMS) Group Supervisor is responsible for coordinating and directing all emergency medical services related to an incident.

- a. Review Common Responsibilities.
- b. Prioritize EMS responses related to the incident.
- c. Determine resource requirements.
- d. Direct and coordinate EMS responses.
- e. Manage dedicated EMS resources.
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Operations Section

Page 8

Law Enforcement Group Supervisor

Under the direction of the Emergency Response Branch Director, the Law Enforcement Group Supervisor is responsible for coordinating and directing all law enforcement activities related to an incident, including but not limited to, isolating the incident, crowd control, traffic control, evacuations, beach closures, and/or perimeter security.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Direct and coordinate law enforcement response.
- d. Manage dedicated law enforcement resources.
- e. Manage public protection action (e.g., evacuations, beach closures, etc.)
- f. Brief the Emergency Response Branch Director on activities.
- g. Maintain Unit/Activity Log (ICS 214).

Wildlife Branch Director

The Wildlife Branch Director is responsible for minimizing wildlife losses during spill responses; coordinating early aerial and ground reconnaissance of wildlife at the spill site, and reporting results to the Situation Unit Leader, employing wildlife hazing measures as Authorized in the Incident Action Plan; and recovering and rehabilitating impacted wildlife. A central wildlife processing center should be identified and maintained for: evidence tagging, transportation, veterinary services, treatment and rehabilitation, storage, and other support needs. The activities of private wildlife care groups, including those employed by the responsible party, will be overseen and coordinated by the Wildlife Branch Director.

- a. Review Common Responsibilities.
- b. Develop Wildlife Branch portion of the Incident Action Plan.
- c. Supervise Wildlife Branch operations.
- d. Determine resource needs.
- e. Review suggested list of resources to be released and initiate recommendation for release of resources.
- f. Assemble and disassemble Strike Teams/Task Forces assigned to the Wildlife Branch.
- g. Report information about special activities, events, and occurrences to Operations Section Chief.
- h. Maintain Unit/Activity Log (ICS 214).

Wildlife Recovery Group Supervisor

Under the direction of the Wildlife Branch Director, the Wildlife Recovery Group Supervisor is responsible for coordinating the search, collection, and field tagging of dead and live impacted wildlife and transporting them to processing center(s). This group should coordinate with Planning (Situation Unit) in conducting aerial and group surveys of wildlife in the vicinity of the spill. They should also deploy acoustic and visual wildlife hazing equipment, as needed.

Operations Section

Page 9

- a. Review common Responsibilities.
- b. Determine resource needs.
- c. Establish and implement protocols for collection and logging of impacted wildlife.
- d. Coordinate transportation of wildlife to processing station(s).
- e. Brief the Wildlife Branch Director on activities.
- f. Maintain Unit/Activity Log (ICS 214).

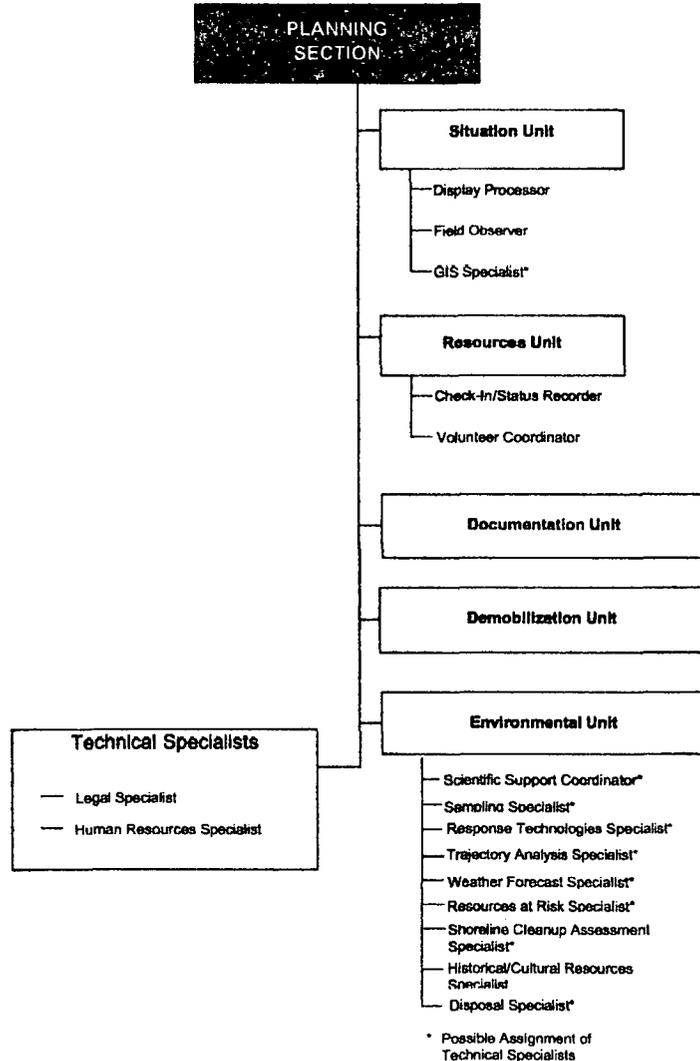
Wildlife Rehabilitation Center Manager

Under the direction of the Wildlife Branch Director, the Wildlife Rehabilitation Center Manager is responsible for receiving oiled wildlife at the processing center, recording essential information, collecting necessary samples, and conducting triage, stabilization, treatment, transport, and rehabilitation of oiled wildlife. The manager is responsible for assuring proper wildlife transportation to appropriate treatment centers for oiled animals requiring extended care and treatment.

- a. Review Common Responsibilities.
- b. Determine resource needs and establish processing station for impacted wildlife.
- c. Process impacted wildlife and maintain logs.
- d. Collect numbers/types/status of impacted wildlife and brief the Wildlife Branch director.
- e. Coordinate transport of wildlife to other facilities.
- f. Coordinate release of recovered wildlife.
- g. Implement demobilization plan.
- h. Brief the Wildlife Branch Director on activities.
- i. Maintain Unit/Activity Log (ICS 214).

Planning Section Responsibilities and Duties

PLANNING SECTION



Planning Section Chief

The Planning Section Chief, a member of the General Staff, is responsible for collecting, evaluating, disseminating, and using information about the incident and status of resources. Information is needed to: (1) understand the current situation, (2) predict probable course of incident events, and (3) prepare alternative strategies for the incident.

- a. Review Common Responsibilities.

Planning Section

Page 2

- b. Activate Planning Section units.
- c. Assign available personnel already on site to ICS organizational positions, as appropriate.
- d. Collect and process information about the incident.
- e. Supervise Incident Action Plan preparation.
- f. Provide input to the Incident Command and Operations Section Chief in preparing the Incident Action Plan.
- g. Participate in planning and other meetings, as required.
- h. Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the Incident Action Plan.
- i. Determine need for any specialized resources in support of the incident.
- j. Provide Resources Unit with the Planning Section's organizational structure, including names and locations of assigned personnel.
- k. Assign Technical Specialists, where needed.
- l. Assemble information on alternative strategies.
- m. Assemble and disassemble Strike Teams or Task Forces, as necessary.
- n. Provide periodic predictions on incident potential.
- o. Compile and display incident status summary information.
- p. Provide status reports to appropriate requesters.
- q. Advise General Staff of any significant changes in incident status.
- r. Incorporate the incident Traffic Plan (from Ground Support Unit), Vessel Routing Plan (from Vessel Support Unit) and other supporting plans in the Incident Action Plan.
- s. Instruct Planning Section Units in distribution and routing of incident information.
- t. Prepare resource release recommendations for submission to the Incident Command.
- u. Maintain Section records.
- v. Maintain Unit/Activity Log (ICS 214).

Situation Unit Leader

The Situation Unit Leader is responsible for collecting and evaluating information about the current, and possible future, status of the spill and the spill response operations. This responsibility includes compiling information regarding the type and amount of oil spilled, the amount of oil recovered, the oil's current location and anticipated trajectory, and impacts on natural resources. This also includes providing information to the GIS Specialist(s) for mapping the current and possible future situation, and preparing reports for the Planning Section Chief.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in planning meetings, as required.
- e. Prepare and maintain Incident Situation Display.
- f. Collect and maintain current incident data.
- g. Prepare periodic predictions, as requested by the Planning Section Chief.

Planning Section

Page 3

- h. Prepare, post, and disseminate resource and situation status information, as required in the Incident Information Center.
- i. Prepare the Incident Status Summary (ICS 209).

Resources Unit Leader

The Resources Unit Leader (RUL) is responsible for maintaining the status of all resources (primary and support) at an incident. The RUL achieves this by developing and maintaining 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 determining the availability of resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Meetings, as required.
- e. Establish check-in function at incident locations.
- f. Using the Incident Briefing (ICS 201), prepare and maintain the Incident Situation Display (organization chart and resource allocation and deployment sections).
- g. Establish contacts with incident facilities to track resource status.
- h. Gather, post, and maintain incident resource status.
- i. Maintain master roster of all resources checked in at the incident.
- j. Prepare Organization Assignment List (ICS 203) and Organization Chart (ICS 207).
- k. Prepare appropriate parts of Assignment Lists (ICS 204).
- l. Provide status reports to appropriate requesters.

Check-In/Status Recorder

Check-in/Status recorders are needed at each check-in location to ensure that all resources assigned to an incident are accounted for:

- a. Review Common Responsibilities.
- b. Obtain briefing from RUL.
- c. Obtain work materials, including Check-in Lists (ICS 211), Resource Status Cards (ICS 219), and status display boards.
- d. Establish communications with the Communication Center.
- e. Post signs so check-in locations can be easily found.
- f. Record check-in information on Check-in Lists (ICS 211).
- g. Transmit check-in information to Resources Unit on regular, arranged schedule, or as needed.
- h. Receive, record, and maintain status information on Resource Status Cards (ICS 219) for incident resources.

Planning Section

Page 4

- i. Forward completed Check-in Lists (ICS 211) and Status Change Cards (ICS 210) to the Resources Unit.
- j. Maintain files of Check-in Lists (ICS 211).

Volunteer Coordinator

The Volunteer Coordinator is responsible for managing and overseeing all aspects of volunteer participation, including recruitment, induction, and deployment. The Volunteer Coordinator is part of the Planning Section and reports to the Resources Unit Leader.

- a. Review Common Responsibilities.
- b. Coordinate with Resources Unit to determine where volunteers are needed.
- c. Identify any necessary skills and training needs.
- d. Verify minimum training needed, as necessary, with Safety Officer or units requesting volunteers (if special skill is required).
- e. Activate, as necessary, standby contractors for various training needs.
- f. Coordinate nearby or on-site training as part of the deployment process.
- g. Identify and secure other equipment, materials, and supplies, as needed.
- h. Induct convergent (on the scene) volunteers.
- i. Activate other volunteers if needed (individuals who have applied prior to an incident and are on file with the Volunteer Coordinator or other participating volunteer organizations).
- j. Recruit additional volunteers through news media appeals (if needed).
- k. Assess, train, and assign volunteers to requesting units.
- l. Coordinate with Logistics for volunteer housing and meal accommodations.
- m. Assist volunteers with other special needs.
- n. Maintain Unit/Activity Log (ICS 214).

Documentation Unit Leader

The Documentation Unit Leader is responsible for maintaining accurate, up-to-date incident files such as: Incident Action Plan, incident reports, communication logs, injury claims, and situation status reports, etc. Thorough documentation is critical to post-incident analysis. Some of these documents may originate in other sections. This unit will ensure each section is maintaining and providing appropriate documents. Incident files will be stored for legal, analytical, and historical purposes. The Documentation Unit also provides duplication and copying services.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Meetings, as required.
- e. Establish and organize incident files.
- f. Establish duplication service and respond to requests.
- g. File copies of all official forms and reports.

Planning Section

Page 5

- h. Check on accuracy and completeness of records submitted for files and correct errors or omissions by contacting appropriate ICS units.
- i. Provide incident documentation to appropriate requesters.

Demobilization Unit Leader

The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan, and assisting Sections/Units in ensuring that orderly, safe, and cost-effective demobilization of personnel and equipment is accomplished.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Review incident resource records to determine probable size of demobilization effort.
- e. Participate in planning meetings, as required.
- f. Evaluate logistics and transportation capabilities required to support demobilization.
- g. Prepare and obtain approval of Demobilization Plan, including required decontamination.
- h. Distribute Demobilization Plan to each processing point.
- i. Ensure that all Sections/Units understand their responsibilities within the Demobilization Plan.
- j. Monitor implementation and assist in coordinating the Demobilization Plan.
- k. Brief Planning Section Chief on progress of demobilization.
- l. Provide status reports to appropriate requesters.

Environmental Unit Leader

The Environmental Unit Leader is responsible for environmental matters associated with the response, including strategic assessment, modeling, surveillance, and environmental monitoring and permitting. The Environmental Unit prepares environmental data for the Situation Unit. Technical Specialists frequently assigned to the Environmental Unit include the Scientific Support Coordinator and Specialists for Sampling, Response Technologies, Trajectory Analysis, Weather Forecast, Resources at Risk, Shoreline Cleanup Assessment, Historical/Cultural Resources, and Disposal.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing and special instructions from the Planning Section Chief.
- d. Participate in Planning Section Meetings.
- e. Identify sensitive areas and recommend response priorities.
- f. Determine the extent, fate, and effects of contamination.
- g. Acquire, distribute, and provide analysis of weather forecasts.
- h. Monitor the environmental consequences of cleanup actions.
- i. Develop shoreline cleanup and assessment plans.

Planning Section

Page 6

- j. Identify the need for, and prepare, any special advisories or orders.
- k. Identify the need for, and obtain, permits, consultations, and other authorizations.
- l. Identify and develop plans for protection of affected historical/cultural resources.
- m. Evaluate the opportunities to use various Response Technologies.
- n. Develop disposal plans.
- o. Develop plan for collecting, transporting, and analyzing samples.
- p. Maintain Unit/Activity Log (ICS 214).

Technical Specialists

Technical Specialists are advisors with special skills needed to support the incident. Technical Specialists may be assigned anywhere in the ICS organization. If necessary, Technical Specialists may be formed into a separate unit. The Planning Section will maintain a list of available specialists and will assign them where needed. The following are example position descriptions of Technical Specialists that might be used during an oil spill response.

Scientific Support Coordinator

The Scientific Support Coordinator (SSC) is a technical specialist is defined in the National Contingency Plan as the principal advisor to the FOSC for scientific issues. The SSC is responsible for providing expertise on chemical hazards, field observations, trajectory analysis, resources at risk, environmental tradeoffs of countermeasures and cleanup methods, and information management. The SSC is also charged with gaining consensus on scientific issues affecting the response, but ensuring that differing opinions within the scientific community are communicated to the Incident Command. The SSC is the point of contact for the Scientific Support Team from NOAA's Office of Response and Restoration (OR&R). Additionally, the SSC is responsible for providing data on weather, tides and currents, and other applicable environmental conditions. The SSC can serve as the Environmental Unit Leader.

- a. Review Common Responsibilities.
- b. Attend planning meetings.
- c. Determine resource needs.
- d. Provide overflight maps and trajectory analysis to the Situation Unit.
- e. Provide weather, tidal, and current information.
- f. Obtain consensus on scientific issues affecting the response.
- g. Develop a prioritized list of the resources at risk.
- h. Provide information on chemical hazards.
- i. Evaluate environmental tradeoffs of countermeasures and cleanup methods, and response endpoints.
- j. Maintain Unit/Activity Log (ICS 214).

Planning Section

Page 7

Sampling Specialist

The Sampling Specialist is responsible for providing a sampling plan to coordinate collection, documentation, storage, transportation, and submittal of samples to appropriate laboratories for analysis or storage.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Participate in planning meetings, as required.
- d. Identify and alert appropriate laboratories.
- e. Meet with team to develop initial sampling plan and strategy and review sampling and labeling procedures.
- f. Set up site map to monitor location of samples collected and coordinate with GIS staff.
- g. Coordinate sampling activities with NRDA Representative(s), Incident Investigators, and Legal Specialists.
- h. Provide status reports to appropriate requesters.
- i. Maintain Unit/Activity Log (ICS 214).

Trajectory Analysis Specialist

The Trajectory Analysis Specialist is responsible for providing projections and estimates of the movement and behavior of the spill. The specialist will combine visual observations, remote sensing information, and computer modeling, as well as observed and predicted tidal, current, and weather data to form these analyses. Additionally, the specialist is responsible for coordinating with local experts (weather service, academia, researchers, etc.) in formulating these analyses. Trajectory maps, overflight maps, and tides and current data will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.

- a. Review Common Responsibilities.
- b. Schedule and conduct spill observations/overflights, as needed.
- c. Gather pertinent information on tides and currents from all available sources.
- d. Provide trajectory and overflight maps, and tidal and current information.
- e. Provide briefing on observations and analyses to the proper personnel.
- f. Maintain Unit/Activity Log (ICS 214).

Weather Forecast Specialist

The Weather Forecast Specialist is responsible for acquiring and reporting incident-specific weather forecasts. The Specialist will interpret and analyze data from the NOAA's National Weather Service and other sources. This person will be available to answer specific weather-related response questions and coordinate with the Scientific Support Coordinator and Trajectory Analysis Specialist, as needed. Weather forecasts will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.

Planning Section

Page 8

- a. Review Common Responsibilities.
- b. Gather pertinent weather information from all appropriate sources.
- c. Provide incident-specific weather forecasts on an assigned schedule.
- d. Provide briefing on weather observations and forecasts to the proper personnel.
- e. Maintain Unit/Activity Log (ICS 214).

Resources at Risk (RAR) Specialist

The Resources at Risk Specialist is responsible for identifying resources thought to be at risk from exposure to the spilled oil by analyzing known and anticipated oil movement and the location of natural, cultural and economic resources. The Resources at Risk Specialist considers the relative importance of the resources and the relative risk to develop a priority list for protection.

- a. Review Common Responsibilities.
- b. Participate in Planning Meetings, as required.
- c. Determine resource needs.
- d. Obtain current and forecasted status information from Situation Unit.
- e. Identify natural resources at risk.
- f. Identify archaeo-cultural resources at risk.
- g. Identify socioeconomic resources at risk.
- h. Develop a prioritized list of the resources at risk for use by the Planning Section.
- i. Provide status reports to appropriate requesters.
- j. Maintain Unit/Activity Log (ICS 214).

Shoreline Cleanup Assessment Specialist

The Shoreline Cleanup Assessment (SCA) Specialist is responsible for providing appropriate cleanup recommendations as to the types of the various shorelines and the degree to which they have been impacted. This specialist will recommend the need for, and the numbers of, Shoreline Cleanup Assessment Teams (SCATs) and will be responsible for making cleanup recommendations to the Environmental Unit Leader. Additionally, this specialist will recommend cleanup endpoints that address the question of "How Clean is Clean?"

- a. Review Common Responsibilities.
- b. Obtain briefing and special instructions from the Environmental Unit Leader.
- c. Participate in planning section meetings.
- d. Recommend the need for and number of SCATs.
- e. Describe shoreline types and oiling conditions.
- f. Identify sensitive resources (ecological, recreational, and cultural).
- g. Recommend the need for cleanup.
- h. Recommend cleanup priorities.
- i. Monitor cleanup effectiveness.

Planning Section

Page 9

- j. Recommend shoreline cleanup methods and endpoints.
- k. Maintain Unit/Activity Log (ICS 214).

Disposal (Waste Management) Specialist

The Disposal (Waste Management) Specialist is responsible for providing the Planning Section Chief with a Disposal Plan that details the collection, sampling, monitoring, temporary storage, transportation, recycling, and disposal of all anticipated response wastes.

- a. Review Common Responsibilities.
- b. Determine resource needs.
- c. Participate in planning meetings, as required.
- d. Develop a Cleanup Plan and monitor cleanup operations, if appropriate.
- e. Develop a detailed Waste Management Plan.
- f. Calculate and verify the volume of petroleum recovered, including petroleum collected with sediment/sand, etc.
- g. Provide status reports to appropriate requesters.
- h. Maintain Unit/Activity Log (ICS 214).

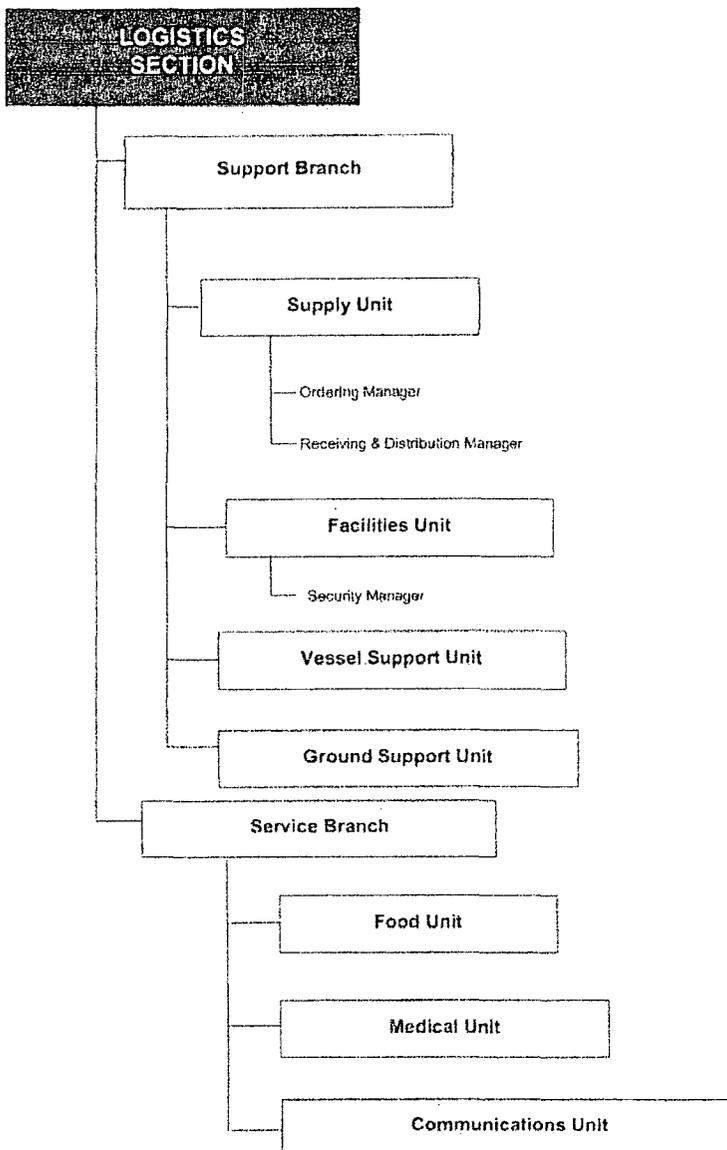
Legal Specialist

The Legal Specialist will act in an advisory capacity during an oil spill response.

- a. Review Common Responsibilities.
- b. Participate in planning meetings, if requested.
- c. Advise on legal issues relating to in-situ burning, dispersants, and other response technologies.
- d. Advise on legal issues relating to Natural Resource Damage Assessment.
- e. Advise on legal issues relating to investigation.
- f. Advise on legal issues relating to finance and claims.
- g. Advise on response related legal issues.
- h. Maintain Unit/Activity Log (ICS 214).

Logistics Section Responsibilities and Duties

LOGISTICS SECTION



Logistics Section Chief

The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident response. The Logistics Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises Branches and Units within the Logistics Section.

- a. Review Common Responsibilities.

Logistics Section

Page 2

- b. Plan organization of Logistics Section.
- c. Assign work locations and preliminary work tasks to Section personnel.
- d. Notify Resources Unit of Logistics Section units activated including names and locations of assigned personnel.
- e. Assemble and brief Branch Directors and Unit Leaders.
- f. Participate in Incident Action Plan preparation.
- g. Identify service and support requirements for planned and expected operations.
- h. Provide input to, and review, Communications Plan, Medical Plan, Traffic Plan, and Vessel Routing Plan.
- i. Coordinate and process requests for additional resources.
- j. Review Incident Action Plan and estimate Section needs for next operational period.
- k. Advise on current service and support capabilities.
- l. Prepare service and support elements of the Incident Action Plan.
- m. Estimate future service and support requirements.
- n. Provide input to Demobilization Plan as required by Planning Section.
- o. Recommend release of unit resources in conformance with Demobilization Plan.
- p. Ensure general welfare and safety of Logistics Section personnel.
- q. Maintain Unit/Activity Log (ICS 214).

Service Branch Director

The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for managing all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical, and Food Units.

- a. Review Common Responsibilities.
- b. Obtain working materials from Logistics Kit.
- c. Determine level of service required to support operations
- d. Confirm dispatch of Branch personnel.
- e. Participate in planning meetings of Logistics Section personnel.
- f. Review Incident Action Plan.
- g. Coordinate activities of Service Branch Units.
- h. Inform Logistics Section Chief of activities.
- i. Resolve Service Branch problems.
- j. Maintain Unit/Activity Log (ICS 214).

Communications Unit Leader

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; installing and testing communications equipment; supervising the Incident Communications Center; distributing communications equipment to incident personnel; and communications equipment maintenance and repair.

Logistics Section

Page 3

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Determine unit personnel needs.
- e. Advise on communications capabilities/limitations.
- f. Prepare and implement the incident Radio Communications Plan (ICS 205).
- g. Ensure the Incident Communications Center and Message Center are established.
- h. Set up telephone and public address systems.
- i. Establish appropriate communications distribution/maintenance locations.
- j. Ensure communications systems are installed and tested.
- k. Ensure an equipment accountability system is established.
- l. Ensure personal portable radio equipment from cache is distributed per radio plan.
- m. Provide technical information, as required on:
 - 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.
- n. Supervise Communications Unit activities.
- o. Maintain records on all communications equipment, as appropriate.
- p. Ensure equipment is tested and repaired.
- q. Recover equipment from relieved or released units.
- r. Maintain Unit/Activity Log (ICS 214).

Medical Unit Leader

The Medical Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for developing the Medical Emergency Plan, obtaining medical aid and transportation for injured and ill incident personnel, and preparing 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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Participate in Logistics Section/Service Branch planning activities.
- e. Determine level of emergency medical activities performed prior to activation of Medical Unit.
- f. Activate Medical Unit.
- g. Prepare the Medical Plan (ICS 206).
- h. Prepare procedures for major medical emergency.
- i. Declare major medical emergency, as appropriate.
- j. Respond to requests for medical aid.
- k. Respond to requests for medical transportation.

Logistics Section

Page 4

- l. Respond to requests for medical supplies.
- m. Prepare medical reports and submit, as directed.
- n. Maintain Unit/Activity Log (ICS 214).

Food Unit Leader

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, including: menu planning; determining cooking facilities required; food preparation; serving; providing potable water; and general maintenance of the food service areas.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Service Branch Director or Logistics Section Chief.
- d. Determine location of working assignment, and number and location of personnel to be fed.
- e. Determine method of feeding to best fit each situation.
- f. Obtain necessary equipment and supplies to operate food service facilities.
- g. Set up Food Unit Equipment.
- h. Prepare menus to ensure incident personnel receive well-balanced meals.
- i. Ensure that sufficient potable water is available to meet all incident needs.
- j. Ensure that all appropriate health and safety measures are taken.
- k. Supervise cooks and other Food Unit personnel.
- l. Keep inventory of food on hand and receive food orders.
- m. Provide Supply Unit Leader food supply orders.
- n. Maintain Unit/Activity Log (ICS 214).

Support Branch Director

The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for developing and implementing logistics plans in support of the Incident Action Plan, including providing personnel, equipment, facilities, and supplies to support incident operations. The Support Branch Director supervises the operation of the Supply, Facilities, Ground Support, and Vessel Support Units.

- a. Review Common Responsibilities.
- b. Obtain work materials from Logistics Kit.
- c. Identify Support Branch personnel dispatched to the incident.
- d. Determine initial support operations in coordination with Logistics Section Chief and Service Branch Director.
- e. Prepare initial organization and assignments for support operations.
- f. Determine resource needs.
- g. Maintain surveillance of assigned unit work progress and inform Logistics Section Chief of activities.
- h. Resolve problems associated with requests from Operations Section.

Logistics Section

Page 5

- i. Maintain Unit/Activity Log (ICS 214).

Supply Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain a briefing from the Support Branch Director or Logistics Section Chief.
- d. Participate in Logistics Section/Support Branch planning activities.
- e. Provide Kits to Planning, Logistics and Finance Sections.
- f. Determine the type and amount of supplies enroute.
- g. Arrange for receiving ordered supplies.
- h. Review Incident Action Plan for information on operations of the Supply Unit.
- i. Develop and implement safety and security requirements.
- j. Order, receive, distribute, and store supplies and equipment and coordinate contracts and resource orders with the Finance Section.
- k. Receive, and respond to, requests for personnel, supplies, and equipment.
- l. Maintain inventory of supplies and equipment.
- m. Coordinate service of reusable equipment.
- n. Submit reports to the Support Branch Director.
- o. Maintain Unit/Activity Log (ICS 214).

Facilities Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from the Support Branch Director or Logistics Section Chief.
- d. Review Incident Action Plan.
- e. Participate in Logistics Section/Support Branch planning activities.
- f. Determine requirements for each facility to be established.
- g. Determine requirements for the Incident Command Post.
- h. Prepare layouts of incident facilities.
- i. Notify unit leaders of facility layout.

Logistics Section

Page 6

- j. Activate incident facilities.
- k. Provide Base and Camp Managers.
- l. Obtain personnel to operate facilities.
- m. Provide sleeping facilities.
- n. Provide security services.
- o. Provide facility maintenance services – sanitation, lighting and cleanup.
- p. Demobilize base and camp facilities.
- q. Maintain Facilities Unit records.
- r. Maintain Unit/Activity Log (ICS 214).

Security Manager

The Security Manager is responsible to provide safeguards for protecting personnel and property from loss or damage.

- a. Review Common Responsibilities.
- b. Establish contacts with local law enforcement agencies, as required.
- c. Contact Agency Representatives to discuss any special custodial requirements that may affect operations.
- d. Request required personnel support to accomplish work assignments.
- e. Ensure that support personnel are qualified to manage security problems.
- f. Develop Security Plan for incident facilities.
- g. Adjust Security Plan for personnel and equipment changes and releases.
- h. Coordinate security activities with appropriate incident personnel.
- i. Keep the peace, prevent assaults, and settle disputes by coordinating with Agency Representatives.
- j. Prevent theft of government and personal property.
- k. Document all complaints and suspicious occurrences.
- l. Maintain Unit/Activity Log (ICS 214).

Ground Support Unit Leader

The Ground Support Unit Leader is primarily responsible for (1) coordinating transportation of personnel, supplies, food, and equipment on land; (2) fueling, servicing, maintaining and repairing vehicles and other ground support equipment; (3) implementing the Incident Traffic Plan; and (4) supporting out-of-service shoreside resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Support Branch Director or Logistic Section Chief.
- d. Participate in Support Branch/Logistics Section planning activities.
- e. Coordinate development of the Traffic Plan with the Planning Section.
- f. Support out-of-service shoreside resources.
- g. Notify Resources Unit of all status changes on support and transportation vehicles.

Logistics Section

Page 7

- h. Arrange for, and activate, fueling, maintenance, and repair of ground transportation resources.
- i. Maintain inventory of support and transportation vehicles (ICS 218).
- j. Coordinate transportation services.
- k. Maintain usage information on rented equipment.
- l. Requisition maintenance and repair supplies (e.g., fuel, spare parts).
- m. Coordinate incident road maintenance.
- n. Submit reports to Support Branch Director, as directed.
- o. Maintain Unit/Activity Log (ICS 214).

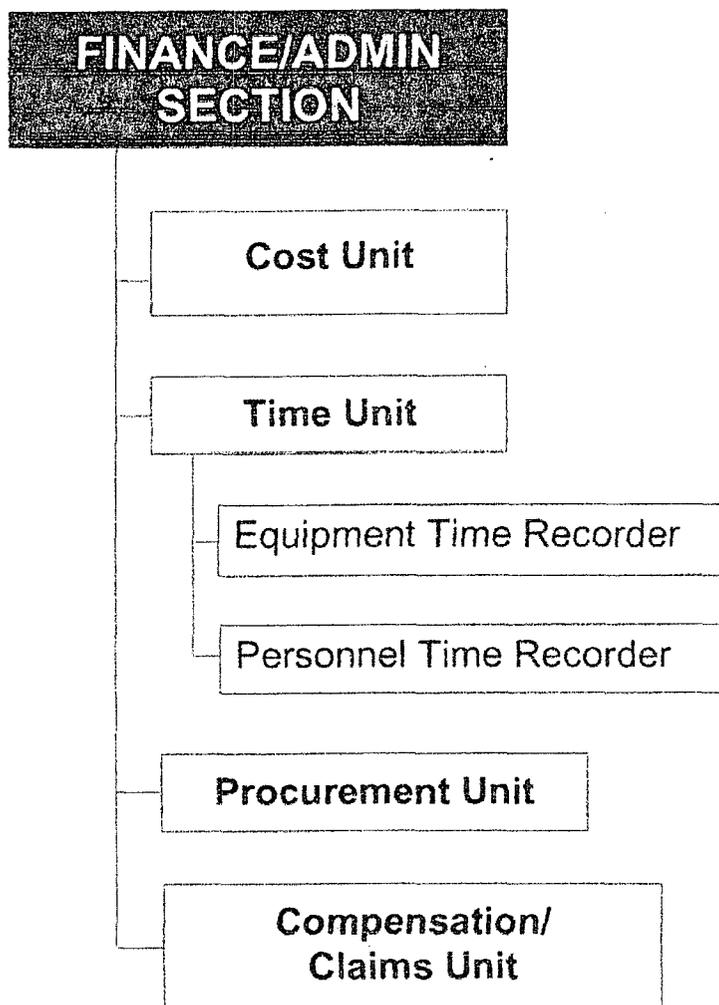
Vessel Support Unit Leader

The Vessel Support Unit Leader is primarily responsible for (1) coordinating transportation of personnel, supplies, food, and equipment for waterborne resources; (2) fueling, servicing, maintaining and repairing vessels and other vessel support equipment; (3) implementing the Vessel Routing Plan; and (4) supporting out-of-service waterborne resources.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Support Branch Director or Logistic Section Chief.
- d. Participate in Support Branch/Logistics Section planning activities.
- e. Coordinate Vessel Routing Plan development.
- f. Coordinate vessel transportation assignments with the Protection and Recovery Branch or other sources of vessel transportation.
- g. Coordinate water-to-land transportation with Ground Support Unit, as necessary.
- h. Maintain a prioritized list of transportation requirements to be scheduled with the transportation source.
- i. Support out-of-service vessel resources, as requested.
- j. Arrange for fueling, maintenance, and repair of vessel resources, as requested.
- k. Maintain inventory of support and transportation vessels.
- l. Maintain Unit/Activity Log (ICS 214).

Finance Section Responsibilities and Duties

FINANCE/ADMINISTRATION SECTION



Finance/Administration Section Chief

The Finance/Administration Section Chief, a member of the General Staff, is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section.

- a. Review Common Responsibilities.
- b. Attend briefing with responsible company/agency to gather information.
- c. Attend planning meetings to gather information on overall strategy.
- d. Determine resource needs.

Finance Section

Page 2

- e. Develop an operating plan for Finance/Administration function on incident.
- f. Prepare work objectives for subordinates, brief staff, make assignments, and evaluate performance.
- g. Inform members of the Unified Command and General Staff when Section is fully operational.
- h. Meet with assisting and cooperating company/agency representatives, as required.
- i. Provide input in all planning sessions on financial and cost analysis matters.
- j. Maintain daily contact with company/agency(s) administrative headquarters on finance matters.
- k. Ensure that all personnel time records are transmitted to home company/agency according to policy.
- l. Participate in all demobilization planning.
- m. Ensure that all obligation documents initiated at the incident are properly prepared and completed.
- n. Brief agency administration personnel on all incident related business management issues needing attention and follow-up prior to leaving incident.

Cost Unit Leader

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.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Coordinate with company/agency headquarters on cost-reporting procedures.
- e. Obtain and record all cost data.
- f. Prepare incident cost summaries.
- g. Prepare resource-use cost estimates for Planning.
- h. Make recommendations for cost-savings to Finance/Administration Section Chief.
- i. Maintain cumulative incident cost records.
- j. Ensure that all cost documents are accurately prepared.
- k. Complete all records prior to demobilization.
- l. Provide reports to Finance/Administration Section Chief.
- m. Maintain Unit/Activity Log (ICS 214).

Time Unit Leader

The Time Unit Leader is responsible for equipment and personnel time records.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.

Finance Section

Page 3

- d. Determine resource needs.
- e. Establish contact with appropriate company/agency personnel/representatives.
- f. Organize and establish Time Unit.
- g. Establish Time Unit objectives.
- h. Ensure that daily personnel and equipment time recording documents are prepared in compliance with time policies.
- i. Submit cost estimate data forms to Cost Unit, as required.
- j. Provide for records security.
- k. Ensure that all records are current or complete prior to demobilization.
- l. Release time reports from assisting organizational entities to the respective Representatives prior to demobilization.
- m. Brief Finance/Administration Section Chief on current problems, recommendations, outstanding issues, and follow-up requirements.
- n. Maintain Unit/Activity Log (ICS 214).

Procurement Unit Leader

The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts.

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Contact appropriate unit leaders on incident needs and any special procedures.
- e. Coordinate with local jurisdictions on plans and supply sources.
- f. Prepare and sign contracts and land use agreements, as needed.
- g. Draft memorandums of understanding.
- h. Establish contracts with supply vendors, as required.
- i. Interpret contracts/agreements and resolve claims or disputes within delegated authority.
- j. Coordinate with Compensation/Claims Unit on procedures for handling claims.
- k. Finalize all agreements and contracts.
- l. Coordinate use of imprest funds, as required.
- m. Complete final processing and send documents for payment.
- n. Coordinate cost data in contracts with Cost Unit Leader.
- o. Maintain Unit/Activity Log (ICS 214).

Compensation/Claims Unit Leader

The Compensation/Claims Unit Leader is responsible for the overall management and direction of all administrative matters pertaining to compensation-for-injury and claims-related activity for an incident.

Finance Section

Page 4

- a. Review Common Responsibilities.
- b. Review Unit Leader Responsibilities.
- c. Obtain briefing from Finance/Administration Section Chief.
- d. Establish contact with Safety Officer, Liaison Officer and Company/Agency Representatives.
- e. Determine the need for Compensation for injury and Claims Specialists and order personnel, as needed.
- f. If possible, co-locate Compensation-for-injury work area with the Medical Unit.
- g. Obtain a copy of the Incident Medical Plan.
- h. Coordinate with Procurement Unit on procedures for handling claims.
- i. Periodically review documents produced by subordinates.
- j. Obtain Demobilization Plan and ensure that Compensation-for-injury and Claims Specialists are adequately briefed on Demobilization Plan.
- k. Ensure that all Compensation-for-injury and Claims documents are up to date and routed to the proper company/agency.
- l. Maintain Unit/Activity Log (ICS 214).

SECTION 1.3.5

EVACUATION PLANS

MAP 2 – SPILL FLOW DIRECTION

***MAP 3 – LOCATION OF BLOOMFIELD
REFINERY***

***MAP 4 – ROUTES FOR EMERGENCY
RESPONSE PERSONNEL AND EQUIPMENT***

MAP 5 – EVACUATION ROUTES

MAP 6 – TANK LOCATIONS AND CONTENTS

MATERIAL SAFETY DATA SHEETS

Section 1.3.5 – Evacuation Plans

In the event that circumstances necessitate an evacuation of the refinery or the surrounding vicinity, the person designated as the Emergency Coordinator is Randy Schmaltz.

1. Location of Stored Materials:

Petroleum feedstocks and products are stored in various tanks as shown on *Map 6 – Tank Locations and Contents at Bloomfield Refinery*. The largest concentration of storage is in the Tank Farm. Several tanks are also located in the Process Area and the Loading and Unloading Area. Drums and totes containing various lubricants, chemicals, additives and used oils are located in the Storage Yard at the west end of the refinery. A typical inventory may include thirty 55 gallon drums and ten 350 gallon totes. (See *Map 6 – Tank Locations and Contents at the Bloomfield Refinery*.)

2. Hazard Imposed by Spilled Material:

Possible additional hazards imposed by spilled petroleum feedstocks and products into and on the San Juan River and the Bloomfield area include the following:

- * Fire.
- * Contamination of Water Resources could potentially affect irrigation, agricultural and drinking water resources.
- * Infiltrate and affect the surrounding ground water in the Bloomfield area.
- * Vapor Cloud Explosion cause by pressurized hydrocarbons.
- * Personnel exposure hazards including contact burns and toxic vapor inhalation.

3. Spill Flow Direction:

A discharge from the Aboveground Storage Tanks would possibly flow in the following directions:

- a. A Discharge from the Aboveground Storage Tanks could possibly flow in the following directions: (See *Map 2 – Spill Flow Direction at the Bloomfield Refinery*)
 - i. The Flow Path provides for the initial Spill Flow direction to be North or Northwest over land into the Hammond Ditch and the San Juan River. The distance from the Bloomfield Refinery to the San Juan River is approximately 300 - 1000 feet and the time for the product to travel this far is 12 - 40 seconds worst case.

4. Prevailing Wind Direction and Speed:

The prevailing wind direction in the vicinity of the refinery is west to east, however east to west winds are common as well. Orange colored wind socks are located throughout

the refinery to aid in identifying the current local wind direction. Average wind speed is approximately 9 mph.

5. Water Currents, Tides, or Wave Conditions:

Primary locations where discharges may occur have No Viable Water Currents, Tides and No Wave Action since the facility is not located close to an ocean or lake. Both the San Juan River and the Hammond Irrigation Ditch flow from east to west. The San Juan River flows year-round. The Hammond Irrigation Ditch flows only during irrigation season from mid-April through mid-October and is otherwise empty and dry.

6. Arrival Route of Emergency Response Personnel and Equipment:

Emergency Response Personnel and Equipment will arrive via the following routes:
(See *Map 4 – Routes for Emergency Response Personnel & Equipment.*)

- a. From the South, travel North on US Highway 550 (State Route 44) to County Road 4990 (Sullivan Road) and turn East. Continue to the Main Entrance of the Bloomfield Refinery.
- b. From the East, travel West on US Highway 64 to US Highway 550 South (State Route 44) and turn South. Travel to County Road 4990 and turn East. Proceed on County Road 4990 to the Bloomfield Refinery entrance on the North side of the road.
- c. From the North, travel South on US Highway 550 (State Road 44) to US Highway 64 and turn West. Continue for approximately ¼ mile and turn South on US Highway 550 (State Route 44). Travel to County Road 4990 (Sullivan Road) and turn East. Proceed to the Bloomfield Refinery entrance on the North side of the road.
- d. From the West, travel East on US Highway 64 to travel on US Highway 64 to US Highway 50 South (State Route 44) and turn South. Travel to County Road 4990 and turn East. Proceed on County Road 4990 to the Bloomfield Refinery entrance on the North side of the road.

7. Evacuation Route:

In the event of an Emergency Response Incident at the Bloomfield Refinery, the Refinery Manager will act as the Initial Incident Commander and utilize available automobiles to evacuate all personnel to the designated Evacuation Assembly Area which is the Main Office Building to be accounted for and then, if necessary, out the main entrance and across County Road 4990 off the property. (See *Map 5 – Evacuation Routes to Evacuation Assembly Area.*) Supervisory personnel will assist in the safe and orderly evacuation of all personnel. Prior to evacuating, supervisors will check the immediate area they are located in to ensure that all personnel are properly evacuated.

8. Alternative Route of Evacuation:

Personnel at the east side of the refinery and at the Loading and Unloading Area may evacuate to the east along County Road 4990. Should the primary Evacuation route be unavailable, personnel use this eastern route to evacuate. (See Map 5 – Evacuation Routes to Evacuation Assembly Area.)

9. Transportation of Injured Personnel to Nearest Emergency Medical Facility:

Injured personnel will be transported to the San Juan Regional Medical Center in Farmington via County Road 4990, State Route 44, and US Highway 64.

10. Location of Alarm/Notification Systems:

The following are the Primary Customer Personnel and Employee Alarm/Notification Systems to provide warning to all personnel and their locations.

In the event of an Emergency Response Incident at the Bloomfield Refinery, the refinery alarm horn may be used to signal an alert to all employees. This horn can be activated from outside the Control Room and the east side of the Motor Control Center.

11. Centralized Check-in/Assembly Area for Evacuation Validation:

The centralized check-in location for evacuating personnel will be the Main Office located near the entrance to the refinery at 50 County Road 4990. If personnel cannot get to this location, they may proceed to the parking lot south of the Regional Office Building. Once personnel are all accounted for, they will be evacuated from the area.

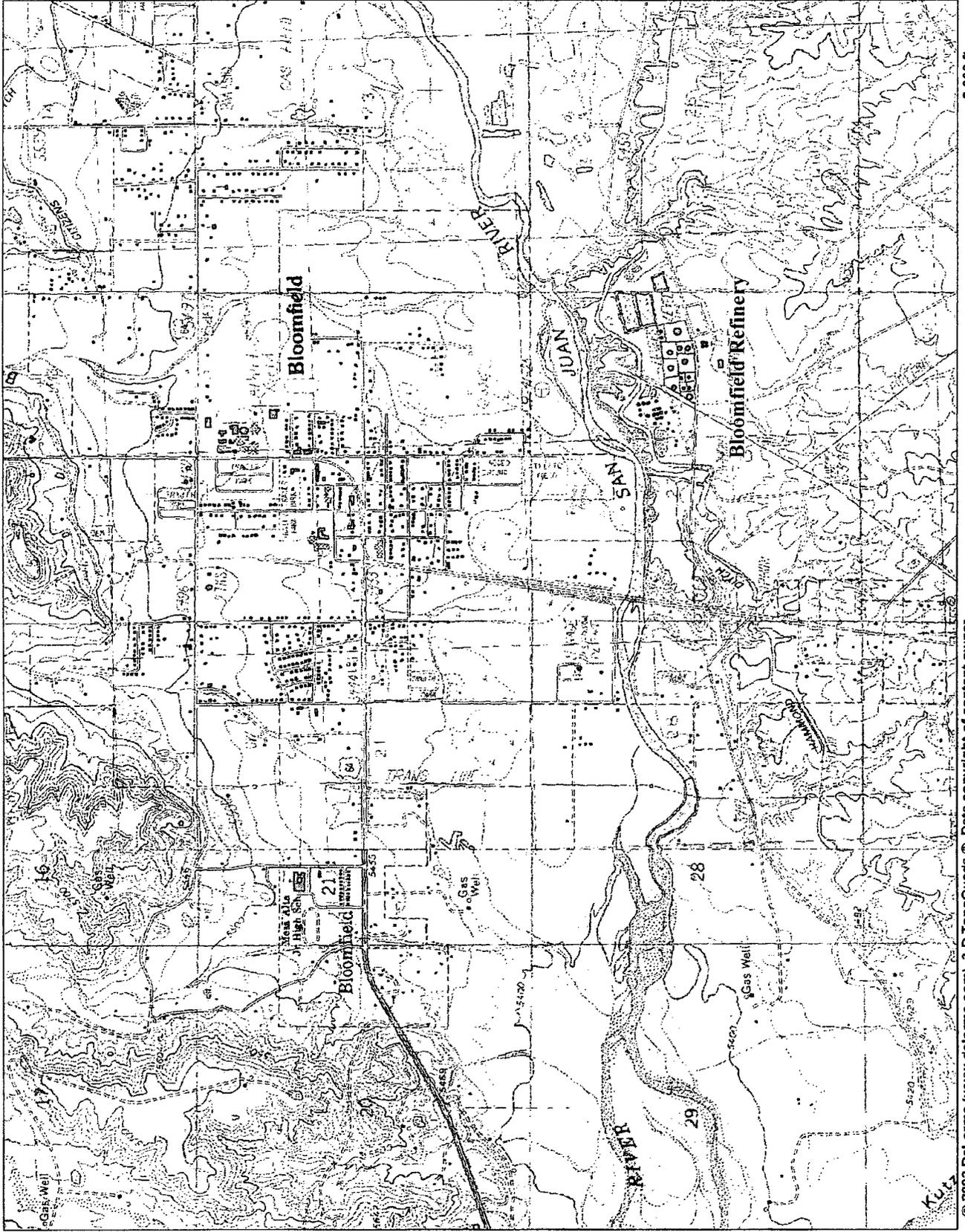
12. Selection of Incident Command Post:

The Incident Command Post will be set up in the Conference Room in the Bloomfield Refinery Main Office located at 50 County Road 4990. An Operations Center will be set as close to the site of the spill as is deemed safe by the Safety Officer.

13. Optional Evacuation Shelter:

As an alternative to evacuation off-site, the Incident Commander in charge of the response may use the Refinery Firehouse Building as an Assembly Area for the duration of the response, provided that it is safe to do so.

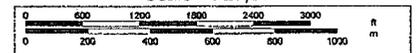
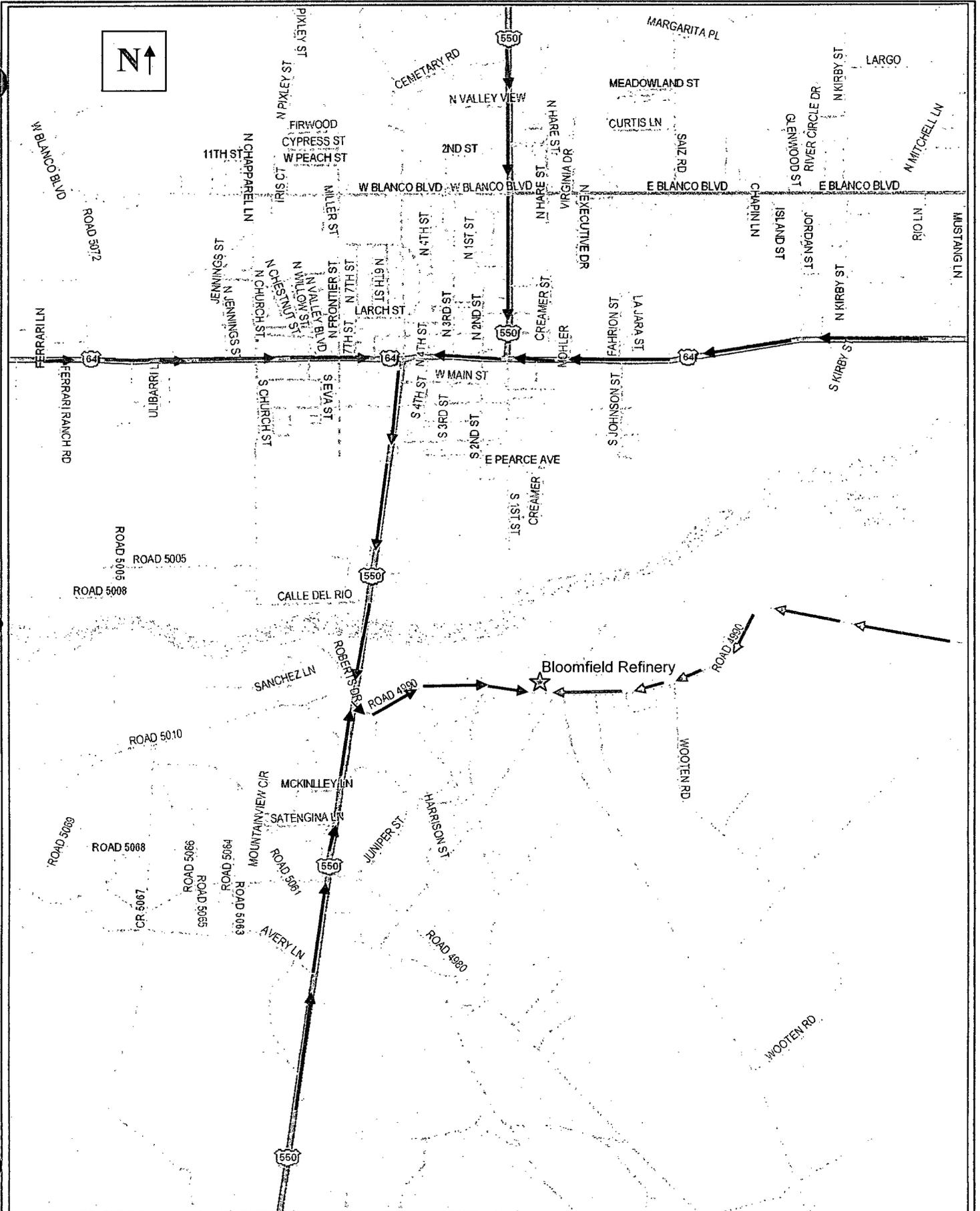
Map 3 – Location of Bloomfield Refinery



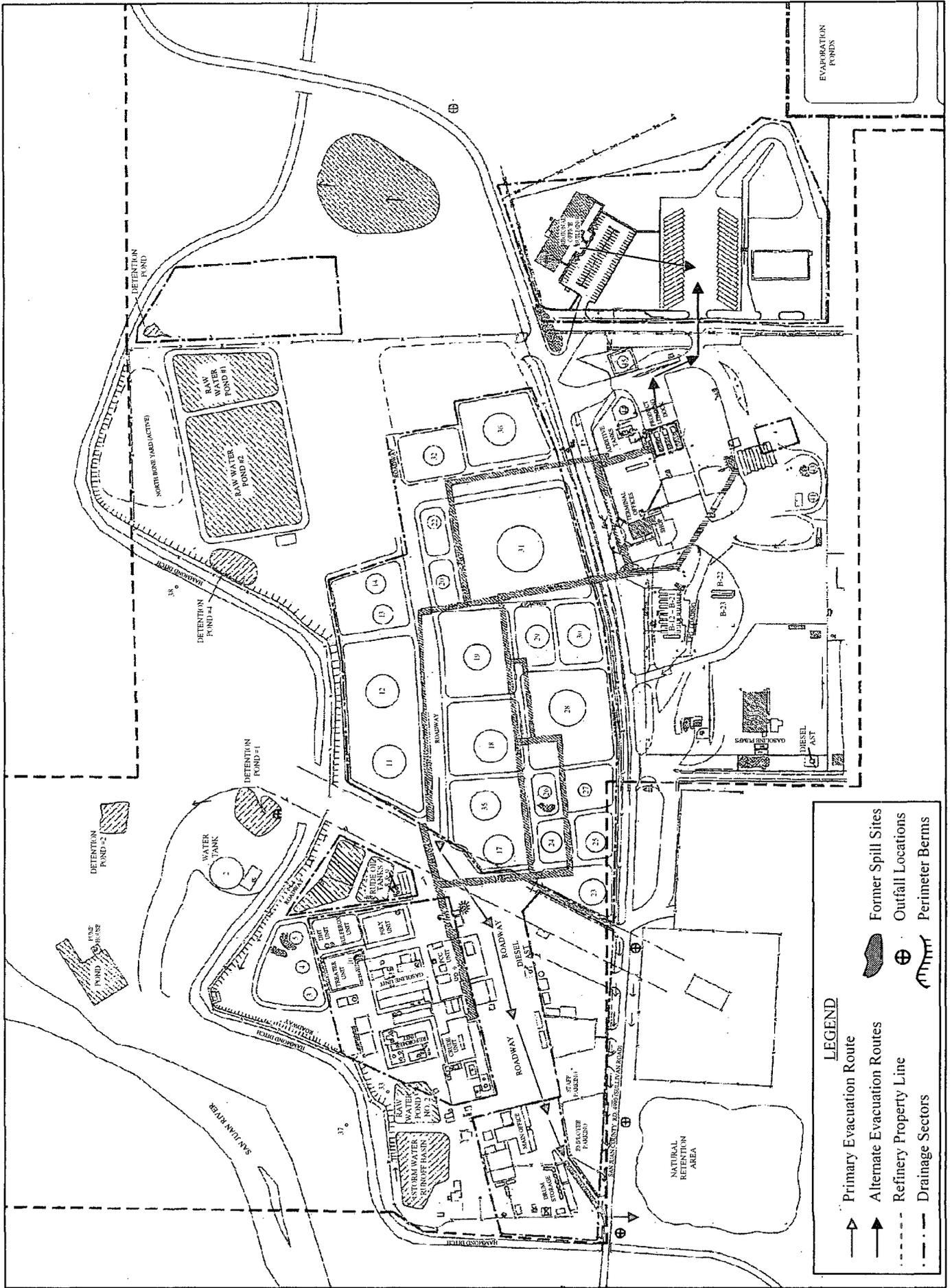
© 2002 DeLorme (www.delorme.com), 3-D TopoQuads®, Data copyright of content owner.
Scale: 1 : 25,000 Map Rotation: 0° Magnetic Declination: 0.0°E

2,000 ft

Map 4 – Routes for Emergency Response Personnel and Equipment



Map 5 - Evacuation Routes to Evacuation Assembly Areas



LEGEND

- ↑ Primary Evacuation Route
- ↑ Alternate Evacuation Routes
- - - Refinery Property Line
- - - Drainage Sectors
- ◐ Former Spill Sites
- ⊕ Outfall Locations
- ▨ Perimeter Berms

Aboveground Storage Tank Numbers and Contents
 (Refer to Map 6 – Tank Locations and Contents at Bloomfield Refinery)

<u>Tank Number</u>	<u>Tank Contents</u>
3	Mid Grade
4	Mid Grade
5	Isomerate
8	Slop Oil
9	Slop Oil
10	Out of Service
11	Reformate
12	Poly/Cat Mix
13	Gasoline
14	Gasoline
17	Reduced Crude
18	Diesel
19	Diesel
20	FCC Slop Oil
22	Out of Service
23	Gasoline
24	Diesel
25	Diesel
26	Sweet Naphtha
27	Residual Oil or Burner Fuel
28	Crude Oil
29	Diesel Slop
30	Premium Blend
31	Crude Oil
32	Premium Sales
33	Recovered Water
35	Reformer Feed
36	Poly/Cat Mix
37	French Drain
38	Recovered Ground Water
41	Crude Oil
43	Crude Oil
44	VRU Naphtha
45	Ethanol
B12	Light Natural
B-13 – B-14	Butane
B-15	Propane
B-16 – B-19	Poly Feed
B-20 – B-21	Butane
B-22 – B-23	LPG

MATERIAL SAFETY DATA SHEETS

Section 1.3.5 Material Safety Data Sheets

Material Safety Data Sheets for the primary products used in the Bloomfield Refinery can be found in this section. All other Material Safety Data Sheets are located in the Bloomfield Refinery Main Office.

Material Safety Data Sheets for the following products are contained in this section:

- 1 Diesel
- Base Gas/Cat Gasoline
- Burner Fuel
- Butane
- Crude Oil
- Heavy Cycle Oil
- Isomerate
- Kerosene
- Light Cycle Oil
- Light Straight Run
- Naphtha
- Premium Unleaded Gasoline
- Propane
- Reduced Crude
- Reformat
- Unleaded Gasoline
- Unleaded Midgrade Gasoline

MATERIAL SAFETY DATA SHEET 00318

GIANT REFINING - BLOOMFIELD

08-28-97
CSS-14004

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARATION/REVISION DATE: 03-14-97

PREPARER/CONTACT: JIM STIFFLER

LOCATIONS:
UNITS LAB

TRADE NAME/SYNONYMS: #1 DIESEL

CHEMICAL NAME/SYNONYMS: FUEL OIL #1

CHEMICAL FAMILY: HYDROCARBON

FORMULA: MIXTURE

PRODUCT CODE:

HAZARDS MATERIAL IDENTIFICATION SYSTEM (HMIS)

HEALTH = 1
FLAMMABILITY = 2
REACTIVITY = 0
PROTECTION = Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA TLV-ACGIH
PETROLEUM DIESEL - COMBINATION OF STRAIGHT MIXTURE CHAIN AND CRACKED HYDROCARBONS. ADDITIVE INCLUDED NOT OF ANY CONSEQUENCE.		100	100 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

INGESTION:

HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA, AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

PRIMARY ROUTES OF ENTRY -

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES:

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN.

SKIN:

REMOVE CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS. GET MEDICAL ATTENTION.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. CALL A PHYSICIAN.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 347

SPECIFIC GRAVITY (WATER=1): .81

VAPOR PRESSURE (MMHG): N/A

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:

PALE YELLOW TO WATERY WHITE OILY LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 100-120 F

FLAMMABLE LIMITS:

LEL = 0.7

UEL = 5.0

EXTINGUISHING MEDIA:

WATER SPRAY, FOAM, DRY CHEMICAL OR CO2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT IGNITED USE WATER SPRAY TO DISPERSE THE VAPORS. WATER SPRAY MAY BE USED TO FLUSH SPILLS FROM EXPOSURES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: LARGE SPILLS. ISOLATE HAZARD AREA. DENY ENTRY TO UNNECESSARY PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND CLOTHING. SHUT OFF SOURCE OF LEAK IF POSSIBLE. DIKE AND CONTAIN.

REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, ETC. PLACE IN D.O.T. AUTHORIZED CONTAINERS. SMALL SPILLS. TAKE UP WITH ABSORBENT MATERIAL SUCH AS SAND OR CLAY AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: BELOW PEL

MECHANICAL (GENERAL): CONFINED SPACES

SPECIAL: N/A

OTHER: BELOW FLAM. LIMITS.

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES: WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00183

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10/5/95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: BASE GAS / CAT GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY < 1%	N/A	100	300 PPM	300 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1%			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: PULMONARY LUNG DISEASES

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION OF HIGH VAPOR CONCENTRATIONS MAY CAUSE EYE AND RESPIRATORY IRRITATION, DIZZINESS, HEADACHES, NAUSEA OR UNCONSCIOUSNESS. PROLONGED OR REPEATED CONTACT WITH PRODUCT AT WARM OR NEAR AMBIENT TEMPERATURES MAY CAUSE SKIN IRRITATION.

CAUTION:

PRODUCT NORMALLY SHIPPED HOT (EG., 110-245 F). PROTECT AGAINST BURNS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH CLEAR WATER FOR 15 MINUTES OR UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, CALL A PHYSICIAN.

SKIN:
IF BURNED BY HOT PRODUCT, OBTAIN MEDICAL ATTENTION IMMEDIATELY. OTHERWISE WASH THOROUGHLY WITH SOAP AND WATER. REMOVAL OF PRODUCT FROM SKIN MAY BE AIDED BY USE OF WATERLESS HANDCLEANER.

INHALATION:
REMOVE TO FRESH AIR AND CALL A PHYSICIAN IMMEDIATELY. IF BREATHING HAS STOPPED OR IS IRREGULAR, START RESUSCITATION, ADMINISTER OXYGEN.

