AFTER ACTION REPORT

Lower Colorado River
Pipeline Incident Exercise
2017

KINDER MORGAN
ENERGY PARTNERS, L.P.

Sponsors

KINDER MORGAN RRT9

Exercise Location:

Hilton Garden Inn / Pivot Point Conference Center
310 N Madison Avenue
Yuma, AZ 85364

Prepared By:

MIDSTREAM
Compliance & Response Management, LLC

25420 Kuykendahl Road, Suite C300
The Woodlands, Texas 77375

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1. SUMMARY

This exercise was a functional exercise designed to provide an opportunity for Kinder Morgan's Spill Management Team (SMT) to work alongside the federal, state, tribal, local and Mexican response organizations in responding to the SIMULATED worst case discharge scenario for their pipeline system in this operating area.

The event spanned two days with the first day consisting of HAZWOPER training and the 201 development for the scenario; and, the second day being dedicated to a full day of play with a much larger group of participants followed by a critique session. This After Action Report (AAR) was prepared to document activities and lessons learned from the day's events.

Exercise Name:	Lower Colorado River Pipeline Exercise
Type of Exercise:	Functional Exercise
Date(s):	April 12-13
Location:	Hilton Garden Inn 310 N. Madison Avenue Yuma, Arizona 85364
Incident Type:	Pipeline Release

2. PARTICIPATING COMPANIES/ORGANIZATIONS

- Kinder Morgan
- Regional Response Team
- Midstream Compliance & Response Management, LLC
- Patriot Environmental
- Environmental Protection Agency (EPA)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- Federal Emergency Management Agency (FEMA)
- United States Bureau of Reclamation (USBR)
- International Boundary and Water Commission (IBWC)
- Fort Yuma Quechan Tribe
- Organismo de Cuenca (Mexico)
- Cocopah Indian Tribe
- Other tribes (TBD)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Department of Emergency and Military Affairs (DEMA)
- California Office of Spill Prevention and Response (Cal OSPR)
- Cal EPA

2. PARTICIPATING COMPANIES/ORGANIZATIONS (Cont'd)

- California Department of Toxic Substance Control (DTSC)
- Yuma County
- Arizona National Guard (AZNG)
- National Oceanic and Atmospheric Agency (NOAA)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- US Fish and Wildlife Service (USFWS)
- Comision Nacional Del Agua (CONAGUA)
- California State Fire Marshal
- United States Coast Guard (USCG)
- California Environmental Protection Agency (Cal EPA)
- ClearTec
- CTEH
- Bureau of Indian Affairs (BIA)

See sign in sheet in Section 9 for a complete list of participants

3. AGENDA

April 12

TIME	ACTIVITY
1500	Simulated release, ERL call and preparation of the ICS 201.
1630	Adjournment

April 13

TIME	ACTIVITY
0800	Welcome, Introductions and Review of Ground Rules
0815	Exercise Pre-Briefs – Lower Colorado River GRP, WebEOC and Kinder Morgan Operations
0900	Exercise Begins with 201 Briefing
1130	Working Lunch
1400	Exercise Concludes
1430	Exercise Debrief
1500	Adjournment

3. AGENDA (CONT'D)

TIME	ACTIVITY
0800	Introductions and Review of Ground Rules
0830	Exercise Begins
1130	Working Lunch
1400	Exercise Concludes
1430	Exercise Debrief
1500	Adjournment

4. EXERCISE OBJECTIVES

General: The exercise was designed to build relationships between industry, and responding and coordinating agencies and to provide a forum to discuss the integration of plans that guide environmental response operations in the Yuma area. Exercise objectives focused on operational coordination and communications, building a common operating picture for all involved entities, and ensuring protection of natural and cultural resources. The purpose of this exercise was also to satisfy the requirements of the National Preparedness for Response Exercise Program (NPREP) and the State of California Request for Drill and Exercise Credit.

Specific Exercise focus areas will include the following:

1) Exercising the notification procedures in the Lower Colorado River Geographic Response Plan (LCRGRP), including our Mexican counterparts and the Tribes.

2) Test WEBEOC or other common operating platform for situational awareness and common operating picture for agencies/organizations working the exercise. Work towards better interoperability. Upload Incident Action Plan (IAP) and/or Situation report to the platform for sharing.

3) Establish a Command Post, Unified Command and Incident Command System / Incident Management Assistance Team (ICS / IMAT) among Federal, State, Local, Tribal, Mexican, and Kinder Morgan responders to the incident and create appropriate documentation, e.g., IAP, Sit Report.

4) Meet the three year PREP objectives for Kinder Morgan (address 15 components of NPREP and 9 components of Cal OSPR)

    a. Day 1 (1/2 day) – simulated discharge of diesel into river from ruptured pipeline and of an ICS 201

    b. Day 2 - response actions to contain and recovery diesel and generation of an IAP at the Command Post

5) Examined the ability of various response agencies/organization to jointly disseminate public information and warnings for an incident occurring on the Lower Colorado River through a Joint Information Center.

4. EXERCISE OBJECTIVES (CONT"D)

Exercise Activities / topics that are Out of Play:

- Boom Deployment (Truthing existing GRP booming strategies will take place of actual boom deployment)
- Terrorism will not be played
- There was no fire
- Weather was be scripted
- Volunteers will not be played, but injects were given to the Public Information Officer (PIO)/Joint Information Center (JIC)

5. EXERCISE PLAY

Participants

- Players – Players responded to the situation presented, based on expert knowledge of response procedures, current plans and procedures, and insights derived from training.

- Observers – Observers supported the group in developing responses to the situation during the discussion; they were not participants in the moderated discussion period, however.

- Facilitators – Facilitators provided situation updates and moderate discussions. They also provided additional information and served as "truth" resolving questions as required.

Exercise Structure

Players will participate in one or both of the following two phases:

- Phase 1 - Incident Detection, initial response and 201 development – This activity will involve Kinder Morgan personnel with the purpose of exercising their immediate response. The incident commenced at approximately 1500 hrs. and ended at approximately 1630 hrs. at which time play was suspended until the next morning.

- Phase 2 Full Exercise Play – This activity began at approximately 0830 with a 201 briefing and transfer of command where the previous night's activities were suspended. This phase had full participation from the agencies, local responder and non-local Kinder Morgan employees all of whom have simulated arrival times throughout the evening and early morning. This phase entailed the rest of the Initial Response phase and continued for the rest of the stages of the full Planning P.

Control

The following ground rules were utilized to facilitate the exercise:

- **SAFETY FIRST**.
- The exercise proceeded in real time (Other than on Day 1 (201 development) – which was simulated).

5. EXERCISE PLAY (CONT'D)

- The exercise was driven in part by pre-developed injects. These were accomplished using ICS 213 forms (General Message) as event cards. All injects were designed to provide information regarding the incident, the people involved, and activities that took place and were not modified unless agreed to with the Controller.
- All telephone conversations began and ended with "**THIS IS A DRILL**". This statement was included on all exercise documents.
- Participants were expected to identify equipment, services, personnel and other support needed for the incident. It was understood that a significant amount of response equipment was simulated as being deployed during the exercise. Actual ETAs were used for the purpose of this exercise.
- Company personnel, contractors and agencies were contacted as necessary with the full understanding that ***they understood this to be a drill.***
- The scenario, injects and role plays introduce some artificial information. In order to meet the objectives of the exercise, all situations were treated as real events.
- Each team member documented actions taken during the exercise. All documentation was given to the Controller at the end of the exercise.
- The exercise concluded with a debrief. This included input on the positives and the areas that need improvement.

6. SCENARIO (TAKEN FROM PLAYERS MANUAL)

Arizona has been experiencing very heavy rains over several days which has forced the opening of gates at Laguna Dam, which consequently, raises the level of the Colorado River. On April 13 at 0500 hours Colton Control Center (CCC) receives low pressure alarms, and flow rate alarms, on the 22" pipeline LS 111/112/113 at Colorado River West valve. The OCC immediately follows the emergency procedures to shut in the line, at Colorado River West and East valve locations. However, the command fails to close the valves resulting in an uncontrolled release in the River.

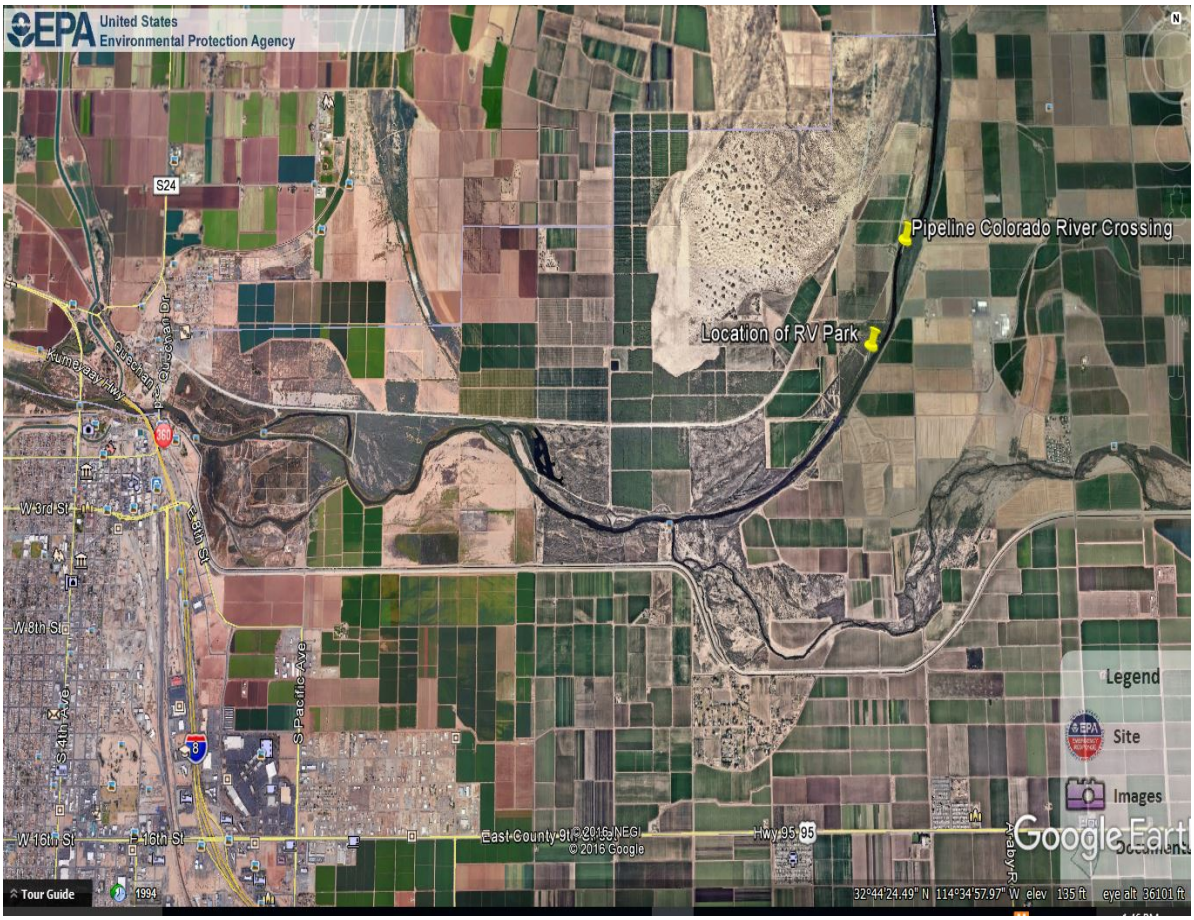
A fisherman on the river, near the area of the RV park in Rio Verde notices a sheen and an odor of diesel and calls 911.

The fire department, in response to the call received by the fisherman, calls Kinder Morgan's 1-800 hotline and reports what the fisherman told them. The Fire Department immediately responds to the RV park located on Levee Rd and reports visual verification of product on the water of the Colorado River at GPS coordinates 32°43'56.50"N 114°32'8.56"W.

Notes:

- The area is receiving heavy rains; rivers are experiencing high water levels.
- The GPS Coordinates for the pipeline crossing are:
  - 32º 44' 24.85" N 114º 31' 54.61" W
- The weather forecast is cloudy with chance of rain.
- Yuma Arizona is quickly becoming a hot zone.
- The product is reaching the international border.

MAP OF FACILITY AREA



7. TEAM DEBRIEF FORM

Step I. List the Top Things That Went Well:

1) IT / Documentation Group – Wireless and printing capabilities.

2) Good collaboration and communication among agencies. OSPR provided good templates within the Liaison group. Good cooperation within UC

3) Good support provided to the Finance Section Chief from KM Houston Crisis Support Team.

4) Separate, private room was made available for the JIC.

5) The injects introduced in the exercise, with the exception of one, were fully completed

6) Good direction from the IC immediately following the IC brief.

7) Good scenario

8) Good use of 213 (General Message Forms) for introducing injects.

Step II. List the Top Things That Need Improvement:

1) Needed more vests for agency personnel.

2) Lack of a Common Operating Picture. There seemed to be confusion between the Planning Group and the WebEOC on what information was presented and when.

3) Flow of communication between groups could have been better.

4) The layout of the command post could have been organized better. Because of the lack of vests, identified earlier, it was difficult to identify the various sections.

5) UC should have accepted EPA's offer to provide air monitoring support.

6) The Liaison group had a difficult time with getting accurate, real time information. The suggestion was made to designate a deputy to brief the group before meetings.

7) The safety group had to wait too long from the other groups to complete the 208.

8) Contact information on the proper Mexican authorities was missing from the plan.

9) The use of the Geographic Response Plan could have been better.

8. TEAM DEBRIEF FORM (CONT'D)

Step III. Identify any actions taken or need to be taken on the Things That Need Improvement (Step II above) that will lead to improvement for the IMT.

1) The use of WebEOC versus traditional situation boards should be clearly defined during the next event to avoid confusion on roles and responsibilities (Exercise Director when planning next event).

2) Kinder Morgan should have more in depth training on ICS to allow for better communication between groups and to conduct more effective meetings (Rod Dillon).

3) When using injects, consider using colored paper and assign numbers from the main MSEL list to aid in tracking (Midstream).

4) Provide signs or other identifiers to distinguish the various functional areas to make it easier to distinguish the distinct groups (Documentation Unit and/or Midstream)

5) Ensure all non-Kinder Morgan participants know what roles they will play during the event (Agency Liaison).

6) Update the Integrated Contingency Plan (ICP) to include the reporting requirements for Mexico and draw more attention to the GRP to ensure that it is ease to access during a real event (Midstream).

9. PREP DOCUMENTATION FORM

Internal Exercise Documentation Form
Spill Management Team Tabletop Exercise

1. Date(s) performed: **12 - 13 April 2017**

2. Exercise or actual response? **Announced Exercise**

3. Location of Tabletop: **Kinder Morgan Lower Colorado River Pipeline Release**

   Hilton Garden Inn - Pivot Point
   310 N Madison Ave.
   Yuma, AZ 85364

4. Time started: **04/12/17 1500 hrs.**
   Time completed: **04/12/17 1630 hrs.**

   Time started: **04/13/17 0800 hrs.**
   Time completed: **04/12/17 1400 hrs.**

5. Response plan scenario used (check one):

   _____ Average Most Probable Discharge
   _____ Maximum Most Probable Discharge
   X Worst Case Discharge

   Size of (simulated) spill: **As per their plan, the potential of 35,173 bbls. of Diesel Fuel.**

6. Describe how the following objectives were exercised:

   a) Incident Management Team's knowledge of the oil spill response plan: **The Local Response Team understood their plan and knew how it was organized. The Operations Section had a hard copy printed and referenced it when needed.**

   b) Proper Notifications:

   Notifications were made in accordance with the Section 2 of the ICP and the ERL call and Federal, State and local entities. The only exception being the Mexican authorities. As per the exercise ground rules, all calls were made with the exception of the call to 911 which was simulated.

8. PREP DOCUMENTATION FORM (CONT'D)

c) Communications System:

The IMT used cellular phones to communicate internally and initially externally. The team discussed and develop a communication plan. See ICS forms 205.

6. Describe how the following objectives were exercised (cont'd):

d) Incident Management Team's ability to access contracted Oil Spill Removal Organizations:

The local OSRO, Patriot Environmental Services was notified and two representatives responded to the Command Post.

e. Incident Management Team's ability to operate within a Unified Command:

A Unified Command was formed. Unified Command consisted of Kinder Morgan's Incident Commander, the USEPA, OSPR, ADEQ and Cocopah Indian Tribe.

f) Incident Management Team's ability to access sensitive site and resource information in the Area Contingency Plan:

The ICP, which was prepared with the use of the ACP, was used as a resource. OSPR played a valuable role in the Environmental Unit and an ICS 232 was developed and is available in the attachments that follow.

7. Identify which of the 15 core components of your response plan and identified in the Appendix were exercised during this particular exercise:

See below

	PREP COMPONENT	COMMENTS
X	**1. Notifications**	See Kinder Morgan Notification Form in Section 9
X	**2. Staff mobilization**	Incident Briefing; ICS 201
X	**3. Ability to Operate in the Response Management System Identified in the Plan**	See below
X	**3.1. Unified Command**	Initial UC Meeting and Objectives Meeting
	3.1.1 Federal Representation	FOSC DOT/PHMSA, and USCG present.
	3.1.2 State Representation	State OSC present (CA and AZ)
	3.1.3 Local Representation	Local law enforcement and Fire Department notified but were not part of UC.
	3.1.4 Responsible Party Representation	Terminal Manager; KM ERL Call
X	**3.2. Response Management System**	See below
	3.2.1 Operations	KM, Patriot Environmental. See ICS 204, 215, 234
	3.2.2 Planning	KM; see prepared IAP
	3.2.3 Logistics	KM; See ICS 213 Resource Requests
	3.2.4 Finance	KM; support from Corporate office
	3.2.5 Public Affairs	KM, Press release prepared. JIC established
	3.2.6 Safety Affairs	KM SSP ICS 208
	3.2.7 Legal Affairs	KM; engaged on ERL call
X	**4. Source Control**	KM, Patriot Environmental - Operations Section; see ICS 201, 204
X	**5. Assessment**	See ICS 201, KM SSP
X	**6. Containment**	See ICS 201, 234, 204
X	**7. Recovery**	See below
	7.1 On-Water Recovery	N/A
	7.2 Shore-Based Recovery	See ICS 201 and 202 Objectives; ICS 234, 204

	PREP COMPONENT	COMMENTS
X	**8. Recovery**	See below
	8.1 Protective Booming	See ICS 201 and 202 Objectives; ICS 234, 204
	8.2 Water Intake Protection	N/A
	8.3 Wildlife Recover and Rehab.	See ICS 201 and 202 Objectives;
	8.4 Population Protection	KM, Patriot Environmental see ICS 201 and 202 and Site Safety Plan
X	**9. Disposal**	KM, Patriot Environmental see ICS 215 and Waste Management Plan
X	**10. Communications**	See below
	10.1 Internal Communications	KM; ERL call;
	10.2 External Communications	Notifications made see ICS 201
X	**11. Transportation**	See below
	11.1 Land Transportation	Patriot Environmental mobilized resources and discussed a transport/traffic plan
	11.2 Waterborne Transportation	N/A
	11.3 Airborne Transportation	N/A
X	**12. Personnel Support**	See below
	12.1 – 12.3 Management, Berthing and Messing	KM mobilized local admin staff as needed. Meals provided
	12.4 - 12.5 Ops and Admin. Spaces, ER procedures	KM Command Post, Patriot Environmental, Site Safety Plan, Medical Plan
X	**13. Equipment Maintenance and Support**	See below
	13.1 Response Equipment	Staging Area identified and established.
	13.2 Support Equipment (communications, etc.)	Patriot Environmental
X	**14. Procurement**	See below
	14.1 Personnel	See ICS 201, ICS 213 Resource Request
	14.2 Response Equipment	See ICS 215; ICS 201, ICS 213 Resource Request
	14.3 Support Equipment	See ICS 215, 201, and 213.
X	**15. Documentation**	See ICS 201, IAP and other documentation in Section 9

	STATE OF CALIFORNIA EXERCISE OBJECTIVES FOR TANK VESSELS, NON-TANK VESSELS AND MARINE FACILITIES	COMMENTS
X	**1. Notifications**	See PREP Core Component 1
X	**2. Staff Mobilization**	See PREP Core Component 2
X	**3. Incident Command System (ICS)**	See PREP Core Component 3
X	**4. Unified Command (UC)**	See PREP Core Component 3.1
X	**5. Public Information Officer (PIO)**	See PREP Core Component 3.2.5
X	**6. Liaison Officer (LNO)**	See PREP Core Component 3.1.4, 3.2.5, 3.2.7
X	**7. Safety Officer (SOFR)**	See PREP Core Component 3.2.6
X	**8. Operations (OPS)**	See PREP Core Component 3.2.1
	8.1 Source Control	See PREP Core Component 4
	8.2 Assessment	See PREP Core Component 5
	8.3 Vessel Emergency Services	N/A
	8.4 Lightering	N/A
	8.5 Firefighting	Not required; air monitoring established by FD
	8.6 Shoreline Protection	See PREP Core Component 3.2.1
	8.7 Wildlife Recovery & Rehabilitation	See PREP Core Component 8.3
	8.8 Safety of Responders and Public	See PREP Core Component 8.4
X	**9. Planning**	See PREP Core Component 3.2.2
	9.1 Situation Unit	See IAP, personnel notes, Incident Status Display (photos)
	9.2 Resource Unit	See ICS 201 (page 4), 211, 215, 234
	9.3 Environment Unit	OSPR; ICS 232; use of ICP
	9.3.1 Waste Management	KM and Patriot Environmental; Waste Management Plan
	9.3.2 Applied Response Technology (ART)	OSPR ART discussed (OSPR) See ICS 213 from EU in Various ICS Forms in Section 9
	9.4 Documentation	See 201, IAP and all documentation in Section 9
	9.5 Volunteer Management	Managing volunteers discussed during media release by OSPR and UC.

	PREP COMPONENT	COMMENTS
X	**10. Logistics**	See PREP Component 3.2.3
	10.1 Communications	See PREP Component 10 and 14.2
	10.2 Personnel Support	See PREP Core Component 14.1
	10.3 ICP Equipment and Support	See PREP Core Component 13.2
X	**11. Finance**	See PREP Core Component 3.2.4

8. Attach description of lesson(s) learned and person(s) responsible for follow up of corrective measures.

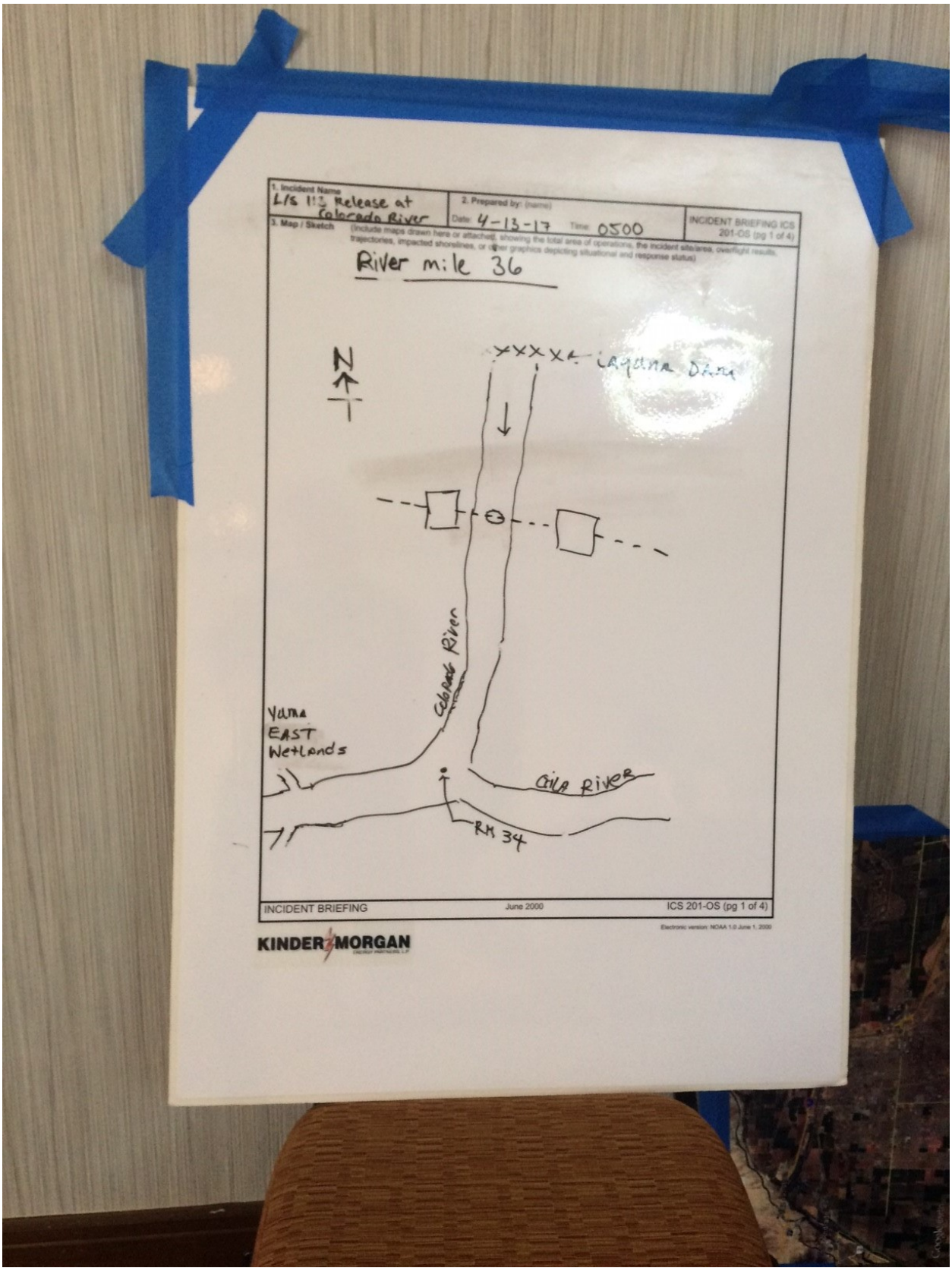
   See Section 7 of this report.

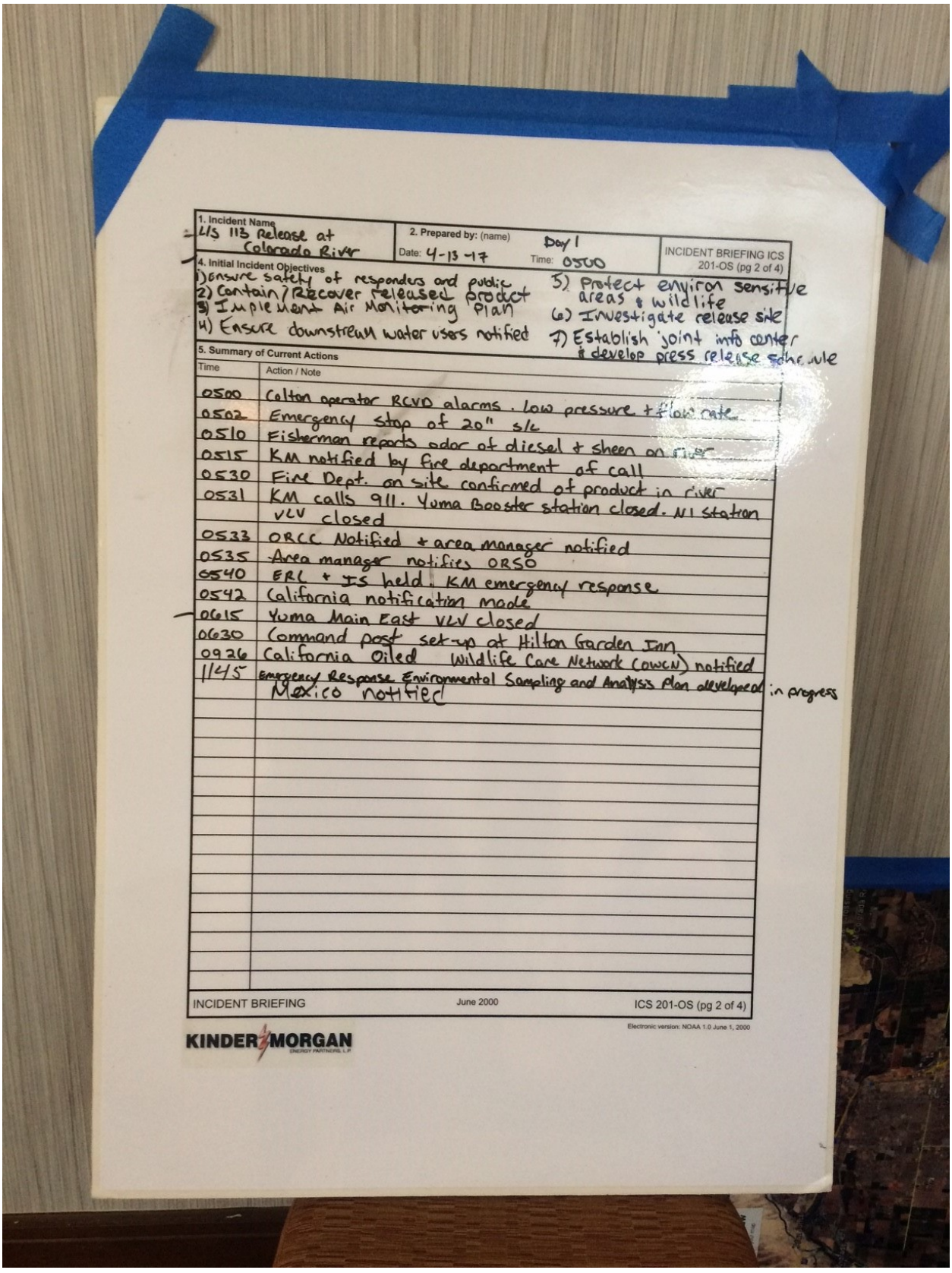
John McHugh
Midstream Compliance & Response Management, LLC

Retain this form for a minimum of three (3) years (for USCG/RSPA/BSEE)
Or five (5) years (for EPA)

9. DOCUMENTATION

ICS 201


1. Incident Name
L/S 113 release at Colorado River
2. Prepared by: (name)
Date: 4-13-17 Time: 0500
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)
River mile 36
N
XXXXX Laguna Dam
Colorado River
Yuma EAST Wetlands
Gila River
RM 34
INCIDENT BRIEFING
June 2000
ICS 201-OS (pg 1 of 4)
KINDER MORGAN



1. Incident Name: L/S 113 Release at Colorado River
2. Prepared by: (name) Day 1
Date: 4-13-17 Time: 0500
INCIDENT BRIEFING ICS 201-OS (pg 2 of 4)

4. Initial Incident Objectives
1) Ensure safety of responders and public
2) Contain/Recover released product
3) Implement Air Monitoring Plan
4) Ensure downstream water users notified
5) Protect environ sensitive areas & wildlife
6) Investigate release site
7) Establish joint info center & develop press release schedule

5. Summary of Current Actions

Time	Action / Note
0500	Colton operator RCVD alarms. Low pressure + flow rate
0502	Emergency stop of 20" s/c
0510	Fisherman reports odor of diesel & sheen on river
0515	KM notified by fire department of call
0530	Fire Dept. on site confirmed of product in river
0531	KM calls 911. Yuma Booster station closed. N1 station VLV closed
0533	ORCC Notified & area manager notified
0535	Area manager notifies ORSO
0540	ERL & IS held. KM emergency response
0542	California notification made
0615	Yuma Main East VLV closed
0630	Command post set-up at Hilton Garden Inn
0926	California Oiled Wildlife Care Network (OWCN) notified
1145	Emergency Response Environmental Sampling and Analysis Plan developed in progress
	Mexico notified

INCIDENT BRIEFING June 2000 ICS 201-OS (pg 2 of 4)