INGESTION:
CALL A PHYSICIAN IMMEDIATELY.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 490 F
SPECIFIC GRAVITY (WATER=1): 1.02
VAPOR PRESSURE (MMHG): N/A
PERCENT VOLATILE BY VOLUME (%): 5
VAPOR DENSITY (AIR=1): N/A
EVAPORATION RATE (BUTYL ACETATE = 1): .01

SOLUBILITY IN WATER: NONE

APPEARANCE AND ODOR INFORMATION:
DARK GREEN AND VISCOUS. PETROLEUM HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 168 F ASTM

FLAMMABLE LIMITS:

LEL=.9

UEL=7

EXTINGUISHING MEDIA:

FOAM, WATER MIST OR SPRAY, DRY CHEMICAL, OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED-AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS SUCH AS LIQUID CHLORINE OR CONC. OXYGEN. DO NOT PRESSURIZE, CUT, HEAT, WELD, OR EXPOSE EMPTY CONTAINERS OR VESSELS TO FLAME OR OTHER SOURCES OF IGNITION UNLESS ADEQUATELY PREPARED.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDANTS SUCH AS: LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM- OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:

FUMES, SMOKE AND CARBON MONOXIDE, IN CASES OF INCOMPLETE COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: STRONG OXIDANTS.

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: STRONG OXIDANTS.

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE PRODUCT. ADD SAND, EARTH OR OTHER SUITABLE ABSORBENT TO SPILL AREA. MINIMIZE BREATHING VAPORS. VENTILATE. KEEP PRODUCT OUT OF SEWERS AND WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE AUTHORITIES IF PRODUCT HAS OR MAY ENTER SEWERS, WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL SITE OR FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: BELOW PEL
MECHANICAL (GENERAL): CONFINED SPACES
SPECIAL: N/A
OTHER: BELOW FLAM. LIMITS

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED AT AMBIENT TEMPERATURES. USE SUPPLIED-AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES OR WHEN HANDLING HOT PRODUCT. SUPPLIED AIR SHOULD BE USED IN AREAS WHERE VAPORS ARE PRESENT.

PROTECTIVE GLOVES: CHEMICAL RESISTANT

OTHER PROTECTIVE EQUIPMENT:

SPLASH GOGGLES OR FACE SHIELD. CHEMICAL RESISTANT APRON.
USE PROTECTIVE EQUIPMENT TO ELIMINATE ALL CONTACT WITH SKIN. WASH THOROUGHLY IF PRODUCT CONTACTS SKIN.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: AVOID SKIN CONTACT AND BREATHING VAPORS.

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DO NOT REUSE CONTAINERS. KEEP AWAY FROM HEAT AND OPEN FLAME. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: RUNOFF TO SEWERS MAY CREATE FIRE OR EXPLOSION HAZARD.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00108

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: BUTANE
CHEMICAL NAME/SYNONYMS: N-BUTANE: LIQUIFIED PETROLEUM GAS
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 0
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT HYDROCARBON COMBINATION OF C 4 COMPONENTS BOTH OLEFINS AND SATURATES.	106-97-8	100	N/I	800 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURE TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN. BY RAPID EVAPORATION THIS PRODUCT MAY CAUSE FROST BITE.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
RINSE EYES WITH PLENTY OF WATER THEN TRANSPORT TO A DOCTOR.

SKIN:
IN CASE OF FROST BITE WARM AFFECTED AREA WITH WARM WATER (NOT HOT). IF WARM WATER IS NOT AVAILABLE WRAP THE AFFECTED PART GENTLY WITH SHEETS, BLANKETS OR OTHER CLOTHING. DO NOT RUB THE AFFECTED AREA. GET MEDICAL ATTENTION.

INHALATION:
REMOVE TO FRESH AIR. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 20 F
SPECIFIC GRAVITY (WATER=1): .56
VAPOR PRESSURE (MMHG): 65 PSI
PERCENT VOLATILE BY VOLUME (%): 100
VAPOR DENSITY (AIR=1): 2.0
EVAPORATION RATE (BUTYL ACETATE = 1): N/I
SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
AS A VAPOR BUTANE WILL APPEAR AS A CLOUD. HYDROCARBON ODOR UNLESS ODORIZER IS PRESENT.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -76 F C. CU

FLAMMABLE LIMITS:

LEL=1.8

UEL=8.4

EXTINGUISHING MEDIA:

STOP FLOW OF GAS. PROTECT FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP FLOW OF GAS. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL AND PROTECT MEN EFFECTING THE SHUT OFF. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE GAS OR VAPOR.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

EVACUATE DANGER AREA OF UNNECESSARY PERSONS. SHUT OFF SUPPLY OF FUEL. CONTAINER CAN BE EXTREMELY DANGEROUS WHEN EXPOSED TO DIRECT FLAME. KEEP CONTAINERS COOL. IF NOT POSSIBLE EVACUATE ALL PERSONS A SAFE DISTANCE AND ALLOW TO BURN OUT.

INCOMPATIBILITY (MATERIALS TO AVOID): OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: WHEN HEATED EMITS ACRID FUMES.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

TURN LEAKING CYLINDERS WITH LEAK TO TOP IF POSSIBLE TO DECREASE AMOUNT (VOLUME) OF DISCHARGE. EVACUATE DANGER AREA TO UPWIND SIDE AND OUT OF LOW AREAS, DISPERSE VAPORS WITH WATER FOG. EXTINGUISH ALL IGNITION SOURCES. CONTACT LOCAL EMERGENCY PERSONNEL.

WASTE DISPOSAL METHODS: CONTROLLED INCINERATION.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS.

MECHANICAL (GENERAL): EXPLOSION PROOF

SPECIAL: 60 fpm

OTHER: N/A

RESPIRATORY PROTECTION:

CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE WHEN CONCENTRATION IS LOW, MEASURABLE, AND CONSTANT.

PROTECTIVE GLOVES: RUBBER

OTHER PROTECTIVE EQUIPMENT:
SAFETY GLASSES AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: N/I

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00114

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
SULLIVAN RD
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-432-9300

PREPARER/CONTACT: JIM STIFFLER

PREPARATION/REVISION DATE: 10-02-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: CRUDE OIL
CHEMICAL NAME/SYNONYMS: CRUDE FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: NOT APPLICABLE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 0
FLAMMABILITY: 4
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
H2S HYDROGEN SULFIDE	N/A	< 1	10 PPM	10 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
(MAY CONTAIN) AROMATIC HYDROCARBONS-PNA	N/A	5-15			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT THE SKIN LEADING TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER. HOT LIQUID MAY CAUSE BURNS.

IF INGESTED, HAS A LOW ORDER OF ACUTE TOXICITY.

MAY CAUSE SLIGHT EYE IRRITATION.

MORE LIKELY ENCOUNTERED AS AN AEROSOL RATHER THAN A VAPOR.

PROLONGED OR REPEATED INHALATION AS AN AEROSOL MAY RESULT IN DROPLET DEPOSITION AND SUBSEQUENT IRRITATION, SCAR TISSUE FORMATION, AND INFECTION OR OTHER DISEASES OF THE RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY:
SKIN CONTACT; RESPIRATORY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SENSITIZED SKIN

EMERGENCY FIRST AID PROCEDURES

IF OVERCOME BY FUMES, REMOVE FROM EXPOSURE IMMEDIATELY; CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

IF INGESTED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT REMOVE ANY CONTAMINATED CLOTHING, AND WASH SKIN WITH SOAP AND WARM WATER.

IF SPLASHED INTO THE EYES, FLUSH EYES WITH CLEAR WATER FOR 15 MIN. OR UNTIL IRRITATION SUBSIDES.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 155AVG

SPECIFIC GRAVITY (WATER=1): .81AVG

VAPOR PRESSURE (MMHG): 207AVG

PERCENT VOLATILE BY VOLUME (%): NEGLIG

VAPOR DENSITY (AIR=1): > 10

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

STRAW TO DARK-COLORED VISCOUS LIQUID, WITH HEAVY HYDROCARBON ODOR

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 20-40F COC

FLAMMABLE LIMITS:

LEL=.5

UEL=7

EXTINGUISHING MEDIA:

FOAM; WATER MIST OR SPRAY; DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS, OR CONCENTRATED O2. EMPTY CONTAINERS OR VESSELS MAY RETAIN PRODUCT RESIDUE, DO NOT CUT, WELD OR EXPOSE CONTAINERS FLAME OR OTHER SOURCES OF IGNITION WITH ADEQUATE PREPARATIONS AND PROCEDURES

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS SUCH AS CHLORINE, OXYGEN, OR HTH

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE AND CARBON MONOXIDE

WILL HAZARDOUS POLYMERIZATION OCCUR: NO

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: CAPTURE FUMES
MECHANICAL (GENERAL): EXPLOSION PROOF EQUI
SPECIAL: 60 fpm FACE VELOCITY
OTHER: N/I

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED. MINIMIZE BREATHING VAPORS OR FUMES; AVOID BREATHING OIL MIST. USE DUST/FUME RESPIRATOR TO PROTECT AGAINST LIGHT MIST. USE SUPPLIED-AIR RESPIRATOR IN CONFINED OR ENCLOSED SPACES.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL GOGGLES; USE CHEMICAL RESISTANT CLOTHING IF NEEDED TO AVOID CONTAMINATION.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH WARM WATER AND SOAP AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARK, FLAME, OR STRONG OXIDANTS. VENTILATION MUST BE PRESENT TO PREVENT BUILD-UP OF TOXIC OR EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00138

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: HEAVY CYCLE OIL
CHEMICAL NAME/SYNONYMS: HEAVY CAT GAS OIL, FCC HEAVY CYCLE OIL
CHEMICAL FAMILY: DISTILLATES (PETROLEUM)
FORMULA: COMBINATION OF HYDROCARBONS
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
HEAVY CYCLE OIL	64741-61-3	95	5	5 MG/M3
POLYNUCLEAR AROMATIC COMPOUNDS	N/I	5	0.2	0.1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
HEAVY CYCLE OIL	N/I	N/I	YES	YES	NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
MODERATELY IRRITATING, HEATED PRODUCT MAY CAUSE THERMAL BURNS.

SKIN:
MODERATELY IRRITATING, CAUSING THERMAL BURNS AND DRYING OF THE SKIN.

INHALATION:
POSSIBLE EFFECTS INCLUDE HEADACHE, NASAL AND RESPIRATORY IRRITATION, NAUSEA, DROWSINESS, FATIGUE, PNEUMONITIS AND PULMONARY EDEMA.

INGESTION:
CAN BE IRRITATING TO THE MOUTH, THROAT AND DIGESTIVE TRACT. ASPIRATION INTO THE LUNGS THROUGH VOMITING MAY CAUSE HEMORRHAGING, PULMONARY EDEMA AND CHEMICAL PNEUMONITIS.

CHRONIC:
PROLONGED AND REPEATED SKIN CONTACT MAY CAUSE DERMATITIS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH THOROUGHLY WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN:
COOL THE EXPOSED AREA IMMEDIATELY. REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH THE AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD LOWER THAN THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 500+

SPECIFIC GRAVITY (WATER=1): 0.90
VAPOR PRESSURE (MMHG): NEGLIG
PERCENT VOLATILE BY VOLUME (%): N/I
VAPOR DENSITY (AIR=1): HEAVIE
EVAPORATION RATE (BUTYL ACETATE = 1): SLOWER
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR INFORMATION:
BROWN LIQUID COLOR. AROMATIC ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 250 + F
FLAMMABLE LIMITS:
LEL=N/A
UEL=N/A
EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS. USE A SMOTHERING TECHNIQUE. DO NOT USE A FORCED WATER STREAM. FIRE-FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
FLOWING OIL CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY. CONTAINERS SHOULD BE GROUNDED OR BONDED. CHECK FOR COMBUSTIBLE VAPORS PRIOR TO AND DURING WELDING OR TORCH CUTTING ON VESSELS OR TANKS.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZING AGENTS, HEAT, SPARK, FLAME AND BUILD UP OF STATIC ELECTRICITY.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO 2, SO 2, REACTIVE HYDROCARBONS.
WILL HAZARDOUS POLYMERIZATION OCCUR: NO
CONDITIONS TO AVOID FOR POLYMERIZATION: N/I
IS THE PRODUCT STABLE: YES, UNDER NORMAL CONDITIONS OF USE.
CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REMOVE SOURCES OF IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER TOOLS. CLEAN UP SPILL, BUT DO NOT FLUSH TO SEWER OR SURFACE WATER. VENTILATE AREA AND PREVENT SKIN CONTACT.

WASTE DISPOSAL METHODS:
DISPOSE THROUGH A LICENSED WASTE DISPOSAL COMPANY. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTION IN SITUATIONS WHERE AIRBORNE CONCENTRATIONS MAY EXCEED OCCUPATIONAL EXPOSURE LEVELS.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES. IMPERVIOUS APRON, LONG SLEEVES, BOOTS AND FACE SHIELD.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH HANDS BEFORE EATING, DRINKING, OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF IGNITION OR HEAT. GROUND OR BOND ALL TRANSFER AND STORAGE EQUIPMENT TO PREVENT STATIC SPARKS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

MATERIAL SAFETY DATA SHEET 00049

GIANT REFINING COMPANY
ROUTE 3, BOX 7
GALLUP, NEW MEXICO 87301

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO.
ROUTE 3, BOX 7
GALLUP, NM 87301

EMERGENCY PHONE: 505-722-3833
INFORMATION PHONE: 505-722-3833
LAST REVISION: 05/20/97

SUBSTANCE: ISOMERATE

SYNONYMS: ISOMERIZATION NAPHTHA, ISOMERIZED PENTANE; I-PENTANE
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
CAS NO.: 64741-70-4 (ISOMERIZATION NAPHTHA), 78-78-4 (ISOPENTANE),
CHEMICAL FORMULA: MIXTURE. (ISOPENTANE, THE PREDOMINANT COMPONENT, IS C5H12)
MOLECULAR WEIGHT: 72.15

NFPA RATINGS (SCALE 0-4): HEALTH = 1 FIRE = 4 REACTIVITY = 0

SECTION 2 - HAZARDOUS INGREDIENTS

PRIMARY COMPONENTS AND CONTAMINANTS

COMPONENT / CONCENTRATION:

ISOPENTANE: 55 - 65%
N-PENTANE: 2 - 3%
DIMETHYLBUTANES: 5 - 10%
METHYLPENTANES: 18 - 22%
METHYLCYCLOPENTANE: 4 - 5%
CYCLOHEXANE 1- 2 %
BENZENE: 0 - 0.6%

SECTION 3 - HEALTH HAZARD DATA

ROUTES OF ENTRY: COMMON ROUTES OF ENTRY ARE BY INHALATION, AND SKIN CONTACT.

INHALATION: ASPHYXIANANT/NARCOTIC. 1500 PPM (4500 MG/M3) IDLH.

FIRST AID: REMOVE TO FRESH AIR. RESPIRATORY SUPPORT MAY BE NECESSARY.

INGESTION: MAY CAUSE NAUSEA. GENERAL IRRITANT.

FIRST AID: SEEK MEDICAL ATTENTION IMMEDIATELY. DO NOT INDUCE VOMITING.

SKIN CONTACT: MAY CAUSE DERMAL IRRITATION.

FIRST AID: WASH THOROUGHLY WITH WATER. FOR EYE CONTACT, IRRIGATE THOROUGHLY WITH WATER.

PEL: 1000 PPM (2950 MG/M3)

MIXTURE MAY CONTAIN UP TO APPROXIMATELY 0.6% BENZENE. CHRONIC EXPOSURE TO BENZENE MAY CAUSE CANCER AND OTHER SYSTEMIC EFFECTS.

SECTION 4 - CHEMICAL DATA

APPEARANCE: CLEAR, COLORLESS SOLUTION.

ODOR: MILD GASOLINE-LIKE ODOR.

SOLUBILITY: INSOLUBLE IN WATER.

BOILING POINT: 28 DEG C (82 DEG F)

MELTING POINT: -159 DEG C (-255 DEG F)
SPECIFIC GRAVITY: 0.62
VAPOR DENSITY (AIR-1): 2.5
VAPOR PRESSURE (MM HG): ~480 @ 20 DEG C (68 DEG F)
EVAPORATION RATE: ND

SECTION 5 - PHYSICAL HAZARD DATA

FIRE AND EXPLOSION INFORMATION

EXTREMELY FLAMMABLE LIQUID!
FLASH POINT <-49 DEG C (-57 DEG F) CLOSED CUP
AUTO-IGNITION TEMPERATURE: ND
FLAMMABLE LIMITS IN AIR, % BY VOLUME LEL: 1.5; UEL: 7.8

EXPLOSION: ABOVE FLASH POINT, VAPOR-AIR MIXTURES ARE EXPLOSIVE WITHIN FLAMMABLE LIMITS NOTED ABOVE. VAPORS CAN FLOW ALONG SURFACES TO DISTANT IGNITION SOURCE AND FLASH BACK.

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL.

SPECIAL INFORMATION: IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WILL FULL FACE PIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE. THIS HIGHLY FLAMMABLE LIQUID MUST BE KEPT FROM SPARKS, OPEN FLAME, HOT SURFACES, AND ALL SOURCES OF HEAT AND IGNITION.

SECTION 6 - SPILL OR LEAK PROCEDURES

CLEANUP PROCEDURES

LEAK/SPILL DISPOSAL INFORMATION: VENTILATE AREA OF LEAK OR SPILL. REMOVE ALL SOURCES OF IGNITION. CLEAN-UP PERSONNEL REQUIRE PROTECTIVE CLOTHING AND RESPIRATORY PROTECTION FROM VAPORS. SMALL SPILLS MAY BE ABSORBED ON PAPER TOWELS AND EVAPORATED IN A FUME HOOD. ALLOW ENOUGH TIME FOR FUMES TO CLEAR HOOD, THEN IGNITE PAPER IN A SUITABLE LOCATION AWAY FROM COMBUSTIBLE MATERIALS. CONTAIN AND RECOVER LIQUID FOR RECLAMATION WHEN POSSIBLE. LARGER SPILLS AND LOT SIZES CAN BE COLLECTED AS HAZARDOUS WASTE AND ATOMIZED IN A SUITABLE RCRA APPROVED COMBUSTION CHAMBER, OR ABSORBED WITH VERMICULITE, DRY SAND, EARTH OR SIMILAR MATERIAL FOR DISPOSAL AS HAZARDOUS WASTE IN AN RCRA APPROVED FACILITY. DO NOT FLUSH TO SEWER!

SECTION 7 - EXPOSURE CONTROL INFORMATION

ENVIRONMENTAL DATA SHEET

SUPPLEMENT TO MSDS: ISOMERATE
LAST REVISION: 5/20/97

SARA - TITLE III INFORMATION

THIS MATERIAL IS REGULATED UNDER THE INDICATED SECTION(S) OF TITLE III OF THE SUPERFUND AMENDMENTS AND THE REAUTHORIZATION ACT ("SARA"), 42 U.S.C. SECTION 11001 ET SEQ. PLEASE NOTE THAT REGULATIONS PERTAINING TO SECTIONS 302 AND 304 OF SARA ARE FOUND IN THE CODE OF FEDERAL REGULATIONS AT 40 CFR PART 355 AND THAT REGULATIONS PERTAINING TO SECTION 313 OF SARA ARE FOUND AT 40 CFR PART 372.

1. THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS (SECTION 313):

CHEMICAL NAME	CAS#	WT%
HEXANE	110-54-3	<0.2
BENZENE	71-43-2	0 - 0.6
CYCLOHEXANE	110-83-8	1.0 - 2.0
TOLUENE	108-88-3	<0.1

IF YOU ARE UNSURE IF YOU ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313, OR NEED MORE INFORMATION, CALL THE EPA EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW INFORMATION HOTLINE: (800) 535-0202. YOUR OTHER SUPPLIERS SHOULD BE NOTIFYING YOU OIF SECTION 313 CHEMICALS ARE PRESENT IN MIXTURES, TRADE NAME PRODUCTS, OR CHEMICALS THEY SELL TO YOU. PLEASE NOTE THAT IF YOU REPACKAGE OR REDISTRIBUTE THIS PRODUCT TO INDUSTRIAL CUSTOMERS, A NOTICE SHOULD BE SENT TO THOSE CUSTOMERS.

2. THIS PRODUCT CONTAINS THE FOLLOWING EXTREMELY HAZARDOUS SUBSTANCE(S) (SECTION 302 AND 304):

CHEMICAL NAME TPQ (LBS) RQ(LBS)

NONE N/A N/A

3. THIS PRODUCT CONTAINS THE FOLLOWING CERCLA HAZARDOUS SUBSTANCE(S) (SECTION 302 AND 304):

CHEMICAL NAME WT% RQ(LBS)

UNLISTED HAZARDOUS WASTE 100 100
CHARACTERISTIC OF IGNITABILITY <0.2 5,000
HEXANE 0 - 0.6 10
CYCLOHEXANE 1.0 - 2.0 1,000
2,2,4 - TRIMETHYLPENTANE <0.1 1,000
TOLUENE <0.1 1,000

NOTE: SECTIONS 2 AND 3 ARE REQUIRED FOR EMERGENCY RESPONSE REPORTING. THIS ENVIRONMENTAL DATA SHEET ("EDS") IS A SUPPLEMENT TO THE MATERIAL SAFETY DATA SHEET ("MSDS". IT IS AN INTEGRAL PART OF THE MSDS AND MUST NOT BE DETACHED FROM MSDS. IF THE MSDS IS COPIED, THIS EDS MUST ALSO BE COPIED. IF THE MSDS IS REDISTRIBUTED, THIS EDS MUST BE REDISTRIBUTED WITH THE MSDS.

SECTION 8 - SPECIAL PRECAUTIONS

REACTIVITY DATA

STABILITY: STABEL UNDER ORDINARY CONDITIONS OF USE AND STORAGE.

HAZARDOUS DECOMPOSITION PRODUCTS: TOXIC GASES AND VAPORS MAY BE RELEASED IF INVOLVED IN A FIRE. THERMAL-OXIDATIVE DECOMPOSITION PRODUCTS IN AIR CAN INCLUDE OXIDES OF CARBON.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

INCOMPATIBILITIES: STRONG OXIDIZERS, HEAT, FLAME.

PRECAUTIONARY MEASURES:

DANGER! EXTREMELY FLAMMABLE. HARMFUL IF SWALLOWED OR INHALED.

KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION. AVOID BREATHING MIST. WASH THOROUGHLY AFTER HANDLING.

EMERGENCY / FIRST AID

IF SWALLOWED, DO NOT INDUCE VOMITING! GIVE LARGE QUANTITIES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IN ALL CASES, CALL A PHYSICIAN.

HANDLING AND STORAGE

EMPTY CONTAINERS MAY CONTAIN FLAMMABLE/COMBUSTIBLE OR EXPLOSIVE RESIDUE OR VAPORS. DO NOT CUT, GRIND, DRILL, WELD OR REUSE CONTAINERS UNLESS ADEQUATE PRECAUTIONS ARE TAKEN AGAINST THESE HAZARDS. STORE IN TIGHTLY CLOSED CONTAINERS IN COOL, DRY

ISOLATED, WELL VENTILATED AREA AWAY FROM HEAT, SOURCES OF IGNITION AND INCOMPATIBLES.

TRANSPORTATION REQUIREMENTS

HAZARD CLASS: 3

ID NUMBER: UN1265

PACKING GROUP NO.: I, EXCEPTIONS 49 CFR 173.150

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00087

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-1-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: KEROSENE
CHEMICAL NAME/SYNONYMS: FUEL OIL # 1
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
PETROLEUM KEROSENE	8008206	100		100 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

INGESTION:

HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN.

SKIN:

REMOVE CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. CALL A PHYSICIAN.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 347

SPECIFIC GRAVITY (WATER=1): .81

VAPOR PRESSURE (MMHG): N/A

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
PALE YELLOW TO WATERY WHITE OILY LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 100 - 120 F

FLAMMABLE LIMITS:

LEL=0.7

UEL=5.0

EXTINGUISHING MEDIA: WATER SPRAY, FOAM, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT
IGNITED USE WATER SPRAY TO DISPERSE THE VAPORS. WATER SPRAY MAY BE USED TO FLUSH
SPILLS FROM EXPOSURES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR
ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

LARGE SPILLS:

ISOLATE HAZARD AREA. DENY ENTRY TO UNNECESSARY PERSONNEL.

WEAR APPROPRIATE RESPIRATOR AND CLOTHING.

SHUT OFF SOURCE OF LEAK IF POSSIBLE.

DIKE AND CONTAIN.

REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS.

SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, ETC. PLACE IN D.O.T.
AUTHORIZED CONTAINERS.

SMALL SPILLS:

TAKE UP WITH ABSORBENT MATERIAL SUCH AS SAND OR CLAY AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: BELOW PEL
MECHANICAL (GENERAL): CONFINED SPACES
SPECIAL: N/A
OTHER: BELOW FLAM. LIMITS.

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00137

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: LIGHT CYCLE OIL
CHEMICAL NAME/SYNONYMS: LIGHT CAT GAS OIL, FCC LIGHT CYCLE OIL
CHEMICAL FAMILY: AROMATIC HYDROCARBON
FORMULA: COMPLEX COMBINATION OF HYDROCARBONS
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT CYCLE OIL	64741-59-9	99	5	5 MG/M3
POLYNUCLEAR AROMATIC COMPOUNDS	N/A	0 - 1	0.2	0.1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
LIGHT CYCLE OIL	N/I	N/I	YES	YES	NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
MODERATELY IRRITATING, HEATED PRODUCT MAY CAUSE THERMAL BURNS.

SKIN:
MODERATELY IRRITATING, CAUSING THERMAL BURNS AND DRYING OF THE SKIN.

INHALATION:
POSSIBLE EFFECTS INCLUDE HEADACHE, NASAL AND RESPIRATORY IRRITATION, NAUSEA, DROWSINESS, FATIGUE, PNEUMONITIS AND PULMONARY EDEMA.

INGESTION:
CAN BE IRRITATING TO THE MOUTH, THROAT, AND DIGESTIVE TRACT. ASPIRATION INTO THE LUNGS THROUGH VOMITING MAY CAUSE HEMORRHAGING, PULMONARY EDEMA AND CHEMICAL PNEUMONITIS.

CHRONIC:
PROLONGED AND REPEATED SKIN CONTACT MAY CAUSE DERMATITIS.

PRIMARY ROUTES OF ENTRY:
EYES AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER IMMEDIATELY FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN:
COOL THE EXPOSED AREA IMMEDIATELY. REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL ATTENTION.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD LOWER THAN HIPS TO PREVENT ASPIRATION INTO THE LUNGS.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 340

SPECIFIC GRAVITY (WATER=1): 0.92
VAPOR PRESSURE (MMHG): 0.6
PERCENT VOLATILE BY VOLUME (%): 100
VAPOR DENSITY (AIR=1): 8.0
EVAPORATION RATE (BUTYL ACETATE = 1): N/A
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR INFORMATION: LIGHT OIL COLOR. PETROLEUM ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 170 TYPICAL
FLAMMABLE LIMITS:
LEL=N/A
UEL=N/A
EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS. USE A SMOTHERING TECHNIQUE.
NOT USE FORCED WATER STREAM DIRECTLY ON OIL FIRE. FIRE-FIGHTERS SHOULD WEAR
SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
FLOWING OIL CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY, CONTAINERS
SHOULD BE GROUNDED OR BONDED. CHECK FOR COMBUSTIBLE VAPORS PRIOR TO AND DURING
WELDING OR TORCH CUTTING ON VESSELS OR TANKS.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZING AGENTS, HEAT SPARK, FLAME AND BUILD UP OF STATIC ELECTRICITY.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO 2, SO 2, REACTIVE HYDROCARBONS.
WILL HAZARDOUS POLYMERIZATION OCCUR: NO
CONDITIONS TO AVOID FOR POLYMERIZATION: N/I
IS THE PRODUCT STABLE: YES
CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SOURCES OF HEAT OR IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER TOOLS. CLEAN UP SPILL, BUT DO NOT FLUSH TO SEWER OR SURFACE WATER. VENTILATE AREA AND PREVENT SKIN CONTACT.

WASTE DISPOSAL METHODS:

DISPOSE OF THROUGH A LICENSED WASTE CONTROL COMPANY. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTIVE EQUIPMENT IN SITUATIONS WHERE AIRBORNE CONCENTRATIONS MAY EXCEED OCCUPATIONAL EXPOSURE LEVELS.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES. IMPERVIOUS APRON, LONG SLEEVES, BOOTS AND FACE SHIELD.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH HANDS BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF HEAT OR IGNITION. BOND AND GROUND ALL TRANSFER AND STORAGE EQUIPMENT TO PREVENT STATIC SPARKS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00049

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 505-632-8013

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 11-11-86

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: LIGHT STRAIGHT RUN
CHEMICAL NAME/SYNONYMS: LSR GASOLINE, GASOLINE
CHEMICAL FAMILY: COMPLEX COMBINATION OF HYDROCARBONS
FORMULA: SATURATED ALIPHATIC/AROMATIC HYDROCARBON
PRODUCT CODE: NO INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
GASOLINE	68606-11-1	98	N/A	300 PPM
BENZENE	71-43-2	2	10	10 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
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BENZENE

71-43-2

0 - 2

Y

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

EYES:
SLIGHT TO MODERATE EYE IRRITATION.

SKIN:
MODERATELY IRRITATING, CAUSING REDNESS, DRYING OF SKIN.

INHALATION:
IRRITATING TO MUCOUS MEMBRANES AND RESPIRATORY TRACT. WILL PRODUCE SYMPTOMS OF INTOXICATION. CAN ACT AS A SIMPLE ASPHYXIAN.

INGESTION:
MILD EXCITATION, LOSS OF CONSCIOUSNESS, CONVULSIONS, CYANOSIS CONGESTION AND CAPILLARY HEMORRHAGING OF THE LUNG AND INTERNAL ORGANS.

CHRONIC:
SKIN IRRITATION. RECENT STUDIES INDICATE KIDNEY DAMAGE AND KIDNEY CANCER IN RATS AND LIVER CANCER IN MICE.

PRIMARY ROUTES OF ENTRY:
EYES AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
MAY AGGRAVATE PRE-EXISTING DERMATITIS.

EMERGENCY FIRST AID PROCEDURES

EYES:
IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN:
REMOVE CONTAMINATED CLOTHING. IMMEDIATELY WASH AFFECTED AREAS WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HOLD THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 70-360

SPECIFIC GRAVITY (WATER=1): 0.64

VAPOR PRESSURE (MMHG): 10-20

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): >1

EVAPORATION RATE (BUTYL ACETATE = 1): >1

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION: COLORLESS LIQUID. GASOLINE LIKE ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): <0 F

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.1

EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER MAY BE INEFFECTIVE ON FLAMES BUT SHOULD BE USED TO COOL FIRE EXPOSED CONTAINERS. FIREFIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

FLOWING GASOLINE CAN BE IGNITED BY SELF-GENERATED STATIC ELECTRICITY: CONTAINERS SHOULD BE BONDED OR GROUNDED.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZING AGENTS, HEAT, SPARKS, FLAME AND BUILD UP OF STATIC ELECTRICITY, HALOGENS, STRONG ACIDS AND ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE, CARBON DIOXIDE, AND HYDROCARBONS.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SOURCES OF IGNITION INCLUDING INTERNAL COMBUSTION ENGINES AND POWER TOOLS. CLEAN UP SPILL, RECOVER LIQUID AND FLUSH TO OILY WATER. DO NOT PUSH TO SURFACE WATER. VENTILATE AREA AND AVOID BREATHING VAPORS OR MISTS.

WASTE DISPOSAL METHODS:

DISPOSE THROUGH A LICENSED WASTE DISPOSAL COMPANY. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: RECOMMENDED
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: N/I
OTHER: N/I

RESPIRATORY PROTECTION:

USE APPROVED RESPIRATORY PROTECTIVE EQUIPMENT FOR CLEANING LARGE SPILLS OR ENTRY INTO LARGE TANKS, VESSELS OR OTHER CONFINED SPACE.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES.

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL SAFETY GLASSES OR GOGGLES.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN TIGHTLY CLOSED CONTAINERS IN A DRY COOL PLACE, AWAY FROM SOURCES OF HEAT OR IGNITION. GROUND AND BOND ALL TRANSFER AND STORAGE EQUIPMENT AND EQUIP WITH SELF CLOSING VALVES, PRESSURE VACUUM BUNGS AND FLAME ARRESTORS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00109

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: NAPHTHA
CHEMICAL NAME/SYNONYMS: REFORMER FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: COMPLEX COMBINATION/PETROLEUM HYDROCARBON
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
NAPHTHA	N/I	100	100 PPM	300 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
MAY CONTAIN BENZENE	N/I	N/I	N/I	N/I	N/I

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION OF HIGH VAPOR CONCENTRATIONS MAY HAVE RESULTS RANGING FROM DIZZINESS AND HEADACHES TO UNCONSCIOUSNESS OR DEATH. IRRITATING TO EYES AND RESPIRATORY TRACT AT LOWER CONCENTRATIONS.

IF INGESTED, HAS A LOW ORDER OF TOXICITY, BUT VERY SMALL AMOUNTS ASPIRATED INTO THE LUNGS DURING INGESTION OR SUBSEQUENT VOMITING MAY CAUSE SEVERE LUNG INJURY OR DEATH. PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT SKIN AND LEAD TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER OR OTHER CONDITIONS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES, OR UNTIL IRRITATION SUBSIDES.

SKIN:
REMOVE CONTAMINATED CLOTHING AND WASH SKIN THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE FROM EXPOSURE IMMEDIATELY. CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

INGESTION:
DO NOT INDUCE VOMITING. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 200 F

SPECIFIC GRAVITY (WATER=1): 0.8

VAPOR PRESSURE (MMHG): 10-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 2-5

EVAPORATION RATE (BUTYL ACETATE = 1): 1-10

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:
CLEAR TO PALE STRAW COLORED LIQUID. LIGHT HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 30-50 DEG F

FLAMMABLE LIMITS:

LEL=1

UEL=7

EXTINGUISHING MEDIA: FOAM, WATER MIST OR SPRAY, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS. COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY. MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

KEEP AWAY FROM SOURCES OF IGNITION AND DEVICES THAT SPARK. FLAMMABLE LIQUID. VAPORS MAY IGNITE EXPLOSIVELY. RUNOFF TO SEWERS MAY CREATE FIRE OR EXPLOSION HAZARD.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDANTS: LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM-OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:

FUMES, SMOKE AND CARBON MONOXIDE, IN THE CASE OF INCOMPLETE COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE ALL IGNITION SOURCES. KEEP PEOPLE AWAY. RECOVER FREE LIQUID. ADD ABSORBENT (SAND, EARTH, ETC.) TO SPILL AREA. MINIMIZE BREATHING VAPORS. VENTILATE CONFINED SPACES. MINIMIZE INFLUX OF MATERIAL INTO SEWERS AND KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER SEWERS, WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL SITE OR FACILITY. CONTINUE TO OBSERVE PRECAUTIONS FOR VOLATILE, FLAMMABLE VAPORS FROM ABSORBED MATERIAL.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: FACE VELOCITY >60 fpm
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: ADEQUATE VENTILATION
OTHER: N/I

RESPIRATORY PROTECTION:

SUPPLIED AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES IF NEEDED.

PROTECTIVE GLOVES: CHEMICAL RESISTANT

OTHER PROTECTIVE EQUIPMENT:

SPLASH GOGGLES, OR FACE SHIELD. CHEMICAL RESISTANT APRON OR CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARKS, FLAME, OR STRONG OXIDANTS. ADEQUATE VENTILATION REQUIRED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

MINIMIZE BREATHING VAPORS. AVOID BREATHING OIL MIST. REMOVE OIL-SOILED CLOTHING AND LAUNDRY BEFORE RE-USE. REMOVE CONTAMINATED SHOES AND THOROUGHLY DRY BEFORE RE-USE. WASH SKIN THOROUGHLY WITH SOAP AND WATER AFTER CONTACT, BEFORE BREAKS AND MEALS.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 900074

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: PREMIUM UNLEADED GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
PREMIUM UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM

A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY 1 %. ALSO CONTAINS SMALL AMOUNTS OF OTHER ADDITIVES WHICH ARE NOT CONSIDERED TO BE HAZARDOUS AT THE CONCENTRATIONS USED.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC):

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:

FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

REDISH, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5: PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE. ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS. ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZLE IS IN CONTACT WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00117

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: PROPANE
CHEMICAL NAME/SYNONYMS: DIMETHYLMETHANE
CHEMICAL FAMILY: HYDROCARBON
FORMULA: NO INFORMATION
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 4
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
LIGHT HYDROCARBON COMBINATION, INCLUDING OLEFINS AND SATURATES. PROPANE IS NOT CHARACTERIZED BY ITS TOXICITY BUT RATHER BY ITS ABILITY AT HIGH CONCENTRATIONS TO CAUSE A DEFICIENCY OF OXYGEN WITH THE RISK OF UNCONSCIOUSNESS.	74-98-6	100	N/I	N/I

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC)

INHALATION:

MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

SKIN CONTACT:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN. BY RAPID EVAPORATION THIS PRODUCT MAY CAUSE FROST BITE.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

IMMEDIATELY RINSE WITH PLENTY OF WATER THEN TRANSPORT TO A DOCTOR.

SKIN:

IN CASE OF FROST BITE WARM AFFECTED AREA BY RINSING OR SUBMERGING AFFECTED PART IN WARM (NOT HOT) WATER. IF WATER IS NOT AVAILABLE, USE SHEETS, BLANKETS OR OTHER CLOTHING TO WARM AREA. DO NOT RUB. DO NOT REMOVE CLOTHING THAT MIGHT BE STUCK TO THE SKIN.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): -45 F

SPECIFIC GRAVITY (WATER=1): .52

VAPOR PRESSURE (MMHG): 208PSI

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 1.56

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION: N/I

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -156 CLO. C

FLAMMABLE LIMITS:

LEL=2.3

UEL=13

EXTINGUISHING MEDIA:

STOP FLOW OF GAS. PROTECT FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP FLOW OF GAS. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL AND PROTECT MEN EFFECTING THE SHUT OFF. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE GAS OR VAPOR AND TO PROTECT FIREFIGHTERS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS CAN BE EXTREMELY DANGEROUS WHEN EXPOSED TO DIRECT FLAME CONTACT. IF POSSIBLE, KEEP CONTAINERS COOL WITH LARGE QUANTITIES OF WATER. IF NOT POSSIBLE EVACUATE ALL PERSONNEL A SAFE DISTANCE AND ALLOW TO BURN OUT.

INCOMPATIBILITY (MATERIALS TO AVOID):

DUE TO LOW ELECTRIC CONDUCTIVITY THIS SUBSTANCE CAN GENERATE ELECTROSTATIC CHARGES AS A RESULT OF FLOW, AGITATION, ETC. EXPLOSION HAZARD HIGH WHEN CONTAINERS EXPOSED TO FLAME CONTACT. AVOID EXPOSURE TO OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: WHEN HEATED EMITS ACRID FUMES.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

TURN LEAKING CYLINDERS WITH LEAK TO TOP IF POSSIBLE TO DECREASE AMOUNT OF DISCHARGE. EVACUATE DANGER AREA TO UPWIND SIDE AND OUT OF LOW AREAS, DISPERSE VAPORS WITH WATER FOG. EXTINGUISH ALL IGNITION SOURCES. CONTACT LOCAL EMERGENCY PERSONNEL.

WASTE DISPOSAL METHODS: CONTROLLED INCINERATION.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

NO PERSONNEL ENTRY INTO GAS AREA IS RECOMMENDED. S.C.B.A. OR AIRLINE RESPIRATOR WITH POSITIVE PRESSURE.

PROTECTIVE GLOVES: RUBBER GLOVES

OTHER PROTECTIVE EQUIPMENT: SAFETY GLASSES, PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING AND AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DO NOT GET IN EYES OR ON SKIN. DO NOT BREATHE VAPORS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:

PERSONNEL SHOULD NOT ENTER VAPOR AREAS OF LEAK.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00113

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
SULLIVAN RD
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-432-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-02-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: REDUCED CRUDE
CHEMICAL NAME/SYNONYMS: VIRGIN GAS OIL; CAT-FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: NOT APPLICABLE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
REDUCED CRUDE	N/A	100	1 MG/M3	1 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
(MAY CONTAIN) AROMATIC HYDROCARBONS-PNA	N/A	5%			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC)

PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT THE SKIN LEADING TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER. HOT LIQUID MAY CAUSE BURNS.

IF INGESTED, HAS A LOW ORDER OF ACUTE TOXICITY.

MAY CAUSE SLIGHT EYE IRRITATION.

MORE LIKELY ENCOUNTERED AS AN AEROSOL RATHER THAN A VAPOR.

PROLONGED OR REPEATED INHALATION AS AN AEROSOL MAY RESULT IN DROPLET DEPOSITION AND SUBSEQUENT IRRITATION, SCAR TISSUE FORMATION, AND INFECTION OR OTHER DISEASES OF THE RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY:
SKIN CONTACT; RESPIRATORY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SENSITIZED SKIN

EMERGENCY FIRST AID PROCEDURES

IF OVERCOME BY FUMES, REMOVE FROM EXPOSURE IMMEDIATELY; CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

IF INGESTED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT REMOVE ANY CONTAMINATED CLOTHING, AND WASH SKIN WITH SOAP AND WARM WATER.

IF SPLASHED INTO EYES, FLUSH EYES WITH CLEAR WATER FOR 15 MIN. OR UNTIL IRRITATION SUBSIDES.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 500 F

SPECIFIC GRAVITY (WATER=1): .95

VAPOR PRESSURE (MMHG): <1 @ 200

PERCENT VOLATILE BY VOLUME (%): NEGLIG

VAPOR DENSITY (AIR=1): > 10

EVAPORATION RATE (BUTYL ACETATE = 1): ≤ .01

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

STRAW TO DARK-COLORED VISCOUS LIQUID, WITH HEAVY HYDROCARBON ODOR

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): >200F COC

FLAMMABLE LIMITS:

LEL=.5

UEL=7

EXTINGUISHING MEDIA: FOAM; WATER MIST OR SPRAY; DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:

USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.

COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.

MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DO NOT MIX OR STORE WITH STRONG OXIDANTS, OR CONCENTRATED O2. EMPTY CONTAINERS OR VESSELS MAY RETAIN PRODUCT RESIDUE, DO NOT CUT, WELD OR EXPOSE CONTAINERS FLAME OR OTHER SOURCES OF IGNITION WITH ADEQUATE PREPARATIONS AND PROCEDURES.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS SUCH AS CHLORINE, OXYGEN, OR HTH

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE AND CARBON MONOXIDE

WILL HAZARDOUS POLYMERIZATION OCCUR: NO

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:

ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: CAPTURE FUMES
MECHANICAL (GENERAL): EXPLOSION PROOF EQUI
SPECIAL: 60 fpm FACE VELOCITY
OTHER: N/I

RESPIRATORY PROTECTION:

NORMALLY NOT NEEDED. MINIMIZE BREATHING VAPORS OR FUMES; AVOID BREATHING OIL MIST. USE DUST/FUME RESPIRATOR TO PROTECT AGAINST LIGHT MIST. USE SUPPLIED-AIR RESPIRATOR IN CONFINED OR ENCLOSED SPACES.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

CHEMICAL GOGGLES; USE CHEMICAL RESISTANT CLOTHING IF NEEDED TO AVOID CONTAMINATION.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH WARM WATER AND SOAP AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARK FLAME, OR STRONG OXIDANTS. VENTILATION MUST BE PRESENT TO PREVENT BUILD-UP OF TOXIC OR EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00123

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: REFORMATE
CHEMICAL NAME/SYNONYMS: BASE GAS
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
REFORMATE - INTERMEDIATE FEEDSTOCK A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY 1 %. ALSO CONTAINS SMALL AMOUNTS OF OTHER ADDITIVES WHICH ARE NOT CONSIDERED TO BE HAZARDOUS AT THE CONCENTRATIONS USED.	N/A	100	300 PPM	300 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA) : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	< 1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC):

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:

FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:

FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR

APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:

EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00122

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: UNLEADED GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM

A COMPLEX COMBINATION OF
HYDROCARBONS LARGELY C-4
THROUGH C-12. BENZENE CONTENT
TYPICALLY 1 % OR LESS. ALSO
SMALL AMOUNTS OF OTHER ADDITIVES
WHICH ARE NOT CONSIDERED TO BE
HAZARDOUS AT THE CONCENTRATIONS
USED.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA) : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:

EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYE:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5: PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE. ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS. ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZLE IS IN CONTACT WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I



08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 900075

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:

GIANT REFINING CO. -BLOOMFIELD
SULLIVAN ROAD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER

PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: UNLEADED MIDGRADE GASOLINE
CHEMICAL NAME/SYNONYMS: PETROL; MOTOR FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION:

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
UNLEADED GASOLINE	N/A	100	300 PPM	300 PPM

A COMPLEX COMBINATION OF HYDROCARBONS LARGELY C-4 THROUGH C-12. BENZENE CONTENT TYPICALLY 1 % OR LESS. ALSO SMALL AMOUNTS OF OTHER ADDITIVES WHICH ARE NOT CONSIDERED TO BE HAZARDOUS AT THE CONCENTRATIONS USED.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA) : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
BENZENE	N/I	1			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -
REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE PULMONARY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH. HARMFUL OR FATAL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS AND/OR GASOLINE MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH. PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. SOME COMPONENTS OF GASOLINE MAY BE ABSORBED THROUGH THE SKIN.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 100

SPECIFIC GRAVITY (WATER=1): .71

VAPOR PRESSURE (MMHG): 9-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 3.5

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:

COLORLESS, CLEAR BRIGHT LIQUID. CHARACTERISTIC PETROLEUM-HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): -40 F TAG C

FLAMMABLE LIMITS:

LEL=1.3

UEL=7.6

EXTINGUISHING MEDIA:

WATER FOG, FOAM, DRY CHEMICAL OR CO 2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES:

DANGER. EXTREMELY FLAMMABLE. CLEAR AREA OF UNPROTECTED PERSONS. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLAMMABLE!!! ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA. WEAR APPROPRIATE EQUIPMENT. SHUT OFF SOURCE OF LEAK. DIKE AND CONTAIN. CONTAIN RUNOFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP

RESIDUE WITH ABSORBENT SUCH AS CLAY, SAND OR OTHER. PLACE IN APPROPRIATE CONTAINERS FOR DISPOSAL. FOR SMALL SPILLS, TAKE UP WITH AN ABSORBENT AS ABOVE AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:

RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: TO CAPTURE VAPORS
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: 60 fpm VELOCITY
OTHER: N/A

RESPIRATORY PROTECTION:

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AT ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID HEAT, SPARKS AND OPEN FLAMES. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING.

IMPROPER FILLING OF PORTABLE GASOLINE CONTAINERS CREATES DANGER OF FIRE. ONLY DISPENSE GASOLINE INTO APPROVED AND PROPERLY LABELED GASOLINE CONTAINERS. ALWAYS PLACE PORTABLE CONTAINERS ON THE GROUND. BE SURE PUMP NOZZLE IS IN CONTACT WITH THE CONTAINER WHILE FILLING. DO NOT USE A NOZZLE'S LOCK-OPEN DEVICE. DO NOT FILL PORTABLE CONTAINERS THAT ARE INSIDE A VEHICLE OR TRUCK/TRAILER BED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: DO NOT SIPHON GASOLINE BY MOUTH.

ADDITIONAL COMMENTS: N/I



SECTION 1.3.6

QUALIFIED INDIVIDUAL'S DUTIES

ICS FORMS

Section 1.3.6 - Duties of the Qualified Individual

Scope:

Manage aspects associated with the Response Efforts, including Response Operations, Public/Governmental Affairs, and Regulatory and Administrative Concerns. Manage all Environmental Matters associated with the Response Operations including: Strategic Assessment, Permitting, Modeling and Surveillance, Environmental Monitoring, Wildlife Rescue and Rehabilitation, and Environmental Specialties, such as Waste Disposal and Bioremediation. Arrange for Transportation, Food, Lodging and Laundry Services for Spill Response Operations. Adjust as needed based on Weather Information and Spill Trajectory Analysis.

Duties and Responsibilities:

Command:

Work with the Operations Section Chief and Governmental Officials to develop response objectives and priorities that will minimize adverse environmental effects of the oil spill.

Work with Planning, Logistics and Finance Section Chiefs to ensure that an effective support network is developed for the Spill Response Operations.

Work with Operations Section Chief and Governmental Officials and all Contractors to ensure that all response operations are conducted in compliance with all Local, State and Federal Environmental Occupational Safety and Health Regulations.

Authorize Information Releases to the Media.

Strategic Assessment:

Identify sensitive resources that could be affected, and help determine priorities and methods of protection in conjunction with the Operations and Planning Section Chiefs.

Approve use of contractors or specific cleanup or containment operations based upon recommendations from Operations and Planning Section Chiefs.

Permitting:

Have the appropriate environmental regulatory agencies notified and informed on the status of response operations and their impact on the environment.

Have permit applications and obtain necessary governmental agency approvals for environmental-related permits.

Work with the necessary regulatory governmental agencies to ensure capability of restricting air space, if needed.

Based upon recommendation, evaluate and approve the need for additional support in terms of consultants and contractor services.

Environmental Monitoring:

Arrange for environmental specialists to collect data and assess impact to:

- * Water Quality
- * Air Quality
- * Man-made Structures
- * Human Health

Form Liaisons with Trustee Agencies.

Document the extent of the Spill Distribution and Affected Resources.

Wildlife Avoidance, Rescue, Cleaning and Rehabilitation:

Direct the construction, operation and demobilization of wildlife rehabilitation centers, including all financial aspects, procurement of staff and equipment, training, and center management.

Coordinate wildlife rescue and rehabilitation operations with Local, State and Federal Fish and Game Authorities.

Contact experts to conduct wildlife capture, transport, cleaning, rehabilitation, and release operations.

Waste Disposal:

Utilize appropriate methodologies and procedures for the transfer, storage, transportation, and disposal of oil and oily water and/or debris. Obtain all necessary permits and approvals to manage the oil and oily waste.

Logistics:

With the assistance of Logistics and Planning Section Chiefs, determine the availability/location of cleanup equipment and personnel. Determine the availability and location of air and land transportation assets.

Provide transportation for moving personnel and equipment from the central receiving location to the spill response and recovery site.

This may include:

- * helicopters, fixed winged aircraft
- * tank cargo trucks
- * cars, vans, utility trucks

As needed, provide transportation services at the spill site for operations such as wildlife rescue, surveillance, salvage, waste disposal, etc.

Consult with the Response Team Section Chiefs and their staffs to determine where improvement of coverage may be required and have adjustments made as necessary.

Ensure that Logistics and Planning Section Chiefs inform other departments on status of purchasing activities and any lack of materials, equipment, supplies and response cleanup personnel that may adversely affect response efforts.

ICS FORMS

ICS FORMS

ICS FORM	FORM TITLE	RESPONSIBLE SECTION	APPROVED	COPY TO:
	INITIAL INCIDENT BRIEFING			
201	Initial Briefing Cover Page	IRIC	IC	*Used to brief CMT
201-1	Incident Map	IRIC	IC	and other
201-2	Summary of Current Actions	IRIC	IC	responders.
201-3	Initial Incident Organization Chart	IRIC	IC	"
201-4	Local Resource Summary	IRIC	IC	"
201-5 (1-2)	Site Safety & Control Analysis	Safety Officer/Command	IC	"
201-6	Meteorological Data/General Info.	IRIC	IC	"
201-7	Initial Site Assessment	Safety Officer/Command	IC	"
201-8	Tanker Information	IRIC	IC	"
	INCIDENT ACTION PLAN			
200	Incident Action Plan Cover Page	Resource UL/Plans	Unified Comm.	*Resource Unit
202	Incident Object./Response Priorities	Command/Resource UL/Plans	Unified Comm.	Leader for
203	Organizational Assignment List	Resource UL/Plans	Unified Comm.	Compilation of
204 (1-2)	Division/Group Assignment	Resource UL/Plans	Unified Comm.	IAP
204-1	D/G Assignment Continuation	Resource UL/Plans	Unified Comm.	"
205	Communications Plan	Comm. UL/Logistics	Unified Comm.	"
205-1	ICS Positions/Phone Numbers	Comm. UL/Logistics	Unified Comm.	"
206	Medical Plan	Medical UL/Logistics	Unified Comm.	"
209	Situation Status Summary/Inland	Situation UL/Plans	Unified Comm.	"
209-2	Situation Status Summary/Marine	Situation UL/Plans	Unified Comm.	"
	SITE MAPS			
209-3	Location Map	Situation UL/Plans	Unified Comm.	"
209-4	Trajectory Map	Situation UL/Plans	Unified Comm.	"
209-5	Off-Shore Map	Situation UL/Plans	Unified Comm.	"
209-6	On-Shore Map	Situation UL/Plans	Unified Comm.	"
209-7	Near Shore Map	Situation UL/Plans	Unified Comm.	"
215	Operational Planning Summary	Resource UL/Operations	Unified Comm.	"
220	Air Operations Summary	Air Ops/Operations	Unified Comm.	"
223	Health & Safety Message	Safety Officer/Command	Unified Comm.	"
224	Environmental Summary	Environmental UL/Plans	Unified Comm.	"
	MISCELLANEOUS SUPPORT			
204-2	Task Force/Strike Team Personnel	Resource UL/Plans		* Post in ICP
207	Organizational Chart	Situation UL/Plans		* Post in ICP
208	Incident Schedule of Meetings	Situation UL/Plans		* Post in ICP
209-1	Situation Status Update	Situation UL/Plans		* Post in ICP
211	Check In/Check Out Log	Security/Command		* Resource Unit Ldr.
213	General Message/Resource Req.	ALL		* Logistics Unit Ldr.
214	Unit Log	ALL		* Doc. Unit Ldr.
214-1	Unit Log Continuation	ALL		* Doc. Unit Ldr.
215-1 (1-6)	Operational Planning Work Sheet	Resource UL/Operations		* Post in ICP
216	Field Resource Status & Demobe	Situation UL/Plans		* Doc. Unit Ldr.
218	Support Vehicle Inventory	Ground Support UL/Logistics		* Doc. Unit Ldr.
222	Supply/Material Request	Supply UL/Logistics		* Logistics Unit Ldr.
226-(1-3)	L/T Planning Activities Work Sheet	Environmental/Plans		* Logistics Unit Ldr.