Electronic version: NOAA 1.0 June 1, 2000

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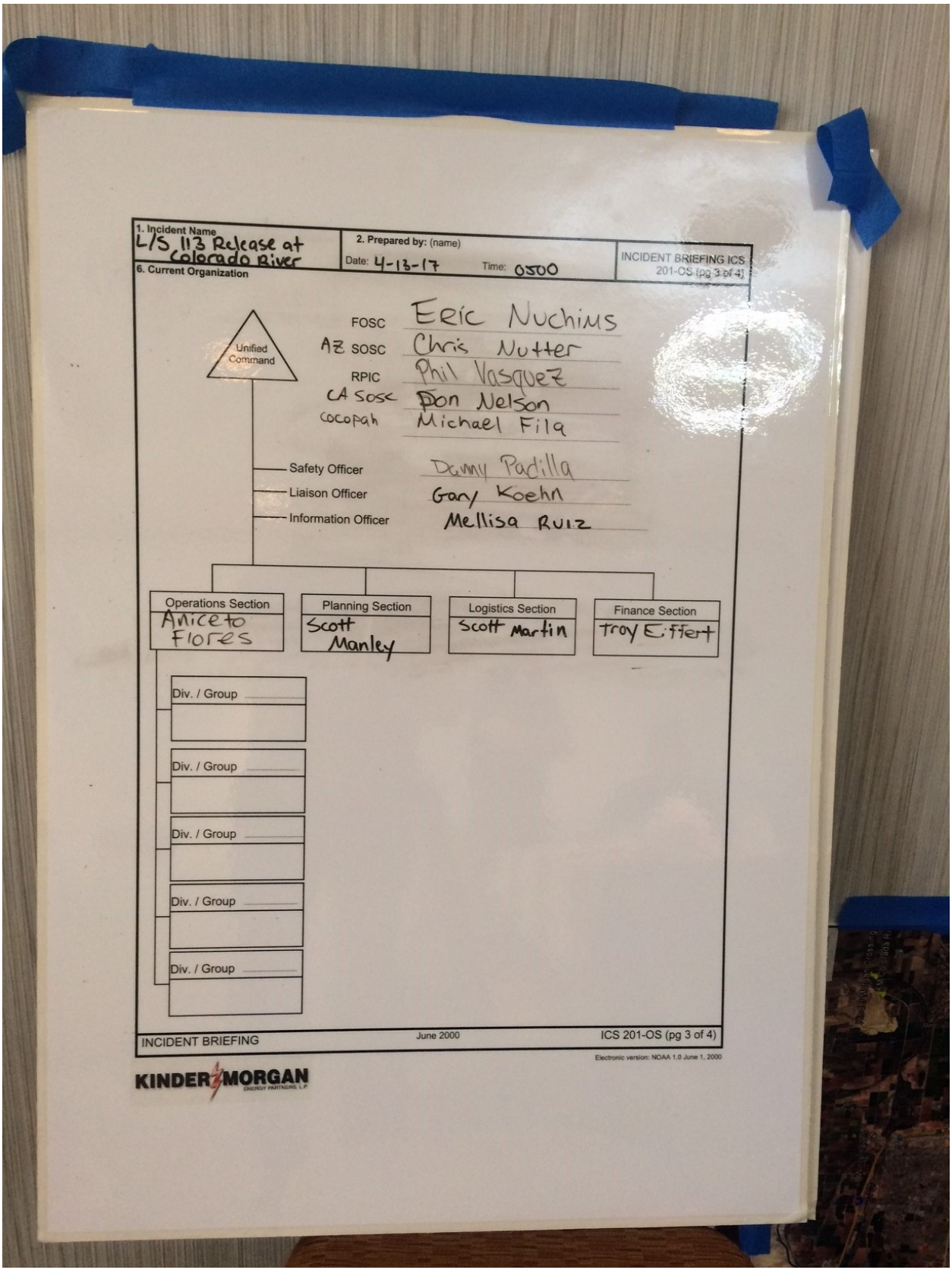

1. Incident Name: L/S 113 Release at Colorado River
2. Prepared by: (name)
Date: 4-13-17 Time: 0500
INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)
6. Current Organization

Unified Command

FOSC Eric Nuchims
AZ SOSC Chris Nutter
RPIC Phil Vasquez
CA SOSC Don Nelson
COCOPAH Michael Fila

Safety Officer Danny Padilla
Liaison Officer Gary Koehn
Information Officer Mellisa Ruiz

Operations Section: Aniceto Flores
Planning Section: Scott Manley
Logistics Section: Scott Martin
Finance Section: Troy Eiffert

Div. / Group
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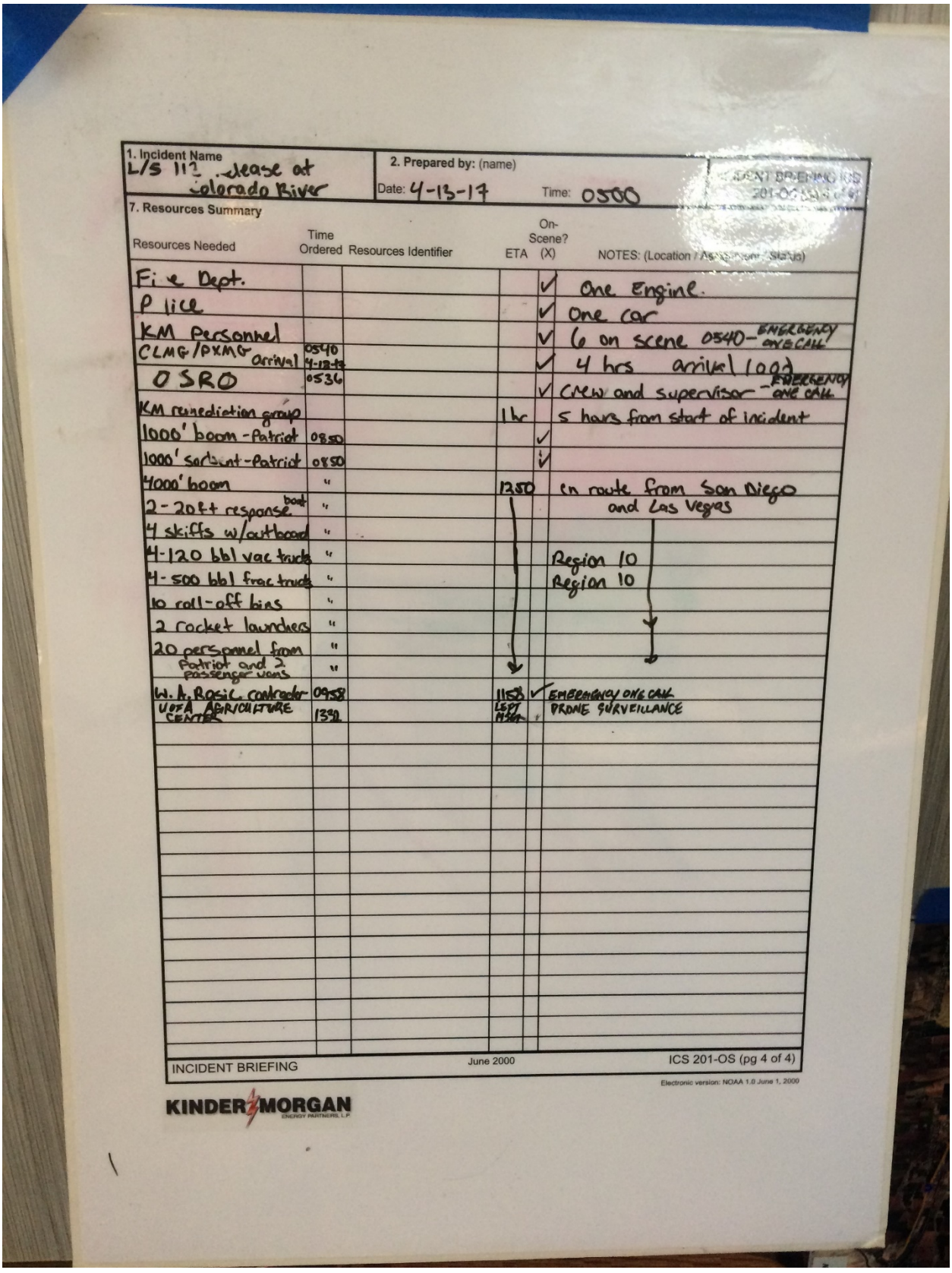
INCIDENT BRIEFING June 2000 ICS 201-OS (pg 3 of 4)
Electronic version: NOAA 1.0 June 1, 2000
KINDER MORGAN ENERGY PARTNERS L.P.



1. Incident Name: L/S 112 ..lease at Colorado River
2. Prepared by: (name)
Date: 4-13-17 Time: 0500

7. Resources Summary

Resources Needed	Time Ordered	Resources Identifier	ETA	On-Scene? (X)	NOTES: (Location / Assignment / Status)
Fire Dept.				✓	One Engine.
Police				✓	One car
KM Personnel				✓	6 on scene 0540- EMERGENCY ONE CALL
CLMG/PXMG arrival	0540 4-13-17			✓	4 hrs arrival 1000
OSRO	0536			✓	Crew and supervisor - EMERGENCY ONE CALL
KM remediation group			1hr		5 hours from start of incident
1000' boom - Patriot	0850			✓	
1000' sorbent - Patriot	0850			✓	
4000' boom	"		1250		en route from San Diego and Las Vegas
2 - 20ft response boat	"				
4 skiffs w/outboard	"				
4-120 bbl vac trucks	"				Region 10
4-500 bbl frac tanks	"				Region 10
10 roll-off bins	"				
2 rocket launchers	"				
20 personnel from Patriot and 2 passenger vans	"				
W. A. Basic contractor	0958		1158	✓	EMERGENCY ONE CALL
UofA AGRICULTURE CENTER	1392		LEFT MSG		DRONE SURVEILLANCE

INCIDENT BRIEFING June 2000 ICS 201-OS (pg 4 of 4)

Electronic version: NOAA 1.0 June 1, 2000

KINDER MORGAN ENERGY PARTNERS, L.P.

IAP

1. Incident Name LS113-Release at the Colorado River	2. Operational Period to be covered by IAP (Date/Time) From: 4/14/17 0600 To: 4/15/17 0600	CG IAP COVER SHEET

3. Approved by Incident Commander(s):

ORG	NAME
FOSC	Eric Nuchims - EPA Environmental Protection Agency
SOSC AZ	Chris Nutter -ADEQ Arizona Dept of Environmental Quality
SOSC CA	Don Nelson - CDFW/OSPR CA Dept of Fish and Wildlife/Office of Spill Prevention and Response
RPIC	Phil Vasquez - Kinder Morgan
Cultural	Michael Fila -Cocopah

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ☒ ICS 202-CG (Response Objectives)
- ☒ ICS 203-CG (Organization List) – OR – ICS 207-CG (Organization Chart)
- ☒ ICS 204-CGs (Assignment Lists)
  One Copy each of any ICS 204-CG attachments:
- ☒ ICS 205-CG (Communications Plan)
- ☒ ICS 206-CG (Medical Plan)
- ☒ ICS 208-CG (Site Safety Plan) or Note SSP Location
- ☒ Map/Chart
- ☒ Weather forecast / Tides/Currents

Other Attachments

- ☒ CA ART Worksheet
- ☒ Waste Management Plan
- ☒ Sampling and Analysis Plan
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

ORIGINAL

THIS IS A DRILL

4. Prepared by: Date/Time

DRILL

1. Incident Name	2. Operational Period (Date/Time)	INCIDENT OBJECTIVES ICS 202-CG
LINE SECTION 113 RELEASE ON LOWER COLORADO RIVER	From: 4/13 0600 To: 4/13 1800	

3. Objective(s)

1) ENSURE THE SAFETY AND WELFARE OF PUBLIC & RESPONSE PERSONNEL FOR THE DURATION OF THE INCIDENT

2) CONTAIN AND RECOVER RELEASED PRODUCT

3) DEVELOP AND IMPLEMENT AN AIR MONITORING PROGRAM

4) ENSURE ALL DOWNSTREAM WATER STAKEHOLDERS ARE NOTIFIED AND KEPT INFORMED

5) PROVIDE PROTECTION OF ENVIRONMENTAL SENSITIVE AREAS INCLUDING WILDLIFE AND SOCIAL ECONOMIC SENSITIVITIES

6) CONDUCT AN INVESTIGATION OF RELEASE SITE

7) ESTABLISH A JOINT INFORMATION CENTER AND DEVELOP A PRESS RELEASE TIME SCHEDULE

4. Operational Period Command Emphasis (Safety Message, Priorities, Key Decisions/Directions)

THIS IS A DRILL

ORIGINAL

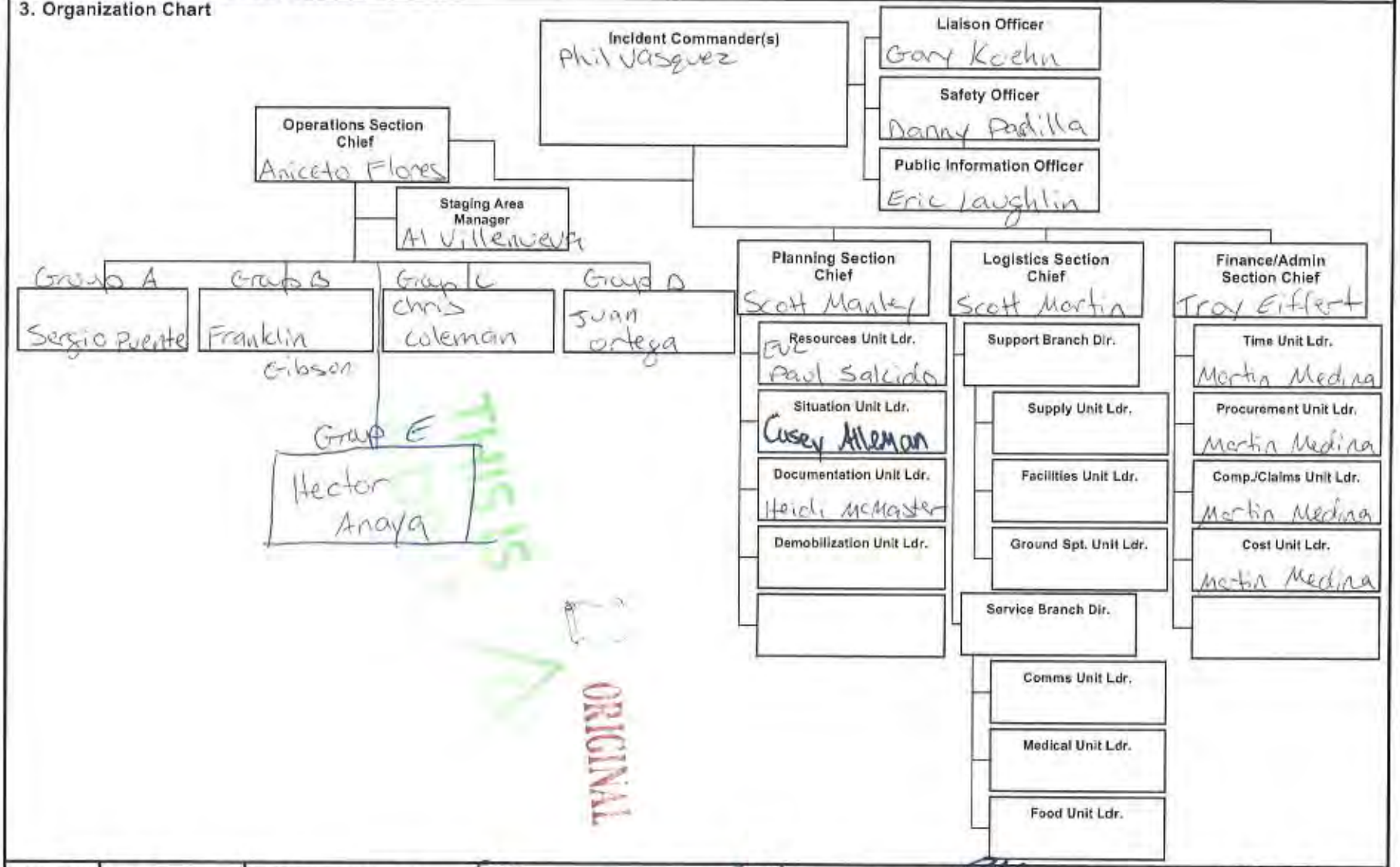
Approved Site Safety Plan Located at:

5. Prepared by: (Planning Section Chief)	Date/Time
SCOTT MANLEY	4/3 1015

INCIDENT ORGANIZATION CHART (ICS 207)

1. Incident Name:	2. Operational Period: Date From:	Date To:
L/S 113 Release at Colorado River	Time From:	Time To:

3. Organization Chart



ICS 207	IAP Page ___	4. Prepared by: Name: Casey Alleman	Position/Title: SUL	Signature:	Date/Time: 4/13/17 1445

MAP OF FACILITY AREA

DIV. A

1. Incident Name: COLORADO RIVER L/S 113 RELEASE	2. Operational Period: (Date/Time) From: 0600 04/14/17 To: 0600 04/15/17	Assignment List ICS 204-CG
3. Branch: OPERATIONS	4. Division/Group/Staging: DIV A – RM-37 / EXCAVATION AT RELEASE SOURCE	

5. Operations Personnel

	Name	Affiliation	Contact # (s)
Operations Section Chief:	Amicato Flores	KM OPS	951 712 8824
Branch Director			
Division/Group Supervisor:	Tom Hale	PATRIOT ENVIRONMENTAL	805-504-6799

6. Resources Assigned — "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	
EXCAVATION TEAM	Joe Smith	805-231-2345	12	Report to excavation/release site	
4-Long Reach Excavators					
2-14' Skiffs w/motors					
800' x 12" river boom					
1-Fuel truck					
1-500 bbl tank					

7. Work Assignments:

1. **Mobilize personnel and equipment to excavation site.**
2. **Conduct JSA on scene prior to job start.**
3. **Perform continuous air monitoring of site.**
4. **Excavate to expose pipe, collect contaminated soil in 20 yard bins if necessary.**
5. **Transport collected waste to temporary waste storage.**
6. **Report any injuries or contaminated wildlife.**

ORIGINAL

THIS IS A DRILL

DRILL

8. Special Instructions:

1. **AVOID DISTURBING ANY WILDLIFE.**
2. **REPORT ANY INCIDENT REQUIRING MORE THAN FIRST AID TO THE UC.**
3. **FOLLOW SITE SAFETY PLAN.**
4. **MAINTAIN SITUATIONAL AWARENESS AT ALL TIMES.**
5. **DISPOSE OF CONTAMINATED MATERIALS IN ROLLOFF HAZ WASTE BINS**

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager
Tom Hale / Ops	VHF 16	805-504-7699	cell

Emergency Communications

Medical 911 Evacuation 3 long blasts on air horn Other VHF Channel 16

10. Prepared by: THale	Date/Time 04-13-17 / 0930	11. Reviewed by (PSC):	Date/Time	12. Reviewed by (OSC):	Date/Time 4-14-17 1345

DN. B

1. Incident Name: COLORADO RIVER L/S 113 RELEASE	2. Operational Period (Date/Time) From: 0600 04/14/17 To: 0600 04/15/17	Assignment List ICS 204-CG
3. Branch: RECOVERY & PROTECTION	4. Division/Group/Staging: RM-34.2 / RECOVERY GROUP	

5. Operations Personnel

	Name	Affiliation	Contact # (s)
Operations Section Chief:	Aniceto Flores	KM	951-712-8848
Branch Director			
Division/Group Supervisor:	KRIS AHRENS	PATRIOT ENVIRONMENTAL	602-752-1562

6. Resources Assigned — "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	
RECOVERY TEAM # 2	Bill Flartey	805-231-0300	5	LCR / RM-34.2 Recovery Site	
1-500 bbl frac tank					
1-70 bbl vactruck					
1500' x 12" river boom					
1-Skimpack w/hoses					
5-response personnel					

7. Work Assignments:

1. Mobilize personnel and equipment to recovery site.

2. Conduct JSA on scene prior to job start.

ORIGINAL

3. Perform continuous air monitoring of site.

4. Ground/bond all equipment, set up vapor recovery (per KM SOPs)

5. Using booms, skimmers, sorbents & vactrucks to recover product and transport to temporary waste storage

6. Report any injuries or contaminated wildlife.

8. Special Instructions:

1. **AVOID DISTURBING ANY WILDLIFE.**
2. **REPORT ANY INCIDENT REQUIRING MORE THAN FIRST AID TO THE UC.**
3. **FOLLOW SITE SAFETY PLAN.**
4. **MAINTAIN SITUATIONAL AWARENESS AT ALL TIMES.**
5. **DISPOSE OF CONTAMINATED MATERIALS IN ROLLOFF HAZ WASTE BINS**

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager
Tom Hale / Ops	VHF 16	805-504-7699	cell

Emergency Communications

Medical 911 Evacuation 3 long blasts on air horn Other VHF Channel 16

10. Prepared by:	Date/Time	11. Reviewed by (PSC):	Date/Time	12. Reviewed by (OSC):	Date/Time
KCreighton/THale	04-13-17 / 0930				4-14-17 1345

DIV. C

1. Incident Name: COLORADO RIVER L/S 113 RELEASE	2. Operational Period (Date/Time) From: 0600 04/14/17 To: 0600 04/15/17	Assignment List ICS 204-CG
3. Branch: OPERATIONS	4. Division/Group/Staging: DIV-C RM-27 6 RECOVERY GROUP	

5. Operations Personnel

	Name	Affiliation	Contact # (s)
Operations Section Chief:	ANICeto Flores	Kindermorgan	951-712-8848
Branch Director			
Division/Group Supervisor:	Robert Martinez	PATRIOT ENVIRONMENTAL	805-755-1562

6. Resources Assigned — "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	
RECOVERY TEAM 27.6	John Johnson	805-203-8800	6	RM-27.6 Recovery Site	
1-500 bbl frac tank					
1-70 bbl vactruck					
1500' x 12" river boom					
1-Skimpack w/hoses					
5-response personnel					
1-cultural monitor/observer					

7. Work Assignments:

1. **Mobilize personnel and equipment to recovery site.**
2. **Conduct JSA on scene prior to job start.**
3. **Perform continuous air monitoring of site.**
4. **Ground/bond all equipment, set up vapor recovery (per KM SOPs)**
5. **Using booms, skimmers, sorbents & vactrucks to recover product and transport to temporary waste storage**
6. **Report any injuries or contaminated wildlife.**
7. **Cultural/observer/s will monitor all recovery sites**

ORIGINAL

8. Special Instructions:

1. **AVOID DISTURBING ANY WILDLIFE.**
2. **REPORT ANY INCIDENT REQUIRING MORE THAN FIRST AID TO THE UC.**
3. **FOLLOW SITE SAFETY PLAN.**
4. **MAINTAIN SITUATIONAL AWARENESS AT ALL TIMES.**
5. **DISPOSE OF CONTAMINATED MATERIALS IN ROLLOFF HAZ WASTE BINS**

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager
Tom Hale / Ops	VHF 16	805-504-7699	cell

Emergency Communications

Medical 911 Evacuation 3 long blasts on air horn Other VHF Channel 16

10. Prepared by: THale	Date/Time 04-13-17 / 0930	11. Reviewed by (PSC):	Date/Time	12. Reviewed by (OSC):	Date/Time 4-14-17 1345

DIV. D

1. Incident Name: COLORADO RIVER L/S 113 RELEASE	2. Operational Period (Date/Time) From: 0600 04/14/17 To: 0600 04/15/17	Assignment List ICS 204-CG
3. Branch: RECOVERY & PROTECTION	4. Division/Group/Staging: RM-26 / RECOVERY GROUP	

5. Operations Personnel

	Name	Affiliation	Contact # (s)
Operations Section Chief:	Aniceto Flores	Kinder Morgan	951-712-8848
Branch Director			
Division/Group Supervisor:	KRIS AHRENS	PATRIOT ENVIRONMENTAL	602-752-1562

6. Resources Assigned — "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	
RECOVERY TEAM # 1	Mike Smith	805-203-5566	6	RM-26 Recovery Site	
1-500 bbl frac tank					
1-70 bbl vactruck					
1500' x 12" river boom					
1-Skimpack w/hoses					
5-response personnel					
1-cultural monitor/observer					

7. Work Assignments:

ORIGINAL

1. Mobilize personnel and equipment to recovery site.

2. Conduct JSA on scene prior to job start.

3. Perform continuous air monitoring of site.

4. Ground/bond all equipment, set up vapor recovery (per KM SOPs)

5. Using booms, skimmers, sorbents & vactrucks to recover product and transport to temporary waste storage

6. Report any injuries or contaminated wildlife.

7. Cultural/observer/s will monitor all recovery sites

8. Special Instructions:

1. **AVOID DISTURBING ANY WILDLIFE.**
2. **REPORT ANY INCIDENT REQUIRING MORE THAN FIRST AID TO THE UC.**
3. **FOLLOW SITE SAFETY PLAN.**
4. **MAINTAIN SITUATIONAL AWARENESS AT ALL TIMES.**
5. **DISPOSE OF CONTAMINATED MATERIALS IN ROLLOFF HAZ WASTE BINS**

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager
Tom Hale / Ops	VHF 16	805-504-7699	cell

Emergency Communications

Medical 911 Evacuation 3 long blasts on air horn Other VHF Channel 16

10. Prepared by:	Date/Time	11. Reviewed by (PSC):	Date/Time	12. Reviewed by (OSC):	Date/Time
KCreighton/THale	**04-13-17 / 0930**				4-14-17 1345

DIV. E

1. Incident Name:	2. Operational Period (Date/Time)	Assignment List ICS 204-CG
COLORADO RIVER L/S 113 RELEASE	From: 0600 04/14/17 To: 0600 04/15/17	

3. Branch:	4. Division/Group/Staging:
RECOVERY & PROTECTION	RM-22.1 / RECOVERY GROUP

5. Operations Personnel	Name	Affiliation	Contact # (s)
Operations Section Chief:	Aniceto Flores	kindermorgan	951-712-8848
Branch Director			
Division/Group Supervisor:	KRIS AHRENS	PATRIOT ENVIRONMENTAL	602-752-1562

6. Resources Assigned — "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	
RECOVERY TEAM # 2	Bob Jones	805-444-2255	5	LCR / RM-22.1 Recovery Site	
1-500 bbl frac tank					
1-70 bbl vactruck					
1500' x 12" river boom					
1-Skimpack w/hoses					
5-response personnel					

7. Work Assignments:

1. Mobilize personnel and equipment to recovery site.

2. Conduct JSA on scene prior to job start.

3. Perform continuous air monitoring of site.

ORIGINAL

4. Ground/bond all equipment, set up vapor recovery (per KM SOPs)

5. Using booms, skimmers, sorbents & vactrucks to recover product and transport to temporary waste storage

6. Report any injuries or contaminated wildlife.

8. Special Instructions:

1. **AVOID DISTURBING ANY WILDLIFE.**
2. **REPORT ANY INCIDENT REQUIRING MORE THAN FIRST AID TO THE UC.**
3. **FOLLOW SITE SAFETY PLAN.**
4. **MAINTAIN SITUATIONAL AWARENESS AT ALL TIMES.**
5. **DISPOSE OF CONTAMINATED MATERIALS IN ROLLOFF HAZ WASTE BINS**

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager
Tom Hale / Ops	VHF 16	805-504-7699	cell

Emergency Communications

Medical 911 Evacuation 3 long blasts on air horn Other VHF Channel 16

10. Prepared by:	Date/Time	11. Reviewed by (PSC):	Date/Time	12. Reviewed by (OSC):	Date/Time
KCreighton/THale	04-13-17 / 0930				4-14-17 1345

DRILL

DRILL

COMMUNICATIONS LIST (ICS 205A)

1. Incident Name: Colorado River L/S 113 Release	2. Operational Period: Date From: 4-14-17 Date To: 4-15-17 Time From: ~~4-14-18~~ 0600 Time To: 0600

3. Basic Local Communications Information:

Incident Assigned Position	Name (Alphabetized)	Method(s) of Contact (phone, pager, cell, etc.)
Incident Commander	Phil Vasquez	Cell: 951-712-8796
Information Officer	Melissa Ruiz	713-376-0582
Safety	Daniel Padilla	760-352-0677
Liason	Gary Rocha	760-455-6464
Operations Section	Aniceto Flores	951-712-8824
Planning Section	Scott Manley	480-797-4673
Logistics Section	Scott Martin	714-357-7502
Finance/Admin	Troy Eiffert	480-797-4550
Safety - Assist.	Steven Lopez	~~480~~ 480-450-5930
Operations - Assist.	Tom Bishop	909-841-0604
Planning - Assist.	Casey Alleman	337-852-5548
Logistics - Assist.	Alan Van Antwerp	619-922-1960
Staging	Joe Robinson	760-960-2409
Staging	Chris Coleman	602-269-2573
Staging	Al Villanueva	951-757-3248
Operations - Assist	Hector Anaya	909-219-3059
Operations - Assist	Sergio Puente	909-219 0983
Finance - Assist	Martin Medina Jr.	760-455-2546
* Interpreter	Ricardo Ruiz	760-427-0587
Environmental - Assist	Robert Wichman	No longer on scene
FOSC	Eric Nuchims	628-217-0699
SOSC - AZ	Chris Nutter	602-390-8009
SOCC - CA	Don Nelson	626-629-9096
Cocopah Tribe	Michael Fila	928-750-6612
Environmental Unit	Paul Salcido	480-203-9968
Env. Unit - Assist.	Steve Defibaugh	949-283-4596

4. Prepared by: Name: Scott Martin Position/Title: Logistics Chief Signature:

ICS 205A | IAP Page ____ | Date/Time: 4-13-~~1335~~ 2017 / ~~13~~ 1335

DRILL

MEDICAL PLAN (ICS 206)

1. Incident Name:	2. Operational Period: Date From:	Date To:
Colorado River LS 113 Release	4/13/17 Time From: 0500	4/18/17 Time To: 1700

3. Medical Aid Stations:

Name	Location	Contact Number(s)/Frequency	Paramedics on Site?
Quechan Casino	525 Algadones Rd.		☒ Yes ☐ No
	Winterhaven, CA 92283		☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

4. Transportation (indicate air or ground):

Ambulance Service	Location	Contact Number(s)/Frequency	Level of Service
Rural Metro Fire	2029 S. Arizona Ave. Yuma AZ	928-782-4757	☒ ALS ☐ BLS
Southwest Ambulance	" "	800-928-539-1802	☐ ALS ☒ BLS
			☐ ALS ☐ BLS
Sun Care Air Ambulance	2095 E. 32nd St. Yuma Intl airport	800-327-0906	☒ ALS ☐ BLS

5. Hospitals:

Hospital Name	Address, Latitude & Longitude if Helipad	Contact Number(s)/ Frequency	Travel Time Air	Travel Time Ground	Trauma Center	Burn Center	Helipad
Yuma Regional Medical Center	2400 S. Avenue A Yuma, AZ 85364	928-336-2000	/	15MIN	☐ Yes Level:___	☐ Yes ☒ No	☒ Yes ☐ No
					☐ Yes Level:___	☐ Yes ☐ No	☐ Yes ☐ No
AZ Burn Center	2601 E. Roosevelt St Phoenix, AZ 85008	602-344-5011	1hr	3hrs	☒ Yes Level:___	☒ Yes ☐ No	☒ Yes ☐ No
					☐ Yes Level:___	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:___	☐ Yes ☐ No	☐ Yes ☐ No

6. Special Medical Emergency Procedures:

All injuries will be transported to Quechan Casino staging area for treatment. Minor Injuries will be treated on site. Major injuries will be transported to Yuma Regional Medical Center.

☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.

7. Prepared by (Medical Unit Leader): Name: Alan R. Van Antwerp Signature: Alan R. Van Antwerp

8. Approved by (Safety Officer): Name: DANIEL PADILLA Signature:

ICS 206	IAP Page ___	Date/Time: 1342 4-13-17

DRILL

Waste Management Plan

LS 113 Release

April 13, 2017

	Position/Name	Signature	Date Signed
Prepared by:	Stephen Defibaugh		4-13-17
Reviewed by:	Kyle Lawrence		4/13/17
Approved by:	Paul Salcido		04/13/17
Approved by:	Casey Alleman - Planning		4/13/17
Approved by:			

1.0 INTRODUCTION

The purpose of this plan is to describe the Kinder Morgan Pipeline plan for management of waste streams generated as a result of the LS 113 Release. Incident was discovered on April 13, 2017. The release occurred at the crossing of the Colorado River. A map of the Incident is provided in **Appendix A**.

This Waste Management Plan (WMP) establishes and describes procedures and protocols to be followed by responders for all salvage and spill response materials, recovered and generated. The plan provides for the management, transportation, interim storage, and final disposal of the expected waste streams that may be generated as part of the response.

The Incident-Specific Site Health and Safety Plan (HASP) has been completed and approved by Unified Command. All activities identified in this Waste Management Plan (WMP) are subject to the HASP.

2.0 BEST MANAGEMENT PRACTICES

The following best practices must be followed in the management of wastes generated as a result of the LS 113 Release Incident:

- Dispose or manage wastes and recoverable materials in permitted or otherwise authorized locations and facilities only. Unauthorized disposal or management will not be tolerated.
- Obtain Safety Data Sheets (SDSs) for all known products involved in waste management.
- Reduce waste generation whenever practical. This is known as waste minimization or pollution prevention.
- Reuse or recycle materials whenever practical. This not only lowers consumption of raw materials; it also eliminates the need for waste disposal. Recycling and reuse of recovered oil and oily water is the preferred option.
- Avoid co-mingling wastes of different classifications. For example, never place non-hazardous wastes in the same container as hazardous waste. In addition, keep recyclable material separate from non-recyclable waste. It may be difficult or impossible to separate wastes after they are co-mingled.
- Maintain good housekeeping practices. Employees and contractors should maintain neat, clean work areas to reduce the need for additional clean up and the associated waste.
- Properly store wastes, especially hazardous wastes, to avoid releases to soil, water, or air, and to avoid consumption by wildlife, until they can be appropriately managed.
- Clearly identify waste containers. Use a label or other means to clearly identify the contents of containers of hazardous, non-hazardous and inert wastes.
- Document quantities and disposition of all hazardous and non-hazardous wastes as instructed in this plan. Waste tracking is required for all hazardous wastes. This information will be included in the final report developed at the conclusion of response activities.
- Recovered liquids (diesel, water, sludge) should be collected and stored in as large a container as possible (UN approved drum, tote, tank, tanker truck, etc.).
- Communicate your ideas for waste minimization or waste management improvements to supervisors and fellow employees in different areas.

- Maintain security at all sites where waste is held.

3.0 TYPE OF WASTE GENERATED FROM RESPONSE OPERATIONS

Wastes generated from the LS 113 Release spill response will be handled in accordance with state hazardous waste regulations and company policy. Materials collected during this incident which may include refined product liquid, refined product solids, and non-refined product liquids.