1. Incident Name	2. Operational Period to be covered by IAP (Date / Time) From:	IAP COVER SHEET
3. Approved by: FOSC _____ SOSC _____ RPIC _____ _____ _____		
<h1>INCIDENT ACTION PLAN</h1>		
4. Prepared by:		Date / Time
IAP COVER SHEET		June 2000

1. Incident Name	2. Operational Period to be covered by IAP (Date / Time) From: _____	IAP COVER SHEET
------------------	---	-----------------

3. Approved by:

FOSC _____

SOSC _____

RPIC _____

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ICS 202-OS (Response Objectives)

- ICS 203-OS (Organization List) - OR - ICS 207-OS (Organization Chart)

- ICS 204-OSs (Assignment Lists)
One Copy each of any ICS 204-OS attachments:
 - Map
 - Weather forecast
 - Tides
 - Shoreline Cleanup Assessment Team Report for location
 - Previous day's progress, problems for location

- ICS 205-OS (Communications List)

- ICS 206-OS (Medical Plan)
- _____
- _____
- _____
- _____
- _____
- _____

4. Prepared by: _____ Date / Time _____

Electronic version: NOAA 1.0 June 1, 2000

INITIAL INCIDENT INFORMATION	INCIDENT NAME	Information as of:	
		Date	Time
NAME OF PERSON REPORTING THE INCIDENT			
Call-Back Number(s) of person reporting the incident:			
VESSEL/FACILITY INFORMATION AND POINTS OF CONTACT			
Vessel / Facility Name:		Number of people onboard/on site:	
Location:			
Type of Vessel / Facility:			
Contact / Agent:		Phone:	
Owner:		Phone:	
Operator / Charterer:		Phone:	
VESSEL SPECIFIC INFORMATION			
Last Port of Call:		Destination:	Flag:
Particulars:	Length:	Ft.	Tonnage (Gross/Net/DWT):
Draft Fwd:		Aft:	Year Built:
Type of Hull: <input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Double-Bottom <input type="checkbox"/> Double-Sided			
Hull Material:			
Type of Propulsion: <input type="checkbox"/> Diesel <input type="checkbox"/> Steam <input type="checkbox"/> Gas Turbine <input type="checkbox"/> Nuclear <input type="checkbox"/> Other			
Petroleum Products or Crude Oil <input type="checkbox"/> Yes <input type="checkbox"/> No			
Type of Cargo:		Total Number of Tanks on Vessel:	
Total Quantity:	Barrels x 42=	Gallons	Total Capacity:
Type of Fuel:		Quantity on Board:	Barrels
INCIDENT INFORMATION			
Location:		Lat/Long:	
Type of Casualty: <input type="checkbox"/> Grounding <input type="checkbox"/> Collision <input type="checkbox"/> Allision <input type="checkbox"/> Explosion <input type="checkbox"/> Fire <input type="checkbox"/> Other			
Number of Tanks Impacted:		Total Capacity of Affected Tanks:	
Material(s) Spilled:		Viscosity:	
Estimated Quantity Spilled:	(<input type="checkbox"/> Gallons / <input type="checkbox"/> Barrels)	Classification: <input type="checkbox"/> Minor <input type="checkbox"/> Medium <input type="checkbox"/> Major	
Source Secured?: <input type="checkbox"/> Yes <input type="checkbox"/> No	If Not, Estimated Spill Rate:	<input type="checkbox"/> Barrels <input type="checkbox"/> Gallons / Hour	
Notes:			
INCIDENT STATUS			
Injuries/Casualties:			<input type="checkbox"/> SAR Underway
Vessel Status: <input type="checkbox"/> Sunk <input type="checkbox"/> Aground <input type="checkbox"/> Dead in Water		Set and Drift:	
<input type="checkbox"/> Anchored <input type="checkbox"/> Berthed <input type="checkbox"/> Under Tow	Estimated Time to Dock / Anchor:		
<input type="checkbox"/> Enroute to Anchorage / Berth Under Own Power	Estimated Time of Arrival:		
<input type="checkbox"/> Holed: <input type="checkbox"/> Above Waterline <input type="checkbox"/> Below Waterline <input type="checkbox"/> At Waterline	Approximate Size of Hole:		
<input type="checkbox"/> Fire: <input type="checkbox"/> Extinguished <input type="checkbox"/> Burning	<input type="checkbox"/> Assistance Enroute	<input type="checkbox"/> Assistance On-Scene	
<input type="checkbox"/> Flooding: <input type="checkbox"/> Dewatering <input type="checkbox"/> Lightering	<input type="checkbox"/> Assistance Enroute	<input type="checkbox"/> Assistance On-Scene	
<input type="checkbox"/> List: <input type="checkbox"/> Port <input type="checkbox"/> Starboard	Degrees:	<input type="checkbox"/> Trim: <input type="checkbox"/> Bow <input type="checkbox"/> Stern	Degrees:
ENVIRONMENTAL INFORMATION			
Wind Speed:	Knots	Wind Direction:	Air Temperature: F°
Wave Height:	Feet	Wave Direction:	Water Temperature: F°
Current:	Knots	Current Direction:	Conditions:
Swell Height:	Feet	Swell Direction:	Tide: <input type="checkbox"/> Slack <input type="checkbox"/> Flood <input type="checkbox"/> Ebb
		High Tide at: Hours	
		Low Tide at: Hours	
Prepared By:		Date / Time Prepared	
		June 2000 INITIAL INCIDENT INFORMATION	

1. Incident Name

2. Prepared by: (name)
Date: _____ Time: _____

INCIDENT BRIEFING ICS
201-OS (pg 1 of 4)

3. Map / Sketch (Include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines, or other graphics depicting situational and response status)

1. Incident Name

2. Prepared by: (name)

INCIDENT BRIEFING ICS
201-OS (pg 3 of 4)

Date:

Time:

6. Current Organization



FOSC _____

SOSC _____

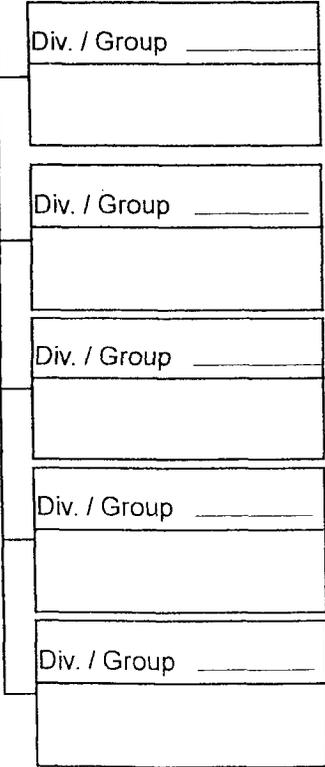
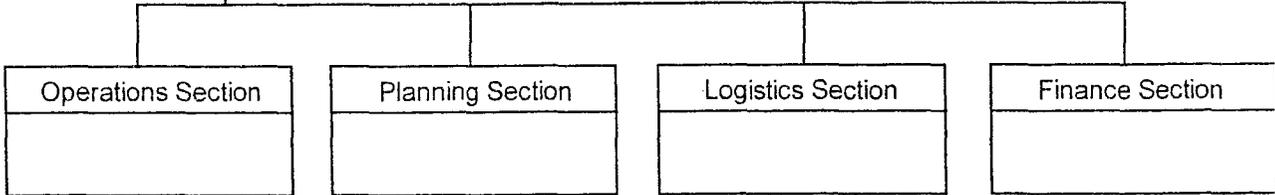
RPIC _____



Safety Officer _____

Liaison Officer _____

Information Officer _____



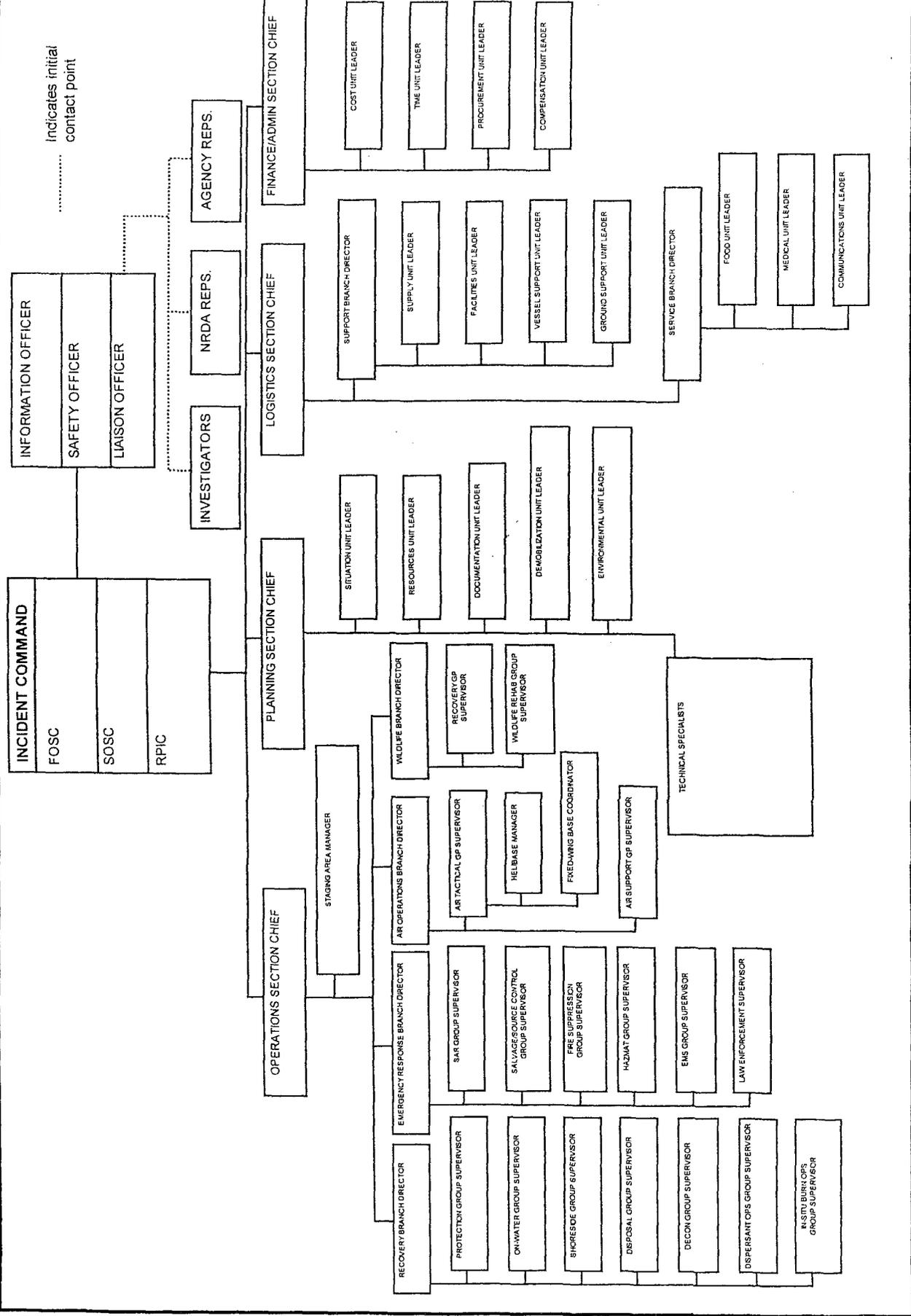
1. Incident Name	2. Operational Period (Date / Time) From:	ORGANIZATION ASSIGNMENT LIST ICS 203-OS														
3. Incident Commander and Staff		7. OPERATION SECTION														
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center; padding: 5px;">Primary</td> <td style="width:50%; text-align: center; padding: 5px;">Deputy</td> </tr> <tr> <td style="padding: 5px;">Federal:</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">State:</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">RP(s):</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">Safety Officer:</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">Information Officer:</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> <tr> <td style="padding: 5px;">Liaison Officer:</td> <td style="border: 1px solid black; width: 100%; height: 20px;"></td> </tr> </table>			Primary	Deputy	Federal:		State:		RP(s):		Safety Officer:		Information Officer:		Liaison Officer:	
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Federal:																
State:																
RP(s):																
Safety Officer:																
Information Officer:																
Liaison Officer:																
4. Agency Representatives																
Agency	Name															
5. PLANNING SECTION																
Chief																
Deputy																
Resources Unit																
Situation Unit																
Environmental Unit																
Documentation Unit																
Demobilization Unit																
Technical Specialists																
6. LOGISTICS SECTION																
Chief																
Deputy																
a. Support Branch																
Director																
Supply Unit																
Facilities Unit																
Transportation Unit																
Vessel Support Unit																
Ground Support Unit																
b. Service Branch																
Director																
Communications Unit																
Medical Unit																
Food Unit																
8. FINANCE / ADMINISTRATION SECTION																
Chief																
Deputy																
Time Unit																
Procurement Unit																
Compensation/Claims Unit																
Cost Unit																
9. Prepared By: (Resources Unit)																
	Date / Time															

1. Incident Name		2. Operational Period (Date / Time) From: _____		ASSIGNMENT LIST ATTACHMENT ICS 204a-OS	
3. Branch			4. Division / Group		
5. Strike Team / Task Force / Resource Identifier		6. Leader		7. Assignment Location	
8. Work Assignment Special Instructions (if any) [Ops]					
9. Special Equipment / Supplies Needed for Assignment (if any) [Ops]					
10. Special Environmental Considerations (if any) [P.S.C.]					
11. Special Site-Specific Safety Considerations (if any) [S.O.]					
Approved Site Safety Plan Located at:					
12. Other Attachments (as needed)					
<input type="checkbox"/> Map		<input type="checkbox"/> Shoreline Cleanup Assessment Team Report		<input type="checkbox"/> _____	
<input type="checkbox"/> Weather Forecast		<input type="checkbox"/> Tides		<input type="checkbox"/> _____	
13. Prepared by: (Resources Unit Leader)				Date / Time	
ASSIGNMENT LIST ATTACHMENT			June 2000		ICS 204a-OS

1. Incident Name

2. Operational Period (Date / Time)
From:

INCIDENT ORGANIZATION
CHART ICS 207-OS



1. Incident Name		2. Period Covered by Report From: _____ To: _____		Time of Report	INCIDENT STATUS SUMMARY ICS 209-OS																																																																																																																											
3. Spill Status (Estimated, in Barrels) [Ops & EUL/SSC] Source Status: Remaining Potential (bbl): _____ <input type="checkbox"/> Secured Rate of Spillage (bbl/hr): _____ <input type="checkbox"/> Unsecured <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;"></td> <td style="width:15%; text-align: center;">Since Last Report</td> <td style="width:15%; text-align: center;">Total</td> </tr> <tr> <td>Volume Spilled</td> <td></td> <td></td> </tr> </table> Mass Balance / Oil Budget <table style="width:100%; border-collapse: collapse;"> <tr><td>Recovered Oil</td><td></td><td></td></tr> <tr><td>Evaporation</td><td></td><td></td></tr> <tr><td>Natural Dispersion</td><td></td><td></td></tr> <tr><td>Chemical Dispersion</td><td></td><td></td></tr> <tr><td>Burned</td><td></td><td></td></tr> <tr><td>Floating, Contained</td><td></td><td></td></tr> <tr><td>Floating, Uncontained</td><td></td><td></td></tr> <tr><td>Onshore</td><td></td><td></td></tr> <tr><td colspan="3" style="text-align: center;">Total spilled oil accounted for:</td></tr> </table>				Since Last Report	Total	Volume Spilled			Recovered Oil			Evaporation			Natural Dispersion			Chemical Dispersion			Burned			Floating, Contained			Floating, Uncontained			Onshore			Total spilled oil accounted for:			8. Equipment Resources [RUL] <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Description</th> <th style="width:10%;">Ordered</th> <th style="width:10%;">Available / Staged</th> <th style="width:10%;">Assigned</th> <th style="width:10%;">Out of Service</th> </tr> </thead> <tbody> <tr><td>Spill Resp. Vsls</td><td></td><td></td><td></td><td></td></tr> <tr><td>Fishing Vessels</td><td></td><td></td><td></td><td></td></tr> <tr><td>Tugs</td><td></td><td></td><td></td><td></td></tr> <tr><td>Barges</td><td></td><td></td><td></td><td></td></tr> <tr><td>Other Vessels</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> <tr><td>Skimmers</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> <tr><td>Boom (ft.)</td><td></td><td></td><td></td><td></td></tr> <tr><td>Sbnt/Snr Bm. (ft.)</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> <tr><td>Vacuum Trucks</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> <tr><td>Helicopters</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> <tr><td>Fixed Wing</td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td></tr> </tbody> </table>			Description	Ordered	Available / Staged	Assigned	Out of Service	Spill Resp. Vsls					Fishing Vessels					Tugs					Barges					Other Vessels										Skimmers										Boom (ft.)					Sbnt/Snr Bm. (ft.)										Vacuum Trucks										Helicopters										Fixed Wing									
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6. Wildlife Impacts [Ops / Wildlife Br.] Numbers in () indicate subtotal that are threatened / endangered species. <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width:15%;"></th> <th colspan="4"></th> <th colspan="2" style="text-align: center;">Died in Facility</th> </tr> <tr> <th style="width:10%;">Captured</th> <th style="width:10%;">Cleaned</th> <th style="width:10%;">Released</th> <th style="width:10%;">DOA</th> <th style="width:10%;">Euth.</th> <th style="width:10%;">Other</th> </tr> </thead> <tbody> <tr><td>Birds</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Mammals</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Reptiles</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Fish</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Total</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>								Died in Facility		Captured	Cleaned	Released	DOA	Euth.	Other	Birds							Mammals							Reptiles							Fish																					Total							7. Safety Status [Safety Officer] <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:70%;"></th> <th style="width:15%;">Since Last Report</th> <th style="width:15%;">Total</th> </tr> </thead> <tbody> <tr><td>Responder Injury</td><td></td><td></td></tr> <tr><td>Public Injury</td><td></td><td></td></tr> </tbody> </table>				Since Last Report	Total	Responder Injury			Public Injury																																																						
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11. Prepared by: (Situation Unit Leader)																																																																																																																																
INCIDENT STATUS SUMMARY			June 2000	ICS 209-OS																																																																																																																												

1. Incident Name	2. Operational Period (Date / Time) From: _____ To: _____	STATUS CHANGE ICS 210-OS
3. Personnel / Resource Name or I.D.		
4. New Status <input type="checkbox"/> Available / Staged <input type="checkbox"/> Assigned _____ <input type="checkbox"/> Out of Service		
5. FROM Location or Status	6. TO Location or Status	
7. Time of Location / Status Change		
8. Comments		
9. Prepared by:	Date / Time	
10. Processed by: (Resource Unit)	Date / Time	
STATUS CHANGE	June 2000	ICS 210-OS

1. Incident Name	2. Date and Time of Message	GENERAL MESSAGE ICS 213-OS
3. TO: ICS Position		
4. FROM: ICS Position		
5. Subject:		
6. Message		
7. Reply		
8. Signature / Position (person replying)	Date / Time of reply	
GENERAL MESSAGE	June 2000	ICS 213-OS

1. Incident Name

2. Operational Period (Date / Time)
From:

3. Date

4. Time

RISKS

RISK MITIGATION

Division/Group

Weather

Biohazard

Hazardous Materials

Communications

River/Water Hazard

SHA

Fatigue

Diving Hazards/Bends

Dehydration

CISM

Prepared by (Name and Position)

November 2003

INCIDENT ACTION PLAN SAFETY ANALYSIS

ICS 215A-OS

RADIO REQUIREMENTS WORKSHEET

1. INCIDENT NAME		2. DATE	3. TIME
4. BRANCH	5. AGENCY		7. TACTICAL FREQUENCY
6. OPERATIONAL PERIOD			
8. DIVISION/GROUP		9. AGENCY	
AGENCY	DIVISION/ GROUP	AGENCY	RADIO RQMTS
AGENCY	AGENCY	ID NO.	RADIO RQMTS
AGENCY	AGENCY	ID NO.	RADIO RQMTS
AGENCY	AGENCY	ID NO.	RADIO RQMTS
AGENCY	AGENCY	ID NO.	RADIO RQMTS
10. PREPARED BY (COMMUNICATIONS UNIT)		PAGE	

BLUE CARD STOCK (HELICOPTER)

AGENCY	TYPE	MANUFACTURER NAME/NO.	LD. NO.
ORDER/REQUEST NO.		DATE/TIME CHECK IN	
HOME BASE			
DEPARTURE POINT			
PILOT NAME			
DESTINATION POINT			ETA
REMARKS			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			

ICS 219-4 (Rev. 4/82) HELICOPTER NFES 1346

AGENCY	TYPE	MANUFACTURER	LD. NO.
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			

NFES 1346

ORANGE CARD STOCK (AIRCRAFT)

AGENCY	TYPE	MANUFACTURER NAME/NO.	LD. NO.
ORDER/REQUEST NO.		DATE/TIME CHECK IN	
HOME BASE			
DATE/TIME RELEASED			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			

ICS 219-6 (4/82) AIRCRAFT

AGENCY	TYPE	MANUFACTURER	LD. NO.
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			
INCIDENT LOCATION			TIME
STATUS			
ETR			
NOTE			

NFES 1348

YELLOW CARD STOCK (DOZERS)

AGENCY	ST	TF	KIND	TYPE	LD. NO.
ORDER/REQUEST NO.		DATE/TIME CHECK IN			
HOME BASE					
DEPARTURE POINT					
LEADER NAME					
RESOURCE ID. NO.S/NAMES					
DESTINATION POINT					ETA
REMARKS					
INCIDENT LOCATION					TIME
STATUS					
ETR					
NOTE					

ICS 219-7 (Rev. 4/82) DOZERS NFES 1349

AGENCY	ST	TF	KIND	TYPE	LD. NO./NAME
INCIDENT LOCATION					TIME
STATUS					
ETR					
NOTE					
INCIDENT LOCATION					TIME
STATUS					
ETR					
NOTE					
INCIDENT LOCATION					TIME
STATUS					
ETR					
NOTE					

Electronic version: NOAA 1.0 June 1, 2000

1. Incident Name	2. Operational Period (Date / Time) From: _____ To: _____	DEMOB. CHECK-OUT ICS 221-OS
3. Unit / Personnel Released		4. Release Date / Time
<p>5. Unit / Personnel</p> <p>You and your resources have been released, subject to signoff from the following: (Demob. Unit Leader "X" appropriate box(es))</p> <p>Logistics Section</p> <p><input type="checkbox"/> Supply Unit _____</p> <p><input type="checkbox"/> Communications Unit _____</p> <p><input type="checkbox"/> Facilities Unit _____</p> <p><input type="checkbox"/> Ground Unit _____</p> <p>Planning Section</p> <p><input type="checkbox"/> Documentation Unit _____</p> <p>Finance / Admin. Section</p> <p><input type="checkbox"/> Time Unit _____</p> <p>Other</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>		
6. Remarks		
7. Prepared by: _____ Date / Time _____		
DEMOB. CHECK-OUT	June 2000	ICS 221-OS

Environmental Summary Worksheet

ICS 224

1. Incident Name

2. Date

3. Time

4. Operational Period

5. Area Environmental Data

6. Priorities for Mitigation Environmental and Cultural Impacts

7. Wildlife Assessments and Rehabilitation

8. Permits Required (Dispersants, Burning, Other)

9. Waste Management

10. Other Environmental Comments

11. Logistical Support Needs

1. Incident Name	2. Operational Period (Date / Time) From: _____ To: _____	DAILY MEETING SCHEDULE ICS 230-OS
------------------	--	---

3. Meeting Schedule (Commonly-held meetings are included)

Date / Time	Meeting Name	Purpose	Attendees	Location
	Tactics Meeting	Develop primary and alternate Strategies to meet Incident Objectives for the next Operational Period.	PSC, OPS, LSC, EUL, RUL & SUL	
	Planning Meeting	Review status and finalize strategies and assignments to meet incident Objectives for the next Operational Period.	Determined by the IC/UC	
	Operations Briefing	Present IAP and assignments to the Supervisors / Leaders for the next Operational Period.	IC/UC, Command Staff, General Staff, Branch Directors, Div. Sups., Task Force/Strike Team Leaders and Unit Leaders	
	Unified Command Objectives Meeting	Review / identify objectives for the next operational period.	Unified Command members	

4. Prepared by: (Situation Unit Leader)	Date / Time
---	-------------

1. Incident Name	2. Meeting Date / Time	MEETING SUMMARY ICS 231-OS
3. Meeting Name		
4. Meeting Location		
5. Facilitator		
6. Attendees		
7. Notes (with summary of decisions and action items)		
8. Prepared by:		Date / Time
MEETING SUMMARY	June 2000	ICS 231-OS

1. Incident Name	2. Operational Period (Date / Time) From:	RESOURCES AT RISK SUMMARY ICS 232-OS
------------------	--	--

3. Environmentally-Sensitive Areas and Wildlife Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

4. Archaeo-cultural and Socio-economic Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

5. Prepared by: (Environmental Unit Leader)	Date / Time
---	-------------

Electronic version: NOAA 1.0 June 1, 2000

1. Incident Name	2. Operational Period (Date / Time) From: To:	EXECUTIVE SUMMARY
3. Operations		
4. Environmental		
5. Planning		
6. Other		
7. Prepared by	Date / Time	
EXECUTIVE SUMMARY		June 2000

Section 1.4 – Hazard Evaluation

This section will examine Giant Refining Company – Bloomfield Refinery Operations closely and require this facility owner/operator to predict where releases could occur. This section will allow the owners/operators of Bloomfield Refinery to develop a complete understanding of potential hazards and the response actions necessary to address these hazards.

Hazard Identification and Evaluation will assist the Giant Refining Company – Bloomfield Refinery Management in planning for potential releases, thereby reducing the severity of discharge impacts that may occur in the future. This evaluation will also help the owners/operators of the Bloomfield Refinery Facility to identify and correct potential sources of releases. In addition, special hazards to workers and emergency response personnel's health and safety shall be evaluated.

SECTION 1.4.1

HAZARD EVALUATION

HAZARD IDENTIFICATION

HAZARD IDENTIFICATION TANKS

**HAZARD IDENTIFICATION SURFACE
IMPOUNDMENTS**

**MAP 7 – ABOVEGROUND STORAGE TANKS
AND SECONDARY CONTAINMENT**

Section 1.4.1 Hazard Identification

This section explains the hazards associated with the Aboveground Storage Tanks located at the Bloomfield Refinery.

The Bloomfield Refinery receives and processes up to 18,000 barrels per day of crude oil (approximately 750,000 gallons per day) and produces propane, butane, gasoline, kerosene, fuel oil, and residual fuel. Processing units include distillation, catalytic cracking, reforming, polymerization, hydro-treating, and de-sulfurization. Processing vessels, pumps, pipelines, and related equipment are located in the Process Area. Day to day operations involve pumping various feedstocks and products throughout the refinery. Typical flow rates may range from 1 to 500 gallons per minute. In addition, chlorine, sulfuric acid, and caustic are used on-site.

Crude oil, intermediate feedstocks, and refined products are stored in various storage tanks located on-site. Most of these tanks are located within a central Tank Farm in the main part of the refinery. A few tanks are located near the refinery Process Area and others are located at the Terminal Area south of County Road 4990.

Some crude oil is received via tank truck and unloaded into refinery tanks for subsequent processing. Some products are unloaded from refinery storage tanks into tank trucks and then shipped out to customers. The maximum transfer rate for loading and unloading operations is approximately 120,000 gallons per hour; however, a typical transfer rate is closer to 30,000 gallons per hour. Maximum storage capacity of the facility is 572,483 barrels.

Hazard Identification – Aboveground Storage Tanks

The materials stored at the Giant Refining Company – Bloomfield Refinery that could potentially cause substantial harm to the environment are the following:

Atmospheric Storage Tanks

<u>Tank No.</u>	<u>Contents</u>	<u>Avg. Volume (gallons)</u>	<u>Tank Type¹ & Year</u>	<u>Max. Volume (gallons)</u>	<u>Failure & Cause</u>
3	Mid Grade	210,000	FR/1966	420,000	n/a
4	Mid Grade	210,000	FR/1966	420,000	n/a
5	Isomerate	210,000	IFR/1966	420,000	n/a
8	Slop oil	10,500	CR/1987	21,000	n/a
9	Slop oil	10,500	CR/1987	21,000	n/a
10	Out of Service	8,400	CR/1986	16,800	n/a
11	Reformate	1,155,000	FR/1982	2,310,000	n/a
12	Poly/Cat mix	1,155,000	FR/1982	2,310,000	n/a
13	Gasoline	630,000	FR/1987	1,260,000	n/a
14	Gasoline	630,000	FR/1987	1,260,000	n/a
17	Reduced crude	840,000	CR/1961	1,680,000	n/a
18	Diesel	1,155,000	IFR/1974	2,310,000	n/a

<u>Tank No.</u>	<u>Contents</u>	<u>Avg. Volume (gallons)</u>	<u>Tank Type¹ & Year</u>	<u>Max. Volume (gallons)</u>	<u>Failure & Cause</u>
19	Diesel	756,000	CR/1975	1,512,000	n/a
20	FCC slop oil	105,000	CR/1976	210,000	n/a
22	Out of Service	31,500	CR/1980	63,000	n/a
23	Gasoline	840,000	FR/1962	1,680,000	n/a
24	Diesel	210,000	CR/2006	420,000	n/a
25	Diesel	210,000	CR/2006	420,000	n/a
26	Sweet Naphtha	84,000	CR/1967	168,000	n/a
27	Residual oil	210,000	CR/1967	420,000	n/a
28	Crude oil	1,680,000	FR/1969	3,360,000	n/a
29	Diesel Slop	357,000	IFR/1974	714,000	n/a
30	Premium Blend	357,000	IFR/1974	714,000	n/a
31	Crude oil	2,310,000	FR/1977	4,620,000	n/a
32	Premium Sales	420,000	FR/1988	840,000	n/a
33	Recovered Water	7,560		15,120	n/a
35	Reformer feed	1,155,000	1996	2,310,000	n/a
36	Poly/Cat mix	1,155,000	1996	2,310,000	n/a
37	French Drain	210,000		420,000	n/a
38	Recovered Ground Water	8,400	2003	16,800	n/a
41	Crude oil	58,800	2001	117,600	n/a
43	Crude oil	14,700	CR/1979	29,400	n/a
44	VRU Naphtha	42,000	IFR/1989	42,000	n/a
45	Ethanol	105,000		210,000	n/a

1 – FR is floating roof tank, IFR is internal floating roof tank, and CR is fixed cone roof tank. Year installed.

Pressurized Storage Tanks

<u>Tank¹ No.</u>	<u>Contents</u>	<u>Avg. Volume (gallons)</u>	<u>Tank Type² & Year</u>	<u>Max. Volume (gallons)</u>	<u>Failure & Cause</u>
B-12	Light natural	14,500	B/1960	29,000	n/a
B-13	Butane	10,500	B/1960	21,000	n/a
B-14	Butane	10,500	B/1960	21,000	n/a
B-15	Propane	15,000	B/1978	30,000	n/a
B-16	Poly feed	15,000	B/1978	30,000	n/a
B-17	Poly feed	15,000	B/1978	30,000	n/a
B-18	Poly feed	15,000	B/1978	30,000	n/a
B-19	Poly feed	15,000	B/1978	30,000	n/a
B-20	Butane	15,000	B/1978	30,000	n/a
B-21	Butane	15,000	B/1983	30,000	n/a
B-22	LPG	15,000	B/1988	30,000	n/a
B-23	LPG	15,000	B/1988	30,000	n/a

- ¹ – The designation “B” stands for high pressure bullet tank and **not** below ground tank.
² – B is high pressure bullet tank.

Surface Impoundments

<u>SI No.</u>	<u>Contents</u>	<u>Avg. Volume (gallons)</u>	<u>Surface Area & Year</u>	<u>Max. Volume (gallons)</u>	<u>Failure & Cause</u>
SOWP	Wastewater				n/a
NOWP-E	Wastewater				n/a
NOWP-W	Wastewater				n/a

Secondary Containment Structures

<u>Potential Spill Source</u>	<u>Secondary Containment Structure</u>	<u>Holding Volume (gallons)</u>
Tank No. 3	Earthen dike	829,103
Tank No. 4	Earthen dike	829,103
Tank No. 5	Earthen dike	829,103
Tank No. 8	Earthen dike	NA (sewer)
Tank No. 9	Earthen dike	NA (sewer)
Tank No. 10	Earthen dike	2,961
Tank No. 11	Earthen dike	3,317,288
Tank No. 12	Earthen dike	3,317,288
Tank No. 13	Earthen dike	3,317,288
Tank No. 14	Earthen dike	3,317,288
Tank No. 17	Earthen dike	5,717,137
Tank No. 18	Earthen dike	5,717,137
Tank No. 19	Earthen dike	5,717,137
Tank No. 20	Earthen dike	515,670
Tank No. 22	Earthen dike	515,670
Tank No. 23	Earthen dike	3,615,093
Tank No. 24	Earthen dike	1,049,884
Tank No. 25	Earthen dike	1,049,884
Tank No. 26	Earthen dike	3,060,834
Tank No. 27	Earthen dike	3,060,834
Tank No. 28	Earthen dike	3,615,093
Tank No. 29	Earthen dike	4,648,401
Tank No. 30	Earthen dike	4,648,401
Tank No. 31	Earthen dike	4,648,401
Tank No. 32	Earthen dike	3,270,775
Tank No. 33	Earthen dike	15,340
Tank No. 35	Earthen dike	5,717,137
Tank No. 36	Earthen dike	3,270,775
Tank No. 37	Earthen dike	NA
Tank No. 38	Earthen dike	17,525
Tank No. 41	Earthen dike	328,096

<u>Potential Spill Source</u>	<u>Secondary Containment Structure</u>	<u>Holding Volume (gallons)</u>
Tank No. 43	Earthen dike	328,096
Tank No. 44	Earthen dike	40,208
Tank No. 45	Earthen dike	297,813*
Loading Station No. 1	Concrete pad & sump	NA
Unloading Station No. 1	Concrete pad & sump	NA
Process Area	Concrete pads & curbing	NA

* The dike around Tank No. 45 is in the process of being enlarged to the capacity listed above.

Locations of the Aboveground Storage Tanks and the Secondary Containment Structures can be found on *Map 7 – Aboveground Storage Tanks and Secondary Containment Structures at Bloomfield Refinery*.

Below is a list of tanks that share capacity through the use of overflow piping:

Tanks 11, 12, 13, 14
Tanks 17, 19, 35
Tanks 20, 22
Tanks 23, 24, 25
Tanks 23, 28
Tanks 26, 27, 28
Tanks 29, 30, 31
Tanks 32, 36

Aboveground Storage Tank Numbers and Contents

(Refer to Map 7 – Aboveground Storage Tanks and Secondary Containment Structures at Bloomfield Refinery)

<u>Tank Number</u>	<u>Tank Contents</u>
3	Mid Grade
4	Mid Grade
5	Isomerate
8	Slop Oil
9	Slop Oil
10	Out of Service
11	Reformate
12	Poly/Cat Mix
13	Gasoline
14	Gasoline
17	Reduced Crude
18	Diesel
19	Diesel
20	FCC Slop Oil
22	Out of Service
23	Gasoline
24	Diesel
25	Diesel
26	Sweet Naphtha
27	Residual Oil or Burner Fuel
28	Crude Oil
29	Diesel Slop
30	Premium Blend
31	Crude Oil
32	Premium Sales
33	Recovered Water
35	Reformer Feed
36	Poly/Cat Mix
37	French Drain
38	Recovered Ground Water
41	Crude Oil
43	Crude Oil
44	VRU Naphtha
45	Ethanol
B12	Light Natural
B-13 – B-14	Butane
B-15	Propane
B-16 – B-19	Poly Feed
B-20 – B-21	Butane
B-22 – B-23	LPG

SECTION 1.4.2

VULNERABILITY ANALYSIS

Section 1.4.2 – Vulnerability Analysis

The Vulnerability Analysis addresses the potential effects of an Oil/Petroleum Product Spill to human health, property, or the environment. Analysis is undertaken to determine appropriate distances from the Bloomfield Refinery Facility to environmentally sensitive areas and drinking water intakes.

The refinery is located in Northwestern New Mexico, approximately 1 mile south of the City of Bloomfield (population 5,500) in San Juan County. The nearest major city is Farmington, New Mexico; which is approximately 10 miles West.

The general vicinity is largely undeveloped. Directly North of the refinery is the Hammond Irrigation Ditch and the San Juan River. The area North of the river is undeveloped land owned by the refinery. To the East are several gravel pits and vacant land. To the South of the Loading & Unloading Area are two private residences, and further South is BLM land. To the West is vacant land until the State Route 44 corridor. Several businesses are located on this road.

The refinery is situated on an elevated terrace South of the San Juan River and the Hammond Irrigation Ditch. This terrace is approximately 100 feet above the river level and 20 feet above the irrigation ditch. The Northern refinery fence line adjoins the irrigation ditch and the distance from the refinery to the river's edge varies from approximately 300 to 1,000 feet.

In the event that a spill escapes containment at the refinery and migrates off-site, the primary direction of flow will be North and West toward the Hammond Irrigation Ditch and the San Juan River.

A spill that enters either the ditch or river will flow Westward toward Farmington. The irrigation ditch joins into the river approximately 12 miles downstream from the refinery.

Planning distances have been calculated using 40 CFR 112, Appendix C. The planning distance for the Hammond Irrigation Ditch is 28 miles and therefore extends past the point of interception with the San Juan River. The planning distance for the San Juan River is 47 miles downstream of the refinery.

1. Water Intakes:

The nearest industrial water intake on the San Juan River is the Williams Field Service intake located 1/2 mile West of the refinery near the State Route 44 bridge. The nearest public drinking water intake is the City of Farmington intake located 13 miles downstream of the refinery. Both of these intakes may be adversely impacted by a spill which reaches the San Juan River.

The San Juan River and Bloomfield Refinery on the bluff.



2. Schools:

The nearest school is located in Bloomfield approximately 1 mile North of the San Juan River. It is unlikely this school will be adversely impacted by a spill.

3. Medical Facilities:

The nearest medical facility is the San Juan Regional Medical Center located in Farmington. It is unlikely this hospital will be adversely impacted by a spill.

4. Residential Areas:

The nearest residences are located approximately 400 feet South of the refinery, and upgradient from potential spill sources. It is possible these residences would be adversely impacted by a spill with possible medical effects including eye and throat irritation, power outages and water supply contamination.

5. Businesses:

The nearest businesses are located on State Route 44, West of the refinery. Most of these businesses are located upgradient of potential spill sources and therefore it is unlikely they will be impacted by a spill.

6. Wetlands/Environmentally Sensitive Areas:

Native vegetation is present along the banks of the San Juan River and adjacent to the Hammond Irrigation Ditch. It is likely this vegetation will be adversely impacted by a spill which reaches either of these waterways.

Native fish and wildlife are present in the San Juan River and general vicinity. It is likely that fish will be adversely impacted by a spill which reaches the San Juan River.

The San Juan River is the nearest perennial surface water body in the vicinity of the refinery. The Hammond Irrigation Ditch is only in use for 6 months of the year. Both of these waterways may be adversely impacted by a spill.

7. Fish and Wildlife:

Three endangered fish species, the Colorado Squawfish, the Colorado Pikeminnow and the Razorback Sucker, may be present in the San Juan River and therefore could be adversely impacted by a spill which reaches the river. Other wildlife in the area may also be impacted by a spill.

The following Animals are endangered in New Mexico:

Bat, lesser long-nosed

Bat, Mexican long-nosed
Chub, Chihuahua
Crane, whooping
Crane, whooping
Colorado Pikeminnow
Colorado Squawfish
Eagle, bald (lower 48 States)
Flycatcher, southwestern willow
Gambusia, Pecos
Isopod, Socorro
Jaguar
Minnow, loach
Minnow, Rio Grande silvery
Owl, Mexican spotted
Rattlesnake, New Mexican ridge-nosed
Razorback Sucker
Shiner, Arkansas River (Arkansas R. Basin)
Shiner, beautiful
Shiner, Pecos bluntnose
Spikedace
Springsnail, Alamosa
Springsnail, Socorro
Sucker, razorback
Tern, least (interior pop.)
Topminnow, Gila
Trout, Gila
Wolf, gray Mexican gray wolf, EXPN population
Woundfin (except Gila R. drainage, AZ, NM)
Woundfin

8. Lakes and Streams:

Based on the formula provided by the US EPA for Oil Transport over Land, a Worst Case Scenario of 4,620,000 gallons (110,000 barrels) of Crude Oil has the potential to spread 3640 feet from its initial point of discharge when it would reach the Hammond Ditch and the San Juan River. Upon reaching these waterways, the Crude Oil would migrate downstream toward Mexican Hat and beyond. (See *Calculation No. 1 – Oil Spreading on Moving Navigable Waters* and *Calculation No. 2 - Oil Transport over Land*)

Approximately 120 miles further downstream on the San Juan River, the Glen Canyon National Recreational Area begins which includes Lake Powell. This plan calls for every effort to be made to keep any spilled product from reaching the Lake Powell area.

Using the results of the Calculations 1 and 2 in this section, the response planning window for the Bloomfield Refinery puts the response team 47 miles down the river before an effective response can be made. The Glen Canyon National Recreational Area and Lake Powell could conceivably be impacted in a Worst Case Scenario.

9. Endangered Flora and Fauna:

In the area immediately surrounding the Bloomfield Refinery area, a variety of plants are prevalent. A list of the US Park Service's Endangered Species for the New Mexico area are listed below.

Poppy, Sacramento prickly
Milk-vetch, Mancos
Thistle, Sacramento Mountains
Cactus, Lee pincushion
Cactus, Sneed pincushion
Cactus, Kuenzler hedgehog
Cactus, Lloyd's Mariposa
Fleabane, Zuni
Wild-buckwheat, gypsum
Pennyroyal, Todsens
Sunflower, Pecos
Ipomopsis, Holy Ghost
Cactus, Knowlton
Cactus, Mesa Verde

10. Recreational Areas:

The San Juan River has limited recreational use, primarily fishing, in the vicinity of the refinery and downstream. It is likely this recreational use will be adversely impacted by a spill which reaches the San Juan River.

11. Transportation routes (Air, Land, Water):

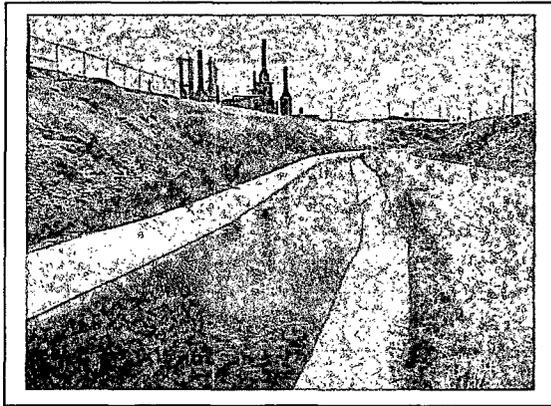
County Road 4990 (Sullivan Road) passes through the refinery site and could be adversely impacted by a spill from either the Tank Farm or the Loading & Unloading Area. However, the main East-West thoroughfare is Highway 64 just North of the refinery, so the impact on travelers would be minimal.

12. Utilities:

No Utilities would be initially impacted by a fuel spill at the Bloomfield Refinery.

13. Other Sensitive Environmental Areas:

The Hammond Irrigation Ditch supplies irrigation water to various farms and ranches located downstream of the refinery. It is likely that these users will be adversely impacted by a spill which reaches the irrigation ditch.



The Hammond Irrigation Ditch with Bloomfield Refinery in the background.

SECTION 1.4.3

***ANALYSIS OF THE POTENTIAL
FOR AN OIL SPILL***

CALCULATIONS 1 AND 2

Section 1.4.3 – Analysis of the Potential for an Oil (Petroleum Product) Spill at Giant Refining Company – Bloomfield Refinery

There is the Potential for an Oil (Petroleum Product) spill at the Bloomfield Refinery Facility from the Aboveground Storage Tanks. 1. The refinery is located in close proximity to the Hammond Irrigation Ditch and the San Juan River. The horizontal range to the ditch is approximately 20 feet. The horizontal range to the river varies from 300 to 1,000 feet. A spill could result from the following:

In the Bloomfield Refinery:

1. The Crude Oil, Naphtha, Gasoline and Diesel Aboveground Storage Tanks present a slight potential of an oil spill occurring as a result of structural failure of the tanks.
2. There is a slight potential for an oil spill as the result of a natural disaster such as high winds, lightning, earthquakes, heavy rains or extreme cold weather (ice and snow).
3. There is a potential for an oil spill during the filling of the Aboveground Storage Tanks by the Road Tankers.
4. There is the potential for spills or releases in the Process Unit Areas due to damaged or leaking process equipment such as valves, pumps, pipelines, etc.
5. There is the potential for a spill due to a Fueling Truck or Road Tanker malfunction resulting in a collision with one or more Aboveground Storage Tanks or Process Units.
6. There is the potential for a spill due to a break in the aboveground pipelines.

In the Loading/Uploading Terminal:

1. There is a potential for an oil spill at the Loading/Uploading Terminal outside the refinery area as a result of Driver Fueling Procedures (i.e. overfilling the truck).
2. There is a slight potential for an oil spill as the result of a natural disaster such as high winds, lightning, earthquakes, heavy rains or extreme cold weather (ice and snow).
3. There is the potential for a spill due to a Fueling Truck or Road Tanker malfunction resulting in a collision with one or more Aboveground Storage Tanks.

Factors which decrease the likelihood of an off-site spill are described as follows:

1. Historically, spills are very rare at the refinery and all of these spills have been contained on-site within secondary containment dikes. The refinery has been in operation for over 40 years and sustained fewer than 10 spills.

2. Secondary containment is used extensively throughout the refinery.
3. The refinery is not located in the 100 year flood plain. Seismic activity in this region is very low. Soils are stable.
4. The Hammond Irrigation Ditch is only in service for 6 months of the year.
5. The refinery was constructed in 1959. No tank is older than 40 years and most are less than 20 years old.

CALCULATIONS 1 AND 2

Calculation No. 1
Oil Spreading on Moving Navigable Waters

Oil Transport on Moving Navigable Waters:

For Bodies of Water including rivers that have a measurable velocity, the spreading of oil (petroleum products) over the surface must be considered.

The Surface Area covered by oil spreading on moving waters can be determined by the following formula. These calculations are based upon a Worst Case Scenario for the Bloomfield Refinery of a rupture of Tank 31 which contains crude oil and has a maximum storage capacity of 4,620,000 gallons (110,000 barrels). Although improbable, a catastrophic tank rupture could result in a liquid wave of sufficient momentum to overflow the containment dike and escape off-site.

$$D = V \times T \times C$$

D = the distance downstream from a facility within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down in the event of an oil discharge (in miles).

V = the velocity of the river/navigable water of concern (in ft/sec) as determined by Chezy-Manning's equation.

T = the time interval is based upon the type of water body and location (in hours).

C = the constant conversion factor

Chezy-Manning's equation is used to determine velocity:

$$V = 1.49/R^{2/3} \times S^{1/2} \text{ where}$$

V = velocity of the river (in ft/sec).

N = Manning's Roughness.

R = the hydraulic radius, which can be approximated for parabolic channels by multiplying the average mid-channel depth of the river (in feet) by 0.667.

S = the average slope of the river obtained from USGS topographic maps.

The calculations for the Bloomfield Refinery. are as follows:

Chezy-Manning's equation to determine velocity (V):

$$V = 1.5/N \times R^{2/3} \times S^{1/2}$$

$$N = 0.035 \quad (\text{Major Stream, No Boulders or Brush})$$

$$R = 4.67$$

$$S = 0.0015$$

$$V = 1.5/.035 \times 4.67^{2/3} \times .0015^{1/2}$$

$$V = 42.86 \times .0387 \times 2.8$$

$$V = 4.6 \text{ ft/sec}$$

Surface Area of Oil Spreading on Moving Waters for the Bloomfield Refinery are as follows:

$$D = V \times T \times C$$

$$V = 4.6 \text{ ft/sec}$$

$$T = 27 \text{ hours}$$

$$C = 0.68 \text{ sec } [\omega] \text{ miles/hour } [\omega] \text{ feet}$$

$$D = 4.6 \text{ ft/sec} \times 27 \text{ hours} \times 0.68 \text{ sec } [\omega] \text{ miles/hour } [\omega] \text{ feet}$$

$$D = 84 \text{ miles}$$

The appropriate planning distance for the Bloomfield Refinery is 84 miles.

Calculation No. 2
Oil Transport Over Land

Giant Refining Company – Bloomfield Refinery must also evaluate the potential for oil (petroleum products) to move over land as a result of a spill at the Aboveground Storage Tanks.

There is a probability that as a result of a Worst Case spill of a petroleum product from the aboveground storage tanks, that the spilled product would travel over land and spill into the Hammond Ditch and the San Juan River.

An evaluation by the US EPA of the flow of Oil (Petroleum Products) reveals that the travel time from these storage tanks to the San Juan River is in the range of 12 seconds to 5.6 minutes. The product would follow the natural contours of the land, which slope downward toward the river.

Expected minimum and maximum velocities are listed below. This shows that time required for the oil (petroleum products) to travel across the area of land between the storage tanks and the San Juan River is less than six minutes.

Open Land Channel: Maximum Velocity: 25 feet per second
Minimum Velocity: 3 feet per second

To calculate the travel time of the product from the Aboveground Storage Tanks to the river, the US EPA provides the following formula:

$$\text{Travel time} = (D2) \div \text{Velocity (Maximum or Minimum)}$$

D1 = Distance from the release point to the Open Land Channel or Storm Channel leading to the San Juan River

D2 = Distance from the Open Land Channel or Storm Drain to the San Juan River

D3 = Distance downstream from the outfall within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down as determined by the planning distance formula.

D4 = Distance from the nearest opportunity for discharge to fish and wildlife and sensitive environments not bordering navigable water.

To calculate the travel time of product from the Aboveground Storage Tanks to the San Juan River, the EPA provides the following formula:

$$\text{Travel time} = (D1 + D2) \div \text{Velocity (Max. or Min.)}$$

Maximum Velocity Calculations:

$$\text{Travel time} = (300 + 0 \text{ feet}) \div 25 \text{ feet/second (Maximum)} = 12 \text{ seconds}$$

Calculation 2 – Oil Transport over Land

Page 2

$$\text{Travel time} = (1000 + 0 \text{ feet}) \div 25 \text{ feet/second (Maximum)} = 40 \text{ seconds}$$

Minimum Velocity Calculations:

$$\text{Travel time} = (300 + 0 \text{ feet}) \div 3 \text{ feet/second (Minimum)} = 100 \text{ seconds} = 1.7 \text{ minutes}$$

$$\text{Travel time} = (1000 + 0 \text{ feet}) \div 3 \text{ feet/second (Minimum)} = 333 \text{ seconds} = 5.6 \text{ minutes}$$

To calculate the travel time of product from the Aboveground Storage Tanks to sensitive environments that could be injured or a public drinking water intake would be shut down, the EPA provides the following formula:

$$\text{Travel time} = (D1 + D2 + D3) \div \text{Velocity (Max. or Min.)}$$

Maximum Velocity Calculations:

$$\text{Travel time} = (300 + 0 + 2640 \text{ feet}) \div 25 \text{ feet/second (Maximum)} = 117.6 \text{ seconds} = 1.96 \text{ minutes}$$

$$\text{Travel time} = (1000 + 0 + 2640 \text{ feet}) \div 25 \text{ feet/second (Maximum)} = 145.6 \text{ seconds} = 2.43 \text{ minutes}$$

Minimum Velocity Calculations:

$$\text{Travel time} = (300 + 0 + 2640 \text{ feet}) \div 3 \text{ feet/second (Minimum)} = 980 \text{ seconds} = 1.63 \text{ minutes}$$

$$\text{Travel time} = (1000 + 0 + 2640 \text{ feet}) \div 3 \text{ feet/second (Minimum)} = 1213 \text{ seconds} = 20.22 \text{ minutes}$$

SECTION 1.4.4

FACILITY REPORTABLE OIL SPILL HISTORY

**Section 1.4.4 – Facility Reportable Oil Spill History at Giant Refining Company –
Bloomfield Refinery**

Date of Discharges:

1. On March 18, 1991, approximately 180 barrels (7,560 gallons) of jet fuel spilled inside the dike of Tank No. 26. The spilled material was recovered using a vacuum truck and recycled.
2. On February 4, 1993, approximately 45 barrels (1,890 gallons) of reformate spilled inside the dike of Tank No. 5. The spilled material was recovered using a vacuum truck and recycled.
3. On March 3, 2000 approximately 500 barrels of reformate spilled inside the dike at Tank #5. The spilled material was recovered with a vacuum truck and recycled.
4. On January 19, 2001 The crude unloading sump overflowed and approximately 25 barrels of crude spilled into an earthen berm. The free-standing product was recovered with a vacuum truck and recycled. The bermed area was remediated in place.
5. On January 25, 2004 approximately 118 gallons of unleaded gasoline was spilled at the Truck Fueling Station located west of the Auxiliary Warehouse. The impacted soil was removed and disposed of at an OCD approved waste facility. Clean fill dirt replaced the impacted soil area.

Section 1.5 – Discharge Scenarios

This section provides a Description of the Worst Case Oil (Petroleum Product) Spill Discharge Scenario that could possibly happen at the Bloomfield Refinery Facility, as well as that of a Small and Medium Spill.

A Tiered Planning Approach has been utilized because the response actions to a spill (i.e. necessary equipment, products, and personnel) are dependent upon the magnitude of the spill. Planning for three (3) levels of Oil (Petroleum Product) Spill is necessary because the nature of the response may be qualitatively different depending on the quantity of the Accidental Discharge.

The US EPA defines a Small Spill as any Oil (Petroleum Product) Spill with a volume less than 2,100 gallons.

A Medium Spill is defined as any Oil (Petroleum Product) Spill with a volume greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest fuel storage tank at the facility whichever is less, but not to exceed the Worst Case Discharge.

By this definition, the Bloomfield Refinery's Worst Case Spill is 110,000 barrels (4,620,000 gallons) of Crude Oil, or the contents of the largest Aboveground Storage Tank. Therefore, planned responses would be required for all three instances – Small Spill, Medium Spill and Worst Case Discharge.

SECTION 1.5.1

SMALL DISCHARGES

**Section 1.5.1 – Small Discharge Scenarios
For
Giant Refining Company – Bloomfield Refinery**

The US EPA defines a Small Spill as any Oil (Petroleum Product) Spill with a volume less than 2,100 gallons (50 barrels). The following scenarios are likely to result in a small discharge.

- A small leak or overflow of a storage tank.
- A leaking drum or tote.
- A small pump seal leak.
- A small flange or piping leak.
- A small leak while loading or unloading.

Due to the small volume of material involved, a small spill is unlikely to escape secondary containment and migrate off-site. As such, it is unlikely that this type of spill will reach the Hammond Irrigation Ditch and very unlikely that it will reach the San Juan River.

SECTION 1.5.2

MEDIUM DISCHARGES

**Section 1.5.2 – Medium Discharge Scenarios
For
Giant Refining Company – Bloomfield Refinery**

A Medium Spill is defined as any Oil (Petroleum Product) Spill with a volume greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest fuel storage tank at the facility whichever is less, but not to exceed the Worst Case Discharge.

The following are types of Medium Facility-Specific Spill Scenarios that could possibly occur at the Bloomfield Refinery Facility. (US EPA – Medium Spill Classification of 2,100 to 36,000 gallons)

- A medium-sized leak or sustained overflow of a storage tank.
- A sustained or long term pump seal leak.
- A sustained or long term flange or piping leak.
- A sustained or long term leak while loading or unloading.
- A tank truck leak in the parking area.
- A high pressure storage bullet rupture.

A medium-sized tank leak or overflow is unlikely to escape the tank dike area. A sustained pump leak will likely be captured in a sump or drain, and is unlikely to escape the Process Area. A sustained piping leak will flow by gravity to a retention basin and is unlikely to escape containment.

A sustained loading or unloading leak will be captured by the secondary containment sump and is unlikely to escape the area. A tank truck leak in the parking area will travel West along County Road 4990 to the retention basin and is unlikely to escape containment.

SECTION 1.5.3

WORST CASE DISCHARGE

**Section 1.5.3 – Worst Case Discharge Scenario
For
Giant Refining Company – Bloomfield Refinery**

The US EPA defines a Worst Case Spill as any Oil (Petroleum Product) Spill with a volume greater than 36,000 gallons.

Using the calculations in Appendix D, the following outlines the results:

Are all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility without adequate secondary containment? *No*

If no, calculate the total aboveground oil storage capacity without secondary containment. *None*

0 Gallons

Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks manifolded together, whichever is greater, plus the production volume of the well with the highest output, plus the volume of the pumping rate of the well with the highest output as described in B.2.2 of Appendix D of 40CFR 112.

110,000 Barrels or 4,620,000 Gallons

Bloomfield Refinery's Worst Case Spill is 110,000 barrels (4,620,000 gallons) of Crude Oil, the contents of the largest Aboveground Storage Tank.

Worst Case Discharge Calculations for the Bloomfield Refinery are based on a scenario involving a structural failure of an Aboveground Storage Tank or a natural disaster causing a complete failure such as high winds, lightning, earthquake, heavy rains or extreme cold weather (ice and snow).

Although improbable, a catastrophic tank rupture could result in a liquid wave of sufficient momentum to overflow the containment dike and escape off-site.

Section 1.6 – Discharge Detection Systems

This section provides a Detailed Description of the procedures used to detect an Oil (Petroleum Product) Accidental Discharge at the Bloomfield Refinery. This section will be devoted to Oil (Petroleum Product) Spill detection by Bloomfield Refinery personnel since visual detection is the only discharge detection at the Bloomfield Refinery at this time.

Process surveillance rounds are conducted during each shift. Process equipment, vessels, tanks, piping, and grounds are visually inspected for signs of abnormal conditions, leakage, or spills. Spills are immediately reported to the Shift Supervisor and a response action is initiated.

There are no automated spill detection systems in use at the refinery.

SECTION 1.6.1

***DISCHARGE DETECTION BY PERSONNEL
AND INITIAL RESPONSE DECISIONS***

FIGURES 1 - 10

**Section 1.6.1 – Oil (Petroleum Product) Discharge Detection
And Initial Response Decisions at the Bloomfield Refinery**

Initial Detection Procedures by Personnel:

- A. Initial Oil (Petroleum Product) Spill detection by Bloomfield Refinery personnel will be visual during daytime operations. Spills detected by this means include, but are not limited to, storage tank overfills, tank truck overfills, storage tank leakage, pipeline and process leaks.
- B. During the night hours, operators check unit areas periodically.

Initial Response Decisions to be Undertaken in the event of a Spill:

A. Physical Characteristics:

1. Spill Volume Estimating:

Spill size and volume estimates are essential for identifying potential oil spill trajectories, impact zones, and shoreline arrival times. Accurate monitoring of oil slicks is also important in documenting the nature and aerial distribution of oil so that meaningful decisions can be made regarding containment and recovery operations.

a. Data Acquisition:

- 1. Use surface vessels to confirm the presence of any suspected oil slicks.
- 2. If possible, use aircraft to identify spill source (longitude and latitude) and the aerial distribution of any resulting surface slicks.
- 3. If possible, take a sample of the oil slick with a clean sorbent pad and place the oiled pad in a clean jar or wrap the pad in tin foil. Keep all samples in air-tight containers and maintain proper storage and custody procedures. If possible, use the volume of oil collected from a known area to estimate the average thickness of the slick sampled.
- 4. Describe the approximate dimensions of the oil slick based on available reference points (i.e. vessels, shoreline features, etc.) As necessary, use aircraft or a vessel to traverse the length and width of the slick while timing each pass. Calculate the approximate size and area of the slick using the product of speed and time.

b. Estimating Procedures:

The spill factors given in Figures 1 and 2 can be used to estimate the volume of oil discharged unless a more accurate amount is known by other means. These should be compared whenever possible to volumes estimated from the sources of the spill such as tank capacity.

1. Estimate the covered dimensions of each part of the spill in feet or miles using whichever of the six appearances in Figure 1 that may be observed.
2. Multiply the dimensions in feet or in miles by the appropriate factor from Figure 1. Add the individual parts of the spill areas together.
3. The total is the estimated volume of the spill in gallons or in barrels of oil.
4. Volumes that are less than one barrel should be reported in gallons. Spills that are less than a gallon should be reported as less than one gallon rather than a decimal point.

Example:

A spill has created a silvery slick 0.25 miles wide by 2.0 miles long. From Figure 1, the amount of oil would be 50 gallons/square mile and the area would be 0.50 square miles. Therefore:

$$50 \text{ gallons/square mile} \times 0.5 \text{ square miles} = 25 \text{ gallons of oil spilled}$$

If the quantity cannot be accurately determined, then the quantity potentially discharged should be reported to the Federal and State On-Scene Coordinators.

2. Monitoring and Predicting Spill Movement:

a. Factors Affecting Slick Movement:

The movement of spilled oil on the water will depend primarily on the effects of wind and surface currents present near the site of the spill. Surface currents will dominate slick movement unless the winds are strong. When winds are strong, they will cause the slick to move at approximately 3.4 percent of the wind speed in the same general direction. This means that if a 20 mph wind is blowing from the east, the oil will move 0.68 miles to the west in one hour. When currents and strong winds are absent, slick spreading will dictate slick movement. However, even if only weak winds or surface currents are present, they

will dominate slick movement. Examples of oil movement on the water is shown in Figure 3.

b. Methods Available for Predicting Slick Movements:

To determine the potential impacts of an oil spill and to aid in response operations, it is essential to predict the direction of oil slick movements. The initial direction of a slick's movement should be determined visually. Once the direction and speed of wind and current are known, performing a simple vector addition analysis can make a short term projection. As the response effort proceeds, more sophisticated predictions would be generated by the Scientific Support Coordinator.

Visuals:

The Incident Commander (QI) is familiar with the local geography and, when daylight and weather conditions permit, would be able to determine the initial direction of the slick's movement. In the event of a major spill, every effort would be made to enhance visual surveillance activities by placing a knowledgeable observer in a helicopter or fixed wing aircraft.

B. Security Measures:

Due to the large amount of public attention created at an oil spill site, additional security measures are required. Several measures should be planned in advance to prepare security personnel for possible events that may occur at the spill site.

Security personnel should be prepared to:

1. Establish a perimeter (zone of safety) around the spill.
2. Establish a system for controlled access to the spill site (within the safety zone) to allow easy access for key spill response personnel and equipment.
3. Establish a relationship with the general public, to:
 - a. Ensure that general public safety is a priority.
 - b. Eliminate any interference from the general public to spill clean-up operations.
4. Ensure that all response equipment is safeguarded.

An effective spill site security operation should include a coordinated effort with Federal, State and Local law enforcement agencies, (dependent on the size and location of the spill). In many instances, Federal, State and Local law enforcement agencies must be contacted to close traffic to roads and other areas affected by the spill.

The US EPA is an important security asset in terms of controlling water traffic to the spill zone, while also acting as a liaison with the FAA to restrict air space over the safety zone. Restricting air traffic over the spill zone could be a very important safety aspect due to air traffic from aerial spill site surveillance, response, and news-media coverage associated with the spill.

Consider the following spill site security measures:

1. Utilize barricades in establishing a spill-site safety zone.
2. Contract for additional security personnel or utilize local law enforcement agencies.
3. Establish a pass system and distribute pre-prepared security passes to all spill related personnel.
4. Maintain a liaison with Federal, State and Local Police Authorities.
5. Maintain a log that documents all security related incidents and observations made at the spill site.

C. Containment and Recovery:

Bloomfield Refinery will utilize their own equipment for initial response and containment. Spill Response Contractors and the contracted OSRO will be used for assistance and containment operations, as well as recovery operations. There are a number of other sources of equipment and manpower that Bloomfield Refinery could call upon to support a response effort.

The following information explains the strategies and techniques that could be utilized by Bloomfield Refinery personnel to effectively contain and recover oil. Refer to Figure 4 for various types of recovery and containment equipment.

1. Containment Strategies:

Rapid and effective containment operations are necessary to accomplish the following:

- a. Limit the spread of oil thus reducing the surface area to be cleaned;
- b. Concentrate the oil, making physical recovery more efficient; and

- c. Limit environmental impact to the immediate area of the spill.

Selection of the appropriate containment method(s) depends upon the spill location, weather and current conditions characteristics of the liquid hydrocarbons, and environmental conditions.

Containment actions should not be conducted in extreme wind and rapid currents, or otherwise unsafe conditions. The safety of the response team is always the highest priority of any oil spill response effort. In rapid currents, deployment of containment and recovery equipment should only be attempted when the conditions do not exceed the capabilities of the equipment and/or vessels used to deploy equipment.

Several approaches to oil spill control include the construction of dams and barriers. A discussion of the advantages and field of application for these containment devices follows.

- a. Earth Fill Dams:

An earth fill dam, in one form or another, is commonly used for spill containment. Dams of this type may range from simple, manually constructed fills to more elaborate controlled-flow structures designed to trap oil on water. Ideally, a spill should be caught in its earliest stage close to the source, thus permitting the simplest means of containment, recovery, and with minimal damage to the surroundings.

Spills that occur on dry land, remote from water, generally provide better prospects for effective containment with an earth fill barrier forming a temporary reservoir. A dry ditch or ravine can be blocked with minimum effort. A small holding pond can be formed by trenching and terracing. The options will, of course, vary with terrain, spill volume, soil conditions, lead time, manpower, and equipment availability, etc. Lead time is the most critical factor in any event and dictates where and how containment efforts must proceed.

Dams should be compacted by whatever means possible. If a track vehicle is available, a width of 6.0 to 8.0 feet is needed at the top. The usual fall angle of the earth will suffice for sloping. For these larger type dams, the top should be 3.0 to 4.0 feet higher than the level to which the oil-water layers are expected to rise. A height of 1.0 to 2.0 feet should suffice for smaller streams.

Construction of a reservoir type (dry land) impoundment will buy time to allow removal of the spill material. Complications such as heavy rain washing out of the structure, or floating oil over the dam may occur.

These hazards must be considered in the initial phases of response and precautions taken.

If surface water drainage is anticipated, preparations should be made to pump or siphon off the water to the downgrade side. Valved pipe of adequate size extended through the dam during construction may offer an alternative solution. If valves are not available, pipes or tubes may be placed at an inclined angle through the dam with the intake at an upstream low point (well below oil level) and the discharge set at the desired surface level.

This water by-pass arrangement is also useful in cases where the spill has already reached a flowing stream or creek. Practical limits depend on flow-rate of the stream and being able to provide sufficient water by-pass capacity.

Necessary pipe size for flow rates above 30.0 cu. ft/sec. is in the range of 24.0 to 30.0 inch diameter. Multiple pipes can be used, however, it may be more practical to consider some other type of under flow dam.

b. Sand Bagging:

Sand bagging may offer the best means of controlling a spill in congested areas, or on paved surfaces where dirt moving, trenching, etc. is impractical. This type of containment dam can be rapidly constructed and requires no specialized equipment. Combining these advantages may well be the key to containing the spill close to the source, which is a prime objective.

To construct a dam 100 feet in length and 2.0 feet high would require about 1800 bags. Bags should be about half filled with sand or clay, and are mauld into place, breaking the courses in both plan and elevation views as construction progresses. The cross section of the structures should be slightly pyramidal.

Manpower requirements could be a major disadvantage of this type dam if not considered in the contingency planning stages. For example, to construct the dam described above, a work force of about twenty laborers would be considered nominal, but many variables could alter this estimate. Increasing dam height from 2.0 to 3.0 feet almost doubles the labor required. If manpower shortages should be a problem in the event of a spill, then other means of containment should be considered.

c. Straw Barriers:

Experience with straw barriers has demonstrated effectiveness not only as an absorbent medium, but also as an underflow type containment dam capable of backing up an oil film several inches in thickness. An oil layer of up to 4.0 inches thick can be held for several hours before significant leakage is detected. Second and third stage barriers should be placed immediately downstream in the event leakage did occur.

This type containment can be rapidly constructed from material commonly available in most areas. This, of course, is a major advantage where a more elaborate or a patented boom may not be available. Wire fencing (hog wire or chain link) and preferably steel posts form the back-up for the straw. Steel posts can generally be driven into the stream bottom. These should be placed 8.0 to 10.0 feet apart depending on stream conditions, current flow, etc. Wire fencing is then tied to the posts and anchored adequately at each bank. The straw is then broken out of bails and spread across the full width of the structure and for a distance upstream of 10.0 to 15.0 feet. The depth of the straw should be maintained at a minimum of 6.0 inches.

In cases where posts cannot be used, the fencing can be strung or suspended on cable. The fence must be adequately anchored at the bottom to avoid dumping saturated straw as the load or current increases. Placement of any type barrier is critical with respect to water velocity. Chances of spill recovery diminish rapidly in water

Moving faster than 1.5 to 2.0 feet per second. The more quiescent pools of the stream should be selected for containment operations. At least two barriers, and preferably three or more, should be placed in series along the stream leaving work space between barriers for small boats, skimming devices and other necessary equipment. The spill material should be removed before any significant seepage occurs. Additional barriers can be constructed downstream as conditions dictate.

Sorbent material other than straw may be used if they are available and have the physical characteristics to perform adequately. Any boom or barrier must be continuously maintained. At the completion of an emergency, all material added to a stream must be removed and disposed of in adequate fashion.

d. Diverting Booms:

When an oil spill occurs on the river, one retrieval method to consider is diverting the oil to a quiescent area so skimming devices can be used. Manpower and equipment must be concentrated downstream of the

leading edge of the oil so a minimum of three or four hours working time will be available. A location along a low bank or gravel bar in the riverbed should be selected for an operational site.

A dozer, front loader, or backhoe is needed to excavate a pit adjacent to the river. The pit size will depend on the amount of oil spilled and pump volume available. The opening from the stream into the pit should be about 3.0 to 4.0 inches deep. A 1.0 by 4.0 inch or 1.0 by 6.0 inch board, long enough to span the opening as a weir should be set on its edge and anchored 0.25 to 0.5 inches below the water surface. The flow over the weir will provide a skimming action at the mouth of the pit.

Anchor posts should be set at the downstream side of the opening so a boom line can be attached. The free end of the boom line should be anchored to the opposite bank several feet upstream of the pit opening so the oil will be deflected toward the pit. It is best to launch the boom from the upstream anchor location and across from the collection pit.