3.1 Refined Product Liquids

Liquid waste (diesel, diesel impacted water or mixed residual liquid waste) recovery from the relevant operations will be pumped into the appropriate USDOT approved portable containers and or vac trucks, transported to the staging area. Recoverable product will be skimmed off from the liquids and re-introduced into the pipeline.

3.2 Refined Product Solids

Solid waste (diesel contaminated soil, absorbents, impacted/contaminated PPE, used sampling equipment, solidified liquids, etc.) generated from response efforts will be addressed in one of three methods:

3.2.1 Solid Bagging In The Field

- Solid waste collected by crews will be stored in 6mm bags or equivalent, consolidated with other bags of the same material, and transported to the designated storage area/container.
- If necessary, bags can be staged at approved areas at the work site until transport to the designated container is possible.
- Field personnel will load bagged solids into lined roll-off containers.
- Full roll-off containers will be transported to the staging area to await offsite disposal.
- All containers used are to be lined with impermeable sheeting prior to loading.
- All roll-off containers will be covered with tarps during storage and transportation.

3.2.2 Direct Load-Out In the Field

- All roll-off containers used are to be lined with impermeable sheeting prior to loading.
- Field personnel will load bulk solids directly into lined roll-off containers at point of generation when possible.
- Roll-off containers will be transferred to staging area to await offsite disposal.
- All roll-off containers will be covered with tarps during storage and transportation.

3.2.3 Stockpile And Load-Out In The Field

- Excavated or solidified solids may be placed into temporary stockpiles prior to load out for transportation to an offsite disposal facility.
- Stockpiles of impacted soil placed on impacted soil don't need poly placed on the ground. If any impacted soil is stockpiled on non-impacted soil, two layers of 6-mil poly sheeting or thicker will be placed on the ground prior to stockpiling material.
- Once stockpiling is completed or at the end of each day, the stockpiles will be covered with 6-mil poly sheeting and surrounded by a berm to prevent migration of material or runoff.
- Prior to transport to offsite disposal facility, the solids will either be placed in roll-off containers or dump trailers for over the road transportation.
- All roll-off containers used are to be lined with impermeable sheeting prior to loading.
- All roll-off containers will be covered with tarps during storage and secured prior to transportation.

3.3 Non-Refined Product Solids

- Household waste (misc. plastic, paper, wood, cardboard and PPE, etc. not impacted/contaminated) will be bagged and transferred to the designated container.

4.0 WASTE MANAGEMENT PROCESS

The waste management process will consist of receiving, packing, labeling, and manifesting sorted waste at recovery points or the designated staging area(s). The material/waste will then be transported to the appropriate final disposal facility for recycling, treatment, or disposal.

Figure 4: Waste Flow Process

5.0 RE-USE, TREATMENT, RECYCLING AND DISPOSAL FACILITIES

Table 5 contains a list of anticipated re-use, recycling, treatment, and disposal facilities that may be utilized to handle material generated from the LS 113 Release Incident. This list shall not be deemed inclusive and is subject to change based on material generated and facility requirements. Kinder Morgan and Unified Command will ultimately approve the re-use, recycling, treatment, or disposal locations.

Prior contact should be made with the facilities identified in Table 5 as soon as the waste is identified and an estimated volume is established.

Table 5: Waste Management Summary Table

Description of Material/Waste	Waste Category	Method of Removal	Ultimate Disposal Location	Disposal Method
Diesel Product	Recycled	Vacuum Truck	N/A	Recycled
Diesel Impacted Liquid	Oiled Liquid Non-Hazardous	Vacuum Truck	Clean Harbors, Phoenix, AZ	Separation and Treatment

	Waste			
Refined Product Solids	Non-Hazardous, Industrial Solid Waste	Drummed and consolidated or placed in roll off bins, and transported by truck	Clean Harbors, Phoenix, AZ	Landfill
Non-Refined Product Solids	Non-Hazardous, ND Industrial Solid Waste	Drummed and consolidated or placed in roll off bins, and transported by truck	Clean Harbors, Phoenix, AZ	Landfill

Others facilities may be utilized for recycling, reuse, or disposal upon the approval of Kinder Morgan and Unified Command.

6.0 WASTE CHARACTERIZATION

Classification of wastes/materials will be determined based upon generator knowledge, and/or sampling analysis results. Currently, the estimated volume of each waste stream and reclaimable/recyclable materials are unknown due to the nature of the incident.

In the event identified waste requires characterization beyond that available from generator knowledge and SDSs, sampling and analysis will be conducted.

Representative samples of the different refined product solids and refined product liquids may be collected and sent to Pace Laboratories which is a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory for analysis as needed or required.

6.1 Analysis To Be Performed

The analyses that may be performed to characterize the waste may depend on the type of waste and may include but are not limited to:

6.1.1 Refined Product Solids:

Since this material will not fall under the E&P Waste Exemption, the following analyses may be run to characterize the waste as Hazardous or Non-Hazardous and for acceptance at Clean Harbors Phoenix facility :

- TCLP RCRA 8 Metals
- Benzene, Toluene, Ethylbenzene, Xylene (BTEX)
- Reactivity
- Corrosivity (pH)
- Ignitability

See **Appendix B** for the Clean Harbors Generator Certification that is required to be completed and approved prior to utilizing Clean Harbors for disposal of refined product solids. If Clean Harbors is not utilized additional analysis may be required.

6.1.2 Refined Product Liquids:

One or more of the following analyses may be run for facility acceptance:

- BTEX
- TPH – GRO, DRO, ORO
- RCRA 8 Metals

See **Appendix C** for a table of methods likely used for Waste Characterization.

6.1.3 Non-Refined Product Solids:

No analyses required.

6.2 Waste Characterization Sampling Frequency

The following is an outline of the potential frequency of sampling to characterize the wastes generated. Facility specific requirements may include more or less frequent sampling.

6.2.1 Refined Product Solids:

Drums:

- 1 grab sample for every 5 drums of like waste. The grab sample will be collected from one drum representative of the group

Roll-off Containers:

- 1 composite sample for every 5 roll-off containers of like waste. The composite sample will be comprised of 5 aliquots from one roll-off representative of the group.

Stockpiled Material:

- 1 composite sample for each stockpile of material less than 1,000 cubic yards. For stockpiles larger than 1,000 cubic yards, 1 additional composite sample will be collected for every additional 1,000 cubic yards. Each composite sample will be comprised of 5 aliquots from varying depths from the stockpile and combined into the composite sample.

6.2.2 Refined Product Liquids:

Drums & Tote Tanks:

- 1 grab sample collected from a container of like waste to be characterized for disposal.

Frac Tanks, 20,000 bbl Tanks, Vacuum Trucks etc.:

1 composite sample for each container or truck. The composite sample will be comprised of 2-3 discrete samples from varying depths within the container and combined into the one composite sample.

6.2.3 Handling And Transport

Logistics and Operations will provide the support for the handling and transport of waste. A Waste Tracker will complete a Staging Area Log daily and submitted to the Planning Section Chief as the waste is moved from the staging area to its final recycling, treatment, or disposal location. All waste containers (except non-oiled solids) must have secondary containment.

7.0 DOCUMENTATION AND STORAGE AREA CONTROLS

The Planning Section will be responsible for documenting all waste management activities. The following will be documented:

- quantity of refined product liquids and refined product solids generated for that operational period;
- cumulative totals of refined product liquids and refined product solids; and
- quantity of each category of waste transferred for recycling, treatment, or disposal.

7.1 Manifests

Manifests will be used when transporting material for final recycling, treatment, or disposal. If required, transporter and facility EPA ID #'s will be recorded on the shipping documents and waste tracking reports as applicable. Example Manifests are provided in **Appendix D.**

7.2 Waste Tracking

Waste at the staging area(s) will be tracked and controlled when leaving the staging area(s) for final recycling, treatment, or disposal. The Tracking Log provided in **Appendix E** or handheld devices will be used to document waste leaving the staging area(s) for final recycling, treatment, or disposal. This form is to be completed daily and forwarded at the end of each shift to the Environmental Unit Leader and/or the Planning Section Chief

Appendix A

Incident map

Appendix B

Clean Harbors Generator Certification

Appendix C

Waste Characterization Methods

Refined Product Solids

ANALYSIS*	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO) and Oil Range Organics (ORO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	8260	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
TCLP RCRA 8 Metals	6010/7471	1 x 16 oz soil jar	Ice, maintained at 0-6°C	28 days
Polycyclic Aromatic hydrocarbons (PAHs)	8270 SIM	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Reactivity, Corrosivity, Ignitability	Chapter 7 / 9041 / 1030	1 x 4 oz soil jar	Ice, maintained at 0-6oC	28 days

*Analysis requirements may change based on facility requirements.

Refined Product Liquids

ANALYSIS*	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	8260	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)	8015	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO) and Oil Range Organics (ORO)	8015	1 x 1 L Amber Glass	HCL to pH < 2; Ice, maintained at 0-6°C	7 days
RCRA 8 Metals	6010/7471	1 x 250 mL Poly	Nitric acid, maintained at 0-6°C	28 days

*Analysis requirements may change based on facility requirements.

Appendix D

Example Manifests

Appendix E

Tracking Log

Waste Type	Type / # Containers	Date IN	Date OUT	Box/Frac / tank #	Transporter	Disposal Location	Manifest #

DRILL

California ART Use Worksheet (Dispersant, *In-Situ* Burn and Other OSCA)

(For OSPR EUL use during drills if extensive ART play is not expected based on the drill scenario)

GENERAL INFORMATION (complete only as much as is relevant to the drill scenario):

Drill date and time of notification: 4/13/17 (mo/day/yr) 1215 (24-hr clock)

Drill name: LSH3 Release @ Colorado

RP: Kinder Morgan

Incident location: Colorado River (General)

_____ (Latitude) _____ (Longitude)

Amount spilled: _____ (gallons) _____ (barrels)

Average water depth (or depth range) at spill release site: 4 (ft) _____ (m) _____ (fathoms)

Oil name: Diesel

Type of release: ☒ Instantaneous ☐ Continuous

Estimated amount already released: Unk (gal) _____ (bbl)

Estimated flow rate: _____ (gal/hr) _____ (bbl/hr)

IN PARTICULAR FOR DISPERSANT USE CONSIDERATIONS

Is the spilled oil:		**Action:**
Part of a dispersant drill play objective?	☐ Yes ☒ No	If Yes, continue. If No, suspend drill play on this objective.
Is the spilled oil offshore in relatively calm sea states, good operational conditions, and with good mechanical equipment access? *(RRT approvals for ART generally only recommended if mechanical assets insufficient).*	☐ Yes ☐ No	☐ If Yes, use of dispersants is unlikely. ☐ If No, answer additional questions below
Over water greater than 60' deep? *(RRT approval unlikely in shallower water)*	☐ Yes ☐ No	☐ If No, use of dispersants is unlikely. ☐ If Yes, answer additional questions below.
Petroleum based? *(No CA-licensed dispersants that work on non-petroleum oils)*	☐ Yes ☐ No	☐ If No, use of dispersants is unlikely. ☐ If Yes, answer additional questions below.
In a thick/cohesive surface slick? *(RRT will not approve dispersant use on gasoline/diesel/jet fuel or similar light-end product spills, or on oil sheens)*	☐ Yes ☐ No	☐ If No, use of dispersants is unlikely. ☐ If Yes, answer additional questions below.
Known or likely to be dispersible?	☐ Yes ☒ No	☐ If No, use of dispersants is unlikely, suspend further consideration.
Yes or Moderately requires specific gravity 0.80-0.95, API gravity 17.5-35, viscosity 6 cSt to solid at 15° C	☐ Moderately ☐ No/unlikely	☐ If Yes or Moderately, refer play to ART Lead TS Date/time: By:

IN PARTICULAR FOR IN-SITU BURN (ISB) USE CONSIDERATION

Is ISB being considered for:		**Action:**
Part of ISB drill play objectives?	☐ Yes ☒ No	If Yes, continue. If No, suspend drill play on this objective.
Within the first 24-hrs of the response?	☐ Yes ☐ No	☐ If No, use of ISB is unlikely. ☐ If Yes, answer additional questions below.
In sea state that allows successful booming? *(Oil must be contained for burning; sea states should be <3-4')*	☐ Yes ☐ No	☐ If No, use of ISB is unlikely, suspend further consideration. ☐ If Yes, refer to ART Lead Technical Specialist Date/time: By:

IN PARTICULAR FOR USE OF OTHER OSCAs

Sorbents

Are sorbents a drill play objectives? ☒ Yes ☐ No If Yes, continue. If No, suspend drill play on this objective.

- All self-contained sorbents (boom, sock, pillow, pad) can be used without additional approvals before use, except:

  If used in/on/near state waters, they must be CA licensed or exempted. Not all of the CA licensed/exempted products may be available in self-contained form.

  Licensed sorbents (as of 10 2015): *Absorbent W, Oclansorb, Spnag Sorb, XSorb Select*

  Exempt sorbents (as of 10 2015): *3M Brand, Aqua-N-Cap, Cell-U-Sorb, CEP Sorbent, Coco Absorb, Ergon Oil Absorbent Maxx Select, Monarch Green, OpFlex, SheenGuard, Smart Foam, Smart Sponge, Spill Control Sorbent, Spill Tex/Spill Select, Terreguard (aka Sheen Devil, Venmat, Versipad, Smartpad), Vertex, Zorbolite.*

Action:

- ☒ Use is of a sorbent in self-contained form.
- ☐ Use is in state waters, and is a CA licensed/exempted product
- ☐ Product does not meet above two categories. Refer to ART Lead Technical Specialist for further review and possible one-time approval process.

Date/time: By:

- All loose sorbent products require additional approvals before use.

Action:

- ☐ Refer to ART Lead Technical Specialist for further review and possible one-time approval process.

Date/time: By:

Solidifiers

Are solidifiers a drill play objective? ☐ Yes ☒ No If Yes, continue. If No, suspend drill play on this objective.

Self-contained solidifiers are pre-approved by OSPR, and cover four products (ClAgent, ClearTec Rubberizer, Alsocup and Elastol). However, only two of these (ClAgent, Rubberizer) are currently available in self-contained form. Use of solidifiers also requires RRT approval, but because EPA considers Rubberizer an exempt sorbent, it is the only self-contained solidifier product that can be used without any further OSPR or RRT approvals.

Action:

- ☐ Solidifier use is of self-contained Clear Tec/Rubberizer product, and requires no further approvals
- ☐ Use is of other self-contained or loose/liquid solidifiers, and has been referred to the ART Lead Technical Specialist for further review and approvals.

Date/time: By:

Surface washing agents, ISB accelerants, de-emulsifiers and emulsifiers,etc.

Are any of these a drill play objective? ☐ Yes ☒ No If Yes, continue. If No, suspend drill play on this objective.

All uses of liquid OSCAs (surface washing agents, gelling agents, de-emulsifiers, ISB accelerants, etc.) should be referred to the ART Lead Technical Specialist, as even CA licensed OSCAs require additional OSPR Administrator and RRT approvals before use. In most drill play, use of these other OSCAs would occur after the first 24+ hours of drill play.

Action:

- ☐ Suspend further consideration at this time, and refer to ART Lead Technical Specialist for further consideration and at the appropriate time.

Date/time: By:

Bioremediants:

Are bioremediants a drill play objective? ☐ Yes ☒ No If Yes, continue. If No, suspend drill play on this objective.

No on-water or immediate-use products available. Consider when oiling/re-oiling threat has passed).

Action:

- ☐ Suspend further consideration at this time, and refer to ART Lead Technical Specialist for consideration at appropriate time in the response cleanup phase.

Date/time: By:

DRILL

Emergency Response Environmental Sampling and Analysis Plan

LS 113 Release

Yuma, AZ

Prepared On Behalf Of:

Kinder Morgan

Prepared By:

Center for Toxicology and Environmental Health, L.L.C.

5460 Ward Rd

Arvada, CO 80005

501-801-8500

April 13, 2017

	Position/Name	Signature	Date Signed
Prepared by:	Environmental Project Manager – Kyle Lawrence		04/13/2017
Reviewed by:	Stephen Defibaugh		4/13/17
Approved by:	Paul Salcido		04/13/17
Approved by:	Casey Allerman - Planning		4/13/17
Approved by:			

1.0 INTRODUCTION AND PURPOSE

This Environmental Sampling and Analysis Plan (Environmental SAP) was prepared on behalf of the Environmental Unit supporting Unified Command (UC), to present the high level rationale and basis for the collection of samples to evaluate impacts as a result of the release of diesel from the pipeline crossing near Yuma, AZ at 32 44' 24.85" N 114 31' 54.61". For the purpose of this Environmental SAP, the following matrices: water, sediment, soil and source diesel are considered. Sampling of wastes, including but not limited to, oiled sorbents, vegetation, liquid, and debris, if necessary, will be addressed in the Waste Management Plan (WMP) which will be prepared separately and will be submitted under separate cover. Sampling and monitoring of air is covered under the Air Sampling and Analysis Plan (Air SAP), which has been prepared separately and submitted under separate cover.