A holding pond must be constructed on the bank near the pit to receive the skimmed oil. The pit should be deep enough for the operation of the skimming device used, and a suction intake to pump water from below the oil layer back to the river. Pumping will aid in diverting the oil by lowering the water level in the pit.

A barrier with a sorbent material should be used downstream from the boom to catch any escaping oil. The boom may be a commercial or improvised type. In slow moving streams, logs or poles can be leashed together end to end and will do a satisfactory job. If available, joints of irrigation or plastic sewer pipe with the ends sealed make a quick and satisfactory diverting type boom.

In the application of any diversionary device, boom or straw barrier, consideration of the speed of the stream is essential. Devices set at right angles to the flow are subjected to the greatest physical stress. Placement at an angle with the flow will drop the need for more rugged cables or supports. If the speed of the stream is over 1.5 miles per hour, it is almost impossible to retain an oil barrier device.

The deflection should be arranged so that the speed of the current to boom is less than the 1.5 miles per hour. This will preclude an undertow being created and the oil film being pulled below the skirt. Figure 5 shows the optimum angle of boom deployment for various current speeds.

2. Recovery Strategies:

Clean-up procedures to remove spilled oil from the water should begin immediately after containment actions have been initiated, assuming weather and sea conditions permit safe operations. A skimmer, working with containment booms, will be used to remove the oil from the water surface.

Oil on water forms a slick and spreads into shapes dictated by the surface currents, winds, and physical boundaries. The shape of the slick must be considered when deploying Booms and Skimmers for efficient clean-up. See Figure 4 for various recovery methods.

3. Oil/Water/Debris Separation:

The different types of wastes generated during response operations would require different disposal methods. To facilitate the disposal of wastes, they would be separated by type for temporary storage or transport. Figure 6 lists some of the options that are available to separate oily wastes into liquid and solid components. Figure 6 also depicts methods that may be employed to separate free and/or emulsified water from the oily liquid waste.

D. Oil Handling and Disposal:

In a clean-up effort, quantities of both oily and non-oily liquid and solid waste will be generated. Management of these wastes require facilities and procedures for:

- * Collection
- * Temporary Storage
- * Transport
- * Processing
- * Disposal

Final waste disposal methods may include:

- * Landfill
- * Land Treatment or Bio-Treatment
- * Incineration (Total Destruction)
- * Fuel Blending Program
- * Treatment
- * Recycle/Reuse

1. Transfer and Storage:

a. Storage:

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively would depend upon the storage capacity available.

Typical short-term storage options are summarized in Figure 7. The majority of these options can be used either onshore or offshore. In addition, environmental conditions or locations may call for some type of special containment needs. If storage containers such as bags or drums are used, the container should be clearly marked and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal option. Bladder or pillow tanks would be acceptable if the space available is capable of supporting the weight of both the container and product.

If storage pits are used, they should be bermed and lined with liners that extend over the bermed area. Storage pits should be located on as level terrain as possible, at least 5.0 feet above the high-water mark of streams, rivers, and lakes, and where drainage is dispersed and not concentrated.

b. Transfer:

In most oil spill response operations, it would be necessary to transfer recovered oil and oil debris from one point to another several times before the oil and oily debris are ultimately disposed of at a state approved disposal site. Depending on the location of response operations, any or all of the following transfer operations may occur:

- * From portable or vessel-mounted skimmers into flexible bladder tanks, the storage tanks of the skimming vessel itself, or a barge.
- * Directly into the storage tank of a vacuum device.
- * From a barge to a tank truck.
- * From a tank truck to a processing system (i.e., oil/water separator).
- * From a processing system to a recovery system and/or incinerator.
- * Directly into impermeable bags that, in turn, are placed in impermeable containers.
- * From containers to trucks.
- * From trucks to lined pits.
- * From lined pits to incinerators and/or landfills.

There are four general classes of transfer systems that could be employed to effect oily waste transfer operations:

- * Pumps;
- * Vacuum systems;
- * Belt/screw conveyors; and
- * Wheeled vehicles.

The following is a brief discussion of each of the general classes of transfer systems.

1. Pumps:

Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but they may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates. The resultant emulsion would also be more difficult to separate into oil and water fractions. Lobe or "positive displacement" pumps work well on heavy, viscous oils, and do not emulsify the oil/water mixture. Double acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

Vacuum Systems:

Vacuum systems, such as air conveyors, vacuum trucks and portable vacuum units, may be used to transfer viscous oil and debris but are large and heavy and usually pick up a very high water/oil ratio.

Belt/Screw Conveyors:

Conveyors may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris laden oil either horizontally or vertically for short distances (i.e., 100.0 feet) but are bulky and difficult to set up and operate.

Wheeled Vehicles:

Wheeled vehicles may be used to transfer liquid wastes of oily debris to storage or disposal sites. These vehicles are readily available but have a limited transfer rate (i.e., 100 barrels) and require good site access.

E. Ecological Considerations:

1. Wildlife Protection and Rehabilitation:

There are agencies who will assume responsibility for capturing and cleaning oiled birds. The role of Bloomfield Refinery Personnel will be to assist in the implementation of this plan by providing people/equipment where the need is greatest.

Liaison should be established with the organization to be utilized as soon as possible after an oil spill is reported.

As soon as an oil spill occurs:

- a. Establish communications with the appropriate personnel at the New Mexico Environmental Department.
- b. Assess the damage already done and the threat to wildlife and establish priorities for protecting and caring for each species or individual.
- c. Deploy necessary equipment (cleaning stations, helicopters for transport).
- d. If needed, coordinate attempts to deter birds from the oil slick area:
 - 1.) Deploy aircraft to keep birds away from area.
 - 2.) Deploy bird scare-away guns.
- e. Determine whether a veterinarian and/or an oiled bird rehabilitation consultant is required.
- f. Assist and coordinate with the clean-up and care of wildlife at the cleaning stations.

If many birds are oil-contaminated, experienced consultants will be required to organize and direct an efficient care and rehabilitation program. It is illegal to capture and hold most species of migratory birds without a permit from the State of New Mexico.

Experience is critical to the survival of a significant number of birds. Organizations listed in this section can provide immediate consultation service.

2. Shoreline Cleanup:

The Incident Commander (QI) and Federal, State and Local agencies will decide, after considering the biological, economic and aesthetic impacts of the affected

area, and after consulting with appropriate government agencies, how much, if any, action is necessary to clean up an oil contaminated shoreline.

In addition to the following clean up techniques, Figure 8 details several shoreline cleanup techniques that can be utilized.

In the event that an oil spill affects the shoreline, the following techniques may be utilized for cleaning oil contaminated shorelines.

a. Earthmoving Equipment Techniques:

This technique is used in the removal of contaminated sediments (i.e., sand, gravel, and soil) from beaches, using various types of earthmoving equipment. The equipment includes motorized graders, motorized elevating scrapers, front-end loaders, and bulldozers. The transfer of contaminated materials removed by the earthmoving equipment can be accomplished using an unloading ramp and conveyor system along with dump trucks.

Adequate access, environmental sensitivity, substrate type, and ability to traverse the spill area are the limitations to mechanized recovery techniques. Also, approval of local authorities must be given.

The logistical requirements of this technique depend heavily on the loading capacity of the equipment and haul distance to the unloading area.

b. Vacuum Trucks, Skimmers and/or Skimming Pumps:

Clean-up techniques using vacuum trucks, portable skimmers, mop skimmers, and/or pumps can be used to recover small to moderate concentrations of oil from sandy beaches or nearshore aquatic areas. Clean-up is accomplished by positioning the vacuum truck skimmer or pump suction hose in the area of heaviest oil concentration behind booms, berms, trenches, etc., or where water currents will drive the oil to the skimmer or hose intake. Recovered oil will be pumped to a temporary storage facility such as a tank truck, 55.0-gallon drums, pillow tanks, or lined pit.

When using portable skimmers in shallow water, a hole may have to be excavated in the bottom of the shallow waterway if the skimmer draft is greater than the water depth.

Portable skimmers can also be deployed from boats to recover open-water spills contained by booms. The skimmer is operated as described previously and may be used with a floating bladder tank for oil storage.

Mop type skimmers are the most effective where temporary storage is a problem. Mop skimmers pickup the most oil per water ratio.

The limiting factors of this technique are site accessibility, high viscosity oils, and sheens, adequate means of storage or disposal, and adverse environmental conditions such as excessive wave heights or currents. Vacuum trucks, although effective in moving large quantities of liquids, have to decant often to separate the oil-water mixture.

c. Sorbent Recovery

Sorbent recovery techniques are used to recover small quantities of oil from shoreline or aquatic areas, especially films or sheens remaining after skimming or pumping operations have been completed.

In general, sorbents are placed directly on the oil and turned continually until they are completely oiled. The oil sorbents should be put in plastic bags and leak proof containers. All sorbents should be segregated from other material or debris if recycling is an option.

Sorbents are not effective when dealing with solidified or highly weathered oil. The recovery and disposal of oiled sorbents can be difficult to control on water and may possibly interfere with surface collecting agents if used simultaneously. Sorbents cannot be used along with dispersants. Viscous sweep or viscous pom poms can be used on heavier oil, along shorelines and rock jetties.

d. Flushing Wetlands:

This method is used to remove concentrations of oil from wetland vegetation or sandy shorelines without significant sediment or vegetation disturbance by means of low-pressure water flushing. A test flush of an area should be made initially to determine the technique's effectiveness.

The limitations to this cleanup technique are the site accessibility and environmental sensitivity of the area. This technique is most effective with non-sticky oils, however, the effectiveness is limited where soil contamination has taken place. Low pressure flushing is an alternative where damage to the site can be caused by high pressure flushing.

e. Hydro-blasting:

Hydro-blasting is a technique to remove oil from man-made structures, rocks, cobble, or sandy shorelines, or any substrate with relatively few or no living organism by flushing with high or low-pressure water streams.

High-pressure flushing (hydro-blasting) is used for removing sticky, weathered, or high-viscosity oils from solid substrates; whereas, low-pressure flushing should be used for non-sticky or unconsolidated oils and substrates. Hydro-blasting is an oil spill response technique that should be performed only with the appropriate government agency(s) approval.

If authorized by the Federal On-Scene Coordinator, dispersants may be mixed in low concentrations with the flushing water to aid oil removal and prevent recontamination by, and re-coalescing of, the removed oil. Low-pressure water streams are also used to flush out oil stranded in backwater areas or under docks and herd it into containment or recovery devices.

f. Manual Cleaning:

The objective of this method is to recover oil using manual methods such as scraping, shoveling, bushing, etc., in areas inaccessible to clean-up equipment, in areas with sporadic contamination, or as the final stage of a clean-up operation.

g. Steam/Sand Blasting:

This method is highly effective in removing oil or weathered oil coatings from boulders, rocks, and man-made structures. Limitations to this method are site accessibility, availability of fresh water or sand, and applicability of less environmentally damaging equipment.

h. Vegetation Cutting:

In areas of heavy vegetation such as salt marshes, clean-up methods such as cutting of vegetation may be necessary. The objective for this clean-up method is to manually remove oiled vegetation where required to avoid leaching, recontamination, or direct oiling of biota. Problems associated with this clean-up technique are site accessibility and environmental sensitivity to cutting or the heavy foot traffic associated with manual methods. The pre-removal of vegetation before contamination can greatly reduce the amount of contaminated debris.

i. On-Site Burning:

The on-site burning technique involves removal of oiled vegetation or debris by in-situ burning. Feasibility of using this method is determined by test ignition of a small, isolated area and permits obtained from the appropriate agencies (i.e., US EPA, State and Local environmental and air pollution control agencies). Limitations associated with this clean-up method include the combustibility of the oil, the induced fire hazard,

environmental sensitivity to burning, and approval from the Federal, State and Local Authorities.

j. Assisted Natural Recovery:

This clean-up method involves application of in-situ treatments to the contaminated area as a means of stimulating or accelerating material degradation of the oil.

Several techniques have been developed to break up the oil layer or contaminated substrate, thereby increasing the oil's surface area exposed to photochemical oxidation and microbial degradation. These techniques are primarily used on non-recreational, low-amenity areas or shorelines where sediment removal will cause backshore erosion.

Natural degradation and dispersion (including evaporation) will, of course, play an important role, regardless of the response option(s) employed. The reliance on these processes under certain circumstances (sometimes referred to as the "Monitor and Wait" option) can be the safest, most cost-effective and environmentally sound approach to a spill. The problem with waiting, however, is the risk that should an alternate response be subsequently needed, it may well be too late to use clean-up, dispersant and burning techniques efficiently. The next step may only be that of shoreline clean-up and restoration.

k. Bioremediation:

Bioremediation is a technique that involves accelerating natural degradation rates through the application of nutrients to enhance the biodegradation of oil by indigenous micro-organisms, or through the inoculation of oiled shorelines with hydrocarbon degrading micro-organisms.

Bioremediation may be used on most shoreline types, but may be less effective on exposed shorelines where nutrients would be rapidly flushed off the beach. This technique may work when oil is thick, weathered, or has penetrated into sediments or where other physical removal techniques are not effective or practical. It may also be used as a secondary treatment method to enhance the natural removal of residual oil left by physical clean-up methods.

This technique is well suited for areas that could be adversely affected by other clean-up techniques. No environmental effects are expected if the technique is used properly.

Careful metering would be done to ensure that the proper application rate is maintained at all times, and that no pooling occurs. Solid bioremediation agents would be carefully weighed, and then applied using hand or garden type spreaders to ensure even distribution of the agent in compliance with optimum application rates. Liquid bioremediation agents would not be applied during heavy rain conditions due to run off concern. Some solid agents may be applied during rainy conditions, since most are designed to release nutrients slowly when contacted by water.

3. Restoration:

The elements of spill site restoration include sand or soil replacement, marsh restoration, and long-term monitoring. In general, the site habitat and vegetation will be restored in a manner so as to allow for re-colonization of local, naturally occurring species of flora and fauna. Figure 9 presents a flow chart for determining recovery and restoration activities to be taken after a spill. The ecological criteria for the decisions for restoration are based on spill factors (type, volume, and persistence) and system factors, such as recovery time.

a. Sand or Soil Replacement:

If sediments have been removed from sand beaches or tidal flats during an oil spill clean-up, they will be replaced. Sediments of a similar size and composition to those occurring before the spill will be used in order to hasten re-colonization by organisms similar to those inhabiting the area before the spill.

b. Marsh Restoration:

The marsh will be restored if sediment stabilization is needed to prevent erosion or if the natural recovery process is too slow. Before restoration can begin, the suitability of soils for plant growth must be established. If the oil has been largely removed or has weathered sufficiently to allow sediments to support growth, restoration may begin. A preliminary program of transplantation, greenhouse growth experiments, or seeding may measure plant growth in sediments. In the event time does not allow for such a program, chemical analysis of the soil can help to determine the amount of oil contamination.

If oil levels or toxicities are sufficiently high to prevent growth, it may be possible to clean-up the oil, but careful consideration must be given to the possibility of damaging the marsh further by foot traffic. If the substrate is heavily saturated with toxic oil and will probably not recover naturally within one to two years, the contaminated soil will have to be removed.

Plant species used in the restoration of the marsh must be selected in relation to sediment level and tidal cycles. Salt marshes are clearly zoned by tides as a result of inter-specific differences. Indigenous species will be used as they are adapted to local climatic and micro-topographical conditions. Thus, seeds or transplants should be taken from undamaged areas of the marsh or adjacent salt marshes. Care must be taken to avoid damage to marshes when obtaining seeds or transplants.

c. Long-Term Monitoring:

Long-term monitoring will be conducted to:

- 1.) Gather data on the extent and effects of the oil spill. The natural variability of the ecosystem will already be known.
- 2.) Evaluate the effects of clean-up techniques.
- 3.) Study restoration techniques, their successes and failures.
- 4.) Conduct long-term follow-up studies at the spill site, including the status of restoration of the habitat and re-colonization of local flora and fauna.
- 5.) Make recommendations for use in future spill restoration programs.

F. Transportation Considerations:

A major consideration during a spill response operation is the organization and direction of manpower, equipment, and material transportation requirements.

The following list provides several aspects of transportation that should be considered during spill response questions.

1. Work with local authorities in establishing air and land routes, which will expedite the movement of personnel, equipment, materials, and supplies to/from the staging area as well as waste products from the staging area.
2. Ensure that all necessary permits are obtained due to special transportation procedures of certain response equipment.
3. Work with local law enforcement/marine safety/air traffic agencies to obtain additional transportation support during the response.
4. Provide all necessary transportation (cars/vans/buses) for response personnel to/from the spill site to:

- a. Local airports
- b. Temporary/permanent lodging facilities
- c. Catering facilities
- d. Medical or emergency areas (hospitals, clinics, etc.)
- e. Establish an inventory of all transportation equipment at the spill site. Be sure to include all cars, vans, and any company vehicles that are to be used in the spill response.
- f. Figure 10 provides a list of transportation modes that may be necessary during a spill response.

FIGURES 1 - 10

Figure 1 – Spill Estimating Factors

Definition	Gallons of Oil Per Square Mile
Barely Visible	25
Silvery	50
Slightly Colored	100
Brightly Colored	200
Dull	666
Dark	1332

Figure 2 - Spill Size in Fractions of a Square Mile
 One Square Mile = 27.878 x 10 Square Miles

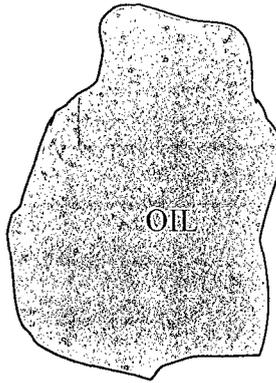
Width	100	200	300	400	500	600	700	800	900	1000	1200	1/4	1/2	3/4	1	2	3	4	5	6	7	8	9	
10																								
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Less Than .010 Square Miles

Figure 3 – Examples of Oil Movement on Water Surfaces

Water Current Only, No Wind:

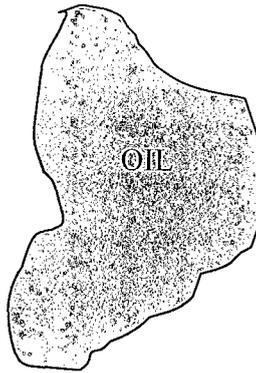
Current →
0.5 Knots



→ 0.5 Knots

Water Only, No Water Current:

Wind →
12 Knots

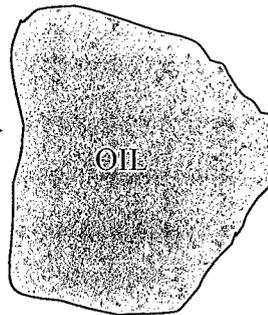


→ 0.4 Knots

Wind with Water Current:

Current →
0.5 Knots

Wind →
12 Knots



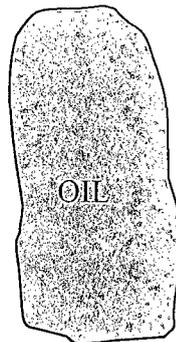
→ 0.9 Knots

Small waves, none over 3' high.

Wind Opposite Water Current:

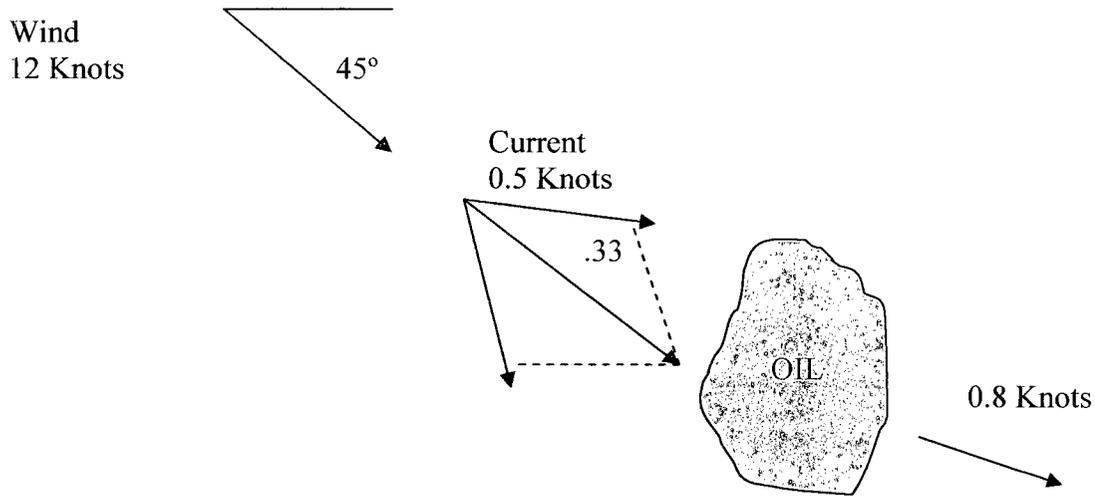
Current →
0.5 Knots

Wind ←
12 Knots

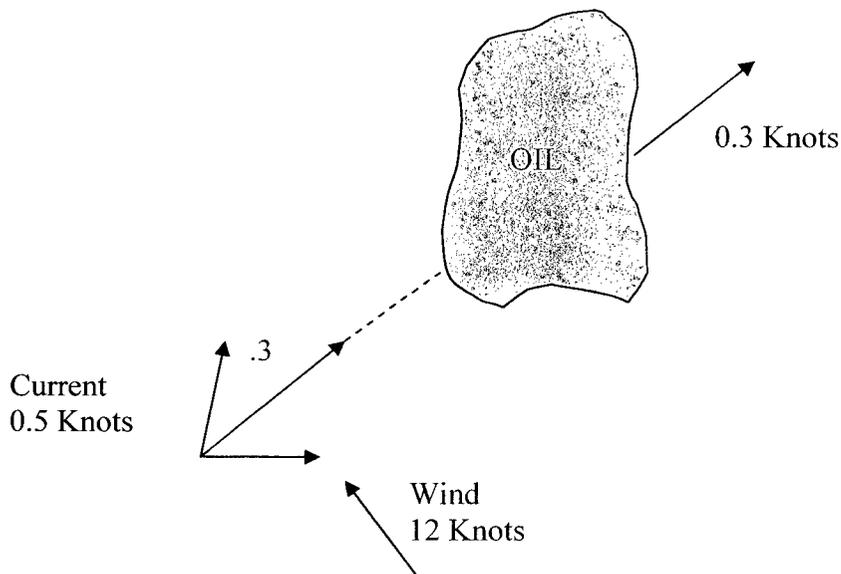


→ 0.1 Knots

Water Mostly Aligned with Water Current:



Water Mostly Opposite to Water Current:



Accordingly, tracking slicks by repetitious aerial surveillance should become the most practical method to forecast oil movement. Oil often collects in wind-rows during high winds and obscure numerical efforts, but actually, this can help skimming efforts for awhile.

Figure 4 -- Equipment Options for Recovery and Containment

Equipment	Used For
1. Skimming Vessels -- Self Propelled	<p>Skimming oil slicks while steering the vessel forward.</p> <p>Recovering oil slicks herded or advancing to the skimmer while the vessel is nearly stationary or at anchor.</p>
2. Barge or Vessel Mounted Mop Skimmers	<p>Calmer waters.</p> <p>Removes oil contained in boom or in pockets.</p> <p>Excellent oil to water pick-up ratio.</p> <p>Portable.</p>
3. Hand Skimming System	<p>Collecting confined oil on calm surfaces.</p>
4. Floating Suction Oil Skimmer	<p>Calm water conditions, such as:</p> <p>Removing confined oil from within booms.</p> <p>Cleaning oil from pits, tanks, ponds, slips, docks, rivers, canals and ditches.</p>

Figure 4 – Equipment Options for Recovery and Containment

Equipment	Used For
5. 36-inch Boom – Nearshore Containment	Calmer waters. Containing spilled oil so that it can be collected by skimmers. Preventing spread of spilled oil. Precautionary measures should oil be spilled. Diverting spilled oil and/or trash to another area. Concentrating spilled oil for more efficient collection. Barricading traffic or trash.
6. 43-inch Expandi-Boom	Can be operated in up to 6.0 ft. seas and 20 knot winds. Self-inflating. Can be deployed by one to three men, from a dock, boat, using a crane, or by helicopter.
7. Surface Collecting Agents (Collectants)	Preventing spread of fresh unemulsified, oil spills. Facilitating use of recovery equipment and techniques. Aiding in the destruction of the oil on the water's surface.

Figure 4 – Equipment Options for Recovery and Containment

Equipment	Used For
8. Oil Sorbents (Melt Blown Polypropylene)	Absorption of thin oil slicks or rainbows of oil from the surface of calm water. Wiping oil off structures, rock shorelines, vegetation, vessels, other oil spill equipment, etc. Can be wrung out and reused. Avoiding the use of straw and other particulates difficult to retrieve and dispose. Can be recycled thus reducing disposal. A floating barrier to aid other containment and recovery devices. Congested or restricted areas.
9. Viscous Type Absorbents	Absorption of heavier oils. Wiping off rocks or structures, etc. Floating barrier.
10. Oil Storage Barges	Off-loading shallow water skimmers (temporary storage). Transport recovered oil. Grade D or E combustible liquids. For use in lakes, bays, sounds, and rivers.

Figure 4 – Equipment Options for Recovery and Containment

Equipment	Used For
11. Portable Biological and Chemical Field Sampling	Continuous flow oil-in-water monitoring. Detecting oil in the water column. Determining an oil concentration gradient in the water column. Mapping the oil spill on the water's surface. Detecting leaks or following seeps.
12. Portable Centrifugal Pumps	Off-loading barges and tanks. Oil recovery from suction skimmers.
13. Air Operated Double Diaphragm Pumps	Oil recovery from floating suction skimmer. Oil recovery from hand skimmer system.

Figure 5 - Optimum Boom Deployment Angles

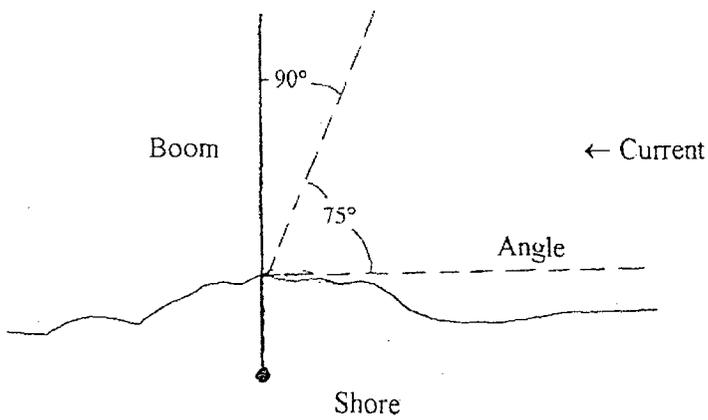
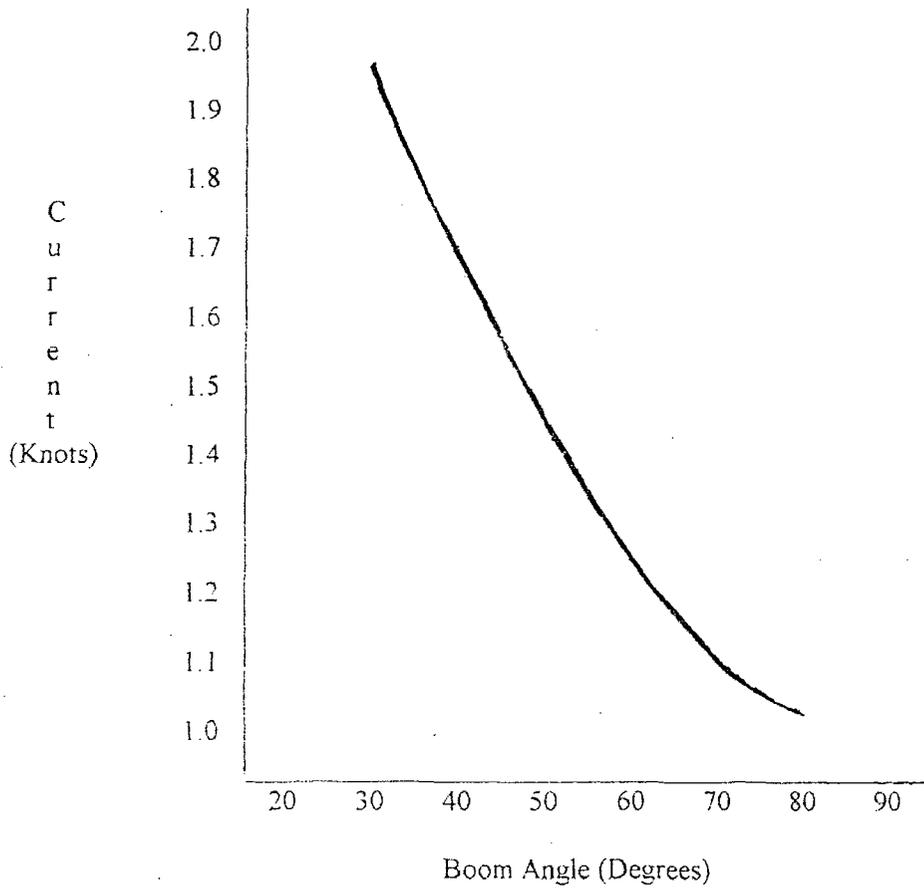


Figure 6 – Oily Waste Separation Methods



Type of Material

Separation Methods

Liquids:

Non-emulsified oils

Gravity separation of free water

Emulsified oil

Emulsion broken to release water by:

- * heat treatment.
- * emulsion breaking chemicals.
- * mixing with sand centrifuge.
- * filter/belt press.

Solids:

Oil mixed with sand

Collection of liquid oil leaching from sand during temporary storage.

Extraction of oil from sand by washing with water or solvent.

Mechanical sand cleaner.

Removal of solid oils by sieving.

Oil mixed with cobbles, pebbles or shingle.

Screening.

Collection of liquid oil leaching from beach material during temporary storage.

Mechanical sand/gravel cleaner.

Extraction of oil from beach material by washing with water or solvent.

Oil mixed with wood, Plastics, seaweed, and Sorbents.

Screening.

Collection of liquid oil leaching from debris during temporary storage.

Flushing of oil from debris with water.

Tar balls

Separation from sand by sieving.



Figure 7 – Temporary Storage Methods

Container	Onshore	Offshore	Solids	Liquids	Notes
Barrels	X		X	X	May require handling devices.
Tank Trucks	X			X	Consider road access onshore. Barge-mounted offshore.
Dump/Flat Bed Trucks	X		X		Require impermeable liner and cover. Consider flammability of vapors at mufflers.
Barges		X	X	X	Liquids only in tanks. Consider venting of tanks.
Oil Storage Tanks	X	X		X	Consider problems of large volumes of water in oil.
Bladders	X	X		X	May require special hoses or pumps for oil transfer.
Pits	X		X	X	Liner(s) required.
Roll-off Bins	X		X		Require impermeable liner and cover.
Mud Tanks	X	X	X	X	500 gallon – 500 bbls.
Fast Tanks	X	X	X	X	Portable, can be deployed anywhere.

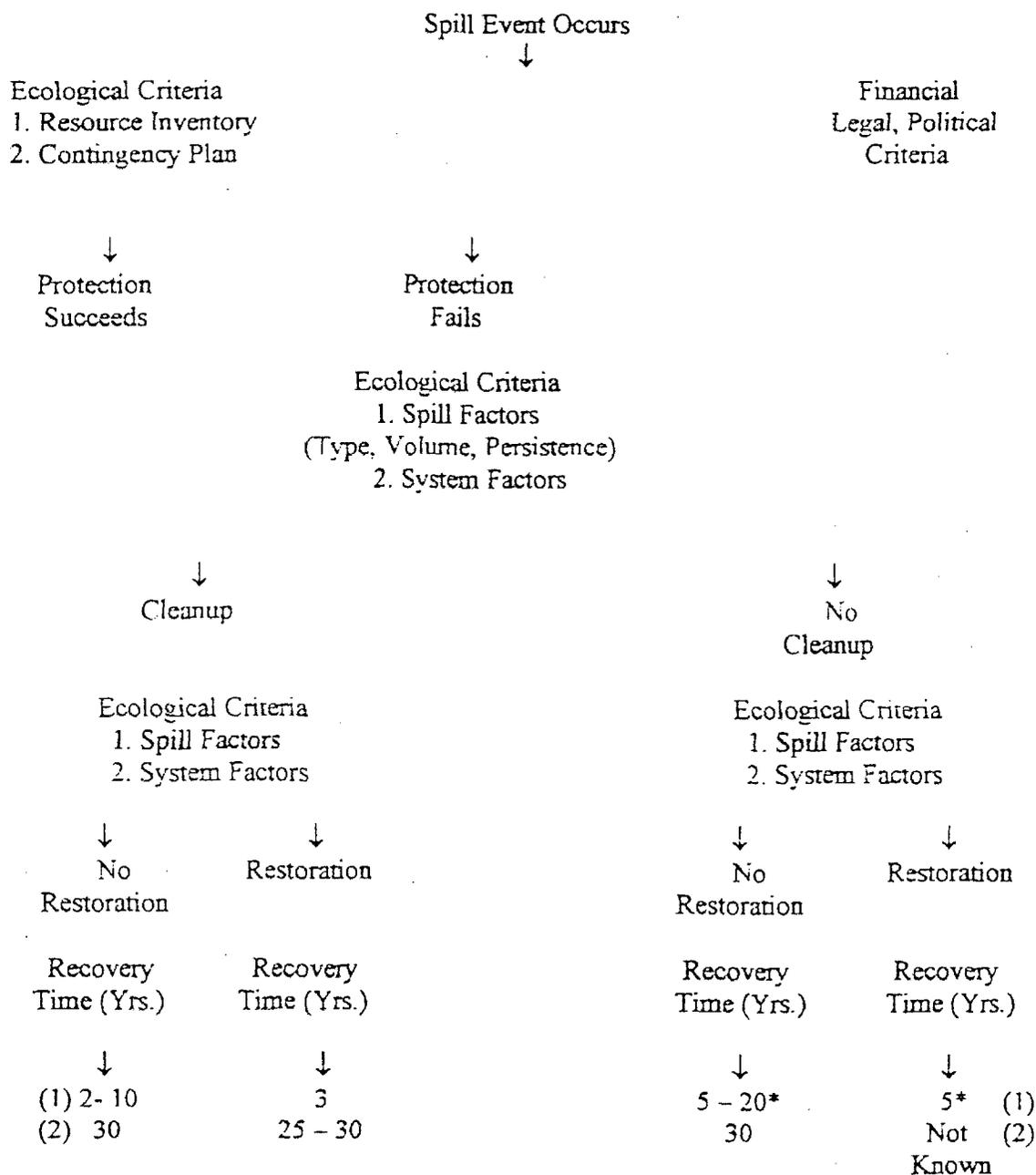
Figure 8 – Shoreline Cleanup Techniques

Cleanup Technique	Description	Primary Use Of Cleanup Technique	Technique Requirements
Motor grader/elevating scraper	Motor grader forms windrows for pickup by elevating scraper	Used primarily on sand and gravel beaches where oil penetration is 0 to 3 cm. and trafficability of beach is good. Can also be used on mudflats.	Good trafficability. Heavy equipment access.
Elevating scraper	Elevating scraper picks up contaminated material directly off beach.	Used on sand and gravel beaches where oil penetration is 0 to 3cm. Can also be used On mudflats. Also used to remove tar balls or flat patties from the surface of a beach.	Fair to good trafficability. Heavy equipment access.
Motor grader/front-end loader	Motor grader forms windrows for pickup by front-end loader.	Used on gravel and sand beaches where oil penetration is less than 2 to 3 cm. This method is slower than using a motor grader and elevating scraper but can be used when elevating scrapers are not available. Can also be used on mudflats.	Good trafficability. Heavy equipment access.
Front-end loader - rubber-tired or tracked	Front-end loader picks up material directly off beach and hauls it to unloading area.	Used on mud, sand, or gravel beaches when oil penetration is moderate and oil contamination is light to moderate. Rubber-tired loaders cannot operate, tracked loaders are the next choice. Can also be used to remove extensively oil-contaminated vegetation.	Fair to good trafficability for rubber-tired loader. Heavy equipment access.
Bulldozer/rubber-tired front-end loader	Bulldozer pushes contaminated substrate into piles for pickup by front-end loader.	Used on coarse sand, gravel, or cobble beaches where oil penetration is deep, oil contamination extensive, and trafficability of the beach poor. Can also be used to remove heavily oil-contaminated vegetation.	Heavy equipment access. Fair to good trafficability for front-end loader.
Backhoe	Operates from top of bank or beach to remove contaminated sediments and loads into trucks.	Used to remove oil contaminated sediment (primarily mud or silt) on steep banks.	Heavy equipment access. Stable substrate at top of bank.
Dragline or clamshell	Operates from top of contaminated area to remove oiled sediments.	Used on sand, gravel, or cobble beaches where trafficability is very poor (i.e., tracked equipment cannot operate) and oil contamination is extensive.	Heavy equipment access to operating area. Equipment reach covers contaminated areas.
High pressure flushing (hydro-blasting)	High pressure water streams remove oil from substrate where it is channeled to recovery area.	Used to remove oil coating from boulders, rocks, and man-made structures; preferred method of removing oil from these surfaces.	Light vehicular access. Recovery equipment.

Cleanup Technique	Description	Primary Use Of Cleanup Technique	Technique Requirements
Steam cleaning	Steam removes oil from substrate where it is channeled to recovery area.	Used to remove oil coating from boulders, rocks, and man-made structures.	Light vehicular access. Recovery equipment. Fresh water supply.
Sandblasting	Sand moving at high velocity removes oil from substrate.	Used to remove thin accumulations of oil residue from man-made structures.	Light vehicular access. Oil must be semi-solid. Supply of clean sand.
Manual scraping	Oil is scraped from substrate manually using hand tools.	Used to remove oil from lightly contaminated boulders, rocks, and man-made structures or heavy oil accumulations when other techniques are not allowed.	Foot access. Scraping tools and disposal containers.
Sump and pump/vacuum	Oil collects in sump as it moves down the beach and is removed by pump or vacuum truck.	Used on firm sand and mud beaches in the event of continuing oil contamination where sufficient longshore currents exist, and on streams and rivers in conjunction with diversion booming.	Heavy equipment access. A longshore current present.
Manual removal of oil materials	Oiled sediments and debris are removed by hand, shovels, rakes, wheelbarrows, etc.	Used on mud, sand, gravel, and cobble beaches when oil contamination is light or sporadic and oil penetration slight, or on beaches where access for heavy equipment is not available.	Foot or light vehicular access.
Low-pressure flushing	Low pressure water spray flushes oil from substrate where it is channeled to recovery points.	Used to flush light oils that are not sticky from lightly contaminated mud substrates, cobbles, boulders, rocks, man-made structures, and vegetation.	Light vehicular access. Recovery equipment.
Beach cleaner	Pulled by tractor or self-propelled across beach, picking up tar balls or patties.	Used on sand or gravel beaches, lightly contaminated with oil in the form of hard patties or tar balls.	Moderate to heavy vehicular access. Good trafficability.
Manual sorbent application	Sorbents are applied manually to contaminated areas to soak up oil.	Used to remove pools of light, nonsticky oil from mud, boulders, rocks, and man-made structures.	Foot or boat access. Disposal containers for sorbents.
Manual cutting	Oiled vegetation is cut by hand, collected, and stuffed into bags or containers for disposal.	Used on oil contaminated vegetation.	Foot or boat access. Cutting tools.
Burning	Upwind end of contaminated area is ignited and allowed to burn to downwind end.	Used on any substrate of vegetation where sufficient oil has collected to sustain ignition, if oil is a type that will support ignition, and air pollution regulations so allow.	Light vehicular or boat access. Fire control equipment.

Cleanup Technique	Description	Primary Use Of Cleanup Technique	Technique Requirements
Vacuum Trucks	Truck is backed up to oil pool or recovery site where oil is picked up via the vacuum hose.	Used to pick up oil on shorelines where pools of oil have formed in natural depressions, or in the absence of skimming equipment to recover floating oil from the water surface.	Heavy equipment access. large enough pools on land or thick enough oil on water for technique to be effective.
Push contaminated substrate into surf	Bulldozer pushes contaminated substrate into surf zone to accelerate natural cleaning.	Used on contaminated cobble and lightly contaminated gravel beaches where removal of sediments may cause erosion of the beach or backshore area.	Heavy equipment access. High energy shoreline.
Breaking up pavement	Tractor fitted with a ripper is operated up and down beach.	Used on low amenity cobble, gravel or sand beaches or beaches where substrate removal will cause erosion where thick layers of oil have created a pavement on the beach surface.	Heavy equipment access. High energy shoreline.
Disc into substrate	Tractor pulls discing equipment along contaminated area.	Used on non-recreational sand or gravel beaches that are lightly contaminated.	Heavy equipment access. Fair to good trafficability. High energy environment.
Natural recovery	No action taken. Oil is left to degrade naturally.	Used for oil contamination on high energy beaches (primarily cobble, boulder, and rock) where wave action will remove most oil contamination in a short period of time.	Exposed high energy environment.

Figure 9 – Recovery and Restoration Following an Oil Spill



- (1) Marsh: To accomplish cover and sediment stability.
- (2) Mangrove: Worst-Case time to reach maturity.

* These figures assume sever damage followed by retention of oil in sediments. Where self-cleaning or very light oiling occurs, recovery rates may be similar to those following cleanup. Decision key for series of four options which may be chosen during a spill.

Note: Spill factors include the type of material spilled, the volume of the spill, and the persistence of the spill. System factors relate to the recovery time and aspects of the recovery of the surrounding ecosystem.

Figure 10 – Spill Response Transportation Modes

Transportation Mode	Used For	Special Considerations
Vessels:		
1. Work Boats	a. Deploy skimmers b. Boat spray system c. Temporary oil storage	65.0 ft. Deck space Ability to cruise @ 1 knot or less
2. Power Boats	Deploy boom	Size depends on size of boom and water depths
3. Tug Boats	Carry and position Hoss Barge Position storage barges	(1) 1800 HP tugs (2) 1200 HP tugs
4. Tank Barges	Haul waste to disposal site	
Aircraft:		
1. Helicopters	a. Spray collectants b. Slick surveillance c. Personnel deployment	Need communications equipment
2. Seaplanes	a. Slick surveillance b. Personnel deployment	
3. Airplane	Dispersant application	Aerial spray capabilities Special navigation equipment; Needs communications equipment on board
Trucking:		
1. Flatbed trucks	Haul equipment to staging area	May be permit load
2. Drop Deck Trailers	Haul equipment to staging area	May be permit load
3. Tractors	Transport skimmers already mounted on trailers	May be permit load
4. Pickup trucks	a. Deliver equipment/supplies to staging areas b. Delivery of food and potable water	
5. Tank trucks	Haul waste to disposal site	Needs permit

SECTION 1.6.2

AUTOMATED DISCHARGE DETECTION

Section 1.6.2 – Automated Discharge Detection

Automatic Leak Detection System:

The Bloomfield Refinery Facility currently has no automated discharge detection system in place.

Section 1.7 – Plan Implementation

This Section will detail how to implement the Bloomfield Refinery Facility's Emergency Response Plan by describing the Response Actions to be carried out under this plan to ensure the safety of the facility and to mitigate or prevent accidental discharges of oil (Petroleum Products).

This Section includes the Plans and Identification of Response Resources for Small, Medium, and Worst Case Spills; Disposal Plans; and Containment and Drainage Planning.

It also includes the calculations specified in Appendix E to determine the amount of response resources that must be available to the facility to respond to the spill scenarios identified in this plan.

SECTION 1.7.1

***RESPONSE RESOURCES FOR SMALL,
MEDIUM AND WORST CASE SPILLS***

***MAP 8 – EMERGENCY RESPONSE
PERSONNEL AND EQUIPMENT ASSEMBLY
STAGING AREAS***

***FIGURE 11 – EQUIPMENT FOR RECOVERY
AND EQUIPMENT***

SPILLS ON LAND

OIL SPILL BOOMING TECHNIQUES

***OVERVIEW OF OIL SPILL BOOM
DEPLOYMENT, CONTAINMENT AND
RECOVERY SITES***

Section 1.7.1 - Response Resources for Small, Medium and Worst Case Spills

- A. In order to determine that amount of response resources needed for both recovery of oil on water and on shorelines, the following calculations have been made.

The effective daily recovery capacity for the removal capacity for the Bloomfield Refinery Crude Oil (Group 3 oil) a skimmer pump (1000 gpm) is the following:

$$R = T \times 24 \text{ hours} \times E$$

Where R is the Effective Daily Recovery Capacity,
T is the Throughput in barrels/hour
E is the Efficiency factor (10% in this case).

$$R = 1,428 \text{ bbls/hour} \times 24 \text{ hours} \times .10$$
$$R = 3,427 \text{ bbls/day}$$

The Worst Case Discharge for this facility is 110,000 barrels of Crude Oil (Group 3).

With the numbers from Table 2, it is determined that 110,000 barrels of oil will provide the following results:

Crude Oil (Group 3)

$$110,000 \text{ barrels} \times 20\% \text{ Natural Dissipation} = 22,000 \text{ barrels}$$
$$110,000 \text{ barrels} \times 15\% \text{ Recovered Floating Oil} = 16,500 \text{ barrels}$$
$$110,000 \text{ barrels} \times 65\% \text{ Oil Onshore} = 71,500 \text{ barrels}$$

For Floating Oil, an Emulsification Factor is added:

Crude Oil

$$16,500 \text{ barrels Recovered Floating Oil} \times 2.0 \text{ Emulsification Factor} = 33,000 \text{ barrels}$$

Table 4 provides Water On Oil Recovery Resources Mobilization Factors based on the appropriate operating area and response tier. For the Bloomfield Refinery, these calculations are:

$$\text{Tier 1 } 16,500 \text{ barrels (EDRC} \times 12 \text{ hours)} \times .30 = 4,950 \text{ barrels/day}$$
$$\text{Tier 2 } 16,500 \text{ barrels} \times .40 = 6,600 \text{ barrels/day}$$
$$\text{Tier 3 } 16,500 \text{ barrels} \times .60 = 9,900 \text{ barrels/day}$$

For Shoreline Cleanup Capacity needed, the following calculations are done:

71,500 barrels Total Volume x 2.0 Emulsification Factor = 143,000 barrels

H2O OSRO is the contracted response contractor for Giant Refining Company – Bloomfield Refinery. A complete list of their inventory can be found in Section 1.3.4 of this plan. Their inventory is adequate to respond to the Bloomfield Refinery's spill needs.

B. In the Event of a Spill at the Bloomfield Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill and stop product flow, if possible. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.
2. Warn Personnel and enforce safety and security procedures.
3. Activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Spills is presently the Bloomfield Refinery Main Office located at 50 County Road 4990. (See *Map 8 – Emergency Response Personnel and Equipment Assembly and Staging Areas* at the end of this section).

The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Parking Lot South of the Main Office and the Parking Lot South of the Regional Office Building.

4. Perform necessary Notifications of Bloomfield Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations including H2O OSRO.
5. Notify Downstream Water Users and those responsible for Public Drinking Water Intakes and the Hammond Irrigation Ditch Intakes.
6. Evacuate all Non-Essential Personnel: Customers, Building/Maintenance Contractors, and Bloomfield Refinery Employees from the area.
7. Activate and Mobilize the Bloomfield Refinery Facility Oil Spill Containment, Recovery, Fire Fighting, Storage and Disposal Equipment.
8. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Spill at any level.
9. Conduct the following Spill Response Activities:

- a. Trench and Dike of any Culverts and Open Channels that would allow flowing Petroleum Product off the Bloomfield Refinery property.
- b. Construct Dams and Wiers and in the Hammond Irrigation Ditch to contain the spill there and attempt to prevent it from reaching the San Juan River. (See *Spills on Land* in this section.)
- c. Deploy boom in the designated San Juan River locations, depending upon the flow path of the Spill. (See *Overview of Oil Spill Boom Deployment, Containment and Recovery Sites* in this section.)

According to CFR 40, Section 112, Appendix E, Table 1, should boom deployment be necessary the boom should be at least 6 – 18 inches in height. Bloomfield Refinery has boom with an 18” (6” x 12”) height and H2O OSRO has boom with a 10” (4’ x 6”) height.

- e. Deployment in the San Juan River at pre-designated boom sites depending upon the flow path of the spilled product. (See *Oil Spill Booming Techniques* in this section.)
 - f. Deploy sand, sorbent pads and sorbent boom in the Secondary Containment Area to absorb spilled product .
10. Implement Countermeasures to include the following:
 - a. Mitigate contamination of water supplies, if applicable.
 - b. Establish neutralization procedures.
 11. Collect and remove spilled product from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 11 – Equipment for Recovery and Containment.*)
 - a. Backhoes
 - b. Pumps
 - c. Vacuum Trucks
 - d. Oil Sorbents
 - e. Physical/Chemical Treatment
 12. Mitigate impact to Environmentally Sensitive Areas.

13. Reclaim, Treat and/or Dispose of Recovered Product and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

C. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Bloomfield Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.
 - a. A Petroleum Spill may initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.
 - b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Bloomfield Refinery Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.
2. Amount of Contamination: The amount of product spilled is initially determined visually, then verified analytically. Decontamination will be required for heavily contaminated shoreline response and cleanup.
3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.
4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.
5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., are all

easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.

6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

***FIGURE 11 – EQUIPMENT FOR RECOVERY AND
CONTAINMENT***

Figure 11 – Equipment for Recovery and Containment

Equipment	Used For:
1. Skimming Vessels – Self Propelled	1.) Skimming oil slicks while steering the vessel forward. 2.) Recovering oil slicks herded or advancing to the skimmer while the vessel is nearly stationary or at anchor.
2. Barge or Vessel Mounted Mop Skimmers	1.) Calmer waters. 2.) Removes oil contained in boom or in pockets. 3.) Excellent oil to water pick-up ratio. 4.) Portable.
3. Hand Skimming System	1.) Collecting confined oil on calm surfaces.
4. Floating Suction Oil Skimmer	1.) Calm water conditions, such as; a.) Removing confined oil from within booms. b.) Cleaning oil from pits, tanks, ponds, slips, docks, rivers, canals and ditches.
5. 10-inch First Response Boom River Containment Foam Filled	1.) Fast river waters. 2.) Containing spilled oil so that it can be collected by skimmers. 3.) Preventing spread of spilled oil. 4.) Precautionary measures should oil be spilled. 5.) Diverting spilled oil and/or trash to another area. 6.) Concentrating spilled oil for more efficient collection. 7.) Barricading traffic or trash.
6. 10-inch Air Filled Boom Calm Water Containment	1.) Used for calm water environments (lakes, ponds, etc.)

Equipment	Used For:
7. Surface Collecting Agents	1.) Preventing spread of fresh unemulsified oil. 2.) Facilitating use of recovery equipment and techniques. 3.) Aiding in the destruction of the oil on the water's surface.
8. Oil Sorbents (Melt Blown Polypropylene)	1.) Absorption of thin oil slicks or rainbows of oil from the surface of calm water. 2.) Wiping oil off structures, rock shorelines, vegetation, vessels, other oil spill equipment, etc. 3.) Can be wrung out and reused. 4.) Avoiding the use of straw and other particulates difficult to retrieve and dispose. 5.) Can be recycled thus reducing disposal. 6.) A floating barrier to aid other containment and recovery devices. 7.) Congested or restricted areas.
9. Viscous Type Absorbents	1.) Absorption of heavier oils. 2.) Wiping off rocks or structures, etc. 3.) Floating barrier.
10. Oil Storage Barges	1.) Off-loading shallow water skimmers (temporary storage) Transport recovered oil. Grade D or E combustible liquids. For use in lakes, bays, sounds and rivers.
11. Portable Biological and Chemical Field Sampling	1.) Continuous flow oil-in-water monitoring. 2.) Detecting oil in the water column. 3.) Determining an oil concentration gradient in the water column. 4.) Mapping the oil spill on the water's surface. 5.) Detecting leaks or following seeps.

Equipment	Used For:
12. Portable Centrifugal Pumps	1.) Off-loading barges and tanks. 2.) Oil recovery from suction skimmers.
13. Air Operated Double	1.) Oil recovery from floating suction skimmer. 2.) Oil recovery from hand skimmer system.



SPILLS ON LAND

SPILLS ON LAND - CONTAINMENT AND CLEANUP

INTRODUCTION:

The spreading and movement of oil spills on land will generally be less rapid than movement on water. Timely implementation of containment procedures can limit the area of oil/hazardous substance spill coverage and reduce the area which will require cleanup and restoration. The techniques for containing spills on land are not complicated, but care must be taken to choose the proper containment method which will cause the least environmental damage and still result in containment and recovering the spilled product.

Small or shallow waterways often prohibit the use of containment booms. In these situations, alternative methods of containment such as weirs, underflow dams, and overflow berms can be utilized effectively. Planning for the material and equipment needed to support these operations is an important consideration as is practice and training to enable responders to practice setting up these containment devices.

DIVERSION BERMS:

1. **Use** - Low barriers are constructed of available material (earth, gravel, sandbags, snow, ice, etc.) to divert oil flows to a recovery point or around a sensitive area. Used primarily on low to moderate slope terrain.
2. **Limitations** - Accessibility, implementation time, rugged terrain, and environmental damage inflicted by berm material excavation.
3. **General Instruction** - Use earthmoving equipment or manual labor to construct berm(s) by forming materials or placing sandbags in windrows or ridges parallel to the desired path of oil flow. If onsite materials are used, excavate from the downhill side of the berm (or on the side away from oil flow). Maintain sufficient buffer between berm and excavation to ensure berm integrity. **Figures 1a and 1b** depict diversion berms.
4. **Equipment Required** - Bulldozer, front-end loader, motor grader, sandbagging machine or hand tools.
5. **Maintenance** - Periodically check for berm erosion, leakage, and adequate height.
6. **Variation** - Diversion berms can also be constructed on each side of the oil flow (**Figure 2**) to limit the spread and channel the oil to the recovery sites (e.g., excavated sumps or natural depressions.)

CONTAINMENT BERMS:

1. **Use** - Low barriers constructed of available materials (earth, gravel, sandbags, snow, ice, etc.) or sorbents are used to contain surface oil flow on relatively flat or low slope terrain or wetlands.
2. **Limitations** - Accessibility, implementation time, rugged terrain, and environmental damage inflicted by excavation of berm materials.
3. **General Instructions** - Use earthmoving equipment or manual labor to construct berms by forming materials or placing sandbags or sorbents into windrows or ridges in a "U" or Horseshoe configuration. Width of containment opening should exceed that of the leading edge of the oncoming oil. Berm height and size of containment area is dependent on the quantity of oil (**Figure 3**).
4. **Equipment Required** - Motor graders, bulldozers, front-end loaders, sandbagging machine, or hand tools.
5. **Maintenance** - Check berms periodically for leakage and adequate height.
6. **Variations** - If possible, the containment area should be flooded during winter and/or lined with plastic sheeting to inhibit soil penetration. Oil can be recovered from the water's surface by skimming. This technique is shown in **Figure 4**.

INTERCEPTION TRENCHES:

1. **Use** - Excavated trenches are used to intercept or divert surface or subsurface oil flows to recovery points or around sensitive areas.
2. **Limitations** - Accessibility, implementation time: high water table, depth to rock layer, wetlands, and environmental damage inflicted by the trench excavation.
3. **General Instructions** - Excavate trench at right angles to the flow of oil (**Figure 5**). The trench should be angled slightly down sloped (or in the direction of the surface water flow) to avoid excessive oil pooling in the trench. Material excavated from the trench should be placed on the downhill (or downstream) side of the trench. The depth of the trench is limited by the depth to the water table, rock layer and/or wetlands. If possible, the downstream side of the trench should be lined with Visqueen (plastic sheeting) or a similar impermeable material to reduce seepage to ground water or flow into adjacent uncontaminated soil. If a trench is used to direct flow from a depression to a lower depression, it should be excavated so that it provides a downward slope of at least 1/2 inch to a 1 inch per foot of length. It should also be lined with Visqueen.
4. **Equipment Required** - Backhoe, trenching machine, or hand tools.
5. **Maintenance** - Periodically check for adequate flow, leakage and blockages caused by trench walls sloughing in or debris.

6. **Variations** - Partially flood trench with water to inhibit oil penetration into sediments and stimulate flow towards recovery device.

CULVERT BLOCKING:

Boards, sandbags, snow, gravel or sediment materials are used to block culverts as a means of containing oil flowing in ditches, creeks, or other drainage courses that feed into culverts (**Figure 6a and 6b**).

1. **Limitations** - Accessibility, implementation time, storage area behind culvert, flowing water, and culvert size.
2. **Equipment Required** - Front-end loader, sandbag machine, and/or hand tools.
3. **Maintenance** - Periodically check culvert for leakage. Small volumes of water or oil can seep through a pipe covered with sandbags or gravel. A containment berm on the downstream end may be required if leakage occurs.
4. **Variations** - If water is flowing in the drainage ditch, it can be removed by pumping or siphoning it to the culvert outlet or nearby drainage course. An underflow pipe may also be installed within the culvert if space permits.

If there is little or no storage area upslope from a culvert, it may be advantageous to permit the oil to pass through the culvert and to contain the spill at the culvert outfall. In areas where a culvert outfall discharges into a borrow ditch, the borrow ditch can be dammed to form a storage area for the spilled oil. If there is no borrow ditch or similar structure draining the culvert outfall, a storage area can be created by constructing a horseshoe-shape dam around the outfall. Even if upstream blockage is performed, additional containment downstream may be necessary or advisable, particularly in the event of a major spill or during high water periods; i.e. break-up, snow melt, rain, etc.

BLOCKING DAMS:

1. **Use** - Dams are constructed across streambeds, ditches, or other dry drainage courses with little or no water flow to block and contain any flowing oil.
2. **Limitations** - Accessibility, implementation time, adequate storage behind the dam, flowing water, and availability of construction materials.
3. **General Instructions** - The dam location should have high banks on the upstream side of the watercourse with the dam well keyed into the banks at an accessible point.

Construct the dam with on/near site gravel, snow or ice, sandbags, plywood sheets, or any material that will block the flow of product (**Figure 7**). Excavate the gravel or sediments from the upstream side to increase the storage capacity. Oil is removed from behind the dam

by pumping or using vacuum trucks. In order to provide additional protection, plastic sheeting should be placed upstream.

4. **Equipment Required** - Bulldozer, front-end loader, backhoe, or hand tools.
5. **Maintenance** - Periodically check the dam for leaks, structural integrity and excessive oil buildup.
6. **Variations** - The containment area behind the dam can be water-flooded to prevent oil penetration into the sediment.

FLOWING WATER CONTAINMENT:

1. **Use** - Dams are constructed across culverts, ditches, shallow streams, etc. to contain floating oil but not to obstruct the flow of water.
2. **Limitations** - Accessibility, implementation time, availability of dam construction materials, water depth, and high current velocities.
3. **General Instructions** - The dam location should have a high bank on the upstream side with the dam keyed into the bank. Construct the dam with on/near site gravel or sediment materials, sandbags, plywood sheets, etc. Use heavy equipment or manual labor to excavate materials from the upstream side to increase the dam storage capacity. Make the upstream side impermeable with plastic sheeting if required. The underflow dam will utilize inclined or valved pipes with a total capacity exceeding the stream flow rate. Adjust the valves on the pipes until a constant water/oil level is achieved behind the dam. Inclined pipes are located in the dam with the lower end on the upstream side. The height of the raised end determines the water level behind the dam. Both techniques are illustrated in **Figures 8a and 8b**.

Overflow dams will utilize a boom to contain oil behind them while allowing water to flow over the top. Construct the dam as described above and cover with a plastic sheet to prevent erosion. Anchor the boom in place several feet behind the dam. Pumps or siphons are also used to pass water over the dam. Total capacity of the pumps or siphons must exceed the stream flow rate. These techniques are shown in **Figures 8c and 8d**. **Figure 8e** shows the use of a Culvert and plywood sheeting to form a Culvert Blocking Gate.

4. **Equipment Required** - Front-end loader, bulldozer, backhoe or hand tools.
5. **Maintenance** - Check the dam periodically for leakage and integrity, replace eroded materials and continually monitor the water/oil level. Valved pipes, pumps, or number of siphons may require periodic adjustment to compensate for minor changes in the stream flow.
6. **Variations** - If sufficient underflow cannot be maintained or if excessive overflow occurs, additional dams downstream may be required. Partial underflow dams may also be used in

large rivers during high flow or ice conditions. The dam is constructed in the same manner as an underflow dam except that it extends only part way across the river. As shown in **Figure 9**, it should be constructed at the outside of a bend in the river where the oil will typically be concentrated. Gravel may have to be continually added to the end of the dam if erosion is a problem.

SORBENT BOOM/BARRIERS:

1. **Use** - Sorbent booms or bathers constructed with sorbent materials are used to contain and recover floating oil on drainage courses, streams, or small rivers. Useful for catching oil below conventional booms, dams, etc.
2. **Limitations** - Accessibility, implementation time, large quantities of oil, moderate to high current velocities, floating debris, and excessive water depth for barriers.
3. **General Instructions** - Deploy the sorbent booms at an angle across the waterway with each end anchored to the shore. Multiple booms are recommended with each successive boom positioned a few feet downstream of the previous boom.

Construct single-sided barriers by driving a line of posts into the stream bottom at right angles to the direction of the flow with the wire mesh screen fastened to the upstream side. Place loose sorbents, squares, or strips relying on the current to hold them in place as shown in **Figure 10a and 10b**. In tidal channels, erect two parallel lines of posts across the channel with the screen fastened to the inside of each line of posts. Place sorbents in the area between the screens to prevent loss from the current's direction reversals. The two-sided barrier is pictured in **Figure 11**.

Screen height must be sufficient to prevent the sorbents from going over the top or under the bottom, should flow or tidal stage vary. The screen mesh size must be compatible with the type and size of the sorbent used.

4. **Equipment Required** - Hand tools.
5. **Maintenance** - Turn the booms or sorbents regularly for maximum efficiency and replace when completely oiled. Check the booms or barriers periodically for leakage or damage. Place oiled sorbents in leak-proof containers for disposal.