The specific objectives of the investigations and proposed sampling are discussed further in the site-specific sections presented herein; however, the main objectives in general are:

1). The collection of source sample(s) for comparative fingerprint analysis to evaluate whether hydrocarbons in the Yuma, AZ area are related to the LS 113 Release or an unrelated event;

2). The collection of water, sediment and soil samples to assist in the delineation of areas of potential impact and assess the need for and effectiveness of the containment and cleanup activities;

3). The collection of background samples to develop the range of potential background concentrations for comparative purposes and distinguish between hydrocarbons related to this incident and historic, non-related hydrocarbons. Background samples may additionally refer to samples collected from pre-impact locations associated with vessel decontamination and waste and/or equipment staging areas.

This Environmental SAP will officially be implemented after approval by UC; however, in practice this Environmental SAP will be implemented immediately based on the recognized urgency to collect samples protective of human health and the environment.

2.0 HEALTH AND SAFETY

Site personnel will review and adhere to the site-specific Health and Safety Plan (HASP). Sampling will be conducted during daylight hours and under weather or other environmental conditions that do not create unsafe working conditions.

3.0 DATA QUALITY OBJECTIVES

The data collected during field activities will be used to assess potential exposures of members of the public and ecological receptors to constituents potentially related to the release of diesel from the LS

113 Release. Because changes in environmental conditions are possible during the response, this will be done by reporting on chemical constituents found in the environment at the time and location of sample collection.

A strategic planning approach based on scientific method will be employed for data collection activities providing a systematic procedure to ensure the type, quantity and quality of data used in decision-making will be appropriate for the intended application.

4.0 SURFACE WATER MONITORING

In order to determine that water quality is maintained for the duration of response activities, monitoring at each surface water sampling location may be conducted using a Horriba multi-parameter water quality meter, or equivalent. Surface water monitoring may be conducted concurrent with sample collection if visible product isn't present that could damage the instruments. If surface water monitoring is conducted it will include the following parameters:

- Temperature (°C)
- pH (0-14 standard units)
- Conductivity (Siemens/meter)
- Dissolved Oxygen (milligrams/liter)
- Turbidity (NTU)

Visual observations will be made at each surface water sampling location and documented in field notebooks, CTEH® field forms, or hand-held devices.

The water quality meters in use on this project will be calibrated daily in accordance with the manufacturer's specifications.

5.0 SURFACE WATER SAMPLING

Field teams, composed of CTEH® personnel, will be deployed with appropriate equipment and supplies to conduct surface water monitoring and collect surface water samples. All sampling will be documented in field notebooks, CTEH® field forms, or hand-held devices.

5.1 Surface Water Sampling Methodology and Analysis

Surface water samples will be decanted directly into laboratory supplied sample containers or collected with a Kemmerer sampler and submitted to Pace Analytical (Pace), a NELAP accredited laboratory for laboratory analysis as presented in Appendix A.

5.2 Surface Water Sampling Location, Frequency, and Duration

Surface water samples may be collected daily from established sample locations. UC and the Environmental Unit (EU) may identify a number of high priority environmentally, cultural and socio-economically sensitive areas as defined in the ICS Form 232. The environmentally sensitive areas may include marsh, wetland, and estuary locations where shorebirds may be present. High priority socio-economic locations may include State Parks and high priority cultural locations may be identified by archaeologists, tribal or other stakeholders. There currently are no surface water locations established. However, surface water sampling locations may be established based on the ICS Form 232 or to support operations based on their cleanup operations. Once surface water sampling locations are established, surface water samples will be collected once daily until deemed unnecessary by UC based on a review of operations, analytical data, and current, qualitative, site conditions. Additional, targeted locations based on operations will be sampled as needed. No reduction to the sampling locations, frequency, or duration will be made without approval from UC.

6.0 WATER COLUMN SAMPLING

Field teams, composed of CTEH® personnel, may be deployed with appropriate equipment and supplies to conduct surface water monitoring and collect water column samples. All sampling will be documented in field notebooks, CTEH® field forms, or hand-held devices.

6.1 Water Column Sampling Rationale

Water column sampling may be done to determine whether diesel constituents have emulsified, dispersed, or solubilized within the water column.

6.2 Water Column Sampling Methodology and Analysis

Water column samples will be decanted directly into laboratory supplied sample containers from a Kemmerer sampler and submitted to Pace for laboratory analysis as presented in **Appendix A**.

Samples may be collected using vessel borne sample teams using Kemmerer sample containers in accordance with applicable industry accepted SOPs. One sample may be collected at the surface, intermediate depth, and from the bottom for each sample location.

6.3 Water Column Sampling Location and Frequency

There currently are no water column locations established. However, water column sampling locations may be established based on the ICS Form 232 or to support operations based on their cleanup operations. Once water column sampling locations are established(if necessary), water column samples will be collected once daily until deemed unnecessary by UC based on a review of operations, analytical data, and current, qualitative, site conditions. Additional, targeted locations based on operations will be sampled as needed. No reduction to the sampling locations, frequency, or duration will be made without approval from UC.

7.0 SEDIMENT SAMPLING

Field teams, composed of CTEH® personnel, may be deployed with appropriate equipment and supplies to collect sediment samples. All sampling will be documented in field notebooks, CTEH® field forms, or hand-held devices.

7.1 Sediment Sampling Methodology

Sediment samples may be collected using a modified Van Veen type, self-tripping ponar sampling device (ponar). The overlaying water in the ponar sampling device will be carefully decanted off, and the resultant sediment will be transferred into a wide mouth soil jar utilizing disposable sampling tools and submitted to Pace for laboratory analyses as presented in **Appendix A**.

7.2 Sediment Sample Design

7.2.1 Systematic Sampling Design

Initial sampling may be systematic in design conducted to delineate diesel impacts to the environment related to this incident. Sampling may be conducted along the potentially impacted zone based on visual observations or operational activities.

7.2.2 Targeted Sampling Design

Targeted sampling, if warranted, will be based on operational activities, field observations, and will be coordinated through UC.

7.3 Sediment Sampling Location and Frequency

There currently are no sediment sampling locations established. However, sediment sampling locations may be established based on the ICS Form 232 or to support operations based on their cleanup operations. Once sediment sampling locations are established(if necessary), sediment samples will be

collected once daily until deemed unnecessary by UC based on a review of operations, analytical data, and current, qualitative, site conditions. Additional, targeted locations based on operations will be sampled as needed. No reduction to the sampling locations. frequency, or duration will be made without approval from UC.

8.0 SOIL SAMPLING

Field teams, composed of CTEH® personnel, will be deployed with appropriate equipment and supplies to collect soil samples. All sampling will be documented in field notebooks, CTEH® field forms, or hand-held devices.

8.1 Soil Sampling Methodology

Soil samples will be collected using disposable tools when possible. Discrete grab samples will be transferred directly into a wide mouth soil jar utilizing disposable sampling tools and submitted to Pace for laboratory analyses presented in **Appendix A**.

8.2 Targeted Sampling Design

Targeted sampling outside of the release area, if warranted, will be based on operational activities, field observations, and will be coordinated through UC.

8.3 Location and Frequency

Systematic and targeted soil samples will be collected as needed to support operations. Additional sample locations may be added based on operations, if warranted.

9.0 SOURCE EVALUATION AND SAMPLING METHODOLOGY

9.1 Source Sampling Methodology and Analysis

Source samples will be collected utilizing disposable sampling tools and then transferred directly into laboratory supplied sample containers and submitted to a NELAP accredited laboratory for one or more of the analyses listed in **Appendix A**.

10.0 SCREENING CRITERIA

Sample results will be compared to applicable State and Federal screening criteria.

11.0 SAMPLE HANDLING PROCEDURES

Samples will be placed in laboratory supplied sample containers, appropriate for the intended analysis, labeled with sample identification number, sample depth (for water column sampling), sampler name, sample date, and time of sample collection, and immediately placed in a cooler on ice pending laboratory analysis. Samples will be packaged, labeled, retained on ice, and documented in an area which is free of impact and provides for secure storage. Custody seals will be placed on each sample containing cooler, and chain-of-custody procedures will be maintained from the time of sample collection until arrival at the laboratory to protect sample integrity. Shipping or transporting of samples to the laboratory will be done within a timeframe such that recommended holding times are met. Hold times are summarized on Tables in **Appendix A.**

12.0 SAMPLE LABELING

Sample containers will be clearly labeled with the following information:

- Unique sample identification;
- Sample Type (discrete or composite, sediment and/or soil samples only)
- Sample Interval (water column samples only);
- Sampler name or initials;
- Date sample collected;
- Time sample collected.

13.0 LABORATORY ANALYSES

Samples will be transported to Pace, or Zymax Forensics, depending on the intended purpose of the collected sample. Pace will receive environmental media samples to establish concentrations while Zymax Forensics will receive samples intended for forensic fingerprint analysis. All labs used for this incident will meet National Environmental Laboratory Accreditation Conference (NELAC) certification as necessary. Samples will be submitted to the applicable laboratory for analyses for diesel constituents for one or more of the analytical test methods listed in **Appendix A.** Analytical methods, hold times, sample containers, and preservation, are summarized in **Appendix A.**

14.0 QUALITY ASSURANCE

Sampling will be carried out in conjunction with a well-defined quality assurance (QA) program. The goal of the field QA program is to document that samples are collected without the effects of accidental cross- or systematic contamination and refers to the sampling, analysis, and data validation procedures for generating valid and defensible data. To provide QA for the proposed sampling event, the following sampling, analysis, and data validation procedures will be performed:

14.1 Field Calibration

Instruments used in the field as part of this sampling event are anticipated to consist of Horriba water quality meters (or equivalent), GPS units, digital cameras, and handheld data collection devices such as tablets/smart phones. Horribas will be calibrated daily. Other equipment is not anticipated to require field calibration. Operators of each piece of equipment are responsible for maintaining (including proper battery charge) and operating this equipment such that it conforms to each respective manufacturer's specifications.

14.2 Field Duplicate Sample

For approximately every ten samples collected in the field, one field duplicate will be collected and submitted for laboratory analyses to verify the reproducibility of the sampling methods. Field duplicates will be prepared by separately submitting an aliquot from the same sample location to the laboratory for analysis consistent with the proscribed analyses. The submitted duplicate will be submitted such that the laboratory is not aware that it is a duplicate (i.e., the sample ID will not identify it as a "duplicate" for any specific sample location).

14.3 Field Split Samples

Field split samples refer to samples collected by the regulatory agency or its designee from the same sampling location and independently submitted to a different laboratory for analysis. Field split samples may be collected at the discretion of representatives of the regulatory agency or UC. CTEH may collect split samples for agencies as requested.

14.4 Laboratory QA

Laboratory quality control procedures will be conducted in a manner consistent with relevant State and federal regulatory guidance. Deliverables will contain the supporting documentation necessary for data validation. Internal laboratory quality control checks will include method blanks, matrix spikes (and matrix spike duplicates), surrogate samples, calibration standards, and laboratory control standards (LCSs).

14.5 Matrix Spike/Matrix Spike Duplicate Sample

Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples refer to field samples spiked with the analytes of interest prior to being analyzed at the laboratory to gauge the quality of analysis. Approximately one in twenty samples will be analyzed as MS/MSD samples.

14.6 Data Validation

Validation of the data generated by the laboratory performing the analyses will include at a minimum sample holding times, accuracy, precision, contamination of field generated or laboratory method blanks, and surrogate compound recovery. Accuracy will be determined by evaluating LCS and MS recovery. Precision will be determined by evaluating laboratory and field duplicate samples. 100% of samples will undergo level II validation and 10% of samples will undergo level IV validation.

15.0 DECONTAMINATION PROCEDURES

Decontamination procedures refer to the steps undertaken to minimize the potential for offsite contamination and cross-contamination between individual sampling locations. Prior to collecting any sample for this release the following decontamination procedures will be undertaken: non-disposable sampling equipment such as Kemmerer water sampling devices which come into contact with sampling media will be decontaminated using a bristled brush and a solution comprised of a laboratory grade, non-phosphate detergent (e.g., Alconox or Liquinox) and deionized water. Depending on ancillary activities being conducted for the response to this release, the decontamination of sampling equipment will be conducted over poly sheeting at the sample location or in a nearby designated area. The sampling equipment to be decontaminated will first be placed in a bucket containing the detergent solution and thoroughly washed using a bristled brush. The items will then be double rinsed. Decontaminated items will be wrapped in clean aluminum foil for transit to the next sampling location.

Nitrile gloves will be worn by sampling personnel and changed between activities at each discrete sample collection location. Previously worn nitrile gloves will be discarded in appropriate waste receptacles with other PPE.

16.0 WASTE DISPOSAL

The method for storage and disposal of investigative derived waste materials will comply with applicable local, state and federal regulations in a manner consistent with the WMP.

17.0 DATA ANALYSIS

To assess the potential impact from contact with diesel, the results of sampling will be reviewed for the presence/absence of these compounds, and should they be found, the concentrations of these parameters relative to appropriate regulatory standards or guidelines. The results of laboratory analyses will be provided to UC. ~~See Appendix A for a list of analytes to be performed~~ Std

18.0 RECORDS MANAGEMENT

Records management refers to the procedures for generating, controlling, and archiving project-specific records and records of field activities. Project records, particularly those that are anticipated to be used as evidentiary data, directly support current or ongoing technical studies and activities, and provide historical evidence needed for later reviews and analyses, will be legible, identifiable, retrievable and protected against damage, deterioration, or loss on a centralized electronic database. Handwritten records will be written in indelible ink. Records will likely include, but are not limited to, the following: bound field notebooks on pre-numbered pages, sample collection forms, personnel qualification and training forms, sample location maps, equipment maintenance and calibration forms, chain-of custody forms, maps and drawings, transportation and disposal documents, reports issued as a result of the work, procedures used, correspondences, and any deviations from the procedural records. Documentation errors will be corrected by drawing a single line through the error so it remains legible and will be initialed by the responsible individual, along with the date of change, and the correction will be written adjacent to the error.

Records will be maintained in accordance with the document retention policy established for this incident.

Appendix A

Sampling Summary

Surface Water Sampling and Water Column Sampling Summary*

ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Volatile Organic Compounds (VOCs)	8260	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)	8015	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	7 days
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO)	8015	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Oil Range Organics (ORO)	8015	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Polycyclic Aromatic hydrocarbons (PAHs)	8270SIM	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Metals (CAM 17)*	6010/7471	1 x 250 mL Poly	Nitric acid, maintained at 0-6°C	28 days

**The metals analyte list may be reduced after receiving source sample results.*

Sediment and Soil Sampling Summary* (2 – 4oz soil jars and a 5035 kit total)

ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Volatile Organic Compounds (VOCs)	8260b	Terracore or Encore EPA 5035 compliant containers	Terracores preserved, Encore unpreserved. Ice, maintained at 0-6°C	48 hours for Encores and 7 days for Terracores
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	7 days
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Oil Range Organics (ORO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Polycyclic Aromatic hydrocarbons (PAHs)	8270SIM	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Metals (CAM17)	6010/7471	1 x 4 oz soil jar	Ice, maintained at 0-6oC	28 days

Source Sampling Summary*

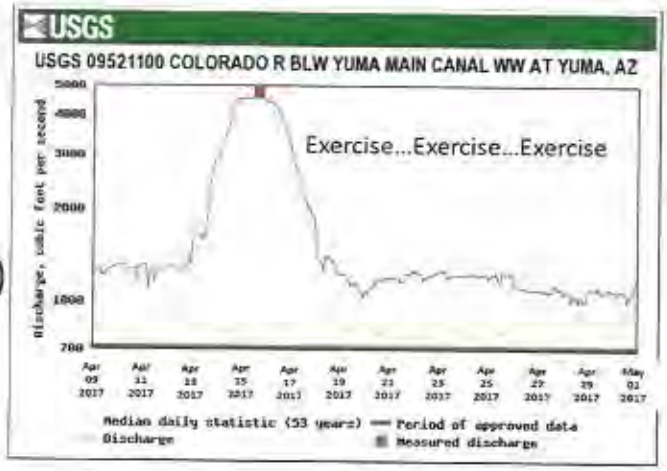
ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Semi-Volatile Organic Compounds (SVOCs)	8270	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Polycyclic Aromatic Hydrocarbons (PAHs)	8270(SIM)	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Metals (CAM17)	6010/7471	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Comparison of Waterborne Petroleum Oils by Gas Chromatography	ASTM D3328	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.
Total Petroleum Hydrocarbon (TPH) – Gasoline Range Organics (GRO)	8015	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Total Petroleum Hydrocarbon (TPH) – Diesel Range Organics (DRO) and Oil Range Organics (ORO)	8015	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Oil Spill Source Identification by Gas Chromatography and Positive Ion Electron Impact Low Resolution Mass Spectrometry	ASTM D5759	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.
Boiling Range Distribution of Petroleum Fractions by Gas Chromatography	ASTM 2887	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.

*One or more method may be required additional analysis may be added as needed.

EXERCISE

WEATHER BRIEFING
APRIL 14TH

- **Max Heat Index:** 105°
- **High:** 103°
- **Low:** 82°
- **Afternoon Humidity:** 20%
- **Wind:** East at 12 mph (morning)
  South at 10 mph (afternoon)
- **Thunderstorm Chances:**
  30% (afternoon and evening)



River/Hydrologic Concerns:

- Flow in Colorado River forecast to increase through early evening before cresting.
  - Around 4500 cubic ft/sec, or linear speed of 1.5 mph.
  - Upstream rainfall to the north may support continued flow increases.

Outlook for April 15th:

- **Max Heat Index:** 107°
- **High:** 105°
- **Low:** 81°
- **Thunderstorm Chances:** 30% (afternoon and evening)
- **Wind:** East at 10 mph, becoming southwest at 7 mph

EXERCISE

Site Safety and Health Plan ICS-208-CG (rev 9/06) 4-14-17 -4-14-17

Incident Name: L/S 113 COLORADO RIVER RELEASE **Date/Time Prepared:** 4-13-17 **Operational Period:** 0600 - 0600

Purpose. The ICS Compatible Site Safety and Health Plan is designed for safety and health personnel that use the Incident Command System (ICS). It is compatible with ICS and is intended to meet the requirements of the Hazardous Waste Operations and Emergency Response regulation (Title 29, Code of Federal Regulations, Part 1910.120). The plan avoids the duplication found between many other site safety plans and certain ICS forms. It is also in a format familiar to users of ICS. Although primarily designed for oil and chemical spills, the plan can be used for all hazard situations.

Questions on the document should be addressed to the Coast Guard Office of Incident Management and Preparedness (G-RPP).

Table of Forms

FORM NAME	FORM #	USE	REQUIRED	OPTIONAL	ATTACHED
Emergency Safety and Response Plan	A	Emergency response phase (uncontrolled)	X		
Site Safety Plan	B	Post-emergency phase (stabilized, cleanup)	X		
Site Map	C	Post-emergency phase map of site and hazards	X		
Emergency Response Plan	D	Part of Form B, to address emergencies	X		
Exposure Monitoring Plan	E	Exposure monitoring Plan to monitor exposure	X		
Air Monitoring Log	E-1	To log air monitoring data	X*		
Personal Protective Equipment	F	To document PPE equipment and procedures	X*		
Decontamination	G	To document decon equipment and procedures	X*		
Site Safety Enforcement Log	H	To use in enforcing safety on site		X	
Worker Acknowledgement Form	I	To document workers receiving briefings		X	
Form A Compliance Checklist	J	To assist in ensuring HAZWOPER compliance		X	
Form B Compliance Checklist	K	To assist in ensuring HAZWOPER compliance		X	
Drum Compliance Checklist	L	To assist in ensuring HAZWOPER compliance		X	
Other:					

* *Required only if function or equipment is used during a response*

EMERGENCY SAFETY and RESPONSE PLAN	1. Incident Name LS113 Colorado River Release	2. Date/Time Prepared 9-13-17 1000	3. Operational Period 0600 - 0600 April 14-15	4. Attachments: Attach MSDS for each Chemical:
5. Organization IC/UC:	Safety: Danny Padilla Div/Group Supv:	Entry Team: Patriot	Backup Team: NONE	Decon Team: Patriot

6.a. Physical Hazards and Protection

6.b. Confined Space ☐ Noise ☑ Heat Stress ☑ Cold Stress ☐ Electrical ☑ Animal/Plant/Insect ☑ Ergonomic ☑ Ionizing Rad ☑
Slips/Trips/Falls ☑ Struck by ☑ Water ☑ Violence ☐ Excavation ☐ Biomedical waste and/or needles ☑ Fatigue ☐ Other (specify)

6.c. Tasks & Controls	6d Entry Permit	6.e Ventilate	6f. Hearing Protection	6g. Shoes (type) STEEL TOE	6.h Hard Hats	6i Clothing (cold wx)	6j. Life Jacket	6l. Work/ Rest (hrs)	6.m. Fluids (amt/time)	6.n. Signs & Barricade	6.p. Fall Protect	6.q. Post Guards	6.r. Flash Protect	6.s Work Gloves	6.t. Other
ISOLATE RELEASE	N/A	N/A	N/A	~~STEEL TOE~~	N/A	N/A	☑		N/A	N/A	N/A	N/A	N/A	✓	
DEPLOY BOOM IN SENSITIVE AREAS		N/A	N/A	✓	N/A	N/A	✓			✓				✓	

7.a. Agent	7.b. Hazards	7.c. Target Organs	7.d. Exposure Routes	7.f. PPE	7.g. Type of PPE
	Explosive ☐ Radioactive ☐ Flammable ☐ Carcinogen ☐ Reactive ☐ Oxidizer ☐ Biomedical ☐ Corrosive ☐ Toxic ☐ Specify Other: ☐	Eyes ☐ Nose ☐ ~~Skin~~ ☑ Ears ☐ Central Nervous System ☐ Respiratory ☐ Throat ☐ Lungs ☑ Heart ☐ Liver ☐ Kidney ☐ Blood ☐ Lungs ☑ Circulatory ☐ Gastrointestinal ☐ Bone ☐ Other Specify: ☐	Inhalation ☑ Absorption ☑ Ingestion ☐ Injection ☐ Membrane ☐ ☐	Face Shield ☐ Eyes ☑ Gloves ☑ Inner Suit ☐ Splash Suit ☑ Level A Suit ☐ SCBA ☐ APR ☐ SAR ☐ Cartridges ☐ Fire Resistance ☐	

8. Instruments:	8.a. Action Levels	8.b. Chemical Name(s)	8.c. LEL/UEL %	8.d. Odor Thresh Ppm	8.e Ceiling/ IDLH	8.f. STEL/TLV	8.g. Flash Pt/ Ignition Pt (F or C)	8.h. Vapor Pressure (mm)	8.i. Vapor Density	8.j. Specific Gravity	8.l Boiling Pt F or C
O2 ☐											
CGI ☐											
Radiation ☐											
Total HCs ☐											
Colorimetric ☐											
Thermal ☐											
Other ☐											

MERGENCY SAFETY and ESPONSE PLAN (Cont)	1. Incident Name COLORADO 4/S 113 RIVER RELEASE	2. Date/Time Prepared 4-13-17 1000	3. Operational Period 4-14- 4-15-17 0600-0600	4. Attachments: Attach MSDS for each Chemical

Decontamination:				
Instrument Drop Off ☐	Suit Wash ☐	Bottle Exchange ☐	SCBA/Mask Rinse ☐	Intervening Steps ☐ Specify:
uter Boots/Glove Removal ☐	Decon Agent: Water ☐	Outer Suit Removal ☐	Inner Glove Removal ☐	
Suit/Gloves/Boot Disposal ☐	Other ☐	Inner Suit Removal ☐	Work Clothes Removal ☐	
	Specify:	SCBA/Mask Removal ☐	Body Shower ☐	

). Site Map. Include: Work Zones, Locations of Hazards, Security Perimeter, Places of Refuge, Decontamination Line, Evacuation Routes, Assembly Point, Direction of North
] Attached, ☐ Drawn Below:

SEE PATRIOT CONTAINMENT & DECON PLAN.

.a. Potential Emergencies:	11.b. Evacuation Alarms:	11.c Emergency Prevention and Evacuation Procedures:
Fire ☑	Horn ☑ # Blasts ☐	Safe Distance:
Explosion ☐	Bells ☐ #Rings ☐	
Other ☑ for DECON RESPIRATORY	Radio Code ☐	
	Other:	

.. a. Communications:	12.b. Command #:	12.c. Tactical #:	12.d. Entry #:
adio ☐ Phone ☑ Other ☐			

.a. Site Security:	13.b. Procedures:	13.c. Equipment:
rsonnel Assigned	SEE	

.a. Emergency Medical:	14.b. Procedures:	14.c Equipment:
rsonnel Assigned		

Prepared by:	16. Date/Time Briefed:	
PADILLA	4-13-17	**ICS-208-CG SSP-A Page 2. (rev 9/06):** Page 2 of 5

CG ICS SSP: SITE MAP	1. Incident Name: COLORADO RIVER MS 113 RELEASE	2. Date/Time Prepared: 4/13/17 1000	3. Operational Period: April 14-15 0600 - 0600	4. Safety Officer (include method of contact): DANIEL PADILLA
5. Supervisor/Leader: IC PHIL VASQUEZ	6. Location and Size of Site: PUMP 199.0 COLORADO RIVER	7. Site Accessibility: Land ☐ Water ☐ Air ☐ Comments:	8. For Emergencies Contact:	9. Include: - Work Zones - Security Perimeter - Decontamination Line - Locations of Hazards - Places of Refuge - Evacuation Routes

10. Sketch of Site:
☒ Attached. ☐ Drawn Here

SEE Attachment

11. Prepared By: D. PADILLA	12. Date/Time Briefed: 4-13-17	**HAZARD LIST**: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-C (rev 9/06):** Page 3 of 5

CG ICS SITE SAFETY PLAN (SSP) HAZARD ID/EVAL/CONTROL	1. Incident Name: US 113 COLORADO RIVER RELEASE	2. Date/Time Prepared: 9-13-17 1000	3. Operational Period: April 14-15 0600 – 0600	4. Safety Officer (include method of contact): DANIEL PADILLA 720 550-5335
5. Supervisor/Leader: IC DHEL VASQUEZ	6. Location and Size of Site: MM 193	7. Site Accessibility: Land ☑ Water ☑ Air ☐ Comments:	8. For Emergencies Contact: 911	9. Attachments: **Attach MSDS for each Chemical**

10.a. Job Task/Activity	10.b. Hazards*	10.c. Potential Injury & Health Effects	10.d. Exposure Routes	10.e. Controls: Engineering, Administrative, PPE
Isolate Release Area	Vehicle hazards Snake hazards Heat Stress	Slips Trips & Falls Hand Injury	Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	USE 4 Questions, Be aware of surroundings, Proper PPE & Hand Placement
Deploy Boom in Sensitive areas	Drowning, Product Ignition, Inhalation, Absorption Static, Vapor accumulation	Slips Trips & Falls Possible Cancer hazard Burn / Irritate Skin	Inhalation ☑ Absorption ☑ Ingestion ☐ Injection ☐ Membrane ☐	Proper PPE, BE Aware of surroundings USE 4 Questions, Follow ALL KM & OSHA REGS
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	

11. Prepared By:	12. Date/Time Briefed:	*HAZARD LIST: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-B (rev 9/06):** Page 9 of 5

CG ICS SSP: EMERGENCY RESPONSE PLAN	1. Incident Name COLORADO MS 113 RIVER RELEASE	2. Date/Time Prepared 4-13-17	3. Operational Period 04-14-17 0600 - 0600	4. Safety Officer (include method of contact) DANIEL PADILLA
5. Supervisor/Leader IC	6. Location and Size of Site PLMP 199.8	7. For Emergencies Contact: 911		8. Attachments: **INCLUDE ICS FORM 206 and EMT Medical Response Procedures**
9. Emergency Alarm (sound and location)	10. Backup Alarm (sound and location) HEAVY EQUIPMENT	11. Emergency Hand Signals	12. Emergency Personal Protective Equipment Required: LEVEL C	
AIR HORN Three Blast				

13. Emergency Notification Procedures	14. Places of Refuge (also see site map form 208B)	15. Emergency Decon and Evacuation Steps	16. Site Security Measures
Call 911 Report to Supervisor Supervisor will tell Safety/group Safety will tell IC Implement ERL CALL	Depending on Location will have EZUP's, water, chairs, ~~First Aid Station~~	SEE "PATRIOT" HAZARDOUS MATERIALS RESPONSE OPERATIONS MANUAL PAGE 12. SEE ATTACHED	LOCAL EMS.

17. Prepared By:	18. Date/Time Briefed:	**HAZARD LIST**: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-D (rev 9/06)** Page 5 of 5

Patriot
Environmental Services

SITE HEALTH AND SAFETY PLAN

HAZARDOUS MATERIALS RESPONSE OPERATIONS

DATE: 04/13/17

INCIDENT NAME: COLORADO RIVER L/S 113 RELEASE

CUSTOMER NAME: KINDER MORGAN

LOCATION: COLORADO RIVER, YUMA, AZ

CUSTOMER CONTACT/PHONE: ROD DILLON / KINDER MORGAN

HEALTH & SAFETY OFFICER CONTACT/PHONE: ANDY PUGET / 661-889-1226

TABLE OF CONTENTS

1.0 INTRODUCTION

This Site Health and Safety Plan (SHSP) has been prepared for the prevention of accidents, exposures, and illnesses for personnel performing work activities specific to this plan. In addition to all other regulatory requirements, the work shall be performed in compliance with:

- General Industry Safety Orders (Title 8 CCR Section 5192) Hazardous Waste Operations and Emergency Response
- Hazard Communication (Employee Right-To-Know) (29 CFR 1910.120), (Title 8 CCR Section 5194)

These regulations were designed to meet the general industry requirements, which were issued under the Occupational Safety and Health Safety Act (OSHA) of 1970. In addition, all personnel will conform to the Construction Industry Standards. Safety policies/procedures and employee safety rules (in addition to the above referenced documents) shall be implemented at all times.

1.1 Purpose

This SHSP has the following designated purposes:

- provide a safe working environment
- conduct operations within the guidelines of safety requirements
- comply with OSHA standards for employee health and safety
- maintain high standards of performance concerning environmental protection and industrial health
- ensure workers are aware of the hazards associated with the site activities and the related protective measures
- ensure compliance with the SHSP and amendment of the SHSP as conditions change on the site

2.0 SCOPE OF WORK

This SHSP covers operations to be performed by all Patriot contractor/subcontractor personnel during all activities relating to the response and/or site remediation for the Incident.
This SHSP has been prepared to ensure that site safety practices are utilized throughout all operations including but not limited to; site security and regulatory oversight.

2.1 Site Map located in **Appendix A**

2.2 Description of Onsite Activities

- Protect Sensitive Sites
- Recover product as required
- Site remediation/cleaning as required
-
-

3.0 SITE ORGANIZATION

All personnel working during the response or remediation project are responsible and accountable to adhere to standard safety policies and compliance with this SHSP. Key project personnel and their responsibilities are listed below.

3.1 Patriot Personnel

Patriot personnel will be using the Incident Command System (ICS) and forms, when applicable.

3.2 Patriot Site Safety Officer

Patriot Site Safety Officer: Kevin Matter
The Safety Officer and Assistant Site Safety Officers are to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations, ensure site compliance with Federal and CAL OSHA regulations, and the SHSP including, but not limited to, hazard analysis, air monitoring, PPE, decontamination, site control and Standard Operating Procedures (SOPs).

3.3 Site Personnel

All personnel must work in a safe and healthful manner, so as not to compromise his/her own health and safety, or the health and safety of others. In the event of an emergency, evacuate the affected area immediately, and notify appropriate individuals. Conform to all aspects of this incident/site specific SHSP. Report any and all accidents, injuries, exposures, and/or near misses to the Site Safety Officer and/or their supervisor. Attend and participate in Tailgate Safety Meetings prior to job start. Observe "Buddy System" during work activities while maintaining Situational Awareness at all times.

3.4 Site Visitors

Authorized site visitors must check in with the Patriot Site Supervisor and/or Health and Safety Officer to sign specific location job safety analysis.

3.5 Field and Emergency Communications

All Patriot personnel utilize cell phones when possible. Communications will be noted on ICS Form 205 and 205A or as specified in the ICS Form 204 Assignment List.
If intrinsically safe communications are required, Patriot utilizes 161-174 MHz UHF radios. For vessel communications, Patriot utilizes Marine Band VHF.

4.0 HAZARD IDENTIFICATION, ANALYSIS AND AIR MONITORING

The following describes potential hazards associated with the tasks that may be performed. A separate site specific Job Safety Analysis (JSA) will be completed daily or for each operational period.