Figure 1a
DIVERSION BERM

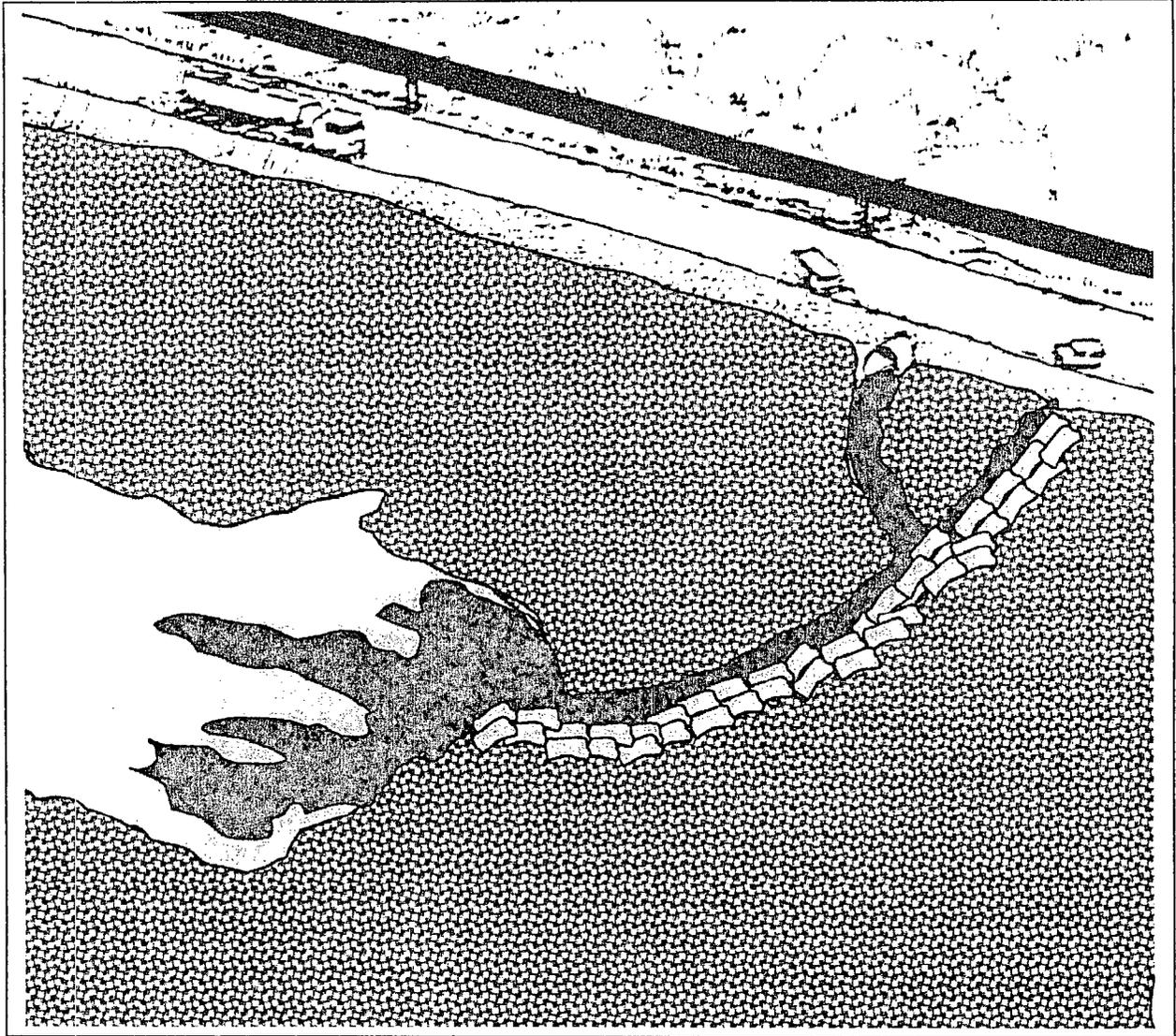


Figure 1b
DIVERSION BERM

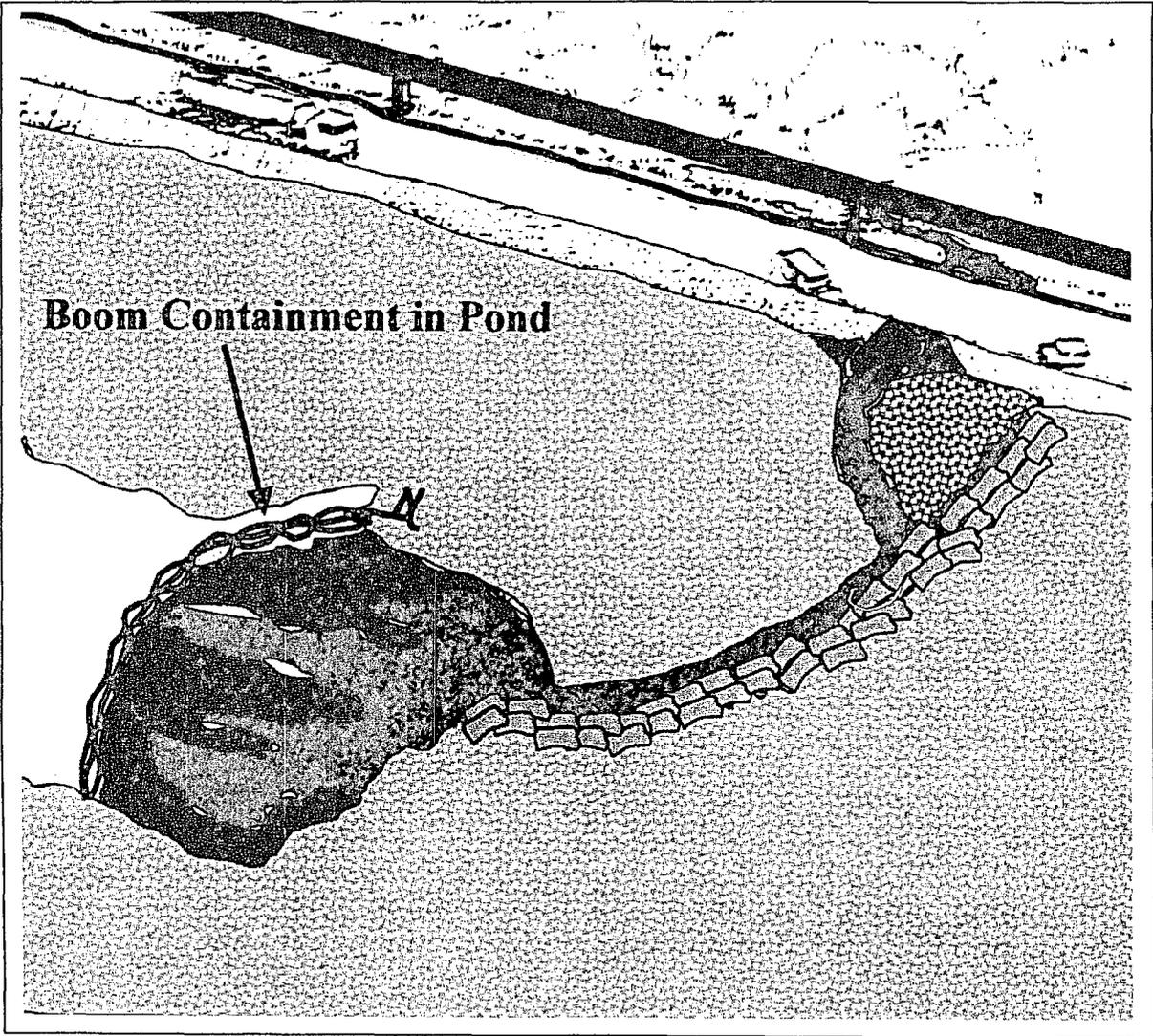


Figure 2
DIVERISON EARTHEN BERM

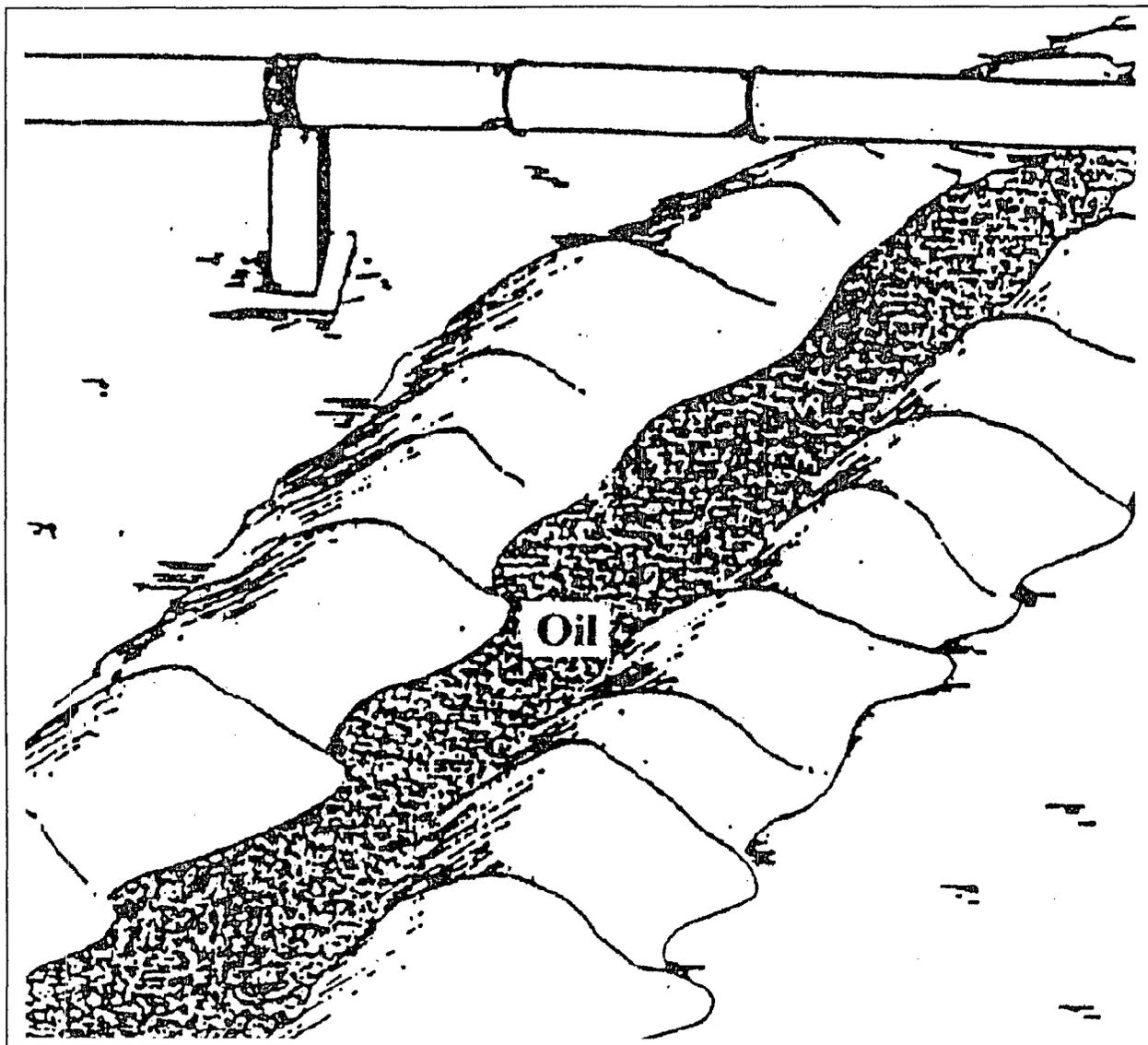


Figure 3a
EARTH BERM

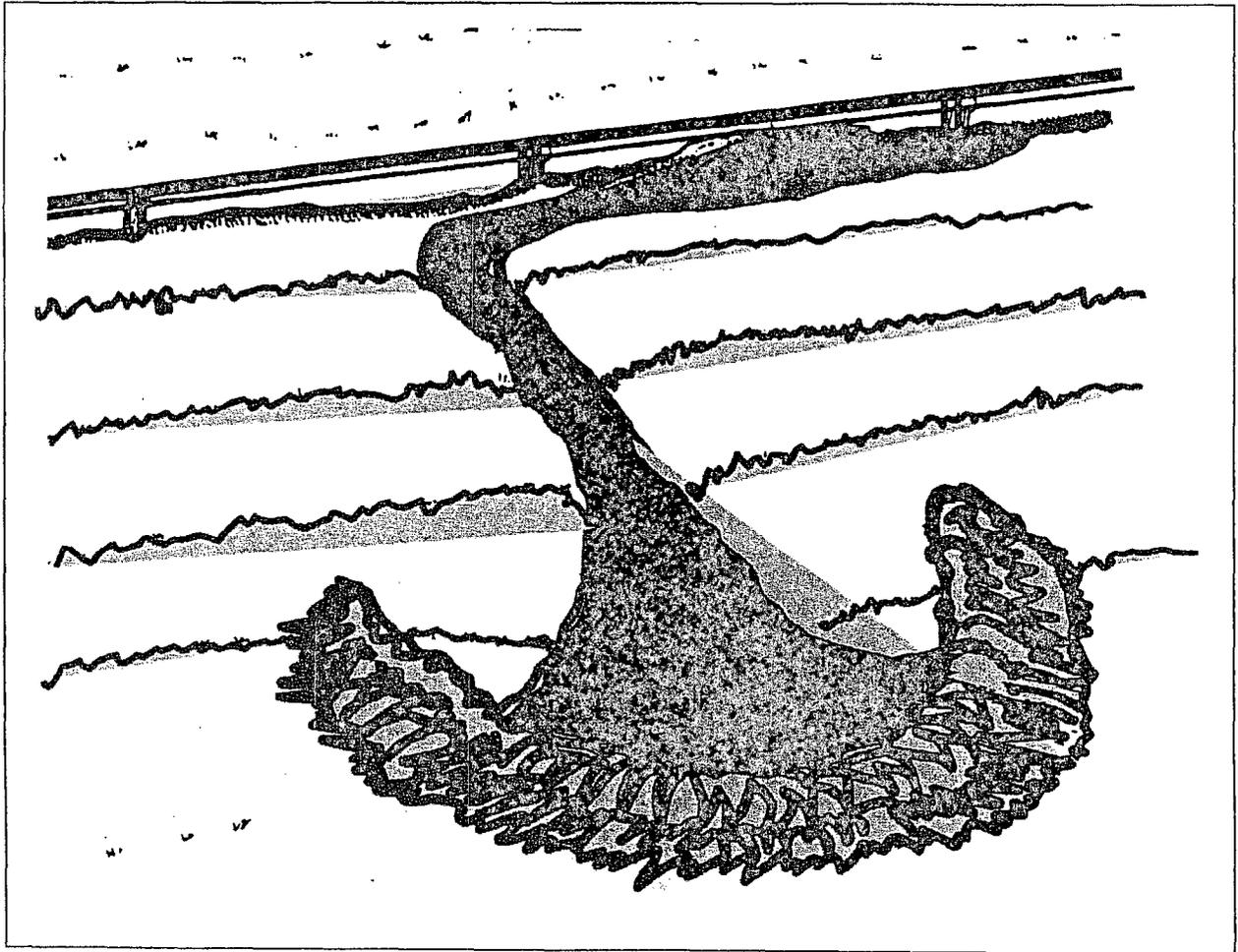


Figure 3b
EARTH BERM

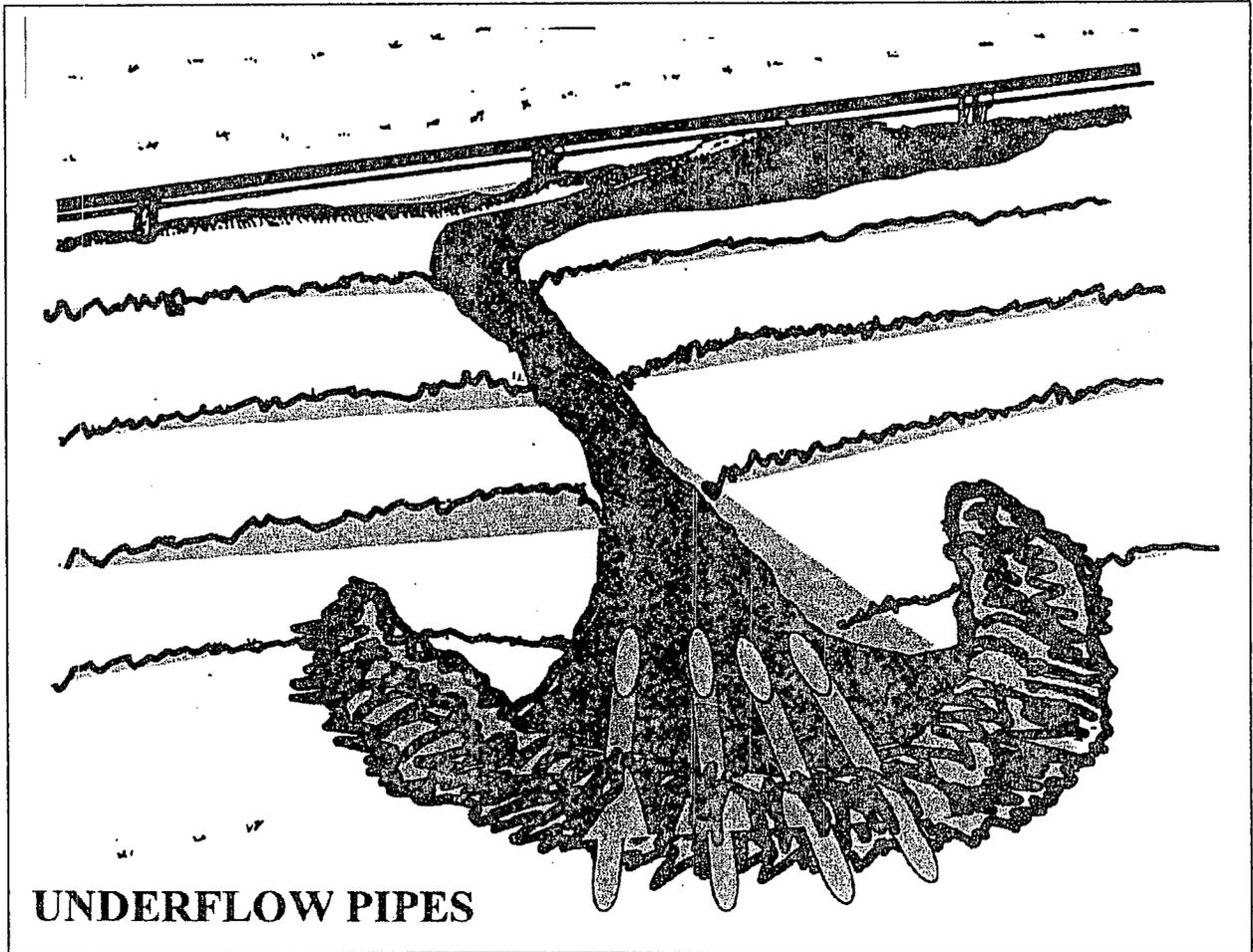


Figure 4
EARTHEN CONTAINMENT BERM (LINED)

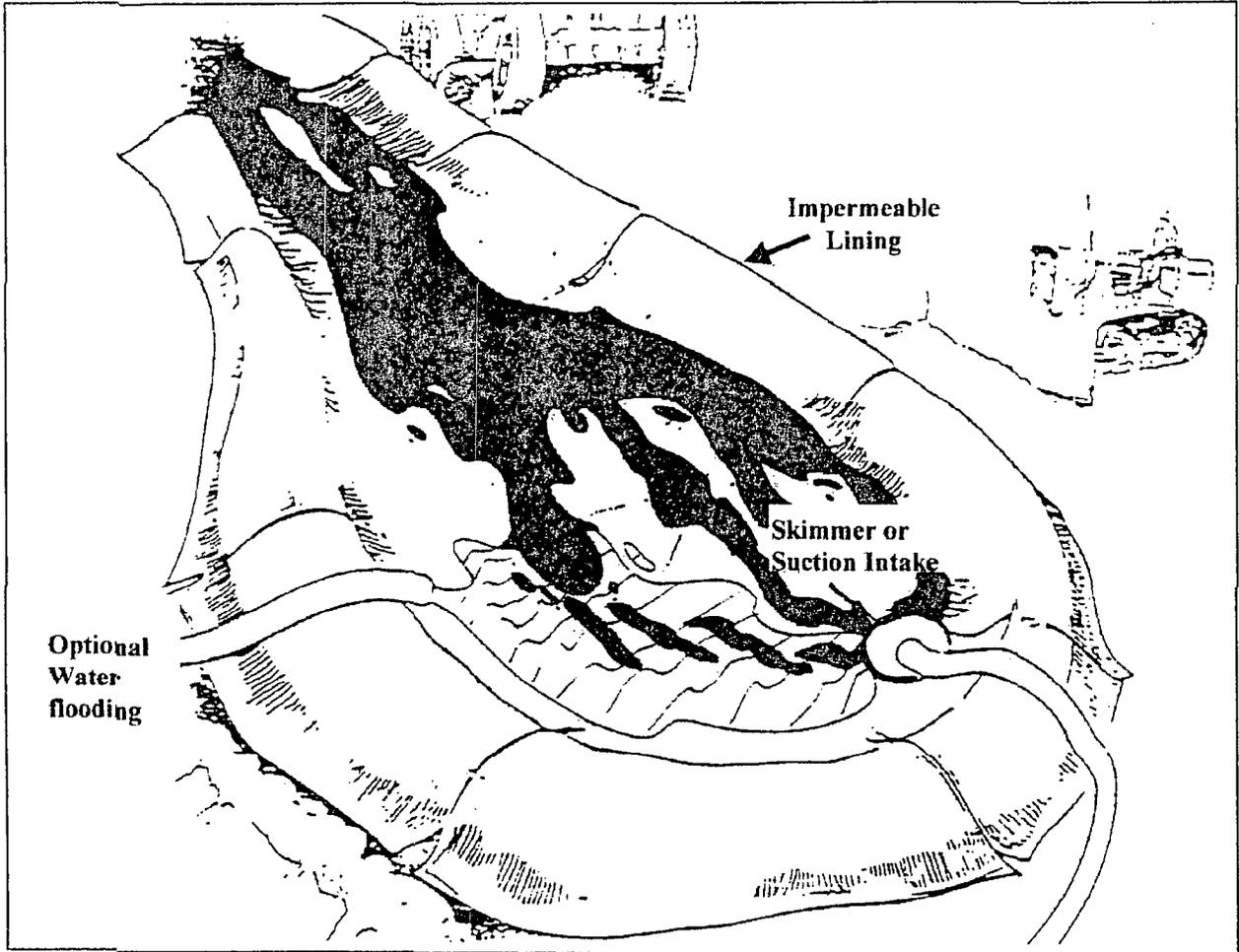


Figure 5a
INTERCEPTION TRENCH

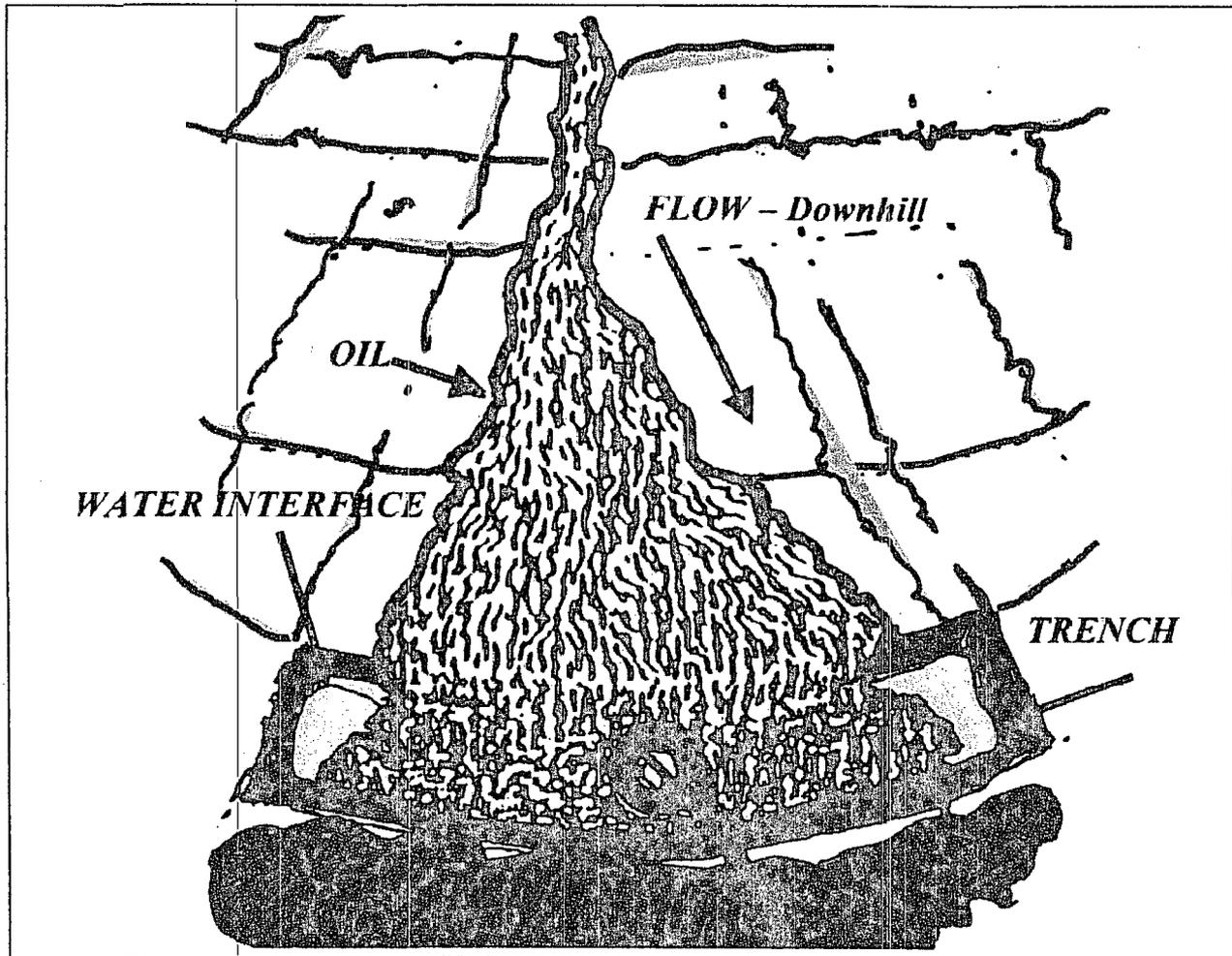


Figure 5a
INTERCEPTION TRENCH

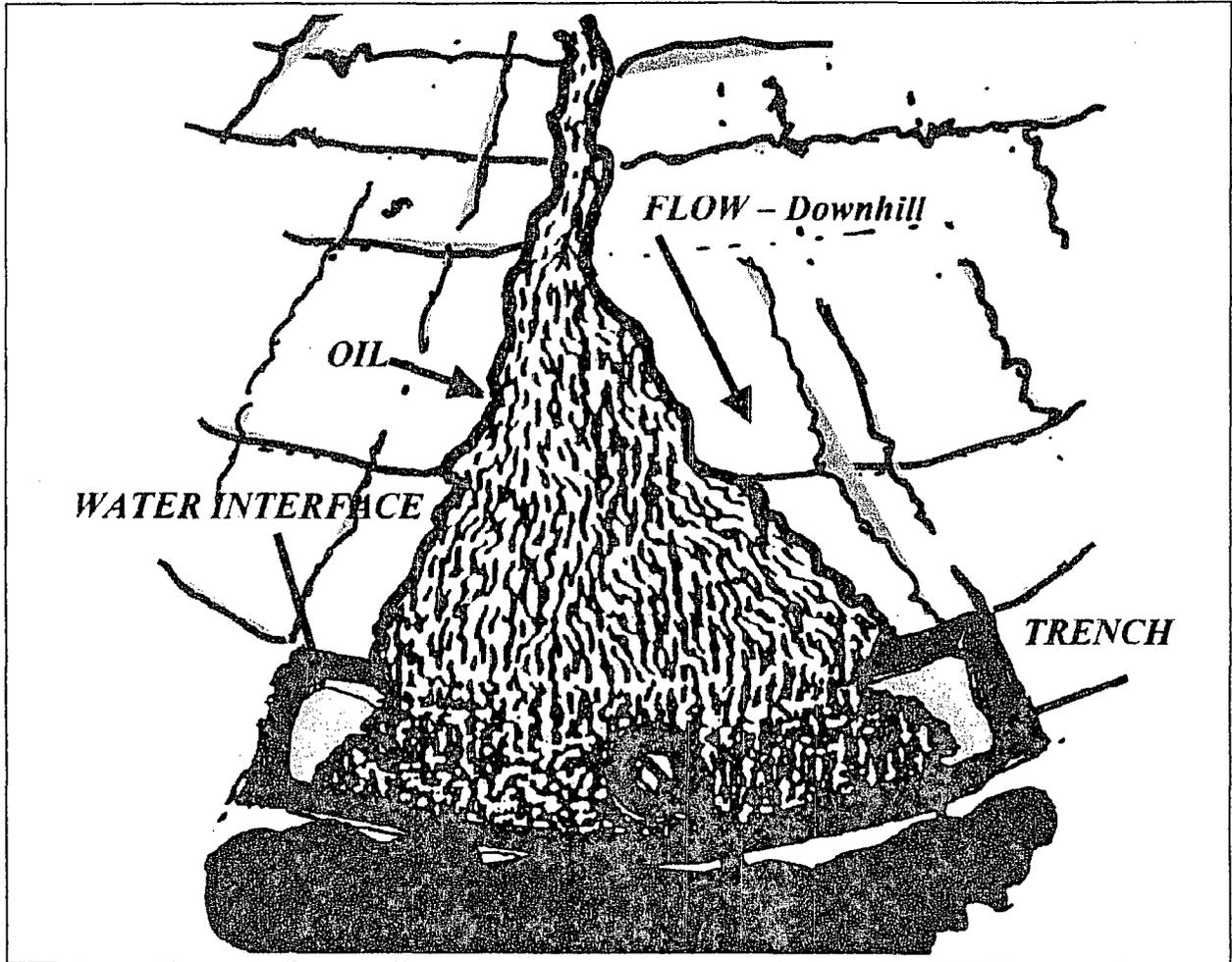


Figure 5b
INTERCEPTION TRENCH

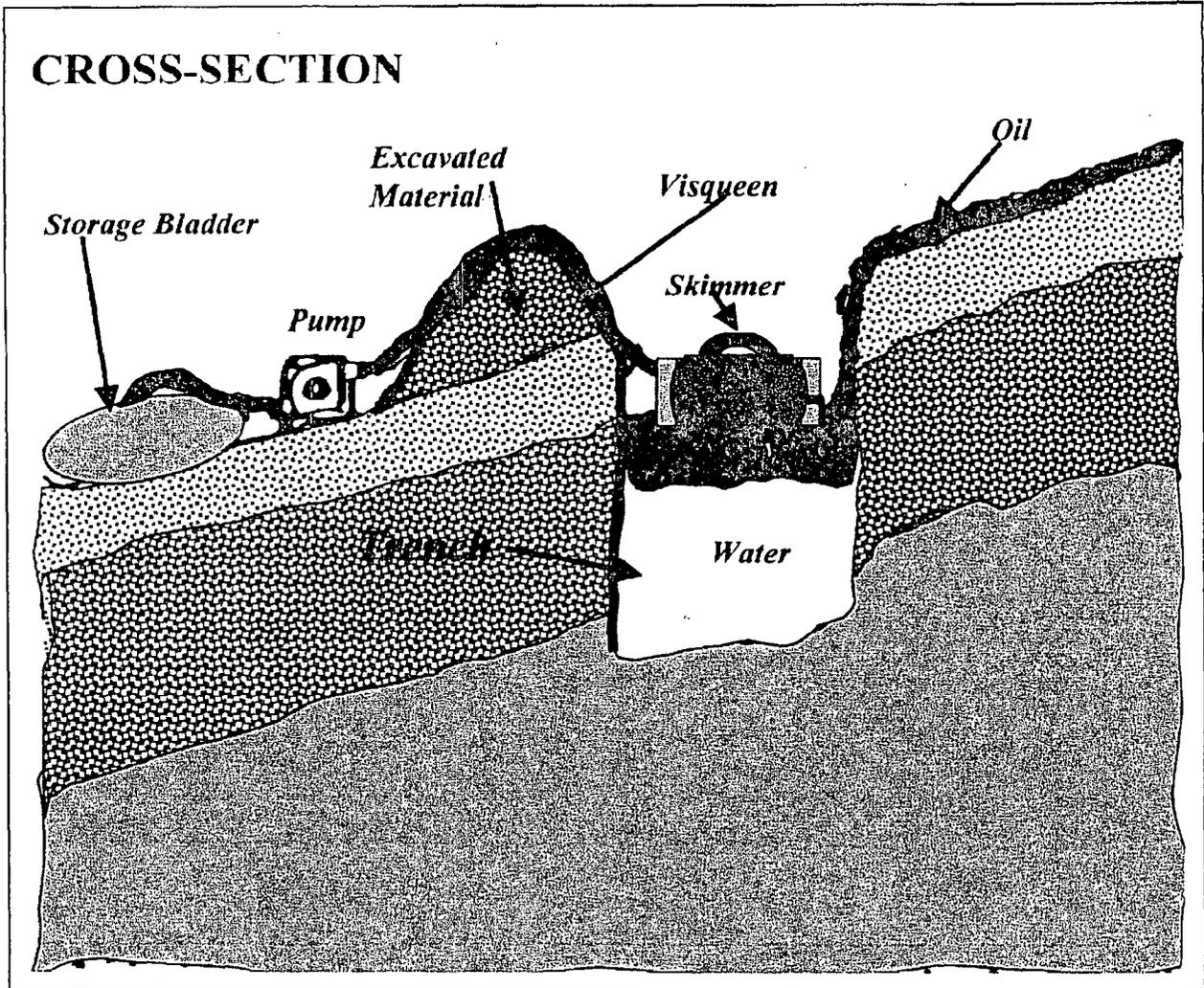


Figure 6a
CULVERT BLOCKING WITH SAND BAGS

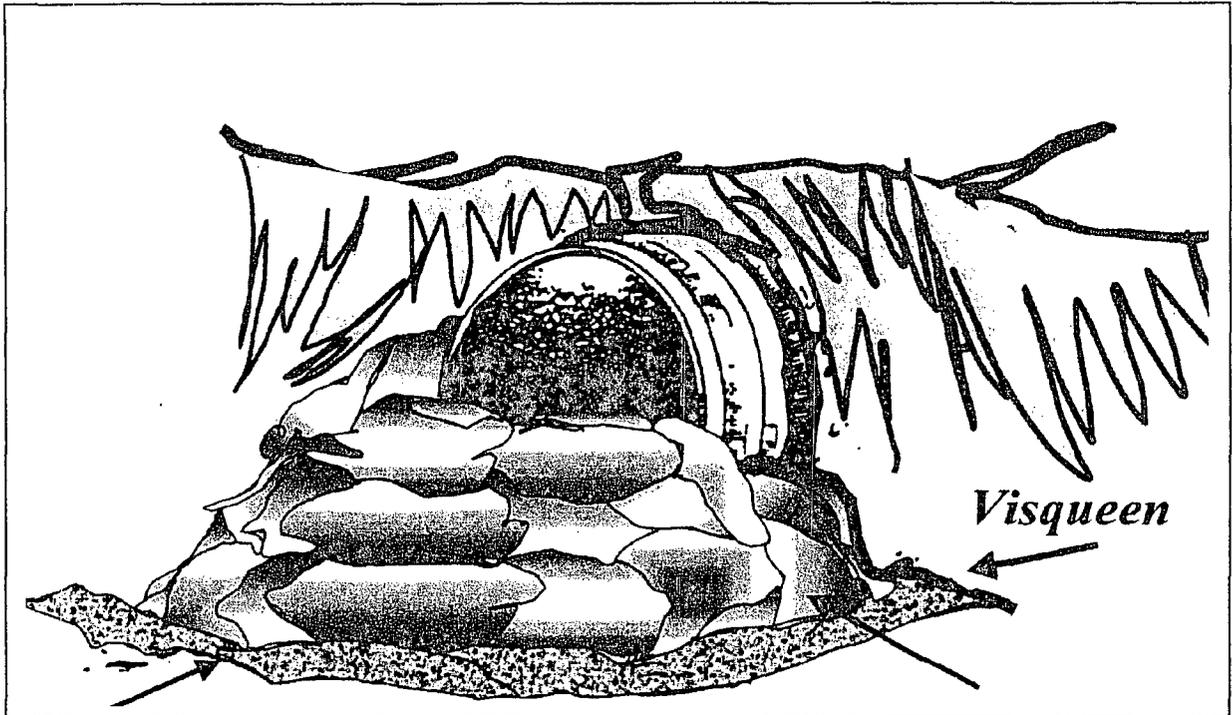


Figure 6b
CULVERT BLOCKING

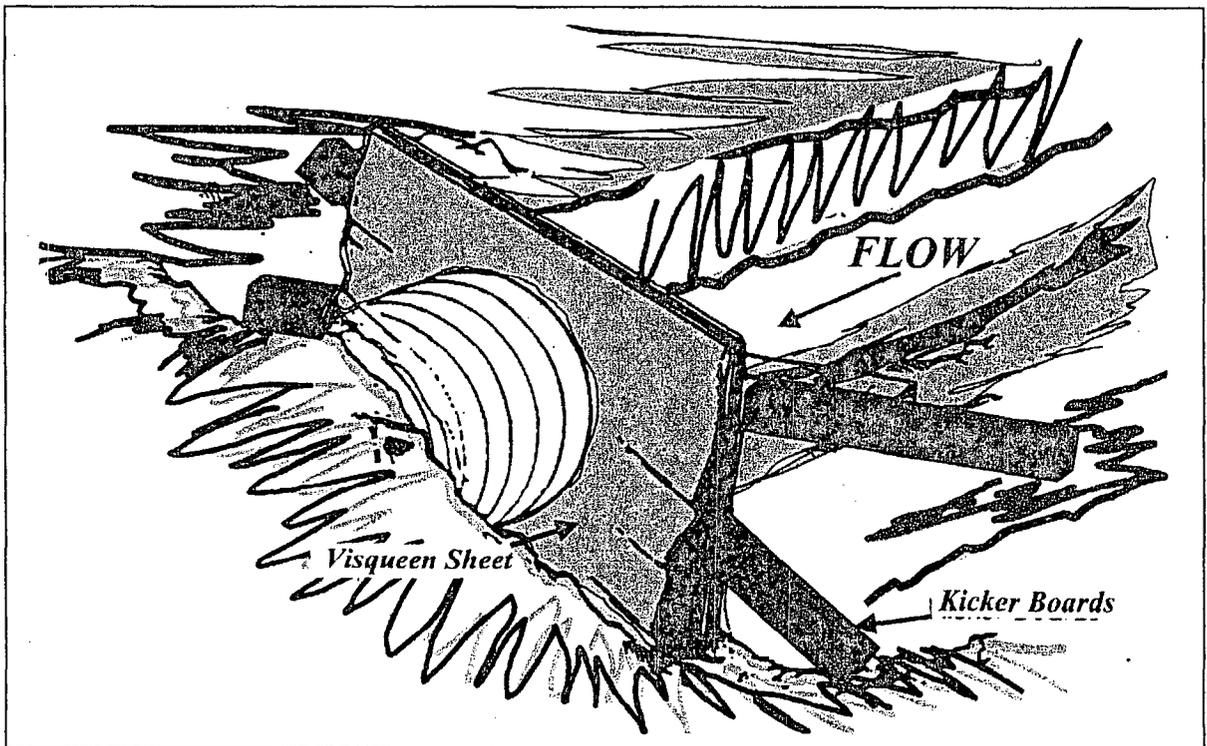


Figure 7
BLOCKING DAM WITH SAND BAGS

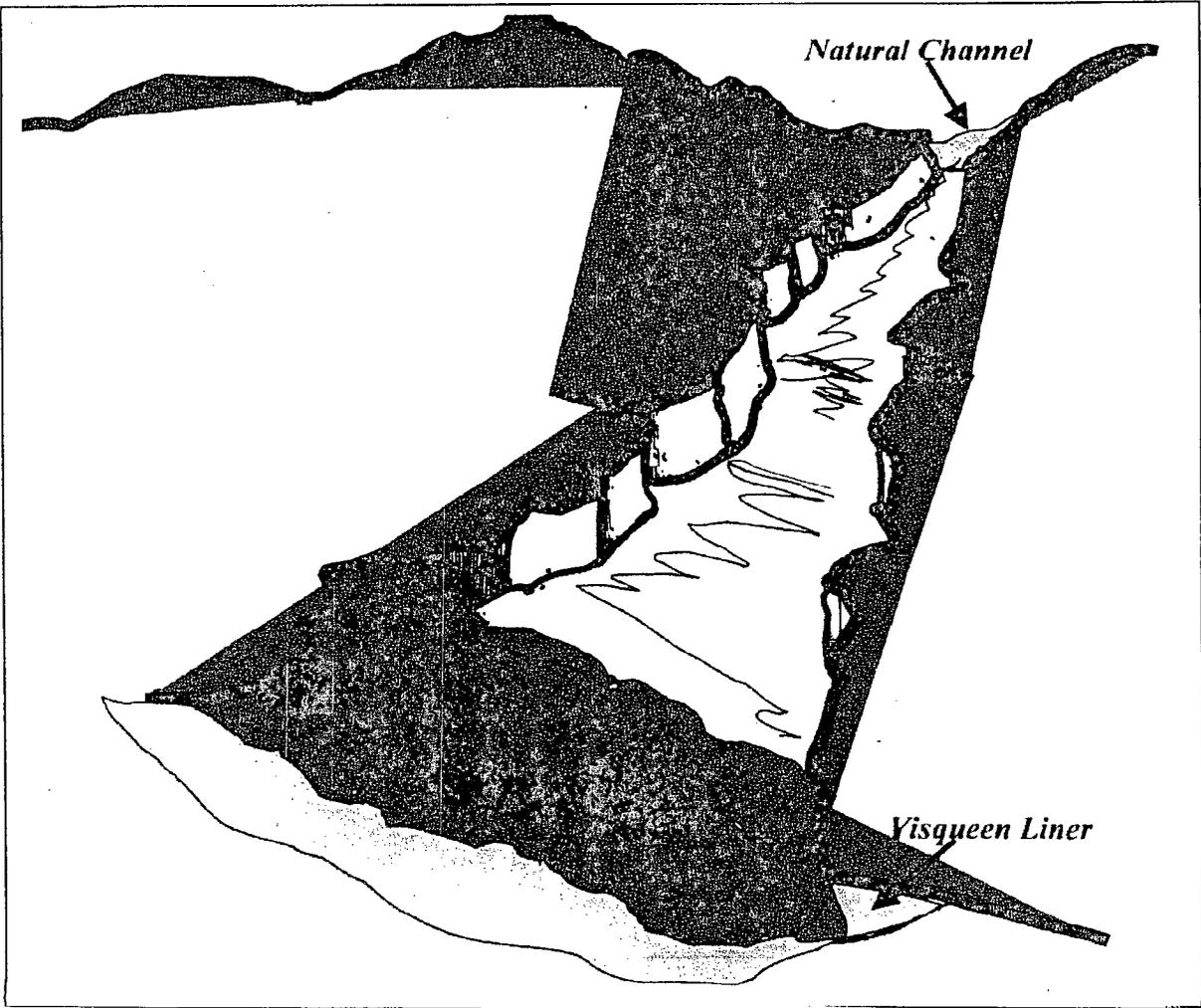


Figure 8a
UNDERFLOW DAM WITH INCLINED PIPE/TUBE

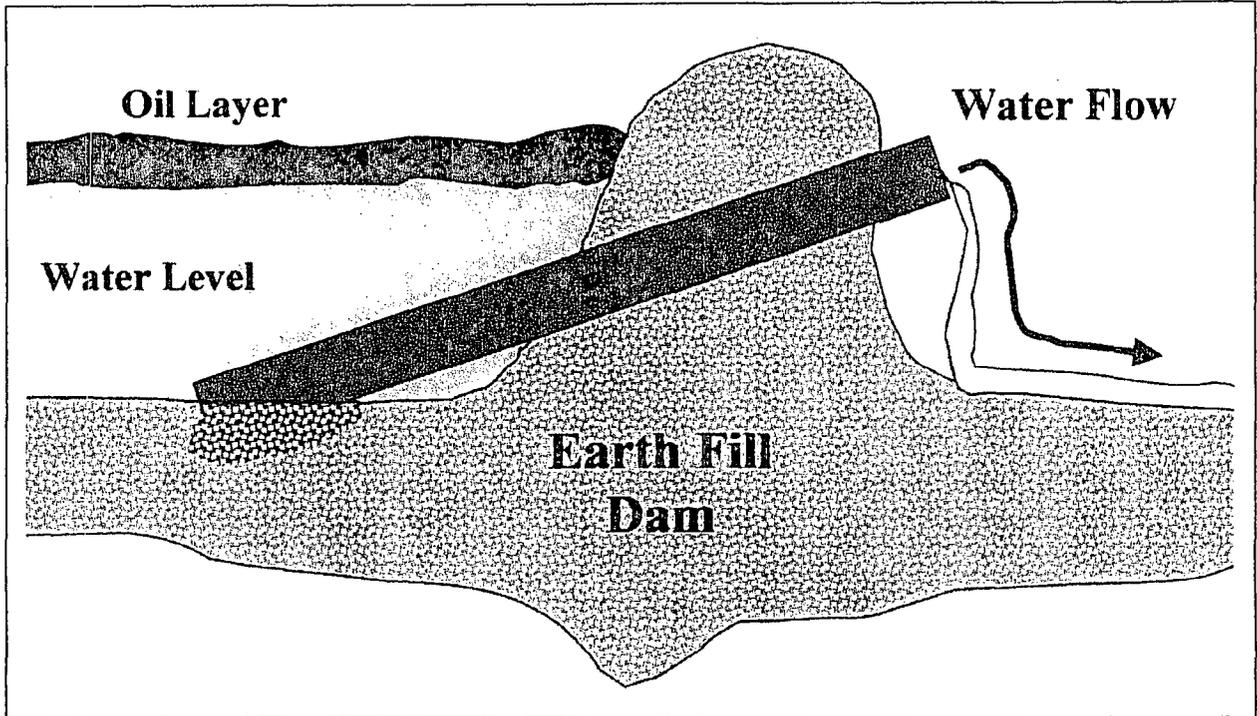


Figure 8b
UNDERFLOW DAM WITH VALVED PIPE

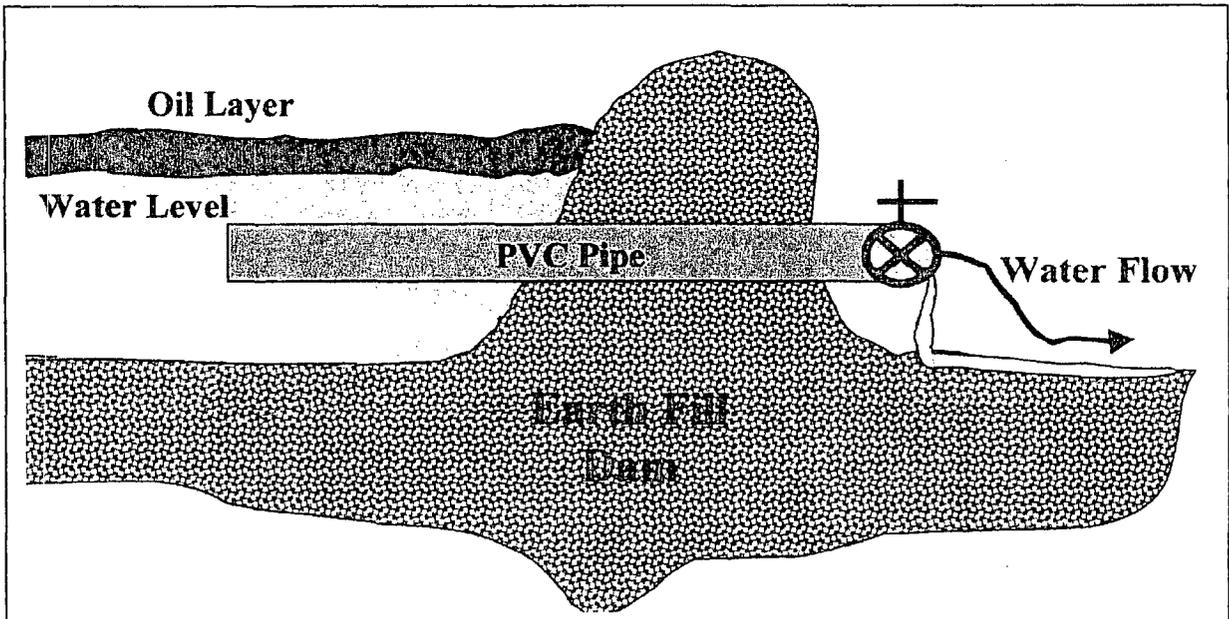


Figure 8c
OVERFLOW DAM WITH SIPHON

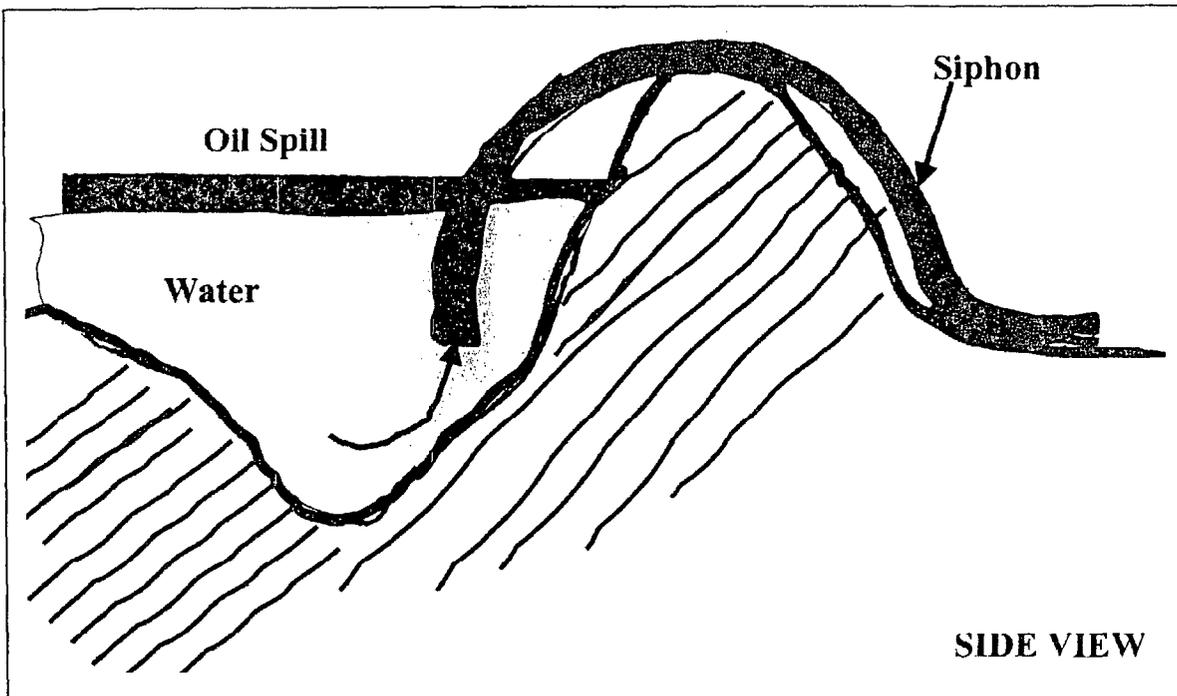


Figure 8d
OVERFLOW DAM WITH PUMP DISCHARGE HOSE

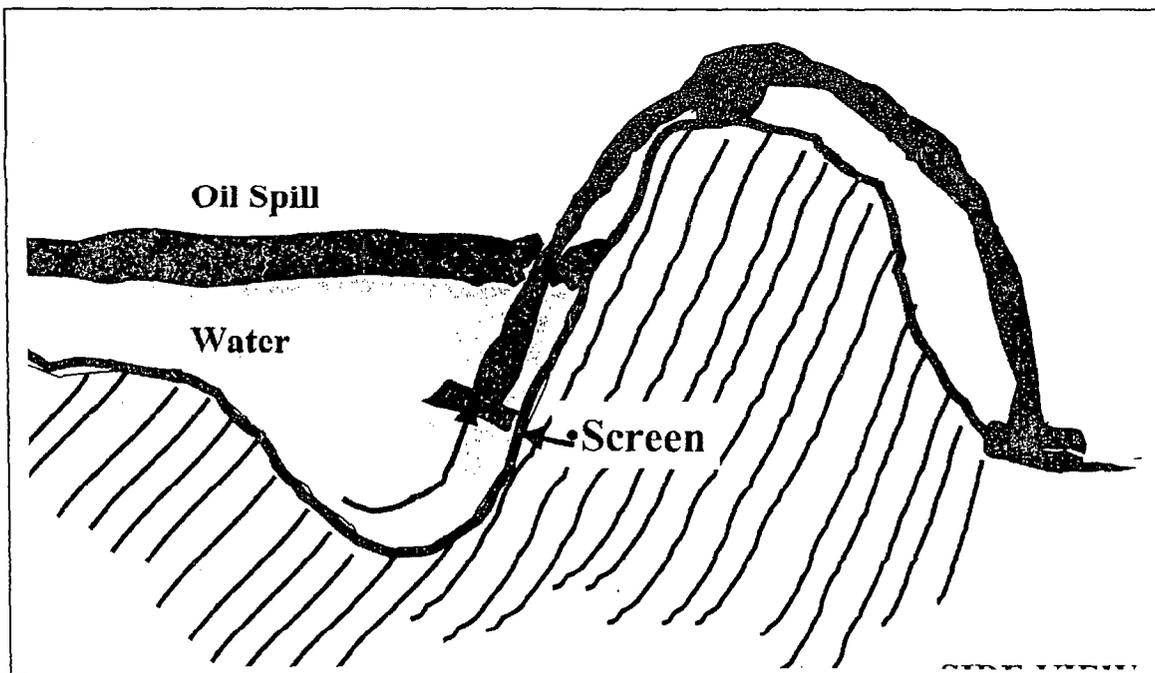


Figure 8c
CULVERT BLOCKING DAM

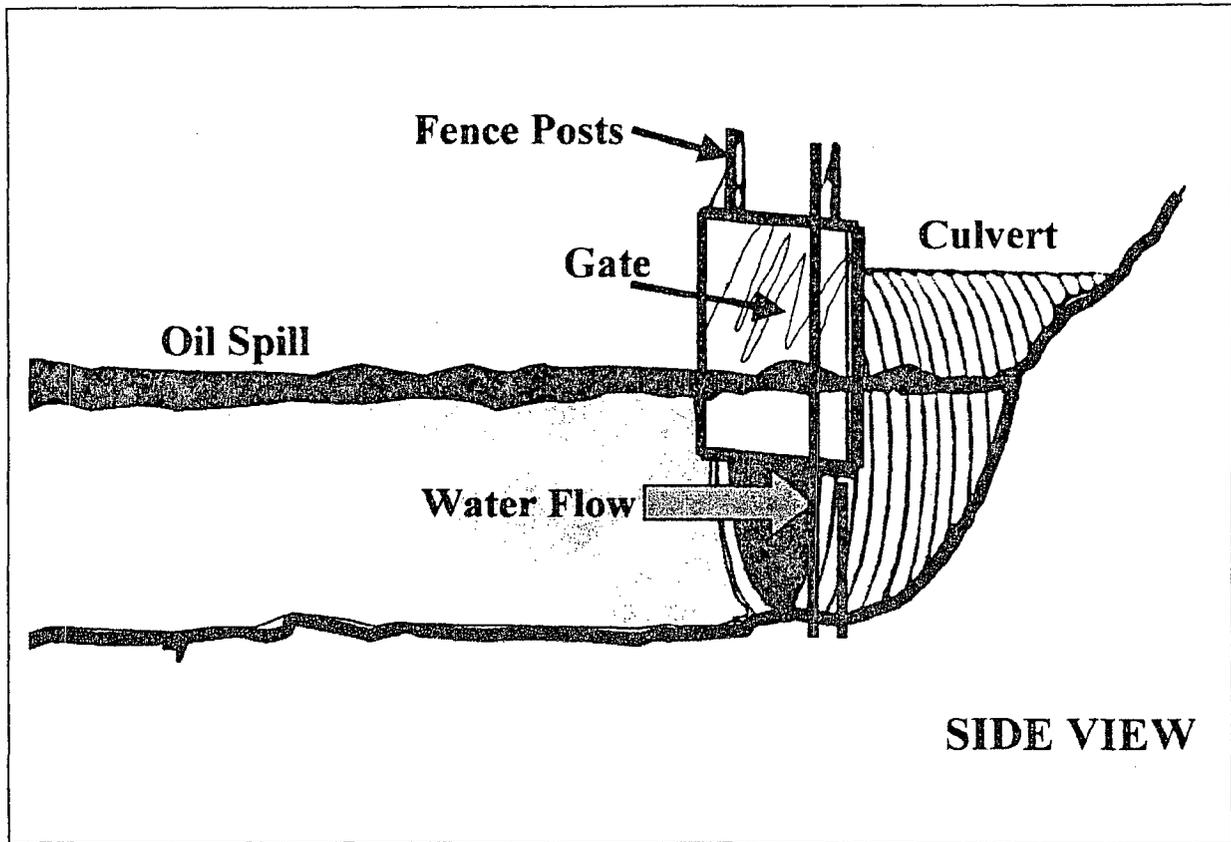


Figure 9
PARTIAL UNDERFLOW DAM

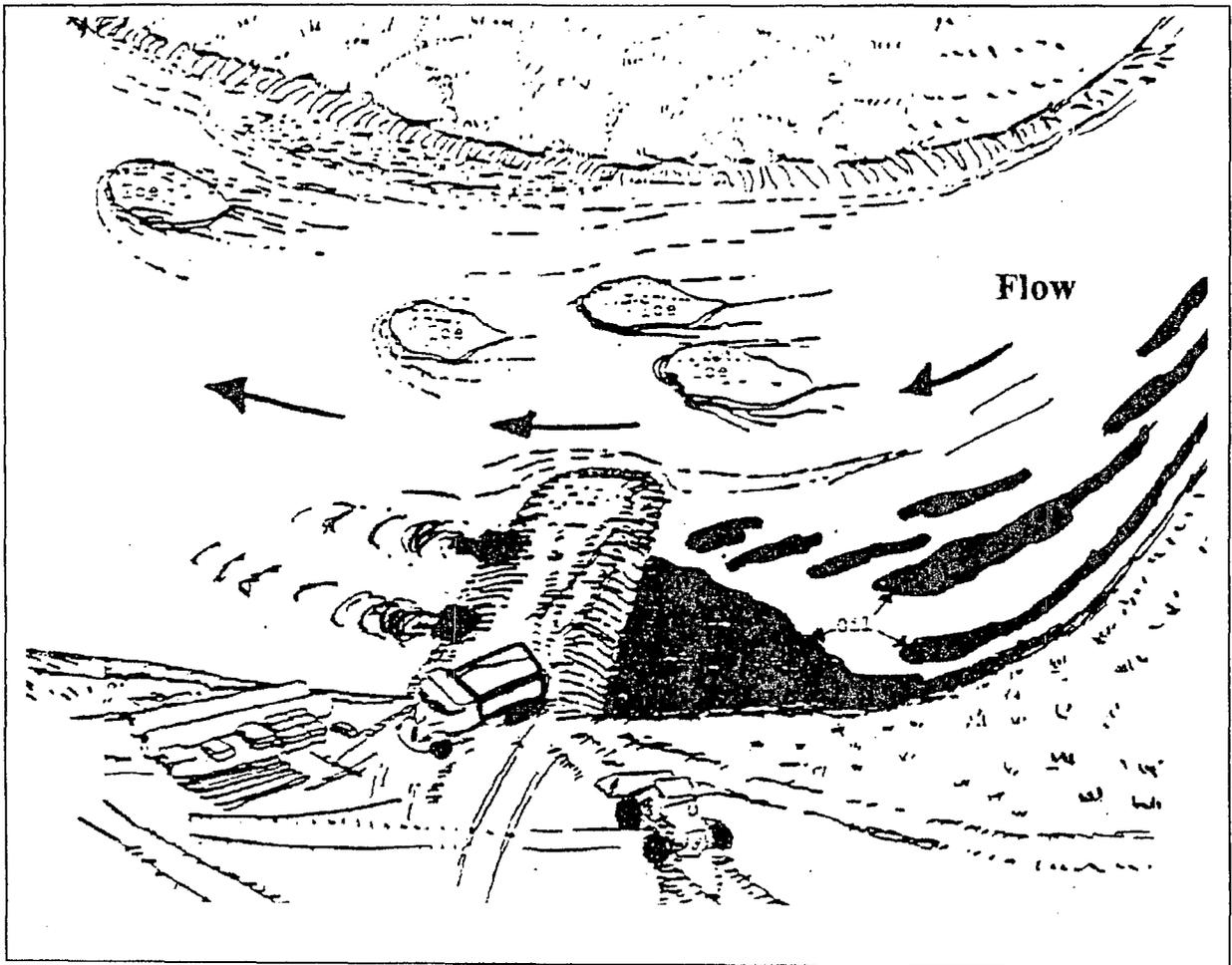


Figure 10a
STRAW/HAY FILTER FENCE WITH FENCE POSTS

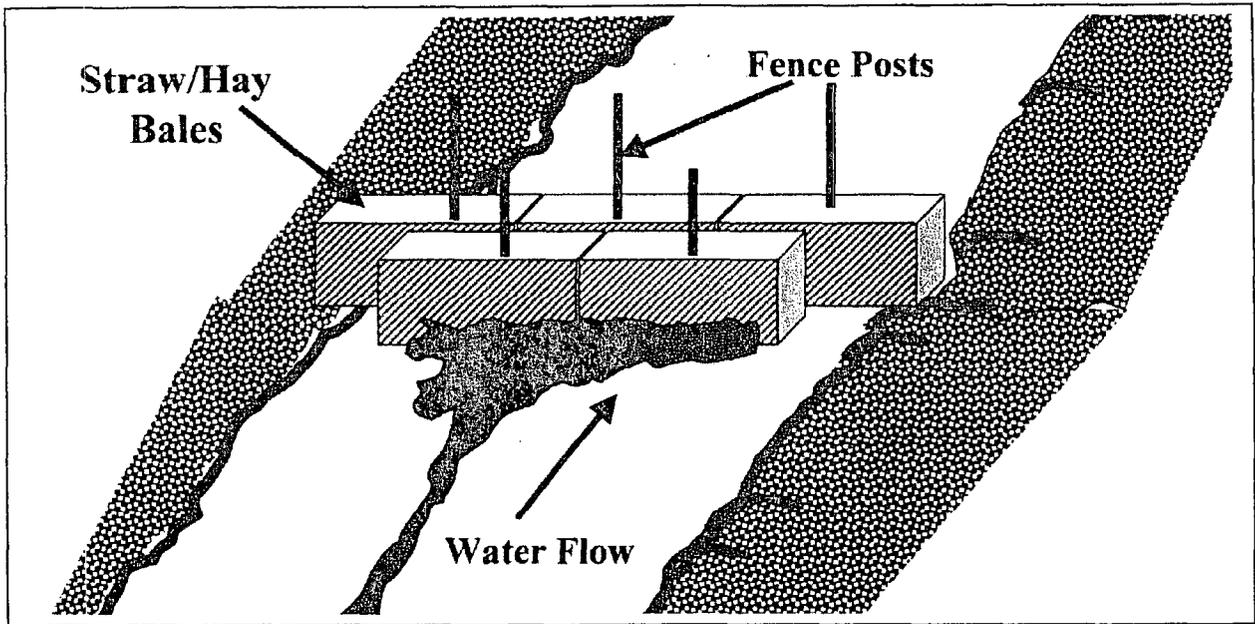


Figure 10b
STRAW/HAY FILTER FENCE WITH FENCE

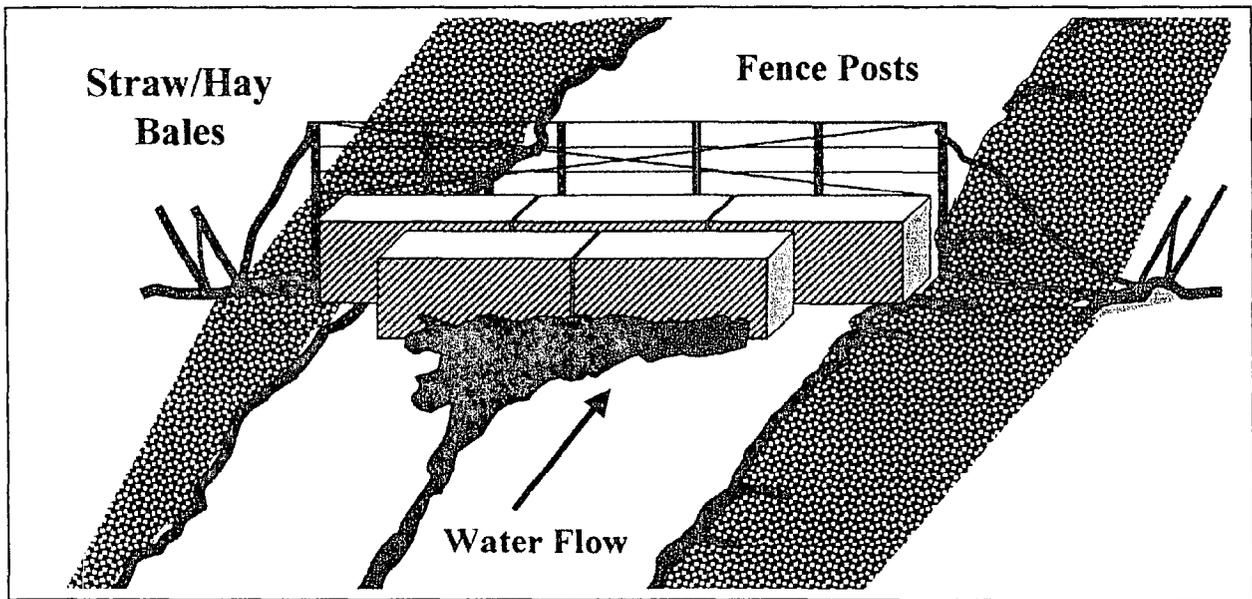
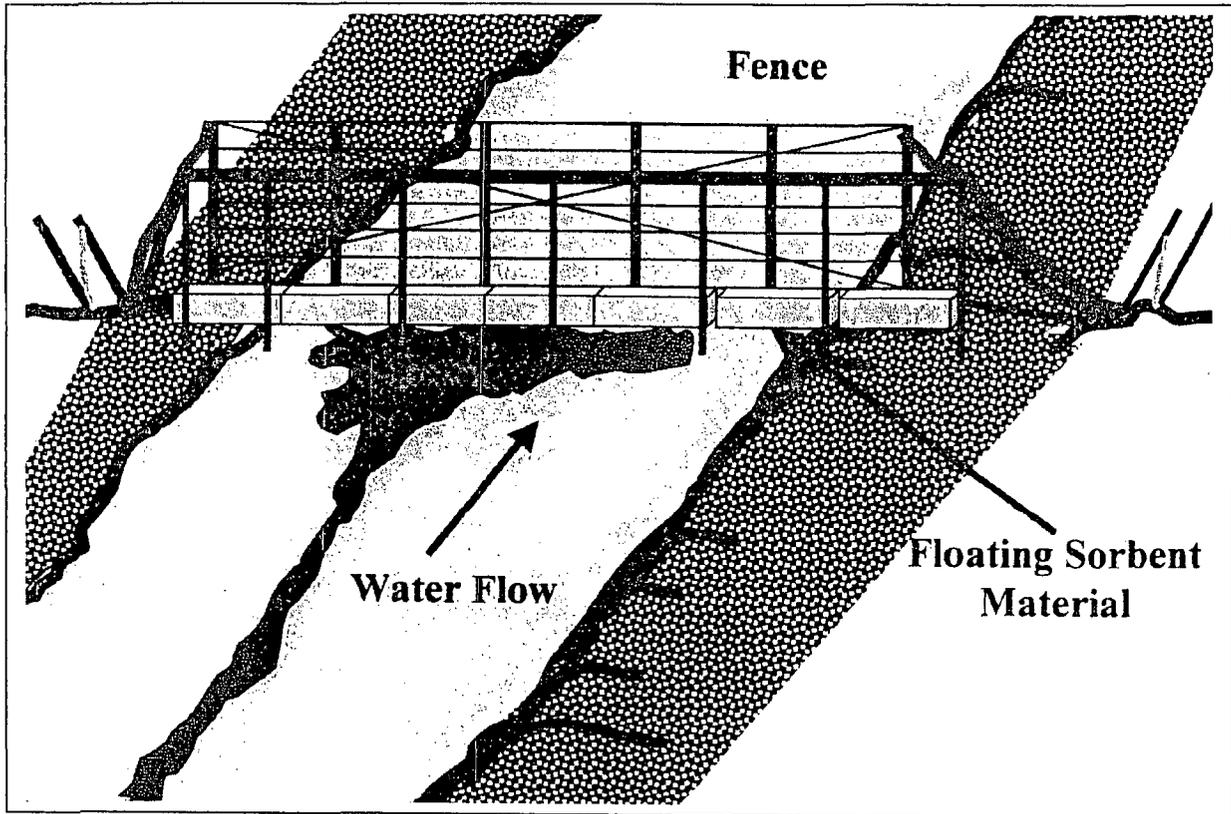


Figure 11
SORBENT SANDWICH FILTER FENCE



OIL SPILL BOOMING TECHNIQUES

OIL SPILL BOOMING TECHNIQUES

INTRODUCTION:

Without effective boom deployment, the goals of containing a spill and keeping it away from sensitive areas become unattainable. Deciding on the correct application of boom in a given environment and then utilizing the best technique for deployment can help achieve these goals.

An effective Oil Spill Boom Containment System does the following:

1. Collects the pollutant to aid in recovery operations
2. Diverts the pollutant to areas where cleanup can be conducted
3. Concentrates the pollutant in thick layers on the surface of the water to be recovered
4. Deflects the pollutant away from economic and environmentally sensitive areas
5. Prevents the spreading of pollutants over a wide area
6. Protects specific areas such as entrances to harbors/ivers, water intake systems, and environmentally or economically sensitive areas

All the experience in the world will not bring success in achieving these goals if the equipment is not deployed correctly. This section will provide a decision process to aid in the selection of the appropriate boom application and location. It will then outline the boom implementation requirements calm water and fast water applications as well as large river scenarios.

DECISION GUIDE:

Figure 1 is a decision guide that will help the user evaluate the factors affecting the use of booming technique(s) and select the appropriate technique(s) for the particular spill conditions. The decision guide in Figure 1 is for protection of inland waters. It is used as follows:

For Fast Waters (Figure 1), enter the figure at the type of water body where protection is needed. Select the appropriate booming technique depending on the amount of oil contamination and water current speed (except for shallow waters).

In a location where currents exceed 3 knots or breaking waves are greater than 25 cm, it is best to move the proposed boom location away from turbulent waters and into a more quiescent area along the water body. Figure 2 shows typical current areas to look for on a river when determining where the containment point should be located. Rivers will produce more current around a curve creating a natural tendency to kick up any spilled product to the bank. Locations where product can be diverted into a small back-eddy/sump area are good containment points. Once a protection application has been selected, the implementation requirements should be checked. Instructions on how each technique is used are given later in this section.

Another issue in selecting the location is determining how fast the product is moving so that there is plenty of time to deploy boom before the product arrives. Normally, if the current speed is known, this is a straightforward calculation. $CURRENT\ SPEED \times TIME\ ELAPSED$. If wind

is present, it may cause this calculation to change. Figure 3 shows the effect of wind on current movement.

BOOMING IMPLEMENTATION REQUIREMENTS:

Before the initiation of shoreline protection measures, various requirements must be satisfied to ensure effective and efficient implementation. This section will help the user identify those requirements by providing procedures and decision guides for determining the feasibility of effectively implementing shoreline protection application. The following is a list of factors to be evaluated before determining the feasibility of using a booming application:

1. **Type of Water Body (e.g. Inland Waters – lakes, rivers, etc.)**
2. **Current Speed**
3. **Shore Line Configuration**
4. **Natural Collection Points**
5. **Water Depth**
6. **Available Equipment**
7. **Available Manpower**
8. **Amount of Oil**
9. **Weather**
10. **Time of Year**

This type of boom required is determined mainly by the conditions under which it is to be used. Table 1 gives suggested boom types for different conditions of use. The length of boom needed is dependent on the width of the inlet or area to be protected. Extensive testing under actual spill conditions indicates that the best performance of a boom (with regard to stability and oil retention) occurs when it takes a parabolic shape. It has been found that the optimum boom length is about 1.5 times the straight-line distance between the points where the boom is to be anchored. This added length gives the boom stability and will reduce its tendency to roll. A boom tends to become unstable when its length is less than 1.25 times the straight-line distance between the anchor points.

ANCHORING REQUIREMENTS:

Anchoring requirements will vary with boom, technique used, and shoreline topography. When a boom is anchored to a shoreline, it can be attached to large boulders or trees by a cable sling and shackles. If there are no natural structures available, an anchoring system will have to be constructed. Ideally, the onshore anchoring device should be some type of deadman, buried at right angles to the direction of maximum force (pull, in this case). If it is possible to dig a hole, a log, 3 m in diameter and about 2 m long, can be buried 1.2 m deep. A cable sling is attached to the log and, in turn, the boom to the sling. If there is no timber available, a Dansforth anchor can be buried in a similar fashion. If digging a hole is not feasible, a deadman that can be handled by one man should be taken ashore. The deadman will plow itself into the ground when it is pulled by a winch or another source of power, as shown in Figure 4.

Boom deployment using shoreline anchoring can be achieved with the use of a winch-boat and smaller power craft. The small craft can pull a leader line from the winch-boat to the point on shore where the boom is to be secured. The line is passed through a sheave block and returned to the winch-boat where the boom is attached to it and winched ashore. Boom should be positioned so that the boom ends are above the high tide line. This will enable the boom to act as a barrier throughout the entire tide cycle.

Conventional anchors or a vessel are used to anchor boom in the water for shallow water containment or diversion booming. When an anchor is used, a line approximately three to five times as long as the water depth is attached to the anchor. The other end is fixed to a buoy float, which is then attached to the boom with a short piece of line. The buoy float prevents the boom from being affected by the pull of the anchor. Note: drogues or sea anchors holding booms need to be tended by a vessel.

SUPPORT REQUIREMENTS:

Equipment support requirements must also be evaluated along with their availability. Once the specific protection application has been selected, the major support equipment and materials can be determined.

Vessels used for boom deployment should have sufficient towing capabilities to overcome the drag created by the boom being towed through the water. Figures 5 and 6 give the approximate towing forces and equivalent inboard and outboard horsepower requirements for straight-line towing of various boom types at 2 to 6 knots, respectively. If boom is to be towed in other than a straight-line or if it is towed against or across a current or in breaking waves, then additional towing force would be required. If water conditions in which a boom is to be towed are unknown, a vessel with at least twice the required horsepower needed should be used for straight-line towing of a boom. Note: If boom is towed at speeds of 1 knot or less, the towing vessel will need controllable pitch propellers. Kort nozzles or bow thrusters are also necessary in order to control the vessel at such a low speed. The towing capabilities of a vessel are determined by its horsepower rating. Horsepower is multiplied by a factor of 13 for outboard motors and 20 for inboards (work boats) to yield the available towing force in kgs. The available force must exceed that required by the boom to ensure effective implementation.

BOOMING FEASIBILITY:

The critical factor for determining feasibility is the relationship between the chosen technique's total deployment time and the estimated time of arrival (ETA) of the oil at the protection/collection site. In the case of berms or dams, used as protection measures, the variables would be acquisition of materials, equipment, and personnel, travel time to site, and construction of the berm or dam. Towing, positioning, and anchoring the boom are site-specific factors and have to be evaluated for each specific booming location.

BOOMING APPLICATIONS:

There are three Booming Applications available if booming is feasible. They are:

- Exclusion Booming**
- Diversion / Deflection Booming**
- Containment Booming**

1. **Exclusion Booming** – Exclusion booming is the deployment of boom across or around sensitive areas and anchored in place to exclude a pollutant from contaminating the area. Any approaching oil is deflected or contained by the boom. It should be used across small bays, harbor entrances, inlets, and river or creek mouths, where currents are less than 1 knot and breaking waves are less than 0.5 feet in height, to protect the area and/or prevent the area from being oiled. The primary environmental effect of using this technique would be some minor disturbance of the substrate at the shoreline anchor points.

- a. **Harbors and Inlets** – Exclusion booming involves deploying the boom in a static mode, i.e., placing or anchoring the boom between two or more stationary points. This method is used primarily to prevent or exclude oil from entering harbors and marinas, breakwater entrances, lagoons, and inlets. Many of these entrances or channels have tidal currents exceeding 1 knot or surf breaking in the opening. Under these conditions, boom should be placed landward from the entrance in quiescent areas of the channel, harbor or inlet.

Exclusion boom should also be deployed at an angle to a shoreline when possible (preferably in the direction of the wind) to guide oil to an area where vacuum trucks or skimming equipment can recover the oil. In many cases, the deployment of a secondary boom behind the primary boom is desirable to contain oil that may spill under the primary boom. Exclusion booming of harbors or inlets may require that a small workboat be stationed at the upstream end of the boom to open the boom for boat traffic entering or leaving the harbor. Figures 7 and 8 show typical exclusion booming deployments for harbors and inlets.

- b. **Estuaries** – Exclusion booming of estuaries or rivers where sand bars are present can pose problems in boom placement. Because high currents can be expected in entrance channels, boom placement should be attempted on the landward side of the entrance where current velocities drop. This point is generally discernible by ripples and boils. Sand bars commonly form in this area and should be avoided in booming as is indicated in Figure 9. Note: Secondary boom and positioning and positioning to direct oil toward recovery areas.
- c. **Stream Deltas** – Many streams, which empty into bays, harbors, or rivers, are characterized by a delta at the stream mouth, which can provide spawning grounds for some fish. These deltas at certain times of the year may require protection, particularly if they are exposed to tidal fluctuations. If water currents across a delta are less than 1 knot, an exclusion boom should be deployed. Because the stream



deltas normally extend beyond the mainland at low tide, boom deployed around the perimeter of the delta will have to be anchored at several locations in the water, as well as on the shoreline. A typical exclusion boom deployed around the perimeter of the delta will have to be anchored at several locations in the water, as well as on the shoreline. A typical exclusion boom deployment to protect a delta is shown in Figure 10. If possible, the boom should be placed seaward from the low tide line so that it will float throughout the full tide cycle. If the area requiring protection is too large, the boom should be deployed so that the delta above the mid-tide line is protected.

- d. **Logistics** – Specific manpower and equipment requirements will depend on the length and type of boom used and the nature of the area in which it is deployed. Deploying heavy-duty large boom will require more personnel and larger boats than deploying small, lightweight boom.
- e. **Limitations on Use** – Exclusion booming can be effective if the water currents are less than 1 knot, breaking waves are less than 25 cm, and water depth is at least twice the boom depth in other than intertidal areas. Exclusion booming in most areas will require two boom to be deployed across an intertidal zone to an attachment above the high-tide mark. Therefore, a flexible curtain-type boom should be used. This type of boom will react more favorably to tidal level fluctuation than a rigid fence-type boom.



2. **Diversion/Deflection Booming** – Diversion or deflection booming should be used in inland streams, bays, harbor entrances, inlets, rivers, or creek mouths where the water current in an area is greater than 1 knot or if the area to be protected is so large that the available boom would not be sufficient to contain oil or protect the shoreline. The pollutant is either deflected away from the sensitive area or diverted to a central collection point to ease recovery. Environmentally, minor disturbances to substrate at shoreline anchor points can cause heavy shoreline oil contamination on the downstream side.

- a. **Description of Technique** – Diversion boom should be deployed at an angle from the shoreline closest to the leading edge of the approaching oil slick to deflect oil toward shore, where pickup of pooled oil is more effective. The faster the current is, the less the boom angle of deployment into the flowing water.

When the boom is at right angles to the current, surface flow of water and oil is stopped. At current speeds greater than about 1 knot, vortexes (whirlpools) and entrainment (oil droplets shearing off from the underside of the oil layer) will drag the oil down beneath the skirt, rendering the boom ineffective. If the boom is placed at an angle to the current, surface flow is reduced and diverted, permitting the oil and water to move downstream along the boom into the collection area and/or against the shore. The reduction in current speed perpendicular to the boom is related to the decrease in the angle of the boom relative to the direction of current flow. There are three different methods of diversion boom deployment:

- * Single Diversion
- * Cascade Diversion

* Chevron Diversion

* Single Diversion – The single diversion method of diversion booming utilizes a single length of boom to direct the oil onto the shoreline. One end of the diverting boom is anchored to the shoreline and the free end is angled by an anchor or vessel as shown on Figure 11. It is most effective on shorelines with limited wave activity and very little or no current. The primary disadvantage is that the shoreline around the recovery area must be cleared. Another application of single diversion booming is shown in Figure 12 where the boom is used to deflect oil away from a sensitive area.

* Cascade Diversion – The cascade diversion method of diversion booming involves two or more lengths of boom ranging from 30 m (100 ft) to 152 m (500 ft) placed in a cascading formation in the water. The lead boom intercepts the oncoming oil slick and diverts it toward the shore. Subsequent boom placed downstream of the lead boom continue the diversion process until the slick is directed to the recovery area.

The following list summarizes the deployment procedure used for this technique:

- The lead boom is placed in the water and towed, by a small workboat, to a predetermined position to completely intercept the slick. The up-current end is anchored in place.
- The deployment vessel is maneuvered to the down-current end where the boom is pulled toward the shoreline until the optimum angle is achieved and then anchored in place.
- The first two steps are repeated with each successive boom until the end of the last boom reaches the recovery area. The leading end of each boom is positioned approximately 7.5 to 9 m (25 to 30 ft) behind the trailing end of the previous boom in a slightly overlapping configuration. Figure 13 shows the placement configuration of three lengths of boom.
- The boom are fixed in place by dropping an anchor overboard that is attached to a buoy float by a line equal in length to 3-5 x the water depth. The buoy is then fastened to the boom end with a short length of line. Because the current will naturally cause the boom to bow slightly, additional anchors may be required along the length of the boom to minimize this effect.

The optimum angle of boom deployment is dependent on the current speed and the length and type of boom used. To avoid boom failure in strong currents, the angle must be smaller than in weak currents. The same relationship is true with regard to boom length. The optimum deployment angle decreases as boom length increases.

- * **Chevron Diversion** – The chevron diversion method is utilized in those cases when there is good access to both shorelines. Boom is deployed upstream, from both sides, meeting in the middle to create a chevron pattern. This causes the oil to be diverted to both sides of the shore for recovery.

The various types of boom available have varying degrees of stability under increasing current conditions. The more stable the boom, the larger the optimum deployment angle for a given current speed. In general, boom with a high ratio of buoyancy to weight, with tension members located at the top and bottom edges, and with horizontally oriented flotation collars, resist pivoting and have good stability under most conditions. Figure 14 shows cross sections of the three most stable types of boom and their optimum deployment angles under different current speeds. Note: Results of tests performed by Canadian Environmental Protection Service on the St. Clari-Detroit river system.

Since diversion boom causes a significant reduction in surface current, successive boom can be deployed at increasingly larger angles as the current decreases. Figure 15 shows some additional boom deployment configurations for diversion of oil.

- Logistics – The specific manpower and equipment requirements will depend primarily on the width of the approaching slick and the current speed. The type of boom and angle to which it is deployed also affect the requirements. Deploying large, heavy-duty boom will require more personnel and larger boats than deploying small, lightweight boom (see exclusion booming). Boom deployed at small angles in high current areas require greater boom lengths cover the same width as those deployed at greater angles.
- No Limitations

3. **Containment Booming** – Containment booming is used on open water to surround an approaching oil slick as a means of protecting shoreline areas where surf is present and the oil slick does not cover a large area. It is also used on inland waters where currents are less than 1 knot to prevent spreading by confining the oil to the area in which it has been discharged. In Calm Water response, the boom is deployed in a “U” or “V” shape in front of the approaching oil slick. The ends of the boom are anchored by drogues or work boats. The oil is contained in the “U” and prevented from reaching the shore. In river response, containment booming defines the containment point in a diversionary boom deployment where the boom is anchored to the riverbank. Environmental effects are negligible on open water; however, there may be minor disturbances to the substrate on any inland anchor point.

The purpose of containment is not only to localize the spill thus minimizing the pollution but also facilitate the removal of the oil by causing it to concentrate in thick layers on the surface of the water.

- a. **Description of Technique** – Oil on water forms a slick and spreads into shapes dictated by surface currents, winds, and physical boundaries. In the absence of physical boundaries, a circular, elliptical, or triangular slick will be formed. A circular slick is formed when there are no significant surface currents or winds. Moderate surface currents and winds form an elliptical shape and high winds and strong currents will create a more triangular shaped slick. The triangle will widen (spread) as the slick moves away from its source. Wave action, generally caused by wind, will rapidly distort these shapes, eventually forming streamers or windrows of oil. Therefore, it is important to try and contain an oil spill before it becomes too wide for effective containment and breaks into streamers.

The direction of wind and current must be considered in deploying boom. Boom should be deployed downwind or in the direction of the surface current, around the leading edge of the floating slick, and then back into the wind or current, as shown in Figure 16. The boom is anchored or secured to work boats/skimbers or to the shoreline. This technique will minimize the amount of time the boom is pulled perpendicular to winds or currents. The boom will drift into a “U” shape.

A spill, fully contained by boom, is best cleaned by a skimmer (preferably self-propelled) placed inside the polluted area. The oil will tend to concentrate against the boom in the direction of the wind and current. The skimmer should move to this area and continually position itself to skim the thickest area, as shown in Figure 17. When skimming becomes inefficient – after most of the spill has been removed or for small spills (less than 1 barrel) – sorbent pads or sorbent rolls may be used. Loose sorbent materials, however, should be avoided where possible. Sorbents should be used only with contained spills.

- b. **Logistics** – The equipment and manpower requirements depend primarily on the size of the slick to be contained. Heavy-duty or exceptionally long boom may require additional personnel for handling but would usually be limited to one or two workers.
- c. **Limitations on Use** – Boom required for containment was based on a category rather than a complete encircling of a spill. Since the area of the category will change with a number of variables (i.e., towing speed, wind, current, skirt depth, etc.) it was assumed that maximum area would be realized, which is in the form of a semi-circle. Furthermore, it was assumed that a boom lead of 10 percent is required on either end for towing, anchoring, or drogue deployment.

BOOM TECHNIQUE SELECTION:

In selecting which booming technique to use in a given scenario, there are some methods that are better suited for calm waters and others lend themselves well to fast water applications. These are listed below:

1. Calm Water / River Booming Techniques

- a. **Exclusion**

- b. **Deflection**
- c. **Single Diversion**
- d. **Catenary**
- e. **Containment**

2. **Fast River Booming Techniques**

- a. **Rope Cascade Diversionary**
 - * Rope Bank to Bank System
 - * Bridge Anchor System
 - * Buoy Anchor System

3. **Large River Booming Techniques**

- a. **Permanent Anchor System**
- b. **Bridge Anchor System**

Techniques for deployment of calm water applications have been outlined previously in this section. However, fast water and large river booming techniques will be explained in more detail since this is the area of greatest challenge and the most difficult to successfully execute.

- 1. **Fast Water Booming** – This type of booming is used in fast water environments when other types of booming techniques are unsuccessful or where there is current greater than 1 knot. It may not be necessary to boom the entire width of a river or stream depending on the site selected.

- a. **Description of Technique** – Divide people into three teams. Team A will work at the collection point. Team B will work along the shore upriver from Team A. Team C will work on the far side of the river (in most cases).

- * Lay the boom along the bank heading upriver.
- * Select the far side anchor point upstream 300' – 400' at 15 – 20 degrees. Figure 17 can be used as an aid in determining the angle to be used for various current speeds.
- * Attach rope to boom – one line on the back of the boom to be tied down in collection area and two lines on the front of the boom. One of these will be ferried across the river for Team C to use for pulling the boom into place. The other line will be used by Team B to guide the boom into position from the near shore.

After the set up is complete:

- * Have Team C pull on their line as Team B releases their line.
- * The boom, with the help of the river current, should ease into place.
- * Repeat the process for all remaining boom sections.

To maximize this system, a variety of mechanical devices can be used to aid in pulling the boom into position. Later in this section, the duties of each team are explained in more detail. A few variations of this system enable it to be used in almost any river regardless of width.

2. **Fast Water Booming with an Anchor** – In some cases, it may not be practical to string lines across the river or stream because of the distances involved to the far side. Therefore, this technique utilizes buoys, either pre-existing or placed at the time of the incident. Boats are required to execute this technique, but all participants remain on the near shore throughout the deployment.

a. **Description of Technique** – divide people into three teams. Team A will work at the collection point. Team B and C will work along the shore upriver from Team A.

- * Lay the boom along the bank heading upriver.
- * Select the far side anchor point upstream 300' – 400' at 15 – 20 degrees and drop a buoy or use a pre-existing buoy site that closely estimates this point.
- * Attach rope to boom – One line on the back of the boom to be tied down in collection area and two lines on the front of the boom. One of these will be ferried to Team C to use for pulling the boom into place. The other line will be used by Team B to guide the boom into position from the near shore.
- * The line for Team C is given to the boat crew who then feed the line out to the buoy and attach it through a collar on the buoy. The line is then ferried to the near shore where Team C is waiting.

After the setup is complete:

- * Have Team C pull on their line as Team B releases their line.
- * The boom, with the help of the river current, should ease into position.
- * Repeat the process for all remaining boom sections.

Figure 20 provides a diagram of this technique.

3. **Fast Water Booming with a Bridge** – In some cases, a bridge may be located near the containment area that can be used for boom deployment. Just as anchors are utilized to angle the boom line back to the near shore, bridge pillars can be used in the same fashion. All participants remain on the near shore and a boat may or may not be needed.

a. **Description of Technique** – Divide people into three teams. Team A will work at the collection point. Team B and C will work along the shore upriver from Team A.

- * Lay the boom along the bank heading upriver.

- * Select the far side anchor point upstream 300' – 400' at a 15 – 20 degree angle and select a bridge pillar that closely estimates this point. Team C should then place a collar around the base of the chosen pillar. It may require the attachment of a small buoy to keep it afloat.
- * Attach rope to boom – One line on the back of the boom to be tied down in the collection area and two lines on the front of the boom. One of these will be ferried to Team C to use for pulling the boom into place. The other line will be used by Team B to guide the boom into position from the near shore.
- * The line for Team C is given to the boat crew who then feed the line out to the bridge pillar and attach it through a collar around the pillar. The line is then ferried to the near shore where Team C is waiting.

After the setup is complete:

- * Have Team C pull on their line as Team B releases their line.
- * The boom, with the help of the river current, should ease into position.
- * Repeat the process for all remaining boom sections.

The same techniques used in fast water can be used in large rivers. Permanent anchors may be used in place of dropped anchors, but the need to boom with lines running the width of the river may not be desirable or necessary.

TEAM A DUTIES for BOOM DEPLOYMENT

Setting up for boom deployment:

- a. Lay boom sections out along the shoreline. Leave a 10-foot overlap between each boom section. Note: The first boom should be closest to the water's edge with each succeeding boom laid on the shore-side of the previous one.
- b. Establish the main anchor point at the containment area. The first boom should be anchored here with 5 to 10 feet of the downstream end of the boom on shore and then entrenched in place after deployment.
- c. Place towing bridles and tie anchor lines onto the downstream end of each boom and lay the line along the shore while walking back to the main anchor point. Note: if any lines from the upstream end of the boom are crossed, be sure to weave the anchor line under them.
- d. If additional anchor points are needed, place them shore-side of the initial anchor point, no more than 12 inches apart. In some cases, you may be asked to put a second line on the downstream end of the boom. It is a safety line used to keep the downstream end of the boom from slipping under the previous boom. Attach it to the downstream end and secure it on the shore perpendicular to the boom. Be sure to place the safety lines over the anchor lines and any lines that are parallel to the river.

During boom deployment:

Team leader should stand near the anchor line tie down point listening to the incident commander. Team members should release or pull on the team leader's command if adjustments in the anchor line are needed.

If a safety line is used, a team member must man this and release the safety line as needed during deployment. The team leader must position himself/herself so that team members at both lines can hear him/her.

TEAM B DUTIES for BOOM DEPLOYMENT

Setting up for boom deployment:

- a. Aid Team A in laying the boom sections along the shoreline leaving a 10-foot overlap between each boom section. Note: the first boom should be closest to the water's edge with each succeeding boom laid on the shore-side of the previous one.
- b. On the upstream end of each boom, connect the following:
 - * Towing bridle
 - * Buoy
 - * Two lines –
 - One will go across the river to Team C
 - One will be used by Team B (the "diagonal" line)

Note: Be sure to place the diagonal lines over all lines that are parallel to the river.

- c. The line that is to go across to Team C) should be laid along the shoreline the same way the boom is laid – each succeeding one more shore-side than the previous one. String the line upstream to the ferry system and then add enough rope to cross the river. (i.e. If the river 400 feet wide, then add 400 feet of line.)
- d. The "diagonal" line should be secured on the near shore about 30 – 50 feet upstream from the end of the boom.

During boom deployment:

Team leader should stand near the diagonal line tie down point listening to the incident commander. Team members should release or pull on the team leader's command if adjustments in the diagonal line are needed.

TEAM C DUTIES for BOOM DEPLOYMENT

Setting up for boom deployment:

- a. Team C is responsible for two tasks –

Setting up the ferry system

Setting up the anchor points on the far shore for the pull lines for each boom

- * The ferry system is a set of three lines strung across the river and connected with a pulley. It is used for moving things across the river. It consists of a static line with a near shore pull line and a far shore pull line attached.

A static line must be strung across the river first. This can be done a number of ways including using a boat, a bridge, or a line gun. (Note: if a line gun is used, there must be a person already on the far shore.) The static line must not have any knots in it and should be tight and out of the water. (Note: if possible, place the near shore end of the static line at a higher elevation and further upstream than the far shore end.) Once a static line is across the river and secured, repeat the process to get the far shore pull line across the river. The near shore pull line and the pulley can be attached on the near shore to complete the system.

After the ferry system has been set up, all Team C members except one, who will man the ferry line on the near shore, should proceed to the far shore.

- * Team C leader should then contact the incident commander and work with him/her to select the anchor point for the first boom. (Succeeding anchor points for additional boom should be selected after the previous boom has been deployed.)

During boom deployment:

Once the incident commander is ready to deploy, use the ferry system to pull the boom line across to the far shore and retrieve the boom pull line. Take it to the anchor point, pull out the slack, and secure it. Tell the incident commander that Team C is ready to pull and then wait for the command to pull. On command, pull.

Figure 1
DECISION GUIDE FOR INLAND WATERS

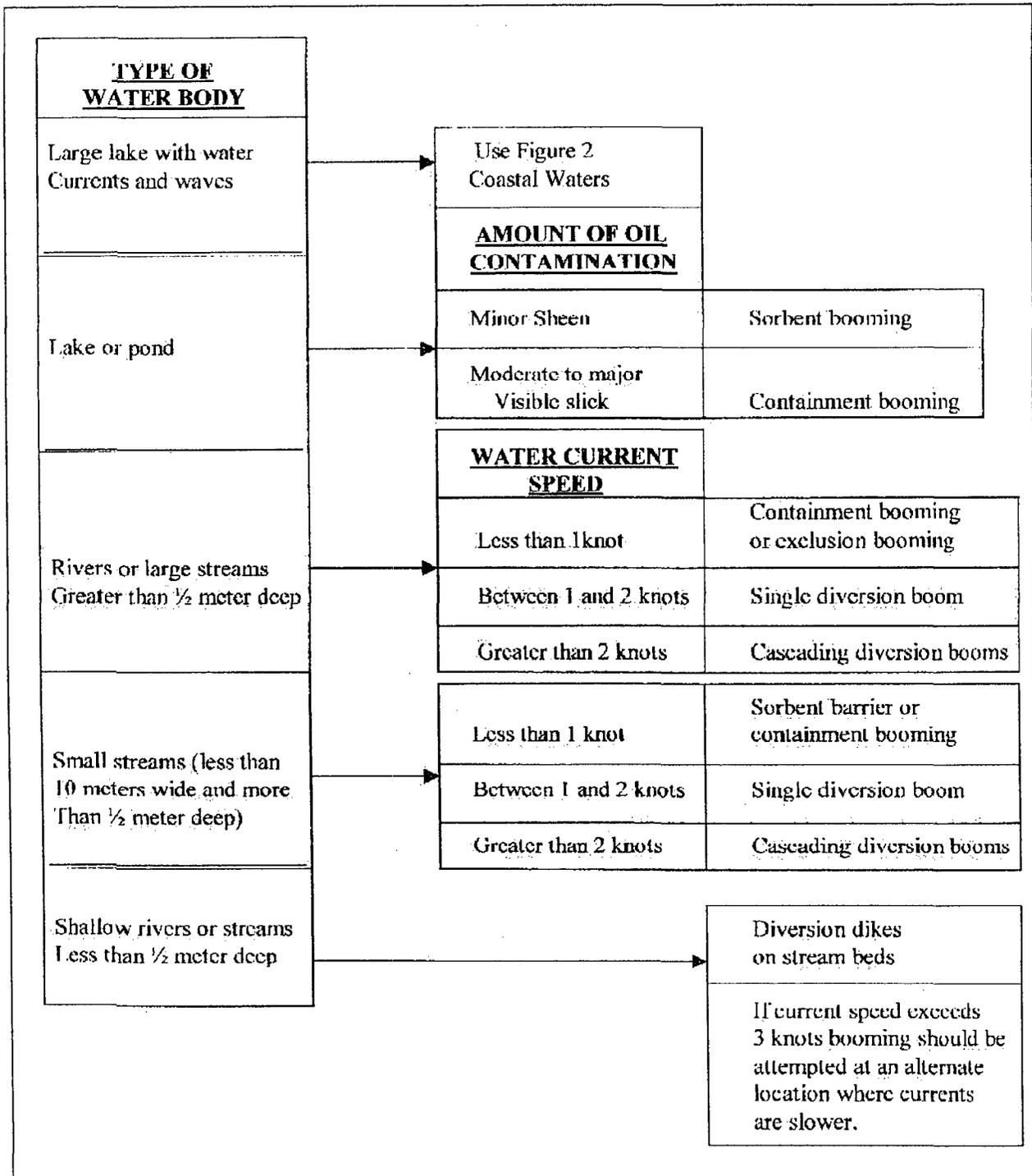


Figure 2
HIGH AND LOW CURRENT AREAS

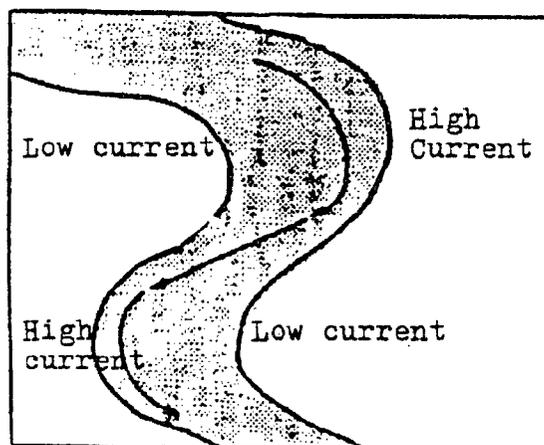
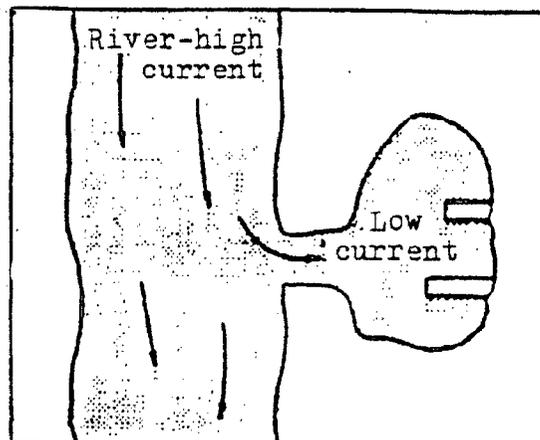
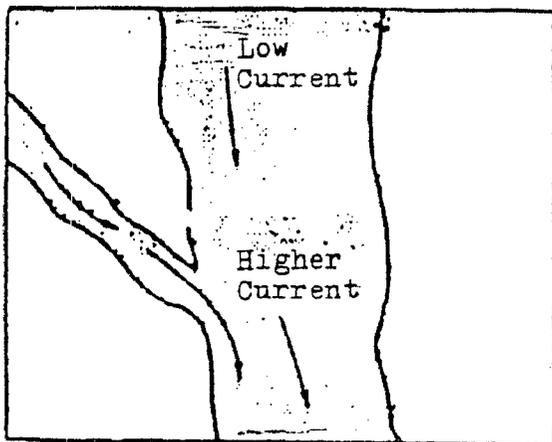


Figure 3
VECTOR ADDITION FOR 10 km/hr NW WIND &
0.3 km/hr NORTH CURRENT

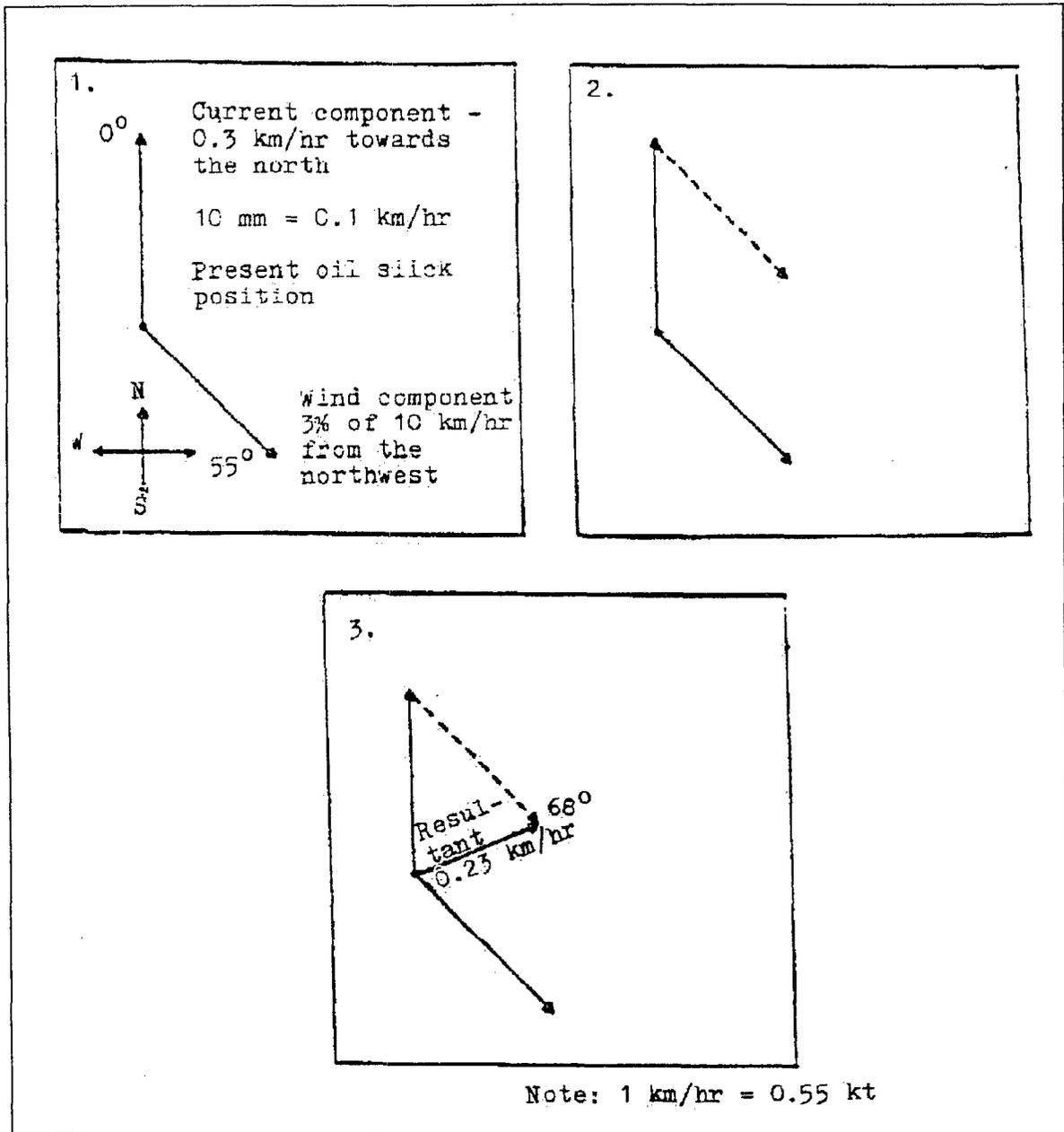


Figure 4
DEADMAN BOOM ANCHOR

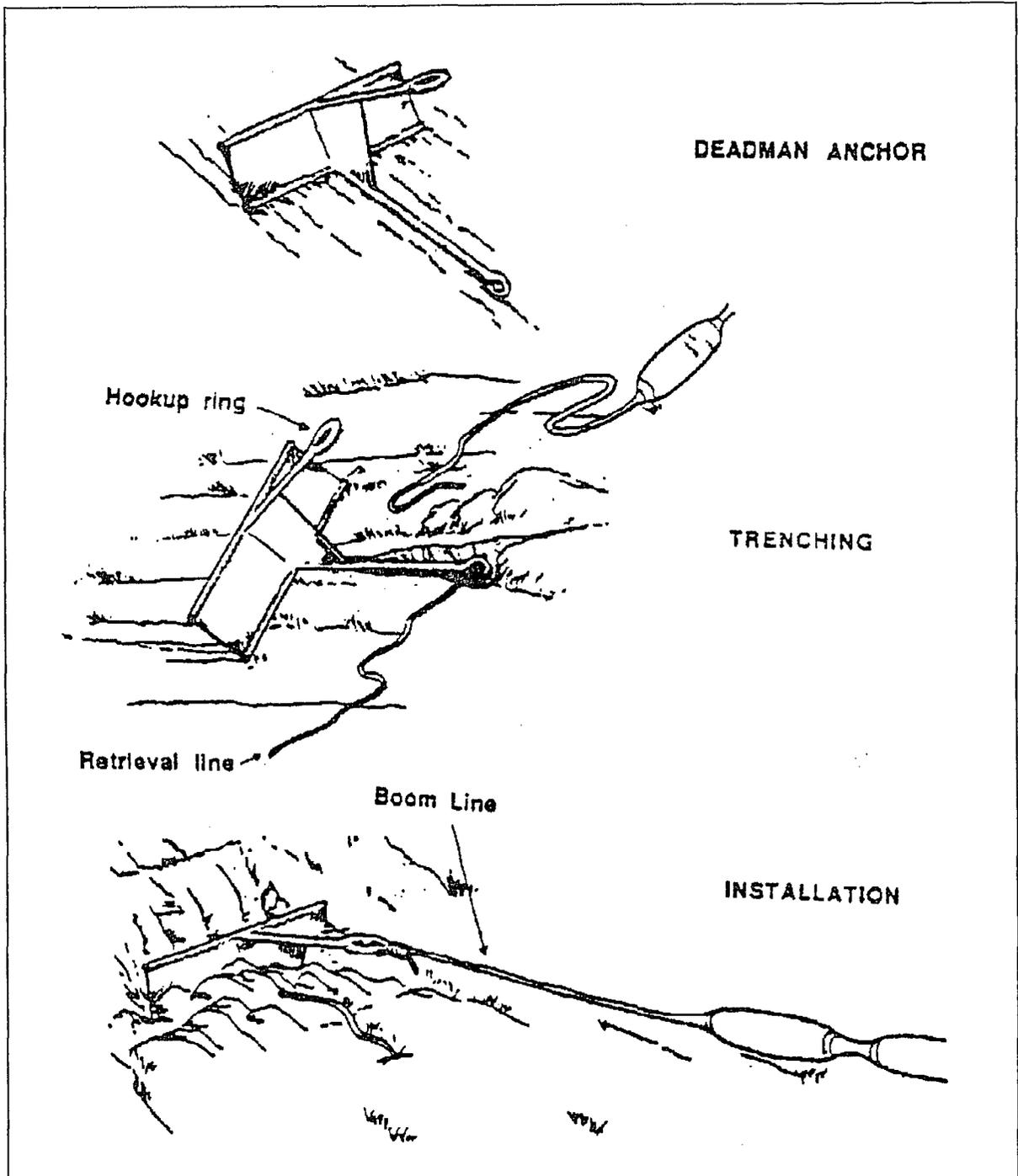


Figure 5
STRAIGHT LINE TOWING FORCE VS BOOM LENGTH AT 2 KNOTS

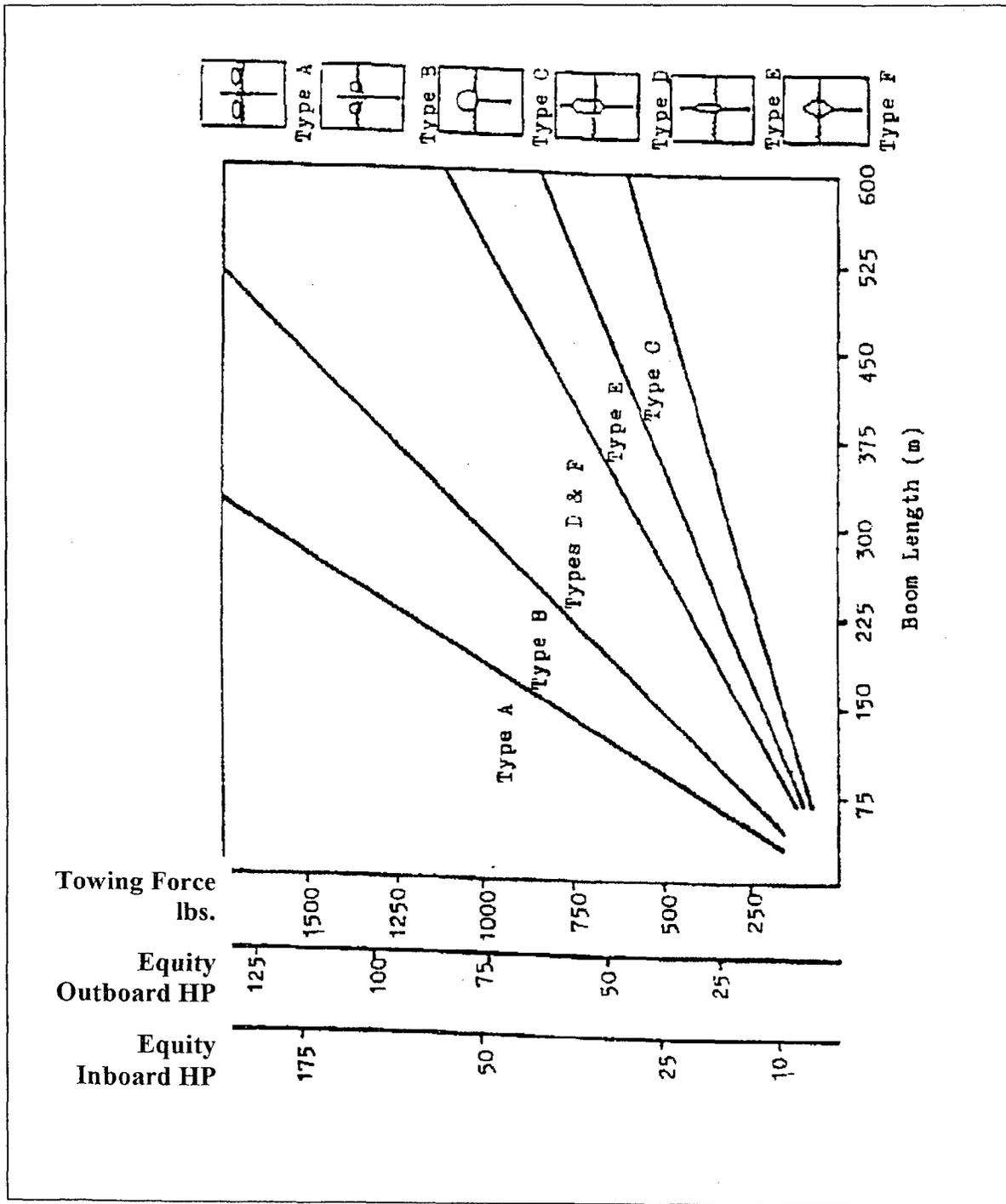


Figure 6
STRAIGHT LINE TOWING FORCE VS BOOM LENGTH AT 6 KNOTS

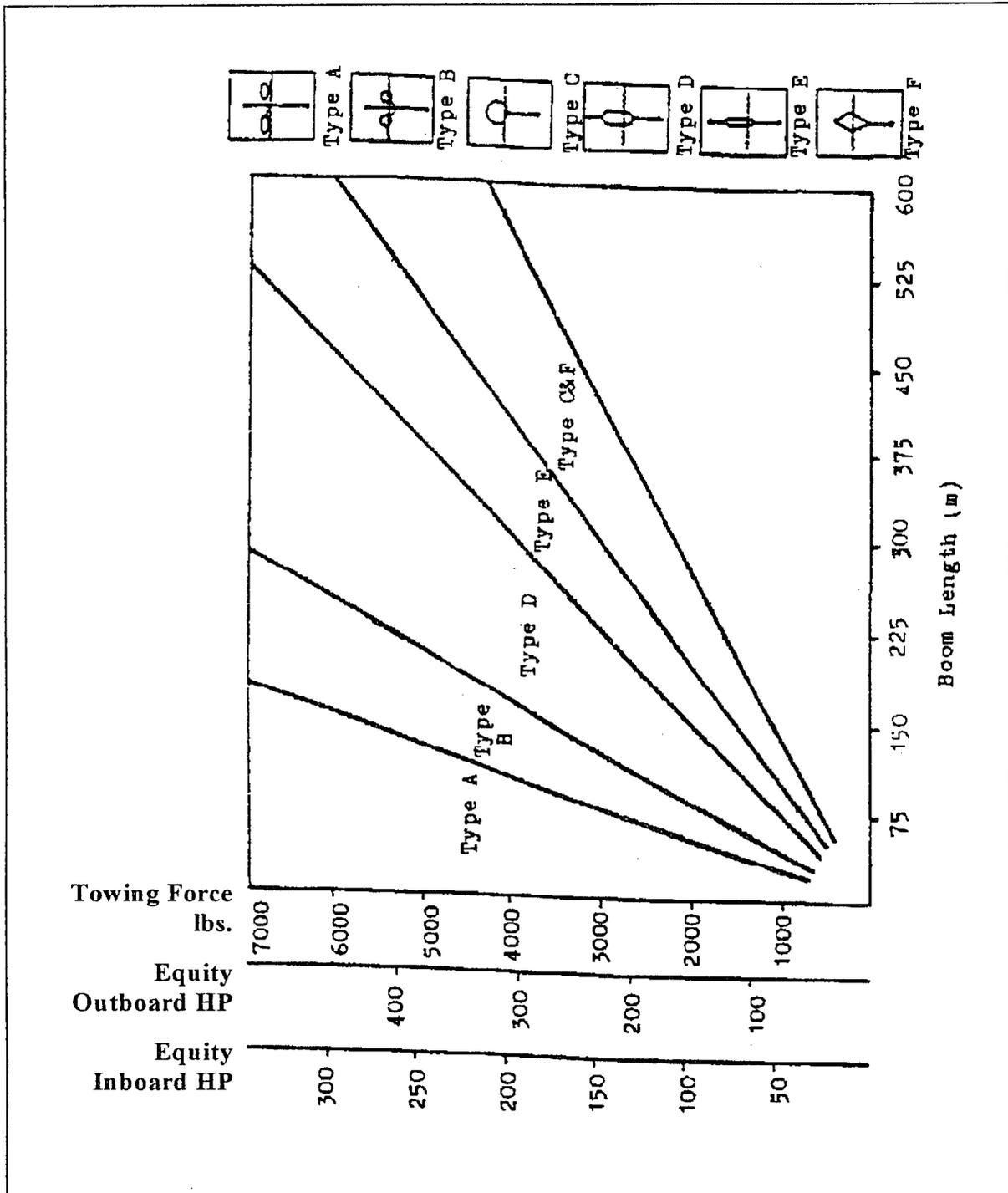


Figure 7
EXCLUSION BOOM AT HARBOR ENTRANCE

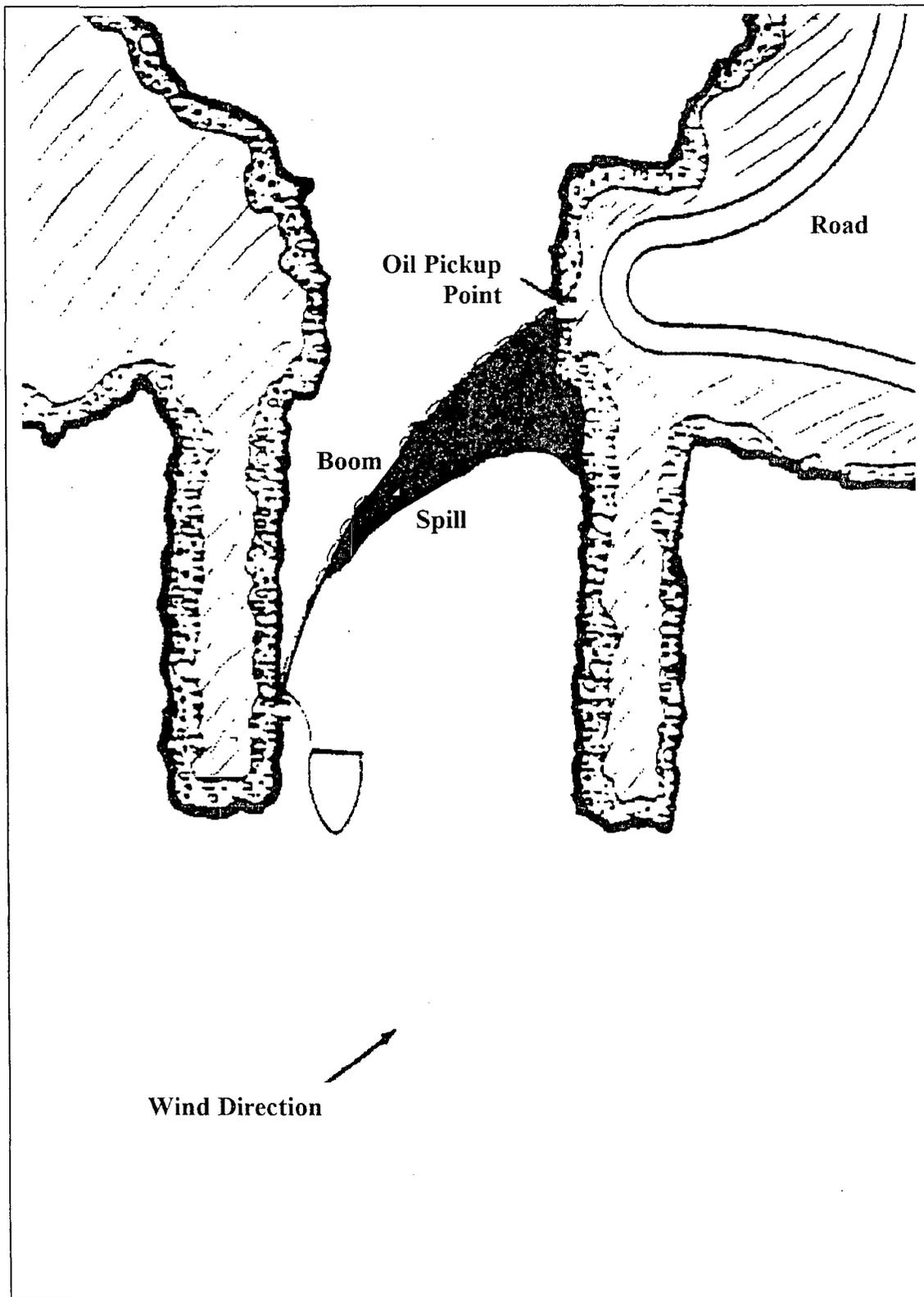


Figure 8
EXCLUSION BOOMING AT INLET WITH HIGH CHANNEL CURRENTS

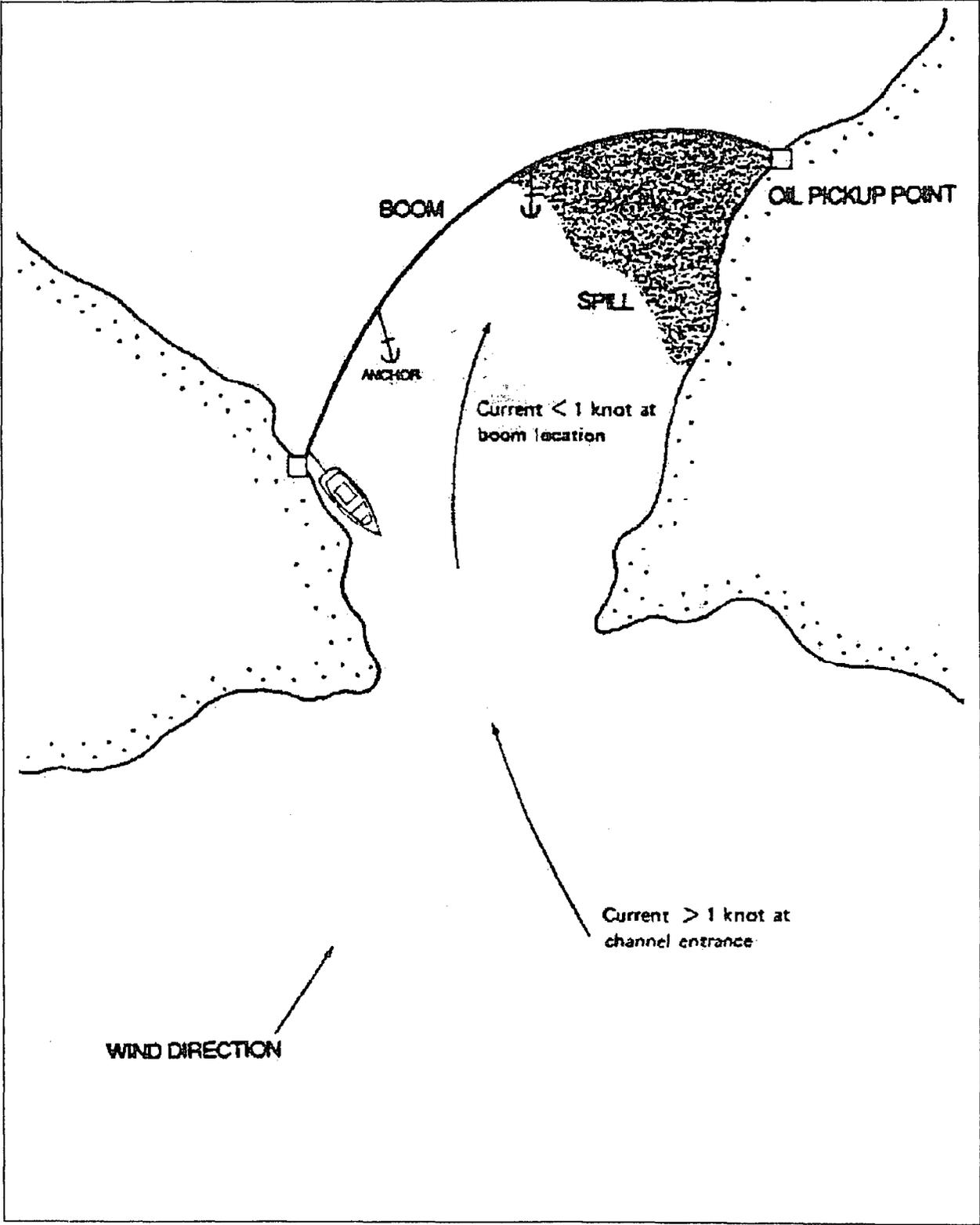


Figure 9
HPOTHETICAL ESTUARY ENTRANCE BOOMING

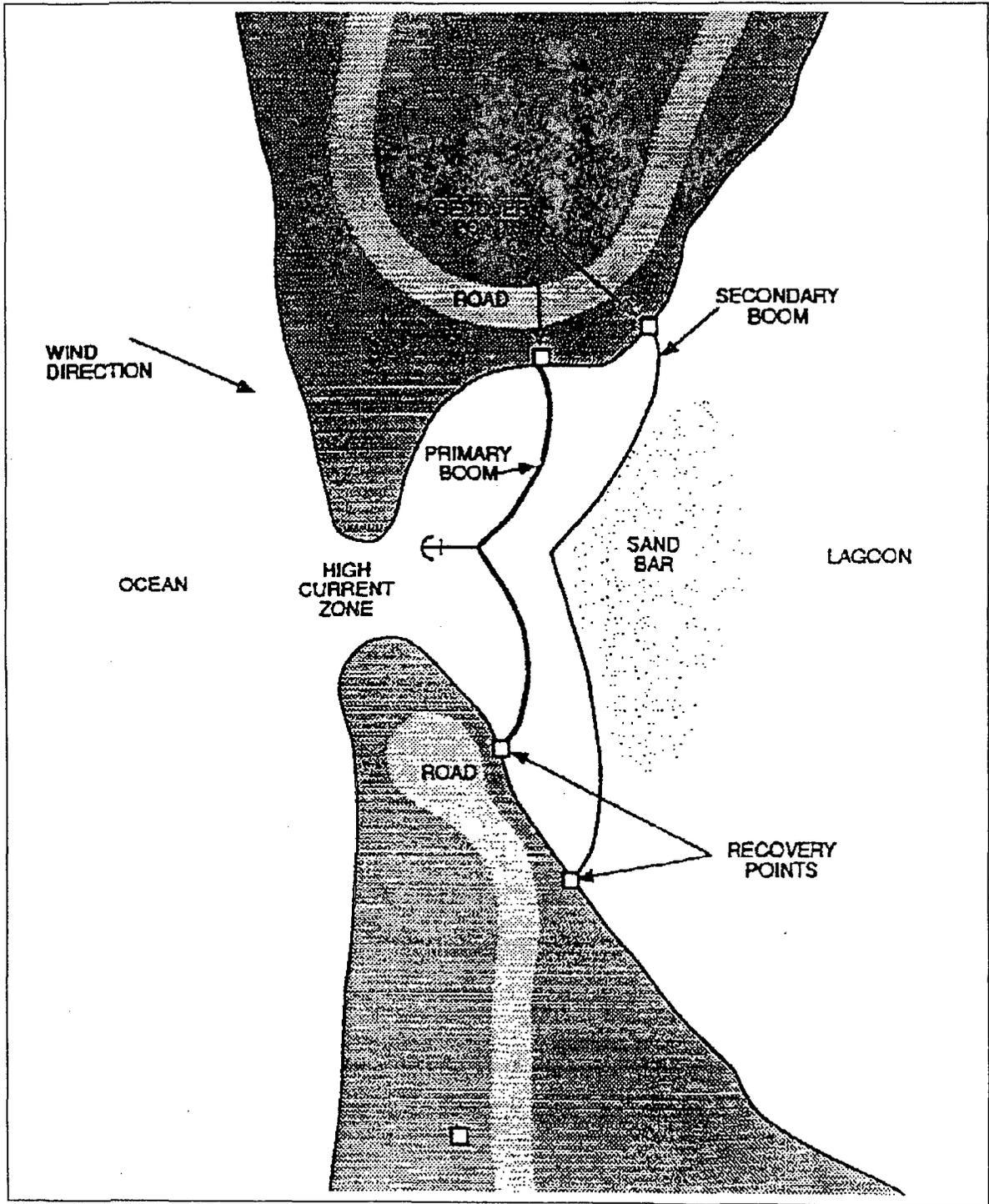


Figure 10
EXCLUSION BOOMING OF A STREAM DELTA

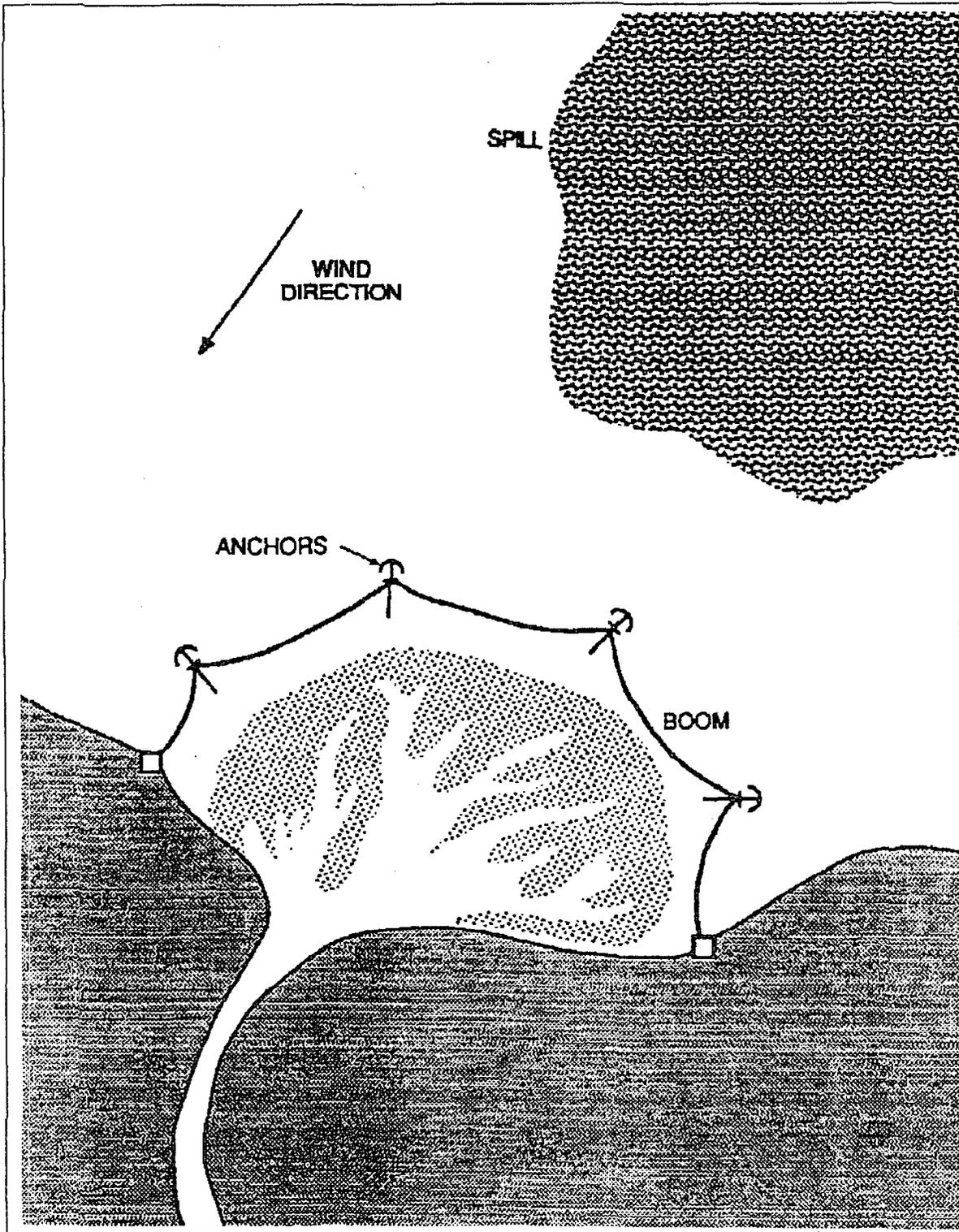


Figure 11
SINGLE DIVERSION BOOMING ALONG SHORELINE

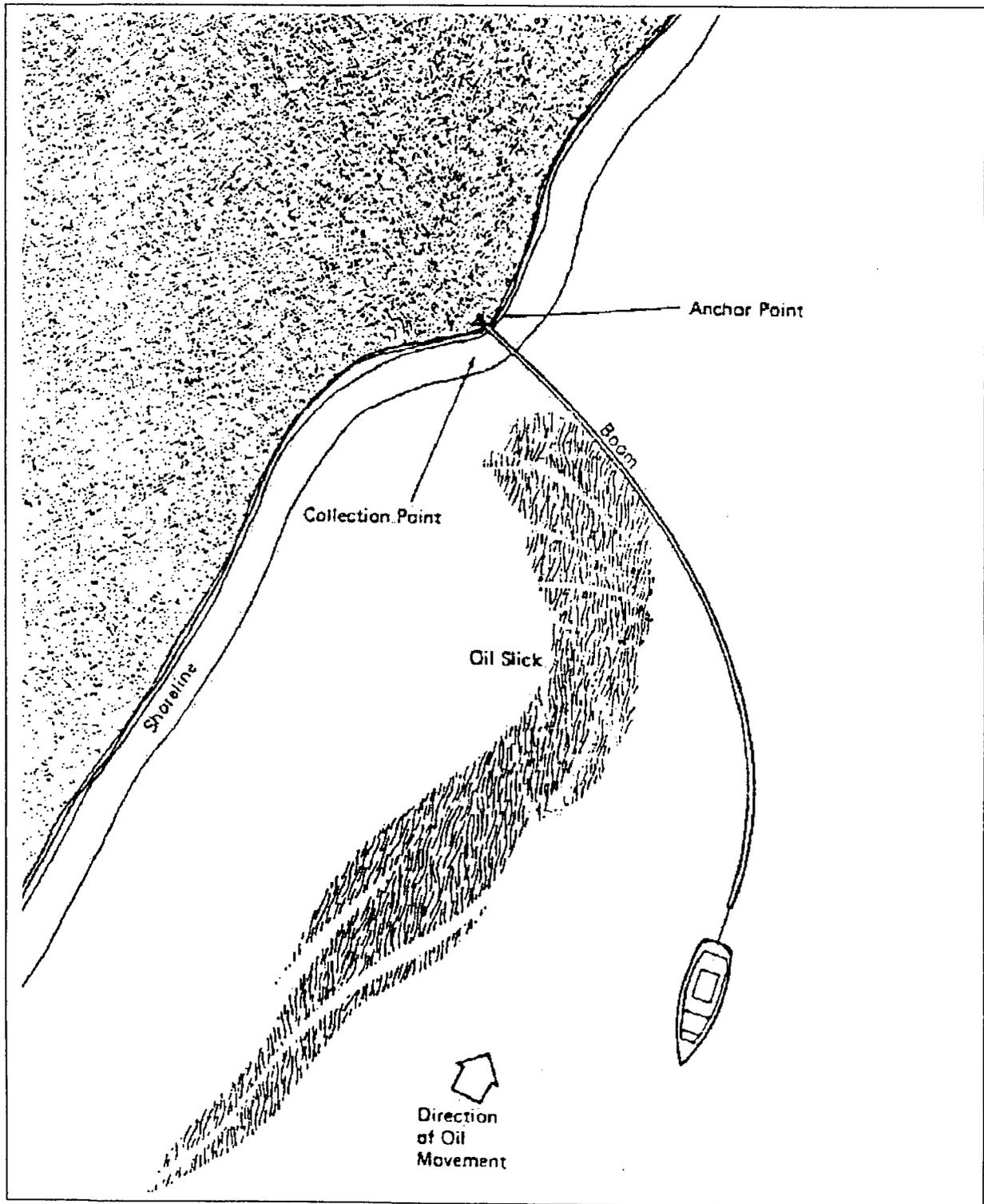


Figure 12
DEFLECTION BOOMING AWAY FROM MARSH ENTRANCE

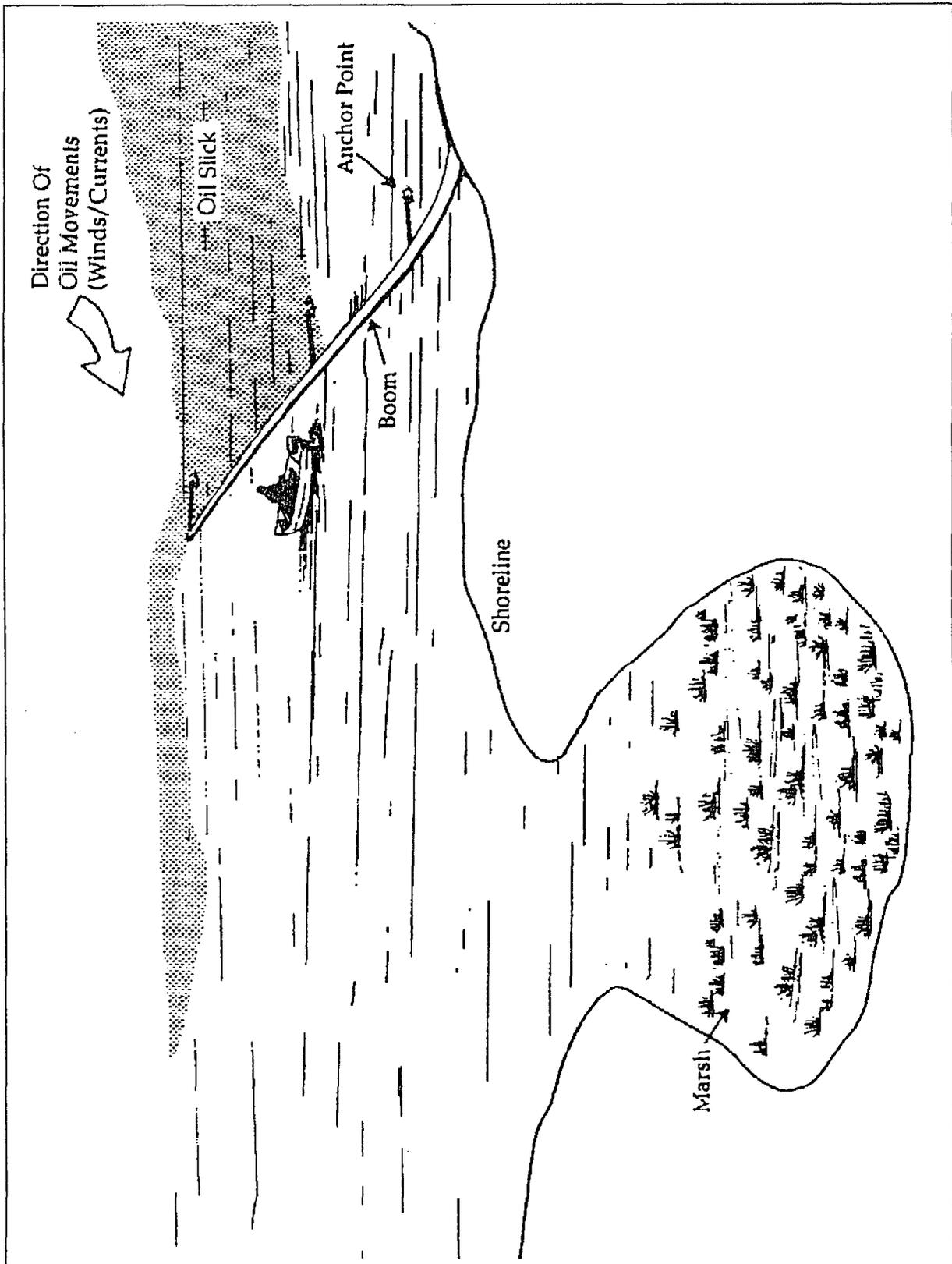


Figure 13
PLACEMENT CONFIGURATION FOR 3 LENGTHS OF
CASCADING DEFLECTION BOOM

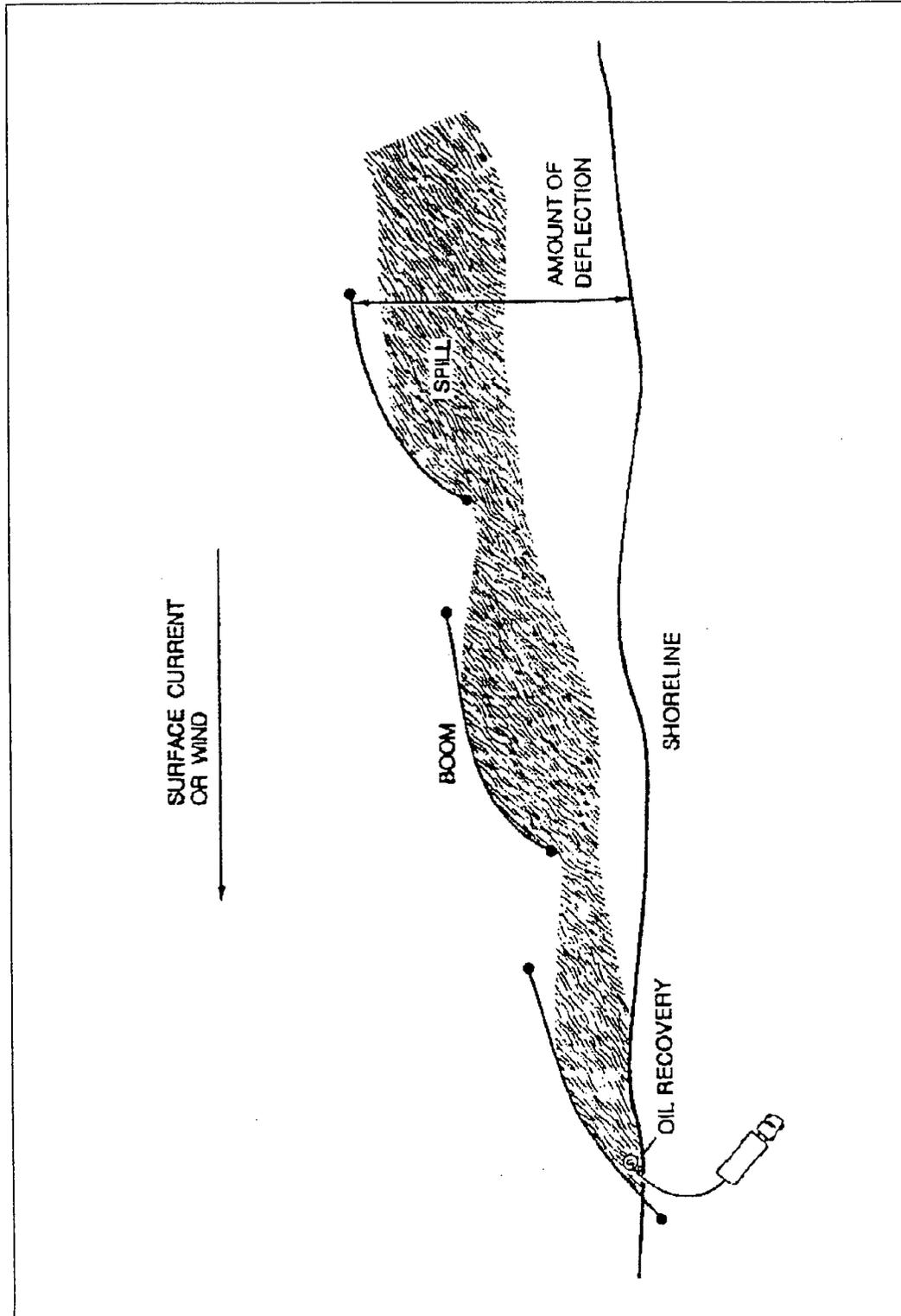


Figure 14
CROSS SECTION OF 3 HIGH STABILITY BOOM TYPES AND
OPTIMUM DEPLOYMENT ANGLES UNDER VARIOUS CURRENTS
USING 50 ft/100 ft LONG BOOMS

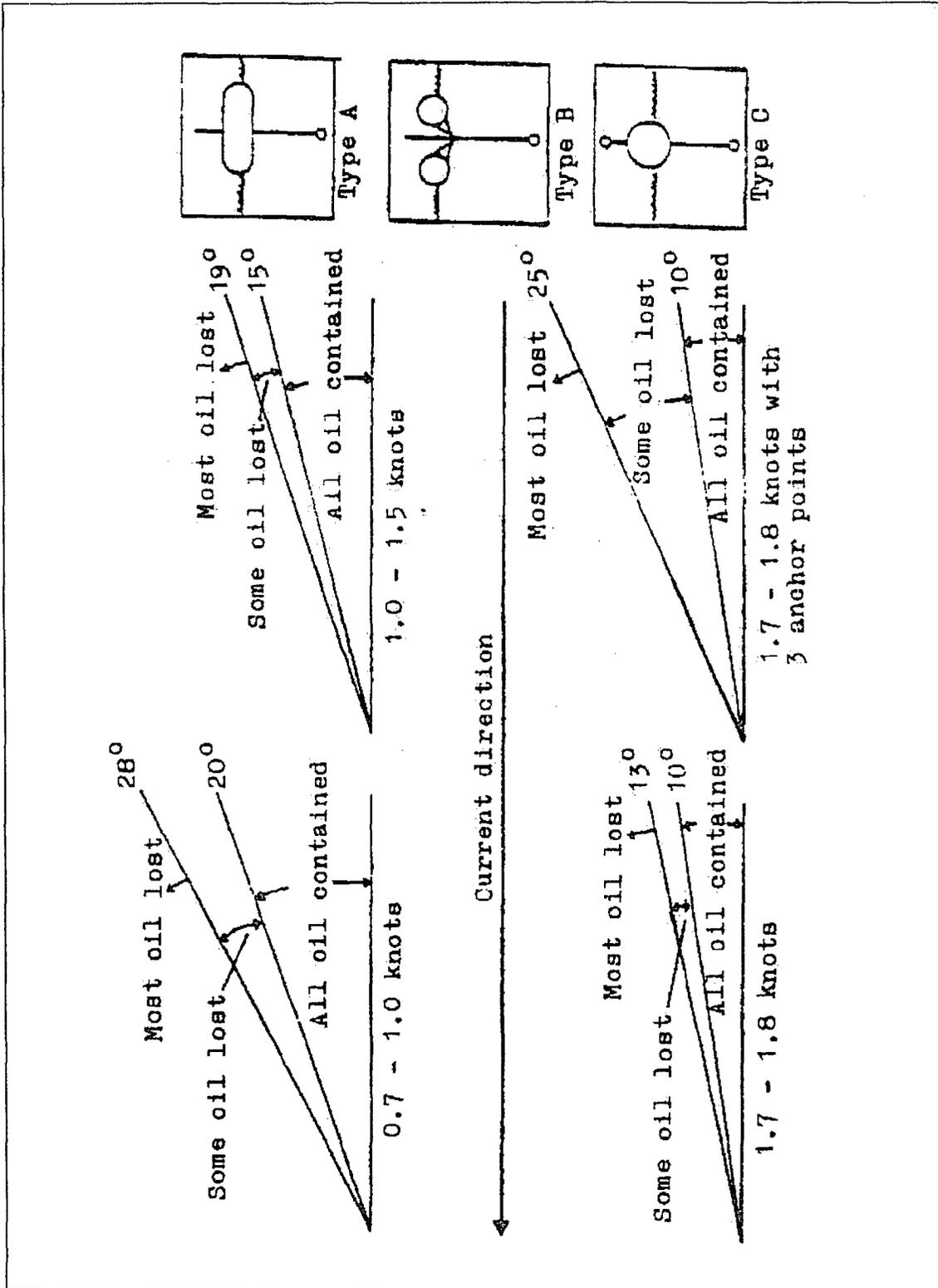


Figure 15
 INSHORE BOOM CONFIGURATIONS

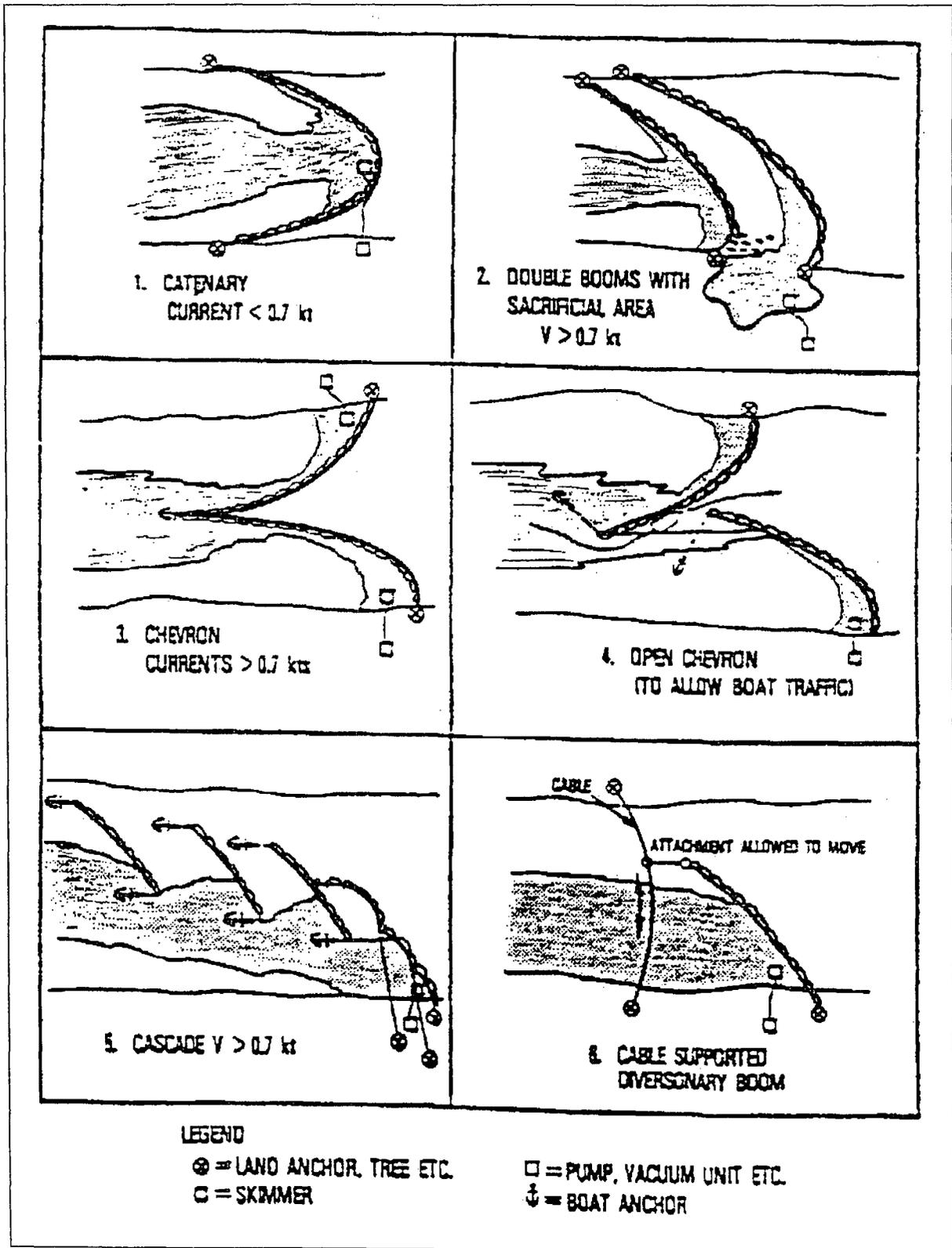


Figure 16
CATENARY CONTAINMENT BOOMING USING ONE VESSEL

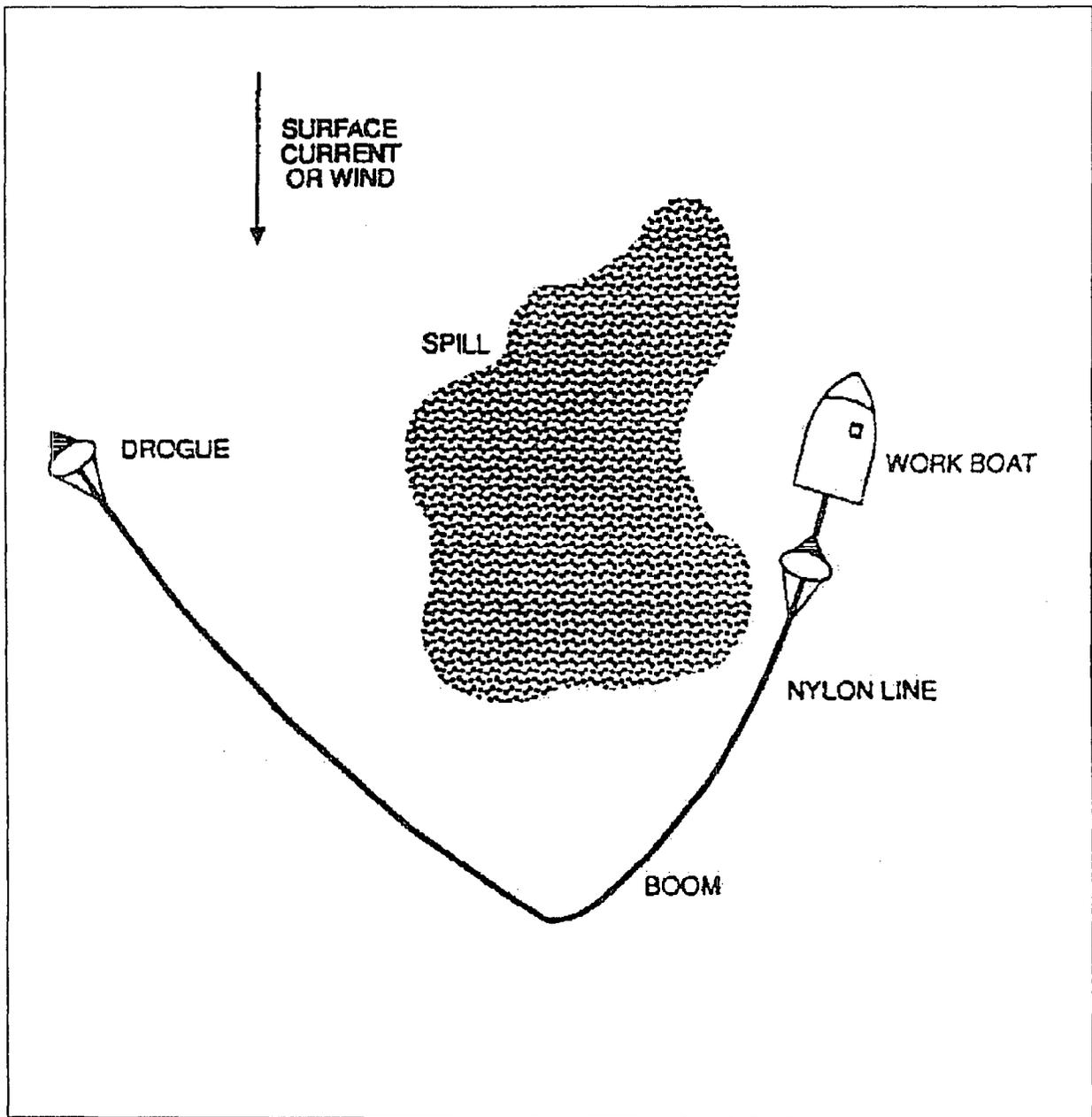


Figure 17
CONTAINMENT: OPEN WATER

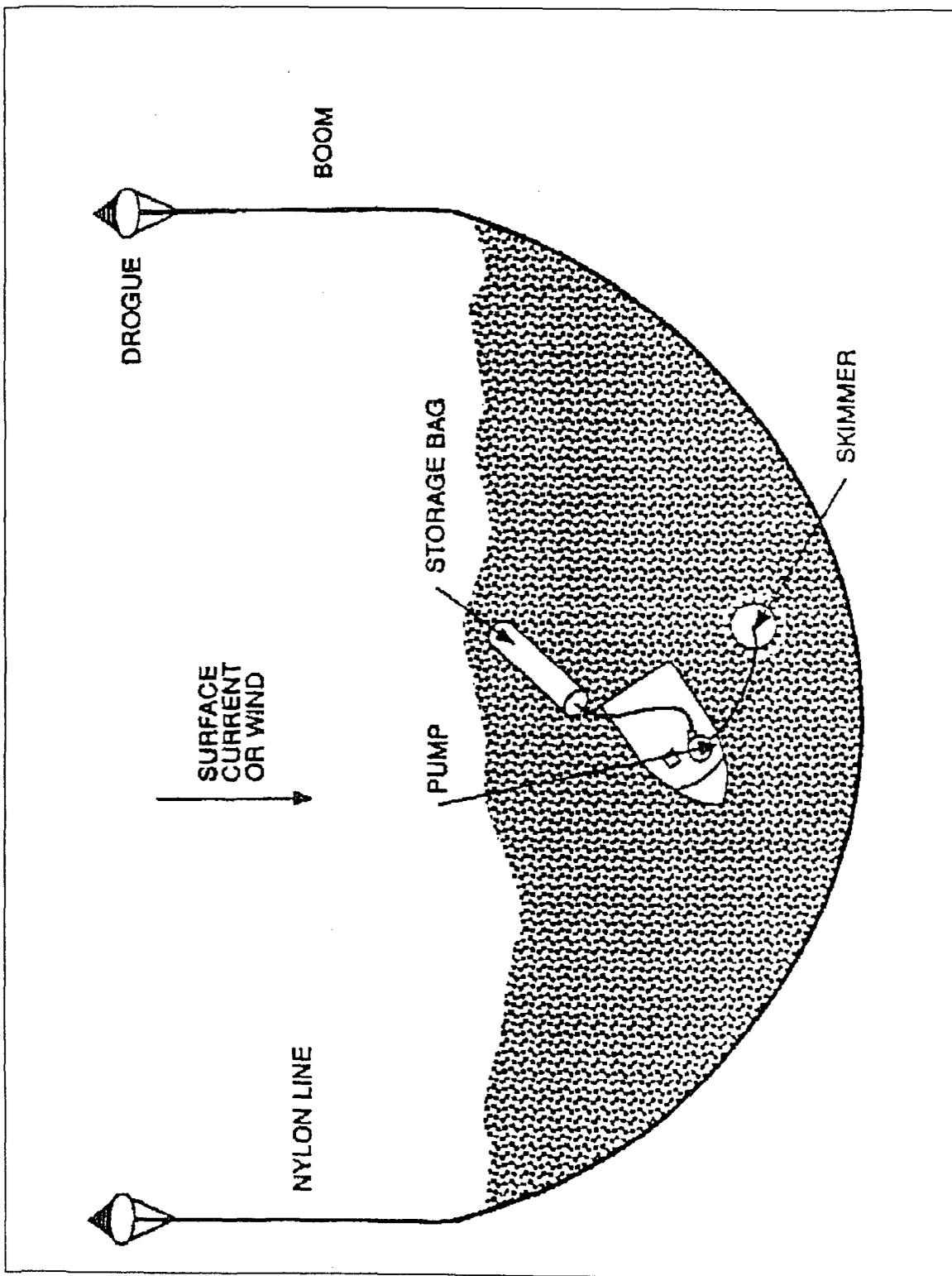


Table 1
HOW TO DETERMINE ANGLE TO DEPLOY BOOM IN
FAST FLOWING RIVERS

ESTABLISH CONTAINMENT POINT ON NEAR SHORE.

LOOK UP RIVER AND LOCATE RIVER CURRENT COMING TO YOU.

DETERMINE RIVER CURRENT SPEED (APPROXIMATE).

ESTABLISH 360 DEGREE COUNTER CLOCKWISE CIRCUMFERENCE.

FIND 90 DEGREE POINT ON FAR SHORE OF RIVER.

FIND 45 DEGREE POINT ON FAR SHORE OF RIVER.

FIND 20-25 DEGREE POINT ON FAR SHORE OF RIVER.
(USE BOOM ANGLE DEPLOYMENT CHART)

LOCATED POINT FROM NEAR SHORE TO FAR SHORE AT 20 – 25 DEGREES
IS LOCATION OF FIRST ANCHOR POINT.
(REPEAT PROCESS FOR EACH BOOM DEPLOYED)

Figure 18
DETERMINING ANGLE TO DEPLOY BOOM IN
FAST FLOWING RIVERS

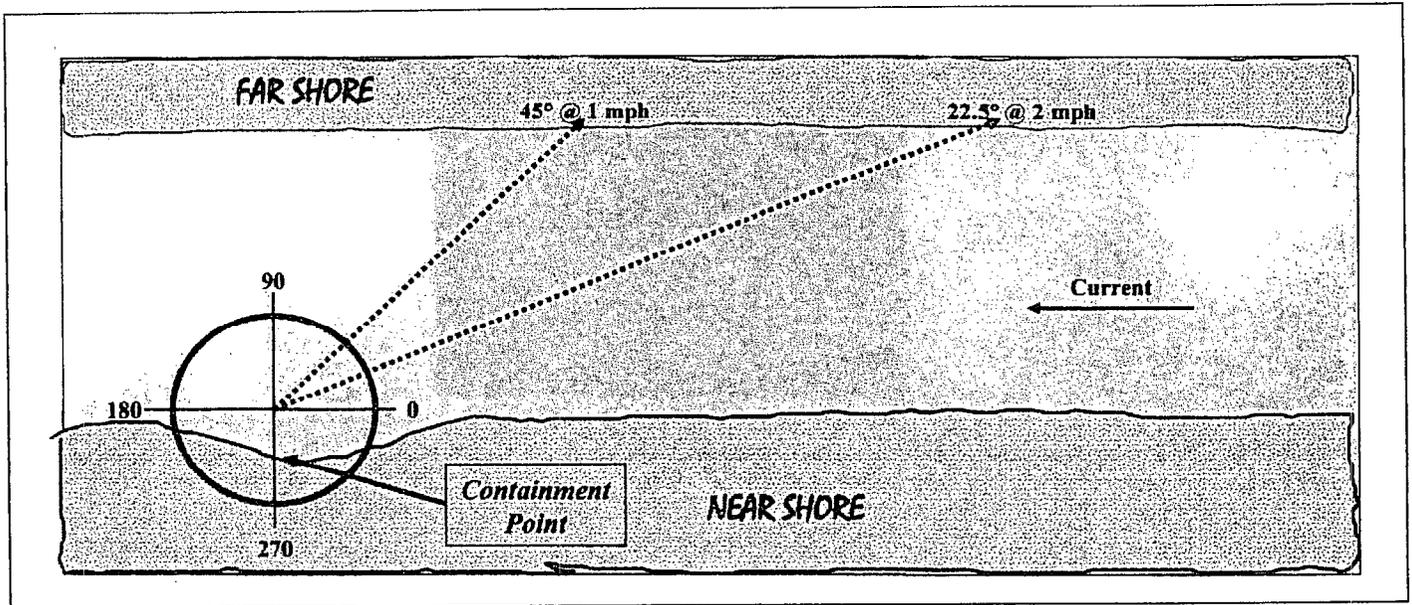
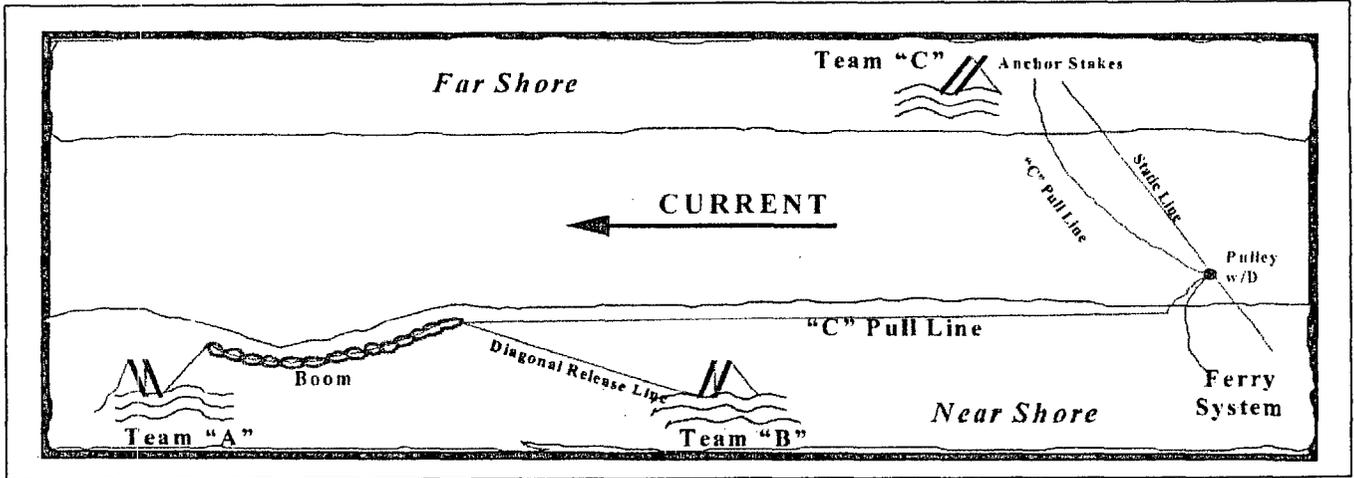
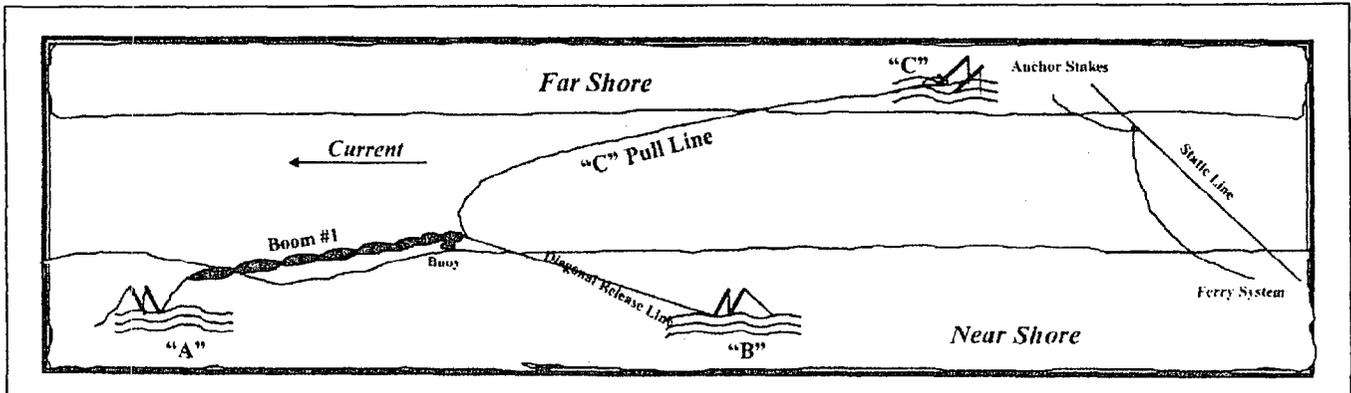


Figure 19
BANK TO BANK ROPE ANCHOR SYSTEM

FAST RIVER BOOM DEPLOYMENT – STEP 1



STEP 2



STEP 3

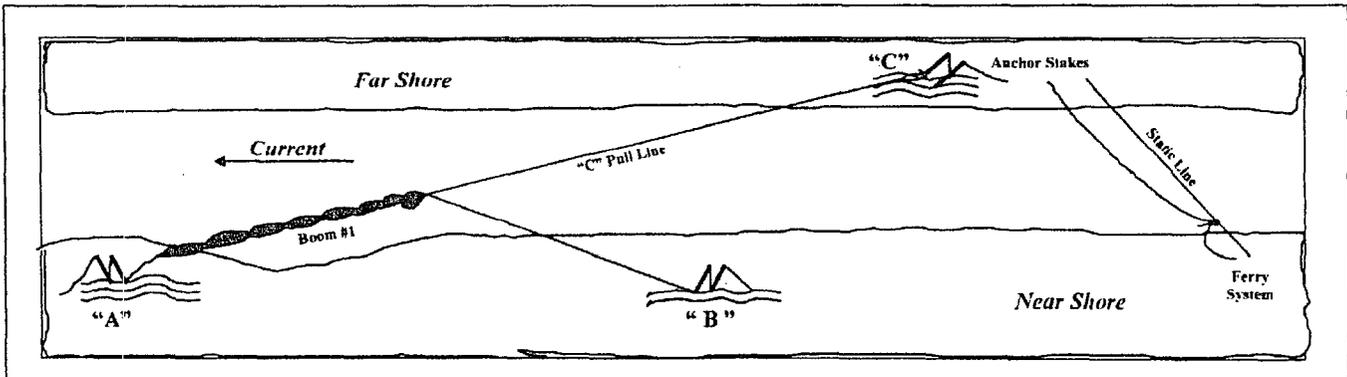
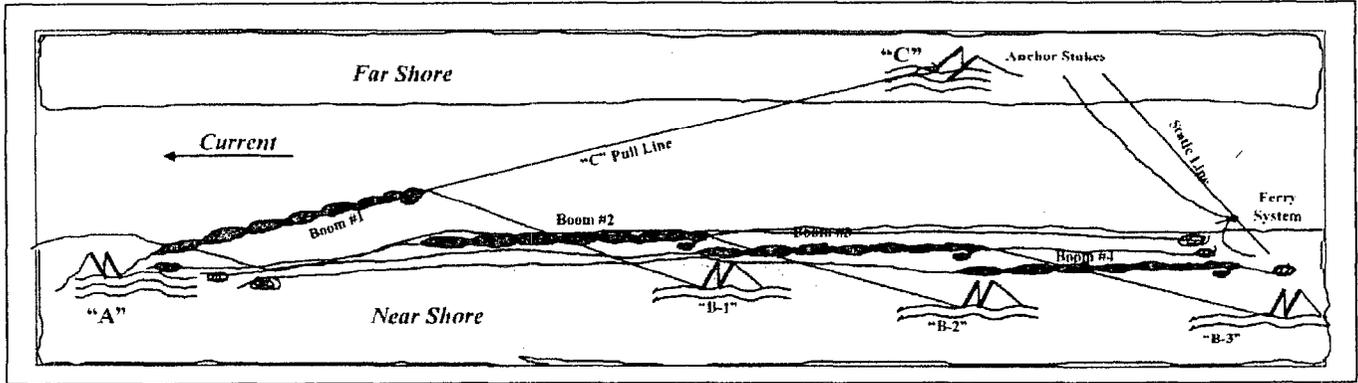
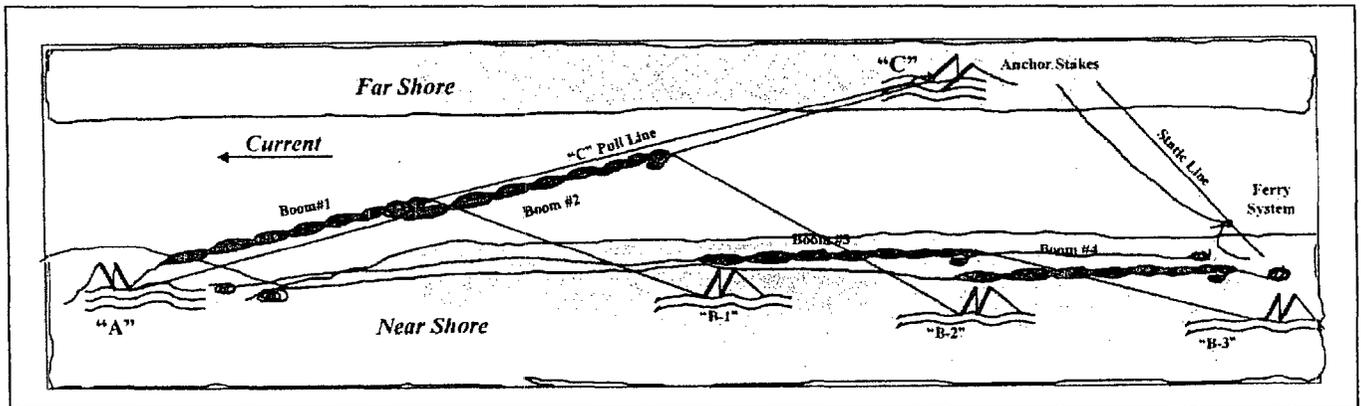


Figure 19 (Continued)
BANK TO BANK ROPE ANCHOR SYSTEM

FAST RIVER BOOM DEPLOYMENT - STEP 4



STEP 5



STEP 6

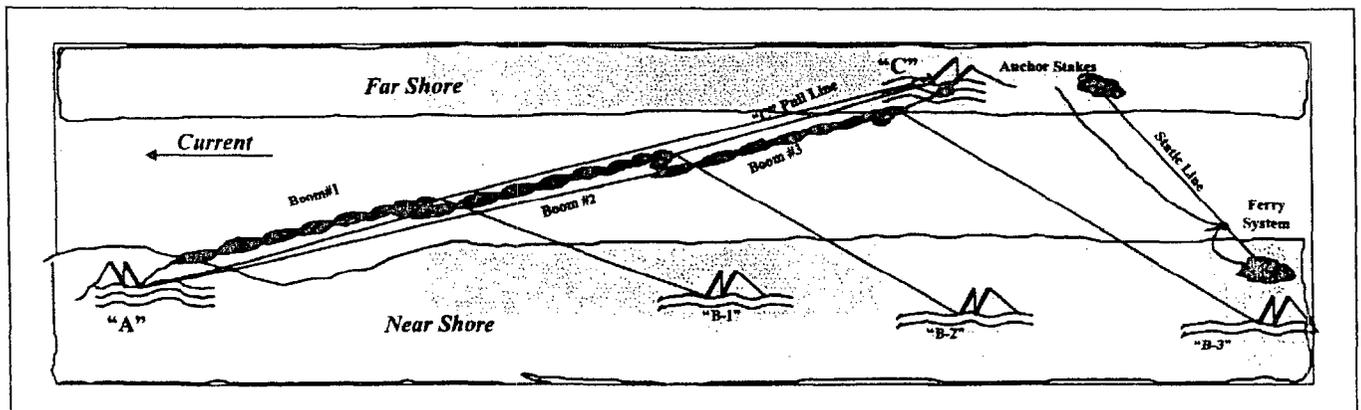
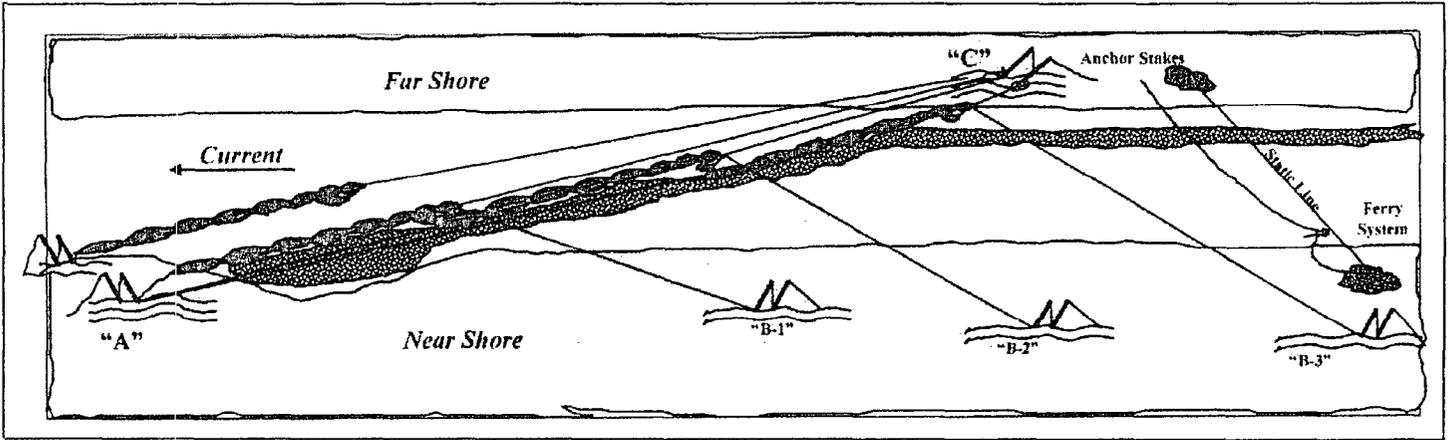


Figure 19 (Continued)
BANK TO BANK ROPE ANCHOR SYSTEM

FAST RIVER BOOM DEPLOYMENT - STEP 7



***OVERVIEW OF RECOMMENDED OIL SPILL BOOM
DEPLOYMENT, CONTAINMENT
AND RECOVERY SITES***

Overview of Oil Spill Boom Deployment, Containment and Recovery Sites

The following page lists twelve sites along the San Juan River from Bloomfield, New Mexico to Mexican Hat, Utah that are potential oil spill boom deployment, containment and recovery sites that could be utilized in the event of an accidental discharge of an oil product.

The maps and plans for each of these sites can be found in a separate document entitled Bloomfield Refinery – San Juan River Geographical Response Plan for Inland Oil Spills. A copy of this document has been made as a companion for each Bloomfield Facility Response Plan, one of which can be found in the Bloomfield Refinery Main Office.

SECTION 1.7.2

DISPOSAL PLANS

Section 1.7.2 – Disposal Plans for Giant Refining Company – Bloomfield Refinery Facility

- A. This section will describe how and where the Bloomfield Refinery Facility Spill Response Team intends to Recover, Reuse, Decontaminate, or Dispose of Materials after an Accidental Discharge of Petroleum Products at the Bloomfield Refinery Facility.

Spill clean-up materials shall be disposed in accordance with applicable laws and regulations. Specific materials shall be handled as follows.

1. Recovered product shall be placed in an appropriate slop oil tank and recycled through the refinery. If the recovered product is contaminated with water or solids, it shall first be treated in the API separator prior to being recycled.
 2. Contaminated soil shall be disposed off-site at an appropriate landfill. Contaminated soil may be treated on-site using a land farm technique; upon approval and authorization of appropriate agencies.
 3. Contaminated equipment and materials, including tanks, drums, roll-off boxes, hoses, shovels, etc., shall be washed with an appropriate cleaning solution at the conclusion of the spill response.
 4. Reusable PPE shall be washed with an appropriate cleaning solution at the conclusion of the spill response. Non-reusable PPE shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.
 5. Decontamination solutions (washwater) shall be treated at the Waste Water Treatment Unit (WWTU) if appropriate. Alternately, decontamination solutions shall be drummed and sent off-site for appropriate treatment and disposal.
 6. Adsorbent pads and similar oil-soaked materials shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.
 7. Spent chemicals shall be placed in appropriate drums, totes, or tanks and disposed as per applicable laws and regulations.
- B. The following are Liquid Waste Handling and Disposal Techniques that can and will be utilized by the Bloomfield Refinery Facility Emergency Response Team in the event of a Petroleum Spill at the Bloomfield Refinery Facility.

1. Available Temporary Storage Devices:

- * vacuum trucks
- * road tankers (3)

2. Disposal Options:

- * Transport off-site to a Federal/State approved waste oil processor for recycle/reuse.
- * If hazardous waste is involved, Licensed Hazardous Waste Transporters will be retained to transfer hazardous wastes to Licensed Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF's) for proper treatment and/or disposal.

3. Oil Contaminated Solid Waste Profile:

- * Oil contaminated sorbent material (pads, booms, sweeps, particulate, etc.).
- * Contaminated organic material (peat moss, straw, hay, fiber perl, etc.).
- * Shoreline and marsh debris (drift wood, sea-weed, grass, garbage).
- * Oily sand and mud.
- * Oil contaminated rocks, shells and rip-rap used for erosion control.
- * Oil saturated items such as protective suits, boots, gloves, rope, plastic bags, and rags.

4. Handling and Storage Techniques:

- * Dump trucks (temporary only).
- * On-site pits (permitted only) construct temporary lined pits (with Federal/State approval only).
- * Dumpsters for non-hazardous debris only (paper, cans, bottles, etc.).
- * 6.0 mil. Minimum plastic bags with wire ties.

5. Solid Waste Characterization and Profile:

- * Facility to receive, separate/sort, and store solid waste.
- * Reduce waste volume by shredding, adding absorbent material to stabilize free liquids.
- * Back-hoe or front-end loader to facilitate segregation activities.

6. Analytical Support:

- * Pre-qualify local laboratory for waste sample analysis.
- * Local lab to supply necessary sample equipment and chain of custody forms.
- * Set up for fast turn-a-rounds on results.
- * Pre-approve analytical (TCLP, PCB, BTU's, etc.).

7. Disposal Site Selection:

- * Contact local disposal facilities for waste acceptance (liquids, solids, sanitary, etc.).
- * Ensure State and Federal approvals are in order.
- * Research transportation requirements.
- * Analytical results on waste streams available for disposal facility review and approval.

8. Free Liquids (Oil and Water):

- * Consider all oil and oil emulsions for possible recycle/reuse.
- * Research local waste oil recycling firms in area. Ensure State/Federal approvals are in order.

9. Oil Absorbent Materials:

- * Research new technology as it pertains to recycling used oil absorbent material.
- * Set up pad wringer stations throughout the spill work site where sorbents are being used. Sorbent pads can be used up to four to five times before losing their oil absorbing property.
- * Sorbent booms and sweeps should be double bagged and separated from other solid waste items. Once recycling firm has been located, ship direct from spill site to the recycling facility.
- * Ensure compliance with State and Federal recycling guidelines, if any.

10. Oil Contaminated Sand and Gravel:

- * Research available commercial sand and gravel cleaners.
- * Have pre-approved lab set up analytical, if required by regulations.
- * Train shoreline clean-up team not to remove excessive amounts of sand or beach front.

11. Oil Contaminated Debris:

- * Seek approval from state or federal representatives on-scene to allow stacking of contaminated debris and pressure washing to remove oil clinging as opposed to hauling off-site for disposal.

SECTION 1.7.3

CONTAINMENT AND DRAINAGE PLANNING

Section 1.7.3 – Containment and Drainage Planning

Spills in the Bloomfield Refinery are contained and controlled as follows.

1. Storage tank containment areas are not equipped with drains. As long as the dike remains intact, there is no opportunity for a spill to escape containment.
2. All process area drains flow to the Waste Water Treatment Unit (WWTU) or a containment sump.
3. Loading and unloading stations are equipped with secondary containment pads and drains which flow to the WWTU.
4. For potential spill areas located outside of containment dikes or pads, retention basins are strategically located so as to capture spilled material that free flows across refinery grounds. Various ditches, swales, and culverts also assist in capturing run-off and directing it into these basins.



Section 1.8 – Self-Inspection, Drills/Exercises and Response Training

The following section will contain Self-Inspection, Training and Meeting Logs to aid the Bloomfield Refinery's Spill Response Team Personnel and Employees in Spill Prevention Awareness and Response Requirements.

Logs will be kept of the Bloomfield Refinery Facility Mock Alert Drills, Personnel Spill Response Training Programs and Spill Prevention Meetings.

Section 4202(a) of the Oil Pollution Act of 1990 (OPA'90), which amends Section 311(j) of the Federal Water Pollution Control Act (FWCA), and adds subsection (7) [33 U.S.C. 1321 (j)(7)] stipulates that Facility Response Plan Holders are required to meet the Pollution Response Exercise Requirements as mandated by the U.S. EPA in their interpretation of OPA'90.

OPA'90 stipulates that Facility Response Plan Holders are required to develop a mechanism to ensure adequate response preparedness through a program of Internal/External Exercises, Tabletops and Drills.

Bloomfield Refinery Management will comply with the National Preparedness for Response Exercise Program (PREP) which was developed to establish a workable exercise minimum program and guidelines for ensuring adequate response preparedness.



Compliance and Completion of the PREP Exercise Program satisfies all OPA'90 mandated federal Oil Pollution Response Exercise Requirements for Facility Response Plan Holders. All inspection logs and training records are kept on file at the Bloomfield Refinery Main Office.



SECTION 1.8.1

FACILITY SELF-INSPECTION

Section 1.8.1 – Facility Self-Inspection

Pursuant to section 112.7(e)(8) of the current rule (OPA), the Bloomfield Refinery Facility is required to conduct Self-Inspections and include the Written Procedures and Records of Inspections.

The Inspections should include the Tanks, Secondary Containment and Response Equipment at the Bloomfield Refinery Facility. The Inspections of the Aboveground Storage Tanks and their Secondary Containment is required by the SPCC Regulation and records of those inspections will be required to be included in the Bloomfield Refinery Oil Spill Response Facility Plan.

The Inspection of Oil Spill Response Equipment is required as part of this Plan.

The Bloomfield Refinery Facility Self-Inspection requires two steps:

1. A checklist of things to Inspect (See 1.8.1.1 – Tank Inspection Checklist)
2. A method of recording the actual inspection and its findings.

The Date of Inspection shall be noted on all Inspection Forms and are required to be maintained for five (5) years.

Section 1.8.1.1 – Tank Inspection Checklist

- | 1. Check tanks for leaks, specifically look for: | Comments: |
|---|-----------|
| Drip marks | _____ |
| Discoloration of tanks | _____ |
| Puddles containing spilled or leaked material | _____ |
| Corrosion | _____ |
| Cracks | _____ |
| Localized dead vegetation | _____ |
| 2. Check foundation for: | |
| Cracks | _____ |
| Discoloration | _____ |
| Puddles containing spilled or leaked material | _____ |
| Settling | _____ |
| Gaps between tank and foundation | _____ |
| Damage caused by vegetation roots | _____ |
| 3. Check piping for: | |
| Droplets of stored material | _____ |
| Discoloration | _____ |
| Corrosion | _____ |
| Bowling of pipe between supports | _____ |
| Evidence of stored material seepage from valves
or seals | _____ |
| Localized dead vegetation | _____ |

Section 1.8.1.3 – Secondary Containment Inspection Checklist

- | | Comments: |
|--|-----------|
| 1. 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 diked area | _____ |
| Location/status of pipes, inlets, drainage beneath tanks, etc. | _____ |
| 2. Secondary containment: | |
| Cracks | _____ |
| Discoloration | _____ |
| Presence of spilled or leaked material (standing liquid) | _____ |
| Corrosion | _____ |
| Valve conditions | _____ |
| 3. Retention and drainage ponds: | |
| Erosion | _____ |
| Available capacity | _____ |
| Presence of spilled or leaked material | _____ |
| Debris | _____ |
| Stressed vegetation | _____ |

During inspection, make note of discrepancies in any of the above.

1. Dike or berm system:
 - a. Level of precipitation in dike/available capacity;
 - b. Operational status of drainage valves;
 - c. Dike or berm permeability;
 - d. Debris;
 - e. Erosion;
 - f. Permeability of the earthen floor of diked area; and
 - g. Location/status of pipes, inlets, drainage beneath tanks, etc.

2. Secondary containment:
 - a. Cracks;
 - b. Discoloration;
 - c. Presence of spilled or leaked material (standing liquid);
 - d. Corrosion; and
 - e. Valve conditions.

3. Retention and drainage ponds:
 - a. Erosion;
 - b. Available capacity;
 - c. Presence of spilled or leaked material;
 - d. Debris; and
 - e. Stressed vegetation.

During inspection, make note of discrepancies in any of the above.

SECTION 1.8.2

FACILITY DRILLS/EXERCISES/FORMS

Section 1.8.2 – Facility Drills/Exercises

This section deals with Giant Refining Company's requirements for Oil Spill Response Training, Exercise and Tabletops to aid the Bloomfield Refinery Facility Spill Response Team Members in Spill Prevention Awareness and Response Techniques when responding to an Oil Product Spill.

Section 4202(a) of the Oil Pollution Act of 1990 (OPA'90), which amends Section 311(j) of the Federal Water Pollution Control Act (FWPCA), and adds subsection (7)[33 USC 1321(j)(7)] stipulates that Facility Response Plan Holders are required to meet the Pollution Response Exercise Requirements as mandated by the US EPA in their interpretation of OPA'90.

Giant Refining Company Management will comply with the National Preparedness for Response Exercise Program (PREP) which was developed to establish a workable exercise minimum program and guidelines for ensuring adequate response preparedness.

Logs will be kept for the Bloomfield Refinery Spill Response Personnel for the following:

- * Qualified Individual Spill Response Training
- * Spill Management Team Training
- * Oil Spill Response Training for Facility Personnel
- * OSHA HAZWOPER Training for Facility Personnel
- * Qualified Individual Notification Exercises
- * Emergency Procedures Exercises
- * Spill Management Team Tabletop Exercises
- * Equipment Deployment Exercises (Company Owned)
- * Equipment Deployment Exercise (Oil Spill Response Organizations)
- * Government Initiated Unannounced Exercise

Compliance and Completion of the PREP Exercise Program satisfies all OPA'90 mandated Federal Oil Pollution Response Exercise Requirements for Facility Response Plan Holders.

As part of the Giant Refining Company's Responsibility in meeting their regulatory responsibilities to Develop Oil Spill Response and OSHA HAZWOPER Compliance Training Requirements, Bloomfield Refinery Spill Response Team Members will undertake the following Oil Spill Response Training:

Oil Spill Response Exercises Procedures and Schedules:

1. Spill Response and Tabletop Exercises will be designed to:
 - a. Test spill response personnel's ability to act as expected and required;
 - b. Provide spill response personnel with an opportunity to apply their training and brush up on their skills;
 - c. Test the Facility Response Plan for shortcomings, errors or bottlenecks that can be improved on; and
 - d. Build on or learn from previous Oil Spill Response Exercises, Tabletops and/or Actual Spill Response Events.

2. Spill Response Exercises will be done with the following frequencies:
 - a. Qualified Individual Notification Exercises: Quarterly
(See 1.8.2.1 – Exercise Criteria Outline)
 - b. Spill Management Team Tabletop Exercise: Annually
(See 1.8.2.2 – Exercise Criteria Outline)
 - c. Emergency Procedures Exercise: Quarterly
(Optional)
(See 1.8.2.3-Exercise Criteria Outline)
 - d. Equipment Deployment Exercise: Semiannually
(Company-Owned Equipment)
(See 1.8.2.4 – Exercise Criteria Outline)
 - e. Equipment Deployment Exercise: Annually
(Oil Spill Response Organization Equipment)
(See 1.8.2.5 – Exercise Criteria Outline)
 - f. Government-Initiated Unannounced Exercise: Annually
(If Selected)
(See 1.8.2.6 – Exercise Criteria Outline)

Records of all Oil Spill Response Exercises and Activities for facility personnel and the Oil Spill Response Team are to be maintained for at least five years following the completion of any Oil Spill Response Exercise.

Section 1.8.2.1 – Qualified Individual Notification Exercise

Applicability:	Facility.
Frequency:	Quarterly.
Initiating Authority:	Company policy.
Particip. Elements:	Facility personnel and qualified individual.
Scope:	Exercise communications between facility personnel and qualified individual.
Objectives:	Contact must be made with a qualified individual or designee, as designated in the response plan.
Certification:	Self-certification.
Verification:	Environmental Protection Agency (EPA)
Records:	
Retention:	5 years
Location:	Records to be kept at the facility.
Evaluation:	Self-evaluation.

Section 1.8.2.1 – Qualified Individual Notification Exercise Log

Date: _____ Company: _____

Qualified Individual(s): _____

Emergency Scenario: _____

Evaluation: _____

Changes to be Implemented: _____

Time Table for Implementation: _____

Conducted and Certified by:

Date Certified: _____

* Retain this form for a minimum of 5 years for EPA.

1.8.2.2 – Spill Management Team Tabletop Exercise

Applicability:	Facility spill management team.
Frequency:	Annually.
Initiating Authority:	Company policy.
Particip. Elements:	Spill Management Team as established in the response plan.
Scope:	Exercise the spill management team's organization, communication and decision-making in managing a spill response.
Objectives:	Exercise the spill management team in a review of -- <ul style="list-style-type: none">* Knowledge of the response plan;* Proper notifications;* Communications system;* Ability to access an Oil Spill Response Organization;* Coordination of internal organization personnel with responsibility for spill response;* An annual review of the transition from a local team to regional, national, and international team, as appropriate;* Ability to effectively coordinate spill response activity with the National Response System (NRS) infrastructure. (If personnel from the NRS are not participating in the exercise, the spill management team should demonstrate knowledge of response coordination with the NRS.)* Ability to access information in Area Contingency Plan for location of sensitive areas, resources available within the area, unique conditions of area, etc. (This is only applicable if the Area Contingency Plan is available for the exercise.)

At least One Spill Management Team Tabletop Exercise in a Triennial Cycle would involve simulation of a Worst Case Discharge Scenario.

Certification: Self-certification.

Spill Management Team Tabletop Exercise

Page 2

Verification: EPA.

Records:

Retention: 5 years.

Location: At each facility.

Evaluation: Self-evaluation.

Credit: Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

Section 1.8.2.2 – Spill Management Team Tabletop Exercise Log

Date: _____ Company: _____

Qualified Individual(s): _____

Emergency Scenario: _____

Evaluation: _____

Changes to be Implemented: _____

Time Table for Implementation: _____

Section 1.8.2.3 – Emergency Procedures Exercise

Applicability:	Facility.
Frequency:	Quarterly.
Initiating Authority:	Facility owner or operator.
Particip. Elements:	Facility personnel.
Scope:	Exercise the emergency procedures for the facility to mitigate or prevent any discharge or a substantial threat of such discharge of oil resulting from facility operational activities associated with oil transfers.
Objectives:	Conduct an exercise of the facility's emergency procedures to ensure personnel knowledge of actions to be taken to mitigate a spill. This exercise may be a walk-through of the emergency procedures. Exercise should involve one or more of the sections of the emergency procedures for spill mitigation. For example, the exercise may involve a simulation of a response to an oil spill. The facility should ensure that spill mitigation procedures for all contingencies at the facility are addressed at some time.
Certification:	Self-certification.
Verification:	EPA.
Records:	
Retention:	5 years.
Location:	At each facility.
Evaluation:	Self-evaluation.

**Section 1.8.2.4 - Equipment Deployment Exercise
(Bloomfield Refinery Facility Owned Equipment)**

Applicability: Facilities with Facility Owned and Operated Response equipment.

Frequency: Semiannually.

Initiating Authority: Company policy.

Particip. Elements: Facility personnel.

Scope: Deploy and operate facility owned and operated response equipment identified in the response plan. The equipment to be deployed would be either (1) the minimum amount of equipment for deployment as described in "Guiding Principles" in the National Preparedness for Response Exercise Program (PREP) Guidelines from the EPA, or (2) the equipment necessary to respond to an average most probable discharge at the facility, whichever is less.

All of the facility personnel involved in equipment deployment operations must be included in a comprehensive training program. All of the facility equipment must be included in a comprehensive maintenance program. Credit should be taken for deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturer's recommendations and best commercial practices. All inspection and maintenance must be documented by the owner.

Objectives: Demonstrate ability of facility personnel to deploy and operate equipment.

Ensure equipment is in proper working order.

Certification: Self-certification.

Verification: EPA.

**Equipment Deployment Exercise
(Bloomfield Refinery Facility Owned Equipment)**

Records:

Retention: 5 years.

Location: Records to be kept at the facility.

Evaluation: Self-evaluation.

Credit: Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

Note: If a facility with facility owned and operated equipment also identifies Oil Spill Response Organization Equipment (OSRO) in its response plan, the OSRO equipment must also be deployed and operated in accordance with the equipment deployment requirements for OSRO owned equipment.

**Section 1.8.2.5 - Equipment Deployment Exercise
(Oil Spill Response Organization Equipment)**

Applicability:	Facilities with Oil Spill Response Organization Response (OSRO) Equipment cited in their response plan.
Frequency:	Annually.
Initiating Authority:	Company policy.
Particip. Elements:	Facility owner or operator and Oil Spill Response Organization (OSRO)
Scope:	<p>Deploy and operate response equipment identified in the response plan. The equipment to be deployed would be the minimum amount of equipment for deployment as described in "Guiding Principles."</p> <p>All of the OSRO personnel involved in equipment deployment operations must be included in a comprehensive training program. All of the OSRO equipment must be included in a comprehensive maintenance program. Credit should be taken for equipment deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturer's recommendations and best commercial practices. The facility owner or operator must ensure that inspection and maintenance by the OSRO is documented. The OSRO must provide inspection and maintenance information to the owner or operator.</p>
Objectives:	<p>Demonstrate the ability of the personnel to deploy and operate response equipment.</p> <p>Ensure the response equipment is in proper working order.</p>
Certification:	The facility owner or operator should ensure that the OSRO identified in the response plan provides adequate documentation that the requirements for this exercise have been met.
Verification:	EPA.

**Equipment Deployment Exercise
(Oil Spill Response Organization Equipment)**

Records:

Retention: 5 years, kept at the facility.

Evaluation: Self-evaluation.

Credit: Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated and a proper record is generated. Credit should be taken for an actual spill response when the objectives are, the response is evaluated and a proper record is generated.

Section 1.8.2.6 – Government – Initiated Unannounced Exercises

Applicability:	EPA-regulated facility response plan holders within the area.
Frequency:	Annually, if selected. (Plan holders who have participated in a PREP government-initiated unannounced exercise will not be required to participate in another on for at least 36 months from the date of the exercise.)
Initiating Authority:	EPA.
Particip. Elements:	EPA-regulated facility response plan holders.
Scope:	Unannounced exercises are limited to a maximum of four exercises per area per year. Exercises are limited to approximately 4 hours in duration. Exercises would involve response to an average most probable discharge scenario. Exercises would involve equipment deployment to respond to a spill scenario.
Objectives:	Conduct proper notifications to respond to unannounced scenario of an average most probable discharge. Demonstrate that the response is -- * Timely * Conducted with adequate amount of equipment for scenario; * Properly conducted.
Certification:	EPA.
Verification:	EPA.
Records:	
Retention:	5 years, kept at the facility.
Evaluation:	Evaluation to be conducted by initiating agency.

Government-Initiated Unannounced Exercises

Page 2

Credit:

Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated. Plan holders participating in this exercise should also take credit for notification and equipment deployment exercises.

**Section 1.8.2.7 – Qualified Individual Internal Notification Exercise
Documentation Form**

1. Date Performed: _____

2. Exercise or Actual Response?: _____

3. Facility Initiating Exercise: _____

4. Name of Person Notified: _____

Is this the person identified in your response plan as Qualified Individual or Designee?

5. Time Initiated: _____

Time in which Qualified Individual or Designee Responded: _____

6. Method used to contact: _____ Telephone

_____ Pager

_____ Radio

_____ Other: _____

7. Description of Notification Procedure:

8. Identify which of the 15 Core Components of your Response Plan were exercised during this particular exercise.

Conducted and Certified by:

Date Certified: _____

* Retain this form for a minimum of 5 years for EPA.

**Section 1.8.2.8 – Emergency Procedures Exercise
Documentation Form**

1. Date Performed: _____

2. Exercise or Actual Response?: _____

If an exercise, announced or unannounced?: _____

3. Location: _____

4. Facility Name: Giant Refinng Company – Bloomfield Refinery

5. Time Started: _____ Time Completed: _____

6. Facility Emergency Procedures Exercised (i.e., Response to Oil Spill, etc.)?

7. Description of Exercise:

8. Identify which of the 15 Core Components of your Response Plan were exercised during this particular exercise.

9. Attach a Description of the Lesson(s) Learned and Person(s) Responsible for Follow up of Corrective Measures.

Conducted and Certified by:

Date Certified: _____

* Retain this form for a minimum of 5 years for EPA.

**Section 1.8.2.9 – Spill Management Team Tabletop Exercise
Documentation Form**

1. Date Performed: _____

2. Exercise or Actual Response?: _____

If an exercise, announced or unannounced?: _____

3. Location of Tabletop: _____

4. Time Started: _____ Time Completed: _____

5. Response Plan Scenario used (check one):

_____ Average Most Probable Discharge (Small)

_____ Maximum Most Probable Discharge (Medium)

_____ Worst Case Discharge

Size of (simulated) Spill: _____

6. List objectives and describe how they were exercised.

7. Identify which of the 15 Core Components of your Response Plan were exercised during this particular exercise.

8. Attach a Description of the Lesson(s) Learned and Person(s) Responsible for Follow up of Corrective Measures.

Conducted and Certified by:

Date Certified: _____

* Retain this form for a minimum of 5 years for EPA.

**Section 1.8.2.10 – Equipment Deployment Exercise
Documentation Form**

1. Date Performed: _____

2. Exercise or Actual Response?: _____

If an exercise, announced or unannounced?: _____

3. Deployment Location:

4. Time Started: _____ Time Completed: _____

5. Equipment Deployed Was: _____

_____ Facility-Owned
_____ Oil Spill Removal Organization-owned. If so, which OSRO? _____
_____ Both

6. List Type and Amount of all Equipment (e.g. Boom and Skimmers) deployed and number of Support Personnel Employed:

7. Describe goals of the equipment deployment and list any Area Contingency Plan Strategies Tested. (Attach a sketch of equipment deployments and booming strategies):

8. For Deployment of Facility-Owned Equipment, was the amount of equipment deployed at least the amount necessary to respond to your Facility's Small Oil Spill?

Was the Equipment Deployed in its intended Operating Environment?

Equipment Deployment Exercise Documentation Form

9. For Deployment of OSRO-owned equipment, was a representative sample (at least 1000 feet of Each Boom Type and at least One of Each Skimmer Type) Deployed?

Was the Equipment Deployed in its intended Operating Environment?

10. Are all Facility Personnel that are Responsible for Response Operations involved in a Comprehensive Training Program, and All Pollution Response Equipment involved in a Comprehensive Maintenance Program?

If so, Describe the Program.

Date of Last Equipment Inspection:

11. Was the Equipment Deployed by Personnel Responsible for its Deployment in the event of an Actual Oil Spill?

12. Was all Deployed Equipment Operational? If no, why not?

Equipment Deployment Exercise Documentation Form

13. Identify which of the 15 Core Components of your Response Plan were Exercised during this Particular Exercise.

14. Attach a Description of Lesson(s) Learned and Person(s) Responsible for Follow up of Corrective Measures.

Conducted and Certified by:

Date Certified: _____

SECTION 1.8.3

TRAINING AND MEETING LOG FORMS

Section 1.8.3 – Training and Meeting Logs

The Qualified Individual or his/her designated representative is required by Section 112.20(e)(8) – OPA to keep a Personnel Training Log that should include a record of all formal Oil Spill Response Training Received by each Bloomfield Refinery Oil Spill and Emergency Response Team Member.

Personnel Training Logs and Discharge Prevention Meeting Logs are included in Section 1.8.3.1 and 1.8.3.2 of the Bloomfield Refinery Oil Spill Facility Response Plan.

Training Programs:

The Oil Pollution Act of 1990 requires Facility Oil Spill Response Plans. The Facility Oil Spill Response Plan must include a description of the Oil Spill Response Training of Personnel at an Onshore Facility where its location would reasonably be expected to cause substantial harm to the environment by discharging oil into the navigable waters and/or adjoining shoreline.

Facility Owners and/or Operators are responsible for ensuring that all their Response Personnel are adequately trained to ensure the safety of the Facility and to mitigate or prevent a discharge of oil into the environment. In addition, Facility Owners and/or Operators are responsible for ensuring that all of their Response Personnel that they employ are trained to meet the OSHA Hazardous Waste Operations and Emergency Response Regulations for personnel employed in hazardous substance response and clean-up operations. Under OPA'90, Gasoline and Diesel Fuels are considered to be Hazardous Substances.

As part of the Giant Industries, Inc.'s Responsibility in meeting their regulatory responsibilities to develop oil spill response and OSHA HAZWOPER compliance training requirements, Bloomfield Refinery Spill Response Team Members will undertake the following Oil Spill Response Training:

1. Qualified Individual Training
(See 1.8.2.7 Training Criteria)
2. Spill Management Team Training
(See 1.8.2.8 Training Criteria)
3. Facility Personnel Oil Spill Training
(See 1.8.2.9 Training Criteria)
4. OSHA-HAZWOPER Responder Training
(See 1.8.2.10 Training Criteria)
5. Annual Refresher Training – Oil Spill Response
(See 1.8.2.11 Training Criteria)

6. Annual Refresher Training – HAZWOPER
(See 1.8.2.12 Training Criteria)

Personnel Training Participation:

1. All Bloomfield Refinery Spill Response Team Members will undertake, at a minimum, 8 – 56 hours of Oil Spill Response Training as outlined by Sections 311(j)(5) and 311(j)(7) of the Clean Water Act, amended by the Oil Pollution Act of 1990 and interpreted by the US EPA Oil Pollution Prevention Regulation 40 CFR Part 112.7(f) within one (1) week of starting work.
2. All Bloomfield Refinery Facility Response Personnel who engage in Emergency Response Procedures for a Gasoline and/or Diesel Fuel Spill be trained under OSHA 29 CFR 1910.120(q)(6) Hazardous Waste Operations and Emergency Response Regulations for First Responders will participate in one of the following Training Course depending upon job duty during emergency response.

Course:	Duration:
* Awareness	4 – 8 hours
* Operations	8 – 24 hours
* Technician	24 – 56 hours (Off Site Training Only)

3. All Bloomfield Refinery Personnel who participate in an Oil Spill Emergency Response will undertake the following Annual Refresher Courses as stipulated by the Oil Pollution Act of 1990 and OSHA – HAZWOPER Rules.

Course:	Duration:
* OPA'90/EPA	4 – 24 hours
* OSHA-HAZWOPER	8 – 24 hours

4. All Bloomfield Refinery Facility Spill Response Employees designated as a Qualified Individual will undertake a Qualified Individual (QI) Training Course as outlined by the Training Reference Manual for Oil Spill Response, minimum duration of 24 hours, jointly published by the US Coast Guard (USCG), the US Environmental Protection Agency (EPA), Department of Transportation's Research and Special Programs Administration (RSPA) and the Minerals Management Service (MMS), within six (6) months of being designated as a Bloomfield Refinery Qualified Individual.
5. The Bloomfield Refinery Spill Management Team Members shall undertake Spill Management Team Training, as outlined by the Training Reference Manual for Oil Spill Response, minimum duration of 24 hours, jointly published by the US Coast Guard (USCG), US Environmental Protection Agency

(EPA), Department of Transportation's Research and Special Programs Administration (RSPA) and the Minerals Management Service (MMS).

Note: The above mentioned Oil Spill Emergency Response Courses which are mandated under OPA'90 and OSHA HAZWOPER Regulations can be combined to meet the various Oil Spill and Emergency Response Training for Responder Personnel, as long as all course objectives are met, the course is evaluated and a proper record is generated.

Section 1.8.3.1 – Qualified Individual Training

Demonstrate Knowledge of the Knowledge:

- * Environmental Protection Agency (EPA) Region in which the Facility is Located.
- * Notification Procedures and Requirements for Facility Owners or Operators, Internal Response Organizations; Federal and State Agencies; and Contracted Oil Spill Removal Organizations and the Information required for those Organizations.
- * Communication System used for the Notifications.
- * Information of the Cargoes (Petroleum Products) Carried or Transferred, Stored, or use by the facility, including familiarity with the Material Safety Data Sheets, Special Handling Procedures, Health and Safety Hazards, Spill and Fire Fighting Procedures.
- * Procedures the facility personnel may use to mitigate or prevent any discharge or a substantial threat of an discharge of oil resulting from facility operational activities associated with internal or external cargo transfers, storages or use.
- * Procedures the facility personnel may use to mitigate or prevent any discharge or a substantial threat of a discharge of oil in the event of --
 - Explosion or Fire and/or Equipment Failure.
- * Facility Personnel Responsibilities, and Procedures for use of facility equipment which may be carried to mitigate an oil discharge.
- * Operational capabilities of the contracted OSROs to respond to the following;
 - Average Most Probable Discharge (Small Spill)
 - Maximum Most Probable Discharge (Medium Spill)
 - Worst Case Discharge.
- * Responsibilities and Authority of the Qualified Individual as described in the Facility Response Plan and Company Response Organization.
- * Procedures, if applicable, for transferring responsibility for direction of response activities from facility personnel to the spill management team.

Qualified Individual Training

Page 2

- * The Organizational Structure that will be use to manage the response actions including--
 - Command and Control;
 - Public Information;
 - Safety;
 - Liaison with Government Agencies;
 - Spill Response Operations;
 - Planning;
 - Logistics Support; and
 - Finance.
- * The Responsibilities and duties of each oil spill management team member within the organizational structure.
- * The Drill and Exercise Program to meet Federal and State Regulations as required under OPA'90.
- * The role of the Qualified Individual in the post discharge review of the plan to evaluate and validate its effectiveness.
- * Area Contingency Plans (ACPs) for the area in which the facility is located.
- * The National Contingency Plan (NCP).
- * Roles and Responsibilities for Federal and State Agencies in Pollution Response.
- * Available Response Resources identified in the Facility Response Plan.
- * Contracting and ordering procedures to acquire oil spill removal organization resources identified in the response plan.
- * Occupational Safety and Health Administration (OSHA) requirements for worker health and safety (29CFR 1910.120).
- * Incident Command System/Unified Command System.
- * Public Affairs.
- * Crisis Management.
- * Procedures for obtaining approval for In-situ Burning of the Spill.
- * Oil Spill Trajectory Analysis.
- * Sensitive Biological Areas.

**Section 1.8.3.2 – Spill Management Team Training
(Minimum General Criteria)**

Demonstrate Knowledge of the following:

- * Environmental Protection Agency (EPA) Region in which the Facility is Located.
- * Notification Procedures and Requirements for Facility Owners or Operators, Internal Response Organizations; Federal and State Agencies; and Contracted Oil Spill Removal Organizations and the Information required for those Organizations.
- * Communication System used for the Notifications.
- * Information of the Cargoes (Petroleum Products) Carried or Transferred, Stored, or use by the facility, including familiarity with the Material Safety Data Sheets, Special Handling Procedures, Health and Safety Hazards, Spill and Fire Fighting Procedures.
- * Procedures the facility personnel may use to mitigate or prevent any discharge or a substantial threat of a discharge of oil in the event of --
 - Explosion or Fire and/or Equipment Failure.
- * Facility Personnel Responsibilities, and Procedures for use of facility equipment which may be carried to mitigate an oil discharge.
- * Operational capabilities of the contracted OSROs to respond to the following;
 - Average Most Probable Discharge (Small Spill)
 - Maximum Most Probable Discharge (Medium Spill)
 - Worst Case Discharge.
- * Responsibilities and Authority of the Qualified Individual as described in the Facility Response Plan and Company Response Organization.
- * Procedures, if applicable, for transferring responsibility for direction of response activities from facility personnel to the spill management team.
- * The Organizational Structure that will be use to manage the response actions including--
 - Command and Control;
 - Public Information;
 - Safety;
 - Liaison with Government Agencies;

Spill Management Team Training

Page 2

- Spill Response Operations;
 - Planning;
 - Logistics Support; and
 - Finance.
- * The Responsibilities and duties of each oil spill management team member within the organizational structure, in accordance with designated job responsibilities.
 - * The Training Procedures as described in the response plan for members of the spill management team.
 - * The Drill and Exercise Program to meet Federal and State Regulations as required under OPA'90.
 - * Procedures for the post discharge review of the plan to evaluate and validate its effectiveness.
 - * Area Contingency Plans (ACPs) for the area in which the facility is located.
 - * The National Contingency Plan (NCP).
 - * Roles and Responsibilities for Federal and State Agencies in Pollution Response.
 - * Available Response Resources identified in the Facility Response Plan.
 - * Contracting and ordering procedures to acquire oil spill removal organization resources identified in the response plan.
 - * Basic information of Spill Operations and Oil Spill Clean-up Technology including –
 - Oil Containment;
 - Oil Recovery Methods and Devices;
 - Equipment Limitations and uses;
 - Shoreline Clean-up and Protection;
 - Spill Trajectory Analysis;
 - Use of Dispersants, In-situ Burning, Bioremediation ; and
 - Waste Storage and Disposal Considerations.
 - * Hazard Recognition and Evaluation.
 - * Site Safety and Security Procedures.
 - * Occupational Safety and Health Administration (OSHA) requirements for worker health and safety (29CFR 1910.120).

Spill Management Team Training

Page 3

- * Incident Command System/Unified Command System.
- * Public Affairs, as applicable to designated job responsibilities.
- * Crisis Management, as applicable to designated job responsibilities.
- * Personnel Management, as applicable to designated job responsibilities.
- * Emergency Cargo Transfer procedures, as applicable to designated job responsibilities.
- * Sensitive Biological Area, as applicable to designated job responsibilities.
- * Procedures for directing the deployment and use of spill response equipment, as applicable to designated job responsibilities.

**Section 1.8.3.3 – Facility Personnel Oil Spill Training
(Minimum General Criteria)**

Demonstrate Knowledge of the following:

- * Environmental Protection Agency (EPA) Region in which the Facility is Located.
- * Notification Procedures and Requirements for Facility Owners or Operators, Internal Response Organizations; Federal and State Agencies; and Contracted Oil Spill Removal Organizations and the Information required for those Organizations.
- * Communication System used for the Notifications.
- * Information of the Products (Petroleum Products) Stored, Transferred by the facility, including familiarity with the Material Safety Data Sheets, Special Handling Procedures, Health and Safety Hazards, and Spill and Fire Fighting Procedures.
- * Facility personnel responsibilities, and procedures for use of facility equipment that may be available to mitigate or prevent an oil discharge.
- * Procedures to follow in the event of discharge, potential discharge, or emergency involving the following Equipment or Scenarios:
 - Tank Overfill;
 - Tank Rupture;
 - Piping or Pipeline Rupture;
 - Piping or Pipeline Leak, both under pressure and not under pressure, if applicable;
 - Explosion or Fire;
 - Equipment Failure;
 - Failure of Secondary Containment System
- * Operational capabilities of the contracted OSROs to respond to the following;
 - Average Most Probable Discharge (Small Spill)
 - Maximum Most Probable Discharge (Medium Spill)
 - Worst Case Discharge.
- * Name of the Qualified Individual and how to contact him or her.
- * General Responsibilities and Authority of the Qualified Individual as described in the Facility Response Plan and Company Response Organization.

Facility Personnel Oil Spill Training

- * The Organizational Structure that will be use to manage the response actions including--
 - Command and Control;
 - Public Information;

 - Safety;
 - Liaison with Government Agencies;
 - Spill Response Operations;
 - Planning;
 - Logistics Support;
 - Finance.

- * The Drill and Exercise Program to meet Federal and State Regulations as required under OPA'90.

- * Area Contingency Plans (ACPs) for the area in which the facility is located.

- * The National Contingency Plan (NCP).

- * Roles and Responsibilities for Federal and State Agencies in Pollution Response.

- * Available Response Resources identified in the Facility Response Plan.

- * OSHA Requirements for Worker Health and Safety (29 CFR 1910-120 (q)(6)).

**Section 1.8.3.4 – OSHA – HAZWOPER Responder Training
(Minimum General Criteria)**

Outline of General Requirements for Emergency Phase Response Operations of Worker Health and Safety Training (e.g., Spill Control Measures). Specific competencies are listed in OSHA 29 CFR 1910.120 (q)(6).

a. LEVEL 1 -- First Responder - Awareness:

This level is characterized as personnel that might discover a release and who are simply expected to report the incident.

- (1) Sufficient training or proven experience in specific competencies, and
- (2) Annual Refresher Training.
- (3) Training Duration 1 - 8 hours.

b. LEVEL 2 -- First Responder - Operations:

This level is characterized by responding to a release in a Defensive Manner and generally without being exposed to risk. (e.g. No Attempt to Stop Leak)

- (1) Level 1 Competency
- (2) Eight (8) hours of Initial Training or Proven Experience in Specific Competencies; and
- (3) Annual Refresher Training.

c. LEVEL 3 --Hazardous Material (HAZMAT) Technician.

This level is characterized by responding Aggressively to stop a release (e.g. expecting some risk of exposure).

- (1) Twenty-four (24) hours of Level 2 Training
- (2) Proven Experience in Specific Competencies; and
- (3) Annual Refresher Training.

d. LEVEL 4 --HAZMAT Specialists. (Generally Not Applicable for Oil Spill Response)

This level is characterized by responding with and in support of technicians but having specific knowledge and competence.

- (1) Twenty-four (24) hours of Level 3 Training
- (2) Proven Experience in Specific Competencies; and
- (3) Annual Refresher Training.

OSHA – HAZWOPER Responder Training

Page 2

- e. LEVEL 5 -- On-Scene Incident Commander. (OI Training Course Equivalent)

This level is for personnel that may be called upon to assume supervisory (Incident Command) Responsibilities on -scene.

- (1) Twenty-four (24) hours of Level 2 Training
- (2) Proven Experience in Specific Competencies; and
- (3) Annual Refresher Training.

**Section 1.8.3.5 – Annual Refresher Training – Oil Spill Response
(Minimum General Criteria)**

As outlined in Sections 311(j)(5) and 311(j)(7) of the Clean Water Act, which is amended by the Oil Pollution Act of 1990 and interpreted by the U.S. EPA Oil Pollution Prevention Regulation (40 CFR Part 112.7(f)), Annual Refresher Training for Oil Spill Response shall be given to all company personnel who are part of the company's Oil Spill Response Management and Response Teams.

Oil Spill Response Annual Refresher Training must include, but is not limited to the following subjects:

- (1) Training Duration - 4 - 24 hours dependent upon job duties and responsibilities;
- (2) Training must be Certified.
- (3) Operations and Maintenance of Oil Pollution Control Equipment;
- (4) Applicable Pollution Control Laws;
- (5) Contents of all Facility Response Plans;
- (6) General Facility Operations
- (7) OSHA Requirements for Worker Health and Safety (29 CFR 1910.120)
- (8) Proven Experience in Specific Competencies; and
- (9) Annual Refresher Training.

**Section 1.8.3.6 – Annual Refresher Training – HAZWOPER
(Minimum General Criteria)**

Under OSHA 29 CFR 1910.120 (q)(8)(i), those employees who are trained in accordance with paragraph (q)(6) shall receive Annual Refresher Training of Sufficient Content and Duration to Maintain their Competencies or shall demonstrate competency in those areas at least yearly.

- (1) Duration of Training - 4 - 24 hours dependent upon Job Duty and Responsibility.
- (2) Training must be Certified.
- (3) Proven Experience in Specific Competencies; and
- (4) Annual Refresher Training.

Section 1.8.3.7 – Personnel Response Training Log

Prevention Training/Date/No. of Hours

Response Training/Date/No. of Hours

Name

1.		
2.		
3.		
4.		
5.		

Name

Response Training/Date/No. of Hours

Prevention Training/Date/No. of Hours

6. _____

7. _____

8. _____



Section 1.8.3.8 – Discharge Prevention Meeting Log

Date: _____

Attendees: _____

Subject/Issue Identified	Required Action	Implementation Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

15 RESPONSE PLAN CORE COMPONENTS

The 15 Response Plan Core Components
(taken from the National Preparedness for Response Exercise Program (PREP) Guidelines)

During each triennial cycle, all components of a plan holder's response plan must be exercised at least once. The purpose of this requirement is to ensure that all plan components function adequately for response to an oil spill.

The 15 core components listed below are the types of components that must be exercised. However, these components may not be contained in each response plan. As such, the plan holder shall identify those that are applicable from this list, adding or deleting as appropriate.

1. Notifications: Test the notifications procedures identified in the Area Contingency Plan and the associated Responsible Party Response Plan.

2. Staff Mobilization: Demonstrate the ability to assemble the spill response organization identified in the Area Contingency Plan and associated Responsible Party Response Plan.

3. Ability to Operate within the Response Management System Described in the Plan:
 - a. Unified Command: Demonstrate the ability of the spill response organization work within a Unified Command.
 - (1) Federal Representation: Demonstrate the ability to consolidate the concerns and interests of the other members of the Unified Command into a unified strategic plan with tactical operations.
 - (2) State Representation: Demonstrate the ability to function within the Unified Command structure.
 - (3) Local Representation: Demonstrate the ability to function within the Unified Command structure.
 - (4) Responsible Party Representation: Demonstrate the ability to function within the Unified Command structure.

b. Response Management System:

Demonstrate the ability of the response organization to operate within the framework of the response management system identified in their respective plans.

(1) Operations:

Demonstrate the ability to coordinate or direct operations related to the implementation of action plans contained in the respective response and contingency plans developed by the Unified Command.

(2) Planning:

Demonstrate the ability to consolidate the various concerns of the members of the Unified Command into joint planning recommendations and specific long-range strategic plans. Demonstrate the ability to develop short range tactical plans for the operations division.

(3) Logistics:

Demonstrate the ability to provide the necessary support of both the short-term and long-term action plans.

(4) Finance:

Demonstrate the ability to document the daily expenditures of the organization and provide cost estimates for continuing operations.

(5) Public Affairs:

Demonstrate the ability to form a joint information center and provide the necessary interface between the Unified Command and the media.

(6) Safety Affairs:

Demonstrate the ability to monitor all field operations and ensure compliance with safety standards.

(7) Legal Affairs:

Demonstrate the ability to provide the Unified Command with suitable legal advice and assistance.

4. Discharge Control:

Demonstrate the ability of the spill response organization to control and stop the discharge at the source.

5. Assessment:

Demonstrate the ability of the spill response organization to provide an initial assessment of the discharge and provide

continuing assessments of the effectiveness of the tactical operations.

6. Containment: Demonstrate the ability of the spill response organization to contain the discharge at the source or in various locations for recovery operations.

7. Recovery: Demonstrate the ability of the spill response organization to recover the discharged product.

7.1 On-Water Recovery: Demonstrate the ability to assemble and deploy the on-water recovery resources identified in the response plans.

7.2 Shore-Based Recovery: Demonstrate the ability to assemble and deploy the shoreside cleanup resources identified in the response plans.

8. Protection: Demonstrate the ability of the spill response organization to protect the environmentally and economically sensitive areas identified in the Area Contingency Plan and the respective industry response plan.

8.1 Protective Booming: Demonstrate the ability to assemble and deploy sufficient resources to implement the protection strategies contained in the Area Contingency Plan and the respective industry response plan.

8.2 Dispersant Use: Demonstrate the ability to quickly evaluate the applicability of dispersant use for this incident and implement the protection strategies contained in the Area Contingency Plan and the respective industry response plan.

8.3 In-Situ Burning: Demonstrate the ability to quickly evaluate the applicability of in-situ burning for this incident and implement a pre-approved plan from the Area Contingency Plan or develop a plan for use.

8.4 Water Intake Protection: Demonstrate the ability to quickly identify water intakes and implement the proper protection procedures from the Area Contingency Plan or develop a plan for use.

8.5 Wildlife Recovery and Rehabilitation: Demonstrate the ability to quickly identify these resources at risk and implement the proper protection procedures from the Area Contingency Plan to develop a plan for use.

8.6 Population Protection: Demonstrate the ability to quickly identify health hazards associated with the discharged product and the population at risk from these hazards, and to implement the proper protection procedures from the Area Contingency Plan or develop a plan for use.

8.7 Bioremediation: Demonstrate the ability to quickly evaluate the applicability of bioremediation use for this incident, and implement a plan from the Area Contingency Plan or develop a plan for use.

9. Disposal: Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.

10. Communications: Demonstrate the ability to establish an effective communications system for the spill response organization.

10.1 Internal Communications: Demonstrate the ability to establish an intra-organization communications system. This encompasses communications both within the administrative elements and the field units.

10.2 External Communications: Demonstrate the ability to establish communications both within the administrative elements and the field units.

11. Transportation: Demonstrate the ability to provide effective multi-mode transportation both for execution of the discharge and support functions.

11.1 Land Transportation: Demonstrate the ability to provide effective land transportation for all elements of the response.

11.2 Waterborne Transportation: Demonstrate the ability to provide effective waterborne transportation for all elements of the response.

11.3 Airborne

Transportation:

Demonstrate the ability to provide the necessary support of all personnel associated with the response.

12. Personnel Support:

Demonstrate the ability to provide the necessary support of all personnel associated with the response.

12.1 Management:

Demonstrate the ability to provide administrative management of all personnel involved in the response. This requirement includes the ability to move personnel into or out of the response organization with established procedures.

12.2 Berthing:

Demonstrate the ability to provide overnight accommodations on a continuing basis for a sustained response.

12.3 Messing:

Demonstrate the ability to provide suitable feeding arrangements for personnel involved with the management of the response.

12.4 Operational and
Admin. Spaces:

Demonstrate the ability to provide suitable operational and administrative spaces for personnel involved with the management of the response.

12.5 Emergency
Procedures:

Demonstrate the ability to provide emergency services for personnel involved in the response.

13. Equipment Maintenance
and Support:

Demonstrate the ability to maintain and support all equipment associated with the response.

13.1 Response Equipment: Demonstrate the ability to provide effective maintenance and support for all response equipment

13.2 Support Equipment: Demonstrate the ability to provide effective maintenance and support for all equipment that supports the response. This requirement includes communications equipment, transportation equipment, administrative equipment, etc.

- 14. Procurement: Demonstrate the ability to establish an effective procurement system.
 - 14.1 Personnel: Demonstrate the ability to procure sufficient personnel to mount and sustain an organized response. This requirement includes insuring that all personnel have qualifications and training required for their position within the response organization.
 - 14.2 Response Equipment: Demonstrate the ability to procure sufficient response equipment to mount and sustain an organized response.
 - 14.3 Support Equipment: Demonstrate the ability to procure sufficient support equipment to support and sustain an organized response.

- 15. Documentation: Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

Section 1.9 – List of Diagrams and Figures

Diagrams & Maps	Section
Map 1 – Diagram of Bloomfield Refinery Facility	1.1.1, 1.7.1
Map 2 - Spill Flow Direction at the Bloomfield Refinery	1.1.6, 1.3.5
Map 3 – Location of Bloomfield Refinery	1.1.6, 1.3.5
Map 4 – Routes for Emergency Response Personnel & Equipment	1.1.6, 1.3.5
Map 5 – Evacuation Routes to Evacuation Assembly Area	1.1.6, 1.3.5
Map 6 – Tank Locations and Contents at the Bloomfield Refinery	1.1.6, 1.3.5
Map 7 – Aboveground Storage Tanks and Secondary Containment at Bloomfield Refinery	1.4.1
Map 8 – Emergency Response Personnel & Equipment Assembly and Staging Areas	1.7.1
 Figures	
Figure 1 - Spill Estimating Factors	1.6.1
Figure 2 - Spill size in Fractions of a Square Mile	1.6.1
Figure 3 - Examples of Oil Movement on Water Surfaces	1.6.1
Figure 4 - Equipment for Recovery and Containment	1.6.1
Figure 5 - Optimum Boom Deployment Angles	1.6.1
Figure 6 - Oily Waste Separation Methods	1.6.1
Figure 7 - Temporary Storage Methods	1.6.1
Figure 8 - Shoreline Cleanup Techniques	1.6.1
Figure 9 - Recovery and Restoration Following an Oil Spill	1.6.1
Figure 10 - Spill Response Transportation Modes	1.6.1
Figure 11 - Equipment for Recovery and Containment	1.7.1
 Calculations	
Calculation 1 Oil Spreading on Moving Navigable Waters	1.4.3
Calculation 2 Oil Transport over Land	1.4.3

Section 1.10 – Security

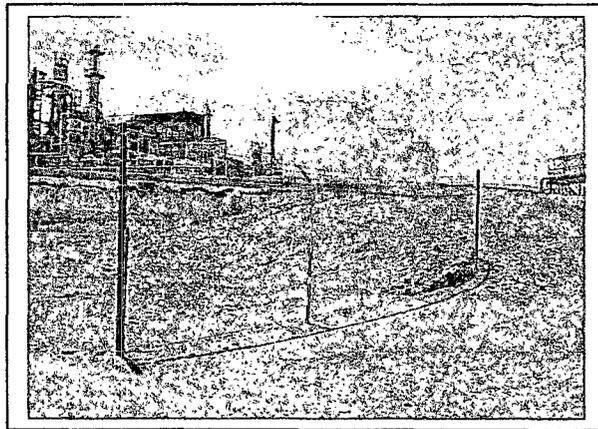
According to 40 CFR 112.7(e)(9), facilities are required to maintain a certain level of security, as appropriate. In this section, a description of the Giant Refining Company – Bloomfield Refinery Facility Security Systems will be discussed.

1. Pump Control Locations:

Pump Controls are located in buildings or areas restricted to authorized personnel only.

2. Enclosures:

The entire Bloomfield Facility is surrounded by a seven foot chain-link fence topped with barbed wire with two chain-link Key Card access Entry Gates. There are two metal gates that are kept padlocked and are for use by the Hammond Conservancy who manages the Hammond Irrigation Ditch, XTO and some independents who have wells they need to access. In addition, there are four chain-link gates that are kept locked at all times. Finally, there are a number of pedestrian gates that are also kept locked at all times. Fencing and gates are designed to restrict access to refinery operations. Vehicle traffic within the refinery is restricted and supervised.



*Fence around the Bloomfield Refinery
Facility*

3. Day and Night Manned Security:

The refinery is manned continuously throughout the year. The Bloomfield Police Department provides perimeter drive-by patrols of the refinery property.

4. Lighting:

The entire Bloomfield Refinery Facility is lit with overhead Outdoor Night Security Lighting that provides adequate light to see any activity in the Facility.

5. Valve and Pump Locks:

There are locks located throughout the facility in strategic places. Pumps and dispensers are equipped with locks that will be secured each evening.

6. Pipeline Connection Caps:

Loading and unloading connection points are locked in the closed position when not in use.

Section 2.0 – Response Plan Cover Sheet

General Information

Owner/Operator of Facility: Giant Refining Company

Facility Name: Bloomfield Refinery

Facility Address (Street Address or Route): 50 County Road 4990

City, State, and US Zip Code: Bloomfield, New Mexico 87413

Facility Phone No.: (505) 632-8013

Latitude (Degrees: North): 36° 41' 50"
(degrees, minutes, seconds)

Dun & Bradstreet Number: Not Available

Largest Aboveground Oil Storage Tank Capacity (barrels): 110,000

Number of Aboveground Oil Storage Tanks: 46

Longitude (Degrees: West): 107° 58' 20"
(degrees, minutes, seconds)

Standard Industrial Classification (SIC) Code: 2911

Maximum Oil Storage Capacity (barrels): 572,483

Worst Case Oil Discharge Amount (barrels): 110,000

Facility Distance to Navigable Water. Mark the appropriate line.

0 - 1/4 mile ¼ - ½ mile ½ - 1 mile >1 mile

Applicability of Substantial Harm Criteria

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

No **The facility does not transfer oil over water.**

Yes **Total storage capacity is 24,044,286 gallons.**

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and, within any storage area, does the facility lack secondary containment that is sufficiently large enough to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?

No

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes **The total capacity is greater than 1 million gallons.**

Yes **A discharge could cause injury to fish and wildlife and sensitive environments.**

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula (attachment C-III, Appendix C, 40 CFR 112 or a comparable formula)) such that a discharge from the facility would shut down a public drinking water intake?

Yes **The nearest public water intake is approximately ½ mile (2640 feet) from the refinery location on the San Juan River.**

Section 3.0 - Acronyms

ACP	Area Contingency Plan
ASTM	American Society of Testing Materials
ACP	Area Contingency Plan
Bbls	Barrels
Bpd	Barrels per Day
Bph	Barrels per Hour
CHRIS	Chemical Hazards Response Information System
COTP	Captain of the Port
CP	Command Post
CPC	Chemical Protective Clothing
CWA	Clean Water Act
DOC	Department of Commerce
DOI	Department of the Interior
DOT	Department of Transportation
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Association
FOSC	Federal On-Scene Coordinator
FR	Federal Register
FWPCA	Federal Water Pollution and Control Act
Gal	Gallons
Gpm	Gallons per Minute
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waste Operations and Emergency Response
IC	Incident Commander
ICS	Incident Command System
IDLH	Immediately Dangerous to Life and Health
JIC	Joint Information Center
LEL	Lower Explosive Limit
LEPC	Local Emergency Planning Committee
LFL	Lower Flammability Limit

MMS	Department of the Interior Minerals Management Service
MSDS	Material Safety Data Sheet
MSO	US Coast Guard Marine Safety Office
NCP	National Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Funds Center
NPREP	National Preparedness for Response Exercise Program
NRC	US Coast Guard National Response Center
NRDA	National Resource Damage Assessment
OPA	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administrator
OSLTF	Oil Spill Liability Trust Fund
OSRO	Oil Spill Response Organization
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
PREP	Preparedness for Response Exercise Program
QI	Qualified Individual
RA	Regional Administrator
RCRA	Resource Conservation and Recovery Act
RF	Radio Frequency
RP	Responsible Party
RRT	Regional Response Team
SARA	Superfund Amendments and Reauthorization Act
SCBA	Self Contained Breathing Apparatus
SERC	State Emergency Response Commission
SI	Surface Impoundment
SIC	Standard Industry Codes
SMT	Spill Management Team
SONS	Spill of National Significance
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention, Control and Countermeasures Plan
TSD	Temporary Storage and Disposal
UCS	Unified Command System

Acronyms

UEL	Upper Explosive Limit
UFL	Upper Flammability Limit
USCG	US Coast Guard
USFWS	US Fish and Wildlife Service
VOSS	Vessel of Opportunity Skimming System
WWTU	Waste Water Treatment Unit

GLOSSARY

GLOSSARY

This glossary contains definitions of terms used in this document and that are frequently used in ICS documentation.

Agency Representative – Individual assigned to an incident from an assisting or cooperating agency who has been delegated full authority to make decisions on all matters affecting his/her agency's participation at the incident. Agency Representatives report to the Liaison Officer.

Allocated Resources – Resources dispatched to an incident.

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 unit activities at camps.

Assisting Agency – An agency directly contributing tactical or service resources to another agency.

Available Resources – Incident-based resources that are immediately available for assignment.

Base – The location at which the primary logistics functions are coordinated and administered. (Incident name or other designator will be added to the term "Base".) The Incident Command Post may be collocated with the Base. There is only one Base per incident.

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.

Camp – A geographical site, within the general incident area, separate from the base, equipped and staffed to provide sleeping areas, food, water, and sanitary services to incident personnel.

Check-in – The process whereby resources first report to an incident response. Check-in locations may include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Helibases, and Division/Group Supervisors (for direct line assignments).

Chief – The ICS title of individual responsible for command of functional sections: Operations, Planning, Logistics, and Finance/Administration.

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 Commander/Unified Command.

Command Post – See Incident Command Post.

Command Staff – The Command Staff 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 Unit – A vehicle (trailer or mobile van) used to provide the major part of an incident Communications Center.

Cooperating Agency – An agency supplying assistance other than direct tactical, support, or service functions or resources to the incident control effort (e.g., Red Cross, telephone company, etc.)

Cost Unit – Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.

Decontamination – The process of removing or neutralizing contaminants that have accumulated on personnel and equipment.

Deputy – A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation 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.

Demobilization Unit – Functional unit within the Planning Section responsible for assuring orderly, safe, and efficient demobilization of incident resources.

Director – The ICS title for individuals responsible for supervising a Branch.

Dispatch – The implementation of a command decision to move resources from one place to another.

Dispatch Center – A facility from which resources are directly assigned to an incident.

Division – The organizational 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. (See also “Group”.)

Documentation Unit – Functional unit within the Planning Section responsible for collecting, recording, and safeguarding all documents relevant to the incident.

Emergency Operations Center (EOC) – A predesignated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency response.

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.

Federal On-Scene Coordinator (FOSC) – The predesignated Federal On-Scene Coordinator operating under the authority of the National Contingency Plan (NCP).

Field Operations Guide (FOG) – A pocket-size manual of guidelines regarding application of the Incident Command System.

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.

Food Unit – Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident personnel.

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”.

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.

Geographic Information System (GIS) – An electronic information system that provides a georeferenced data base to support management decision-making.

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.

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. (See Division.) Groups are located between Branches (when activated) and Single Resources in the Operations Section.

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.

Incident Base – See Base.

Incident Commander (IC) – The individual responsible for managing all incident operations.

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 standardized on-scene emergency management system specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

Incident Communication Center – The location of the Communications Unit and the Message Center.

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.

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.

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 FOOSC, SOOSC and the RP.

Leader – The ICS title for an individual responsible for a Task Force/Strike Team or functional Unit.

Liaison Officer (LO) – A member of the Command Staff responsible for coordinating with stakeholder groups and representatives from assisting and cooperating agencies.

Logistics Section – The Section responsible for providing facilities, services, and materials for the incident.

Managers – Individuals within ICS organizational units who are assigned specific managerial responsibilities (e.g., Staging Area Manager or Camp Manager).

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.

Message Center – The message center is part of the Communications Center and collocated with or adjacent to it. It receives, records, and routes information about resources reporting to the incident, resource status, and handles administration and tactical traffic.

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)



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.

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.

Procurement Unit – Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.

Qualified Individual (QI) – The person authorized by the responsible part to expend funds and obligate resources.



Regional Response Team (RRT) – A Federal response organization, consisting of representatives from specific Federal and state agencies, responsible for regional planning and

preparedness before an oil spill occurs and for providing advice to the FOSC in the event of a major or substantial spill.

Reporting Location – Any one of six facilities/locations where incident assigned resources may be checked in. The locations are: Incident Command Post – Resources Unit, Base, Camp, Staging Area, Helibase, or Division/Group Supervisors (for direct line assignments). Check-in for each specific resource occurs at one location only.

Resources 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 resource needs.

Responsible Party (RP) – The owner/operator of the vessel or facility that is the spill source.

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.

Service Branch – A Branch within the Logistics Section responsible for service activities at the incident. Includes the communications, Medical, and Food Units.

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 operations, 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 briefings (tailgate meetings, initial and as needed), pre-operations commencement health and safety briefing for all incident participants, and quality assurance of SSHP effectiveness.

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.

Stakeholders – Any person, group, organization affected by, and having a vested interest in, the incident and/or the response operation.

State On-Scene Coordinator (SOSC) – The predesignated State On-Scene Coordinator.

Strike Team – Specified combinations of the same kinds and types of resources, with common communications and a leader.

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.

Task Force -- A group of resources with common communications and a leader assembled for a specific mission.

Technical Specialists -- Personnel with special skills who can be used anywhere within the ICS organization.

Time Unit -- Functional unit within the Finance/Administration Section responsible for recording time for incident personnel and hired equipment.

Unified Command (UC) -- A unified team that manages an incident by establishing a common set of incident objectives and strategies. This is accomplished without loss or abdication of agency nor organizational authority, responsibility, nor accountability.

AREA CONTINGENCY PLAN SAMPLE FORMAT

AREA CONTINGENCY PLAN
Sample Format

1000 – Introduction

- 1100 – Authority
- 1200 – Definitions and Acronyms
- 1300 – Area Committee Purpose and Objective
- 1400 – Geographic Boundaries
- 1500 – National and Area Response System
- 1600 – Area Organizations: Authorities and Policies
- 1700 – Plan Review
- 1800 – Exercise Process
- 1900 – Reserved

2000 – Command

- 2100 – Command Structure: Unified Command
- 2200 – Command/Staff Elements: Roles and Responsibilities

3000 – Operations

- 3100 – Operations Section Organization
- 3200 – Roles and Responsibilities
- 3300 – Initial Emergency Communications
- 3400 – Required Correspondence
- 3500 – Response Priorities
- 3600 – Response Strategies

4000 – Planning

- 4100 – Planning Section Organization
- 4200 – Roles and Responsibilities
- 4300 – Compliance Guidance
- 4400 – Response Priorities
- 4500 – Strategic Response Strategies
- 4600 – Environmental Sensitivity Indices, Maps and Information

5000 – Logistics

- 5100 – Logistics Section Organization
- 5200 – Roles and Responsibilities
- 5300 – Communications
- 5400 – Area Resources: Infrastructure
- 5500 – Area Resources: Response Equipment
- 5600 – Area Resources: Personnel and Services

6000 – Finance/Administration

- 6100 – Finance/Administrative Section Organization
- 6200 – Roles and Responsibilities
- 6300 – FOSC Access to Funds
- 6400 – Other Access to Funds
- 6500 – Cost Recover and Documentation Procedures

7000 – Hazardous Materials (HazMat) Unique Information

- 7100 – Introduction
- 7200 – Command
- 7300 – Operations
- 7400 – Planning
- 7500 – Logistics
- 7600 – Finance

8000 – Marine Fire Fighting (Optional – may reference stand-alone plan)

- 8100 – Introduction
- 8200 – Command
- 8300 – Operations
- 8400 – Planning
- 8500 – Logistics
- 8600 – Finance

9000 – Area Planning Documentation

- 9100 – Area Committee Charter and Membership – (Reference to Section 1300)
- 9200 – Plan Review and Exercise Process – (Reference to Sections 1700 and 1800)
- 9300 – Planning Assumptions: Background Information
- 9400 – Spill and Discharge History
- 9500 – Scenarios – (Reference to Section 4700)
- 9600 – Geographic Specific Response Plans Cross Referenced with Other Sections as Appropriate
- 9700 – Reference Plans
- 9800 – Reserved for Future HQ Designation
- 9900 – Appendix

Index

INCIDENT SITUATION DISPLAY

INCIDENT SITUATION DISPLAY

The collection and display of information about an incident and the nature and status of response operations is a critical aspect of establishing and maintaining a command and control environment, and promotes effective and efficient communications. Ideally, pre-designed status boards should be used for display to ensure that critical information is captured and presented in a clear and logical fashion.

Status boards that depict information that is of use to two or more Sections in an Incident Command Post should be grouped together in an area called the Incident Situation Display. Incident Situation Display should be viewed as the one place in an Incident Command Post where anyone can go at any time to learn about the nature and status of an incident and response operations.

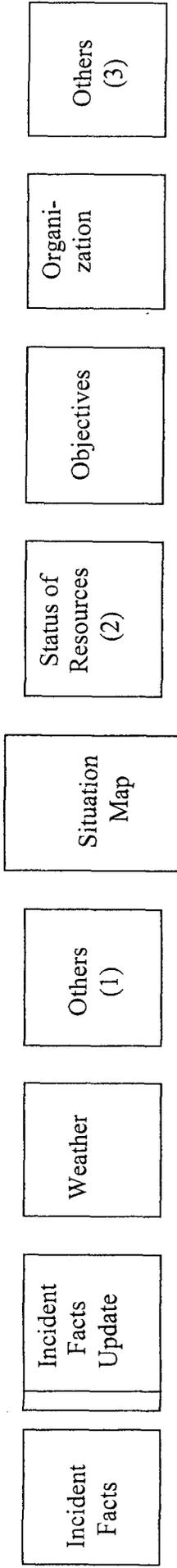
Status boards in the Incident Situation Display should be limited in number and should be displayed in an ordered fashion to ensure that they impart an integrated and coherent message concerning (1) the incident (e.g., nature and location of source, status of source, type and quantity of material spilled or emitted, and the environmental conditions affecting the response); and (2) the nature and status of response operations to address the incident. The diagram presents an example of an Incident Situation Display layout that is consistent with a logical left to right viewing.

An Incident Situation Display should be established and maintained by the Situation and Resource Unit Leaders. It should be situated in a highly visible and easily accessible location, in close proximity to the Planning Section and easily accessible to the Operations Section. Since it is an active work area, it should be located away from areas subject to heavy foot traffic.

Although an Incident Situation Display is established and maintained by personnel in the Planning Section, it belongs to everyone in the ICS. To the extent the Incident Situation Display contains information about activities underway in other Sections, it is the obligation of appropriate personnel in those Sections to work with Planning to ensure information posted in the Incident Situation Display is accurate and up-to-date. It is likewise the responsibility of the status board monitors within the Situation Unit to seek out sources and establish paths and schedules for needed information.

As time allows, black-and-white 8" x 10" versions of the status board information should be prepared. These documents should be time-stamped and distributed within the ICS and remotely, and copies should be made available at Incident Situation Display.

Example of a Situation Display Layout



(1) Safety and Health Considerations, Mass Balance, Sensitive Areas, Etc.

(2) En Route, Assigned, Available, and Out-of-Service (usually done with T-cards), and ICS 215 Operational Planning Worksheet.

(3) Agency Notifications, Incident-specific plans, Operational Period, Schedule of Meetings, General Plan.

The Situation Display can be viewed as having two halves. The left half should contain Status Boards that present information on the incident and factors, such as weather, that may impact the safety, efficiency or effectiveness of tactical response operations. Under ICS, this portion is often referred to as Situation Status (SitStat).

The right half should contain Status Boards that depict information on the nature and status of emergency response operations. Under ICS, this portion is often referred to as Resource Status (RESTAT).

In the middle of the Display, a Situation Map should be posted that visually displays the following information:

- Location of the source.
- Location of spilled or released materials.
- Location of incident facilities.
- Locations of Branches, Divisions, Groups, Task Forces, Strike Teams, and Single Resources.

A key should accompany the Situation Map. The ICS symbols depicted on the following page can be used to represent the items listed above.

ICS Map Display Symbolology

Suggested for Placement on Base Map:
Minimum Recommended

Suggested for Placement on Overlays:

Black	000	Highlighted Geographic	Blue		Staging Area
	00	Or			Hospital/First Aid
	...--	Manmade Features			Radio Communications
	XXX	Completed Dozer Line			Telephone
	*_*_*	Completed Boom Line			Boom Deployed
	#-#-#	Completed Pompom Line			OSRO Skimmer
	10	Spill/Hazard Origin	Red		Sensitive Biological Resources
	AUG	(Identify Type of Hazard, e.g. Powerlines)			Diving Bird
	1430				Gull/Tern
Blue		Incident Command Post			Shorebird
	©	Camp (Identify by Name)			Wading Bird
	●	Helispot (Location and Number)			Fish
	⊕	Helibase			Nursery Area
	CS	Containment Sites			
	ST	Strike Teams			
	TF	Task Forces			
	D	Divisions			
	DC	Decontamination			
	G	Groups			
	≈	Water			
	---	Rivers			
	===	Roads			
	---	Above-ground Pipeline			
	***	Control Zones			

INCIDENT NAME STATUS BOARD

Incident Name:

CLAIMS PHONE NUMBER STATUS BOARD

Claims Phone Number:

WEATHER STATUS BOARD

CURRENT

Wind Speed: _____ Wind Direction: _____
Air Temperature: _____ Precipitation: Rain _____ Snow _____
Ceiling: _____
Wave Height: _____ Wave Direction: _____
Current Speed: _____ Current Direction: _____
Water Temperature: _____
Sunrise: _____ Sunset: _____
Comments: _____

FORECAST

Wind Speed: _____ Wind Direction: _____
Air Temperature: _____ Precipitation: Rain _____ Snow _____
Ceiling: _____
Wave Height: _____ Wave Direction: _____
Current Speed: _____ Current Direction: _____
Water Temperature: _____
Sunrise: _____ Sunset: _____
Comments: _____

SAFETY AND HEALTH STATUS BOARD

Safety Officer On-Scene? Yes _____ No _____

Name of Safety Officer: _____

Summary of Results of Site Characterizations:

<u>Chemical</u>	<u>Physical</u>

Area Isolated: Yes _____ No _____

Hazard Control Zones Established? Yes _____ No _____

Hazard Control Zones Secured? Yes _____ No _____

Medical Screening Established? Yes _____ No _____

Personnel Training Levels Verified? Yes _____ No _____

Decontamination Area(s) Established? Yes _____ No _____

First Aid Areas Established? Yes _____ No _____

Levels of PPE Required: _____

Incident-Specific Site Safety Plan:

_____ In Preparation Estimated Time of Completion: _____

_____ Completed and Approved

MASS BALANCE STATUS BOARD

<u>Factor</u>	<u>Last 24 Hours</u>	<u>To Date</u>
Amount Spilled	_____	_____
Amount Recovered	_____	_____
Evaporation Factor	_____ percent	_____ percent
Natural Dispersion Factor	_____ percent	_____ percent
Emulsification Factor	_____ percent	_____ percent
Amount Remaining:		
On Water	_____	_____
On Land	_____	_____

OBJECTIVES STATUS BOARD

Incident Name: _____

Most Recent Update (Date): _____ (Time) _____

Operational Period: _____

Objectives for Current Operational Period:

Objectives for Next Operational Period:

ORGANIZATION ASSIGNMENT STATUS BOARD

Command Section:

Incident Commander: _____
Unified Command: _____
Deputy: _____
Safety Officer: _____
Information Officer: _____
Legal Officer: _____
Liaison Officer: _____

Planning Section:

Chief: _____
Deputy: _____
Resource Unit: _____
Situation Unit: _____
Environmental Unit: _____
Documentation Unit: _____
Demobilization Unit: _____
Technical Specialists: _____

Logistics Section:

Chief: _____
Deputy: _____
Support Branch: _____
Director: _____
Supply Unit: _____
Facilities Unit: _____
Ground Sup. Unit: _____
Service Branch: _____
Director: _____
Comm. Unit: _____
Medical Unit: _____
Food Unit: _____

Operations Section:

Chief: _____
Deputy: _____
Branch 1: _____
Director: _____
Deputy: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Branch 2: _____
Director: _____
Deputy: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Branch 3: _____
Director: _____
Deputy: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Branch 4: _____
Director: _____
Deputy: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____
Div./Group: _____

Finance Section:

Chief: _____
Deputy: _____
Time Unit: _____
Procure. Unit: _____
Cmp./Clm Un: _____
Cost Unit: _____

OPERATIONAL PERIOD/SCHEDULE OF MEETINGS STATUS BOARD

Current Operational Period

Starting Date: _____

Starting Time: _____

Ending Date: _____

Ending Time: _____

Meetings for Current Operational Period

Time: _____

Meeting: _____

Next Operational Period

Starting Date: _____

Starting Time: _____

Ending Date: _____

Ending Time: _____

Meetings for Next Operational Period

Time: _____

Meeting: _____

GENERAL PLAN STATUS BOARD

Tasks

Durations (Circle One)

	<u>Days</u>	<u>Weeks</u>	<u>Months</u>
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9

GENERAL PLAN STATUS BOARD

Equipment Resources

Durations (Circle One)

	<u>Days</u>	<u>Weeks</u>	<u>Months</u>
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9

Personnel Resources

_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9
_____	1 2 3 4 5 6 7	2 3 4	2 3 4 5 6 7 8 9