4.1 Chemical Hazards – ***SDS OR MSDS(s) ATTACHED IN APPENDIX B***

The primary objective is to provide protection to workers during the removal activities at the site. Therefore, it is necessary to understand the chemical hazard. The chemical(s), which may present potential occupational and environmental health hazards during the response/mitigation are presented below and/or are attached. The potential hazards of toxic exposure of these contaminants to site personnel can be expressed by:

- Threshold Limit Values- Time Weighted Average (TLVs-TWA) as established by the American Conference of Governmental Industrial Hygienists; (ACGIH)
- Permissible Exposure Limits (PEL) as mandated by OSHA;
- Recommended Exposure Limits (REL) as suggested by National Institute for Occupational Safety and Health (NIOSH); and
- Immediately Dangerous to Life and Health (IDLH) Values established by NIOSH and OSHA

Compound	Exposure Limits	Route	Health Effect	Carcinogen Status
Unleaded Gasoline, Diesels, Jet Fuels (Known as "Trans-Mix)	See MSDS	Inhalation Ingestion Skin contact Eye contact Other	See MSDS	See MSDS
		Inhalation Ingestion Skin contact Eye contact Other		
		Inhalation Ingestion Skin contact Eye contact Other		
		Inhalation Ingestion Skin contact Eye contact Other		

4.2 Physical Hazards

Personnel may be exposed to physical hazards such as noise, vehicular traffic, physical strain, as well as slips, trips, or falls, heat/cold stress, on/over water operations or task specific hazards. Each hazard and potential hazard shall be indicated on the Job Safety Analysis (JSA) for task specific operations and updated as conditions change.

4.3 Air Monitoring / Airborne Hazards Requirement

- Direct reading instruments will be used on sites involving hazardous materials. The instrument to be utilized will be specified in the site health-and-safety plan
- Instruments available can include portable organic vapor analyzers (OVA), photo-ionization detectors (PID), combustible gas indicator / oxygen meter (CGI/O2), hydrogen sulfide monitors, hydrogen cyanide monitors, carbon monoxide monitors, colorimetric tubes, and portable radiological survey meter.
- An action level will be established in the site health-and-safety plan for each suspected airborne contaminant.
- The site supervisor will ensure that all air monitoring data is logged into a Real Time Air Monitoring Log. Data will include instrument used, calibration, wind direction, work process, etc.
- All direct reading instruments, air monitoring pumps and any other instruments used to monitor air contamination are calibrated as needed prior to use. A separate log will be kept detailing date, time, calibration gas or other standard, and name of person performing the calibration. Maintenance of the instruments will be as detailed in the manufacturer's reference manuals
- Personal air monitoring shall be performed on personnel who are working in USEPA Levels C and D protection that have the highest potential for exposure to hazardous substances or health hazards above permissible exposure limits
- Air monitoring shall be conducted at least twice daily (once during the beginning of daily activity and once during peak activity) and:
  - When work begins on a new phase or portion of a site.
  - When contaminants other than those previously identified are being handled.
  - When different types of activities occur (e.g. drum opening as opposed to exploratory well drilling).
  - When employees are handling leaking drums or are exposed to obvious contamination.
  - Upon determination by the site safety officer, monitoring can be conducted continuously, daily or hourly.
  - 10% of LEL "HOT ZONE"

5.0 SITE CONTROL PROGRAM

5.1 Security

Security will be in effect as deemed necessary to protect personnel and assets.

5.2 Site Preparation

Construct roadways to provide ease of access and a sound roadbed for heavy equipment and vehicles:

- arrange traffic flow patterns to ensure safe and efficient operations
- eliminate physical hazards from the work area including:
  - ignition sources in flammable hazard areas

    - exposed or ungrounded electrical wiring, and low overhead wiring that may entangle equipment
- sharp or protruding edges, such as glass, nails, and torn metal, which can puncture protective clothing and equipment and inflict puncture wounds
- holes, loose steps or flooring, protruding objects, slippery surfaces, or unsecured railings, which can cause falls, slips, and trips
- unsecured objects, such as bricks and gas cylinders, near the edges of elevated surfaces, such as catwalks, roof tops, and scaffolding, which may dislodge and fall on workers
- remove debris and weeds that obstruct visibility
- install skid-resistant strips and other anti-skid devices on slippery surfaces
- construct operation pads for mobile facilities and temporary structures
- construct loading docks, processing and staging areas, and decontamination pads
- provide adequate illumination for work activities (equip temporary lights with guards to prevent accidental contact)
- install all wiring and electrical equipment in accordance with the National Electric Code

5.3 Work Zones

To reduce the accidental spread of hazardous substances by workers from the contaminated area to the clean area, zones will be delineated on the site where different types of operations will occur, and the flow of personnel among the zones will be controlled and pre-established. The work zones will help ensure that:

- personnel are properly protected against the hazards present where they are working
- work activities and contamination are confined to the appropriate areas
- personnel can be located and evacuated in an emergency

Site Map: A Site Map drawing is presented in **Appendix A.**

1. Hot Zone
The exclusion zone (or hot zone) is the area with actual or potential contamination and the highest potential for exposure to hazardous substances.

2. Warm Zone
The contamination reduction zone (or warm zone) is the transition area between the exclusion and support zones. This area is where responders enter and exit the exclusion zone and where decontamination activities take place.

3. Cold Zone
The support zone (or cold zone) is the area of the site that is free from contamination and that may be safely used as a planning and staging area.

6.0 PERSONNEL PROTECTIVE EQUIPMENT AND SITE SAFETY

This section details the type of protection that will be provided to workers within all work zones. Job descriptions and locations within the site will determine the specific type of protective clothing and equipment that may be utilized by personnel working in the area. Depending on the presence of hazards, workers entering the work zones will be required to wear approved equipment for protection against respiratory and/or dermal exposure. The level of protection will be based overall on the type and concentration of the chemical substances in the ambient atmosphere and its toxicity and the potential for exposure to substances in air, or other direct contact with material due to work being done.

6.1 General Site Safety Requirements

- Personnel shall wash their hands, face, and any exposed skin when completing decontamination, before eating, drinking or using tobacco products, and at the end of each shift.
- Personnel shall participate in tailgate safety meetings.
- Personnel shall continually observe their work location and be alert to changes in the environment that may affect safety.
- Personnel shall plan and prioritize their tasks prior to donning PPE and entering a designated Exclusion Zone (EZ).
- Personnel shall only enter/exit regulated work areas when instructed by supervisors, and shall only enter/exit through designated control points.
- Personnel shall act to avoid direct contact with Personnel shall report accident, near miss, or unusual situations to the supervisor immediately.
- Personnel shall use the PPE provided.
- All safety equipment shall be inspected prior to use.
- All vehicles and equipment shall be inspected prior to use.
- The buddy system should be used for all personnel entering the EZ.
- Personnel shall work as a team.
- PFD's required for work near/on/over water
- Personnel shall take adequate rest breaks and replace body fluids.
- Personnel shall not deviate from the SHSP and the instruction of the supervisor.

6.2 Respiratory Protection Program

Accordance with OSHA standard [29 CFR 1910.134] the following guidelines shall be instituted at this site.

- Appropriate respiratory equipment will be issued and/or available to all workers.
- All users of respiratory equipment are fit-tested and trained.
- All users are familiar with cleaning and disinfecting respiratory equipment.
- All users are medically cleared to use respirators.

6.3 Levels of Protection

PPE is required for project work. Hard hats and protective footwear are required for all types of work. Eyewear and hearing protection, as well as gloves, shall be worn when required. Employees shall have prior training on the proper use of PPE.

The purpose of PPE and clothing is to protect individuals from chemical and physical hazards. Levels of protection will be selected or deemed necessary by the UIC or the Supervisor. Below are the different levels of protection.

OSHA Level A: To be selected when the greatest level of skin, respiratory, and eye protection is required. **NOT REQUIRED FOR THIS EVENT**

- Positive pressure, full face-piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH).Safety glasses
- Totally-encapsulating chemical-protective suit
- Coveralls
- Long underwear
- Gloves, outer, chemical resistant
- Boots, chemical resistant, steel toe and shank
- Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally-encapsulating suit

OSHA Level B: This is selected when the highest level of respiratory protection is necessary but a lesser level of skin protection is needed. **REQUIRED TO BE AVAILABLE FOR THIS EVENT**

- Positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA
- Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls).
- Coveralls (as needed)
- Gloves, outer, chemical-resistant.
- Gloves, inner, chemical-resistant.
- Boots, outer, chemical-resistant steel toe and shank.
- Boot-covers, outer, chemical-resistant (disposable). (as needed)
- Hard hat. (as needed)
- Face shield. (as needed)

OSHA Level C: Selected when the type of airborne substance is known and the criteria for the use of air purifying respirators is met. **REQUIRED FOR THIS EVENT**

- Full-face or **half-face** air purifying respirator with Organic Vapor Cartridges
- Suitable splash protection
- Neoprene inner and outer gloves
- Hard hat
- Steel-toed boots
- Safety glasses
- Taped wrist and ankle joints
- Chemical goggles (where applicable)
- Hearing protection (where applicable)

OSHA Level D: A work uniform affording minimal protection, used for nuisance contamination only. **REQUIRED AS A MINIMUM FOR THIS EVENT**

- Hard hat
- Steel-toed boots
- Safety glasses
- Coveralls
- Gloves (where applicable)
- Taped wrist and ankle joints (where applicable)
- Chemical goggles (where applicable)
- Hearing protection (where applicable)

6.4 PPE Inspection and Care and Maintenance Program

Regular inspection of PPE, together with respiratory protective equipment, shall be performed inclusive of the following: inspecting all equipment prior to use; discarding all disposable items daily; and cleaning and inspecting all reusable PPE daily. PPE offers a high degree of protection, yet the equipment must be maintained and inspected on a regular basis. Gloves and full body coveralls will be inspected and replaced promptly if a tear develops.

6.5 Equipment Selection

The Supervisor will be in charge of equipment selection. The level of protection may be upgraded or downgraded by the Supervisor or UIC, as the conditions change at the site. PPE will be selected according to the site hazards.

6.5.1 Upgrade PPE

Reasons to upgrade include any changes that occur in a work task that will increase contact or potential contact with hazardous materials or when an action level is detected

6.5.2 Downgrade PPE

Reasons to downgrade includes any new information that indicates the situation is less hazardous, any changes in site conditions that decrease the hazards, or monitoring or lab analysis data support a decision to downgrade.

7.0 DECONTAMINATION PROGRAM (See appropriate Decontamination Plan)

7.1 General

A decontamination area will be set up at appropriate areas for equipment and personnel decontamination prior to entry to the Exclusion Zone.

- All personnel prior to their entering the Exclusion Zones will review the decontamination procedures.
- Decontamination will consist of soap and/or degreaser and water. When exiting the EZ disposable PPE will be removed and placed in appropriate bins. Water will be available to wash face and hands.
- Respirators, reusable protective clothing, and other personal articles, which have become contaminated because of use, must be decontaminated and sanitized before re-use. The manufacturers' instructions shall always be followed.
- Persons individually assigned a respirator will be responsible for decontaminating their respirators. Wipes will be available for use.
- Personnel not assigned a personal respirator will ensure the respirator is thoroughly sanitized and cleaned prior to next use.
- If respirators become grossly contaminated, they may have to be discarded. The SOFR shall make this decision on a case-by-case basis.

7.2 Personal Hygiene and routine Decontamination:

- All Employees' shall be kept in good personal hygiene prior to beginning any work. All loose jewelry, excessive or extreme hair styles, earrings, or clothing that could potentially pose a safety hazard shall not be permitted. As industry professionals, a clean-shaven and professional appearance must be kept at all times.
- Wash stations shall be made available at all points of ingress and egress of the warm zone. Showers will be available as necessary.
- All personnel will avoid contact with potent contaminated substances. Avoid walking through puddles or mud, kneeling on the ground, or leaning against contaminated surfaces.
- Contaminated protective equipment will not be removed from a regulated area until it has been decontaminated and properly packaged and labeled.
- Removal of materials from protective clothing and equipment by blowing, striking, or any other means, which may disperse materials into the air, is prohibited.

7.3 Equipment Decontamination

- All contaminated equipment will be decontaminated prior to leaving the site.
- All contaminated materials generated from decontamination operations, shall be contained and disposed per the Waste Management Plan for this incident.
- Appropriate decontamination procedures will be adjusted to take into account the product and type of material that may be encountered in the exclusion zone.

8.0 EMERGENCY RESPONSE PROCEDURES

8.1 General

All personnel will follow site specific JSA.

8.2 Evacuation Routes

8.2.1 Requirements - All Personnel

In case of an emergency or hazardous situation, the person that observes this condition shall immediately notify the Supervisor. The Supervisor will sound an air-horn alarm (3 long blast) to alert the Patriot crew(s). The terminal alarm is a wailing horn.

Upon receiving direction to evacuate, stop work immediately and direct all employees and visitors to proceed promptly to the designated evacuation assembly area.

- If the emergency is related to airborne particulates, evacuation routes shall provide access for personnel to be traveling in an crosswind then upwind direction
- 911 Notification will be made if necessary.
- Upon hearing an alarm, all non-emergency communications will cease and the person sounding the alarm will immediately give the assistant safety officer present all pertinent information;
- Power equipment will be shut down;
- Any injured personnel will be transported to the support zone, as long as transportation does not jeopardize the employee's health further. A hospital map and directions are presented in Appendix C
- Upon arrival at the safe locations, the Supervisor will take a complete head count and affected personnel will stay at the safe locations until the area is secured.

8.2.2 **Designated Assembly Area: Garden Inn Hilton**

8.3 HOSPITAL INFORMATION (SEE APPENDIC C)

Yuma Regional Medical Hospital
2400 S Avenue A, Yuma, AZ 85364
Phone: (928) 336-2000

9.0 TRAINING / MEDICAL SURVEILLANCE REQUIREMENTS

All employees who perform work on the site must understand potential hazards to health and safety associated with work activities. All employees potentially exposed to hazardous substances, health hazards or safety hazards will therefore have undergone the appropriate level of federal and state OSHA off-site training, commensurate with their level of response, job function and responsibility.
Employees are also covered by a medical surveillance program that complies with the OSHA requirements for applicability, frequency and content of medical examinations and consultations and recordkeeping.

10.0 CONFINED SPACE / PERMIT REQUIRED CONFINED SPACE AND CONFINED SPACE RESCUE REQUIREMENTS.

Confined Space

This incident: Is confined space required: NO

A Confined Space is a space which by design has limited openings for entry and exit; large enough and so configured that an employee can enter and perform his assigned task, has unfavorable natural ventilation which could contain or produce dangerous air contaminants, and which is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, storage tanks, compartments of ships, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, pipelines, and open-top excavations greater than four feet in depth. The overall objectives of this section are to provide the minimum safety requirements to be followed while entering, exiting and working in confined spaces. This section will address the following as detailed in Patriot's Confined Space Entry / Rescue section of our Health and Safety Policies and Procedures Manual:

- duties and responsibilities
- identification and evaluation
- hazard assessment
- hazard controls
- entry permits
- entry procedures
- atmospheric testing
- isolation and lockout/tag out safeguards
- ingress/egress safeguards
- warning signs and symbols
- training
- emergency response

Permit Required Confined Space

This incident: Is this a Permit required confined space entry: NO

A Permit Required Confined Space (PRCF) has additional hazards. Prior to entry; complete and utilize a Patriot Confined Space Entry Permit and checklist. A PRCS has one or more of the following:

- Contains or has the potential to contain a hazardous or IDLH atmosphere
- Contains a material that has the potential to engulf an entrant
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or a floor which slopes downward and tapers to a smaller cross section
- Contains any other recognized serious safety or health hazard

Confined Space Rescue

This incident: Does this incident require confined space rescue? NO

- Patriot's provides its own certified Confined Space Rescue Team. Their duties include immediate response to rescue calls from the Attendant or any other person recognizing a need for rescue from the confined space and have no other duties other than standby and respond. Additional requirements include Preparation, Assessment, Pre-Entry Operations, Entry and Rescue Operations and Termination as detailed in Patriot's Confined Space Rescue Permit.

11.0 SPILL CONTAINMENT PROGRAM

The overall objectives of the Spill Containment section are to identify the minimum requirements of the spill containment program that may be relevant to the site and provide methods to contain and isolate the entire volume of any hazardous substance spilled in the course of a transfer, major spill, or an onsite release; and provide information on the initial spill action, spill response evaluation and organization, and spill clean-up procedures.

11.1 General

In order to develop a successful spill containment program, an assessment should be conducted of the site conditions, current operations, and planned activities. The assessment should carefully examine all hazardous materials on site for where and how the materials are stored, handled and transported.
As part of the assessment, each area or activity should be analyzed for potential accidental releases or spills. Examples of situations that have potential for spill or release are:

- Bulging or corroded containers,
- Transfer line connections (e.g., leaking seals, misaligned connections),
- Metal fatigue of storage tanks,

- Leaking or inoperable valves, and
- Poor housekeeping (e.g., drums improperly staged).

11.2 Opening Drums and Containers

- Employees not involved are to be kept a safe distance from the containers being opened
- A suitable shield shall be placed to protect employees, equipment controls, monitoring and fire suppression equipment in case of explosion
- Hand tools and handling equipment shall be of a type to prevent sources of ignition where a flammable atmosphere may be possible
- Employees shall not stand upon or work from drums or containers

11.3 Radioactive, Shock Sensitive and Explosive Wastes

- These materials shall not be handled or managed by Patriot Environmental

11.4 Sampling of Drum and Container Contents

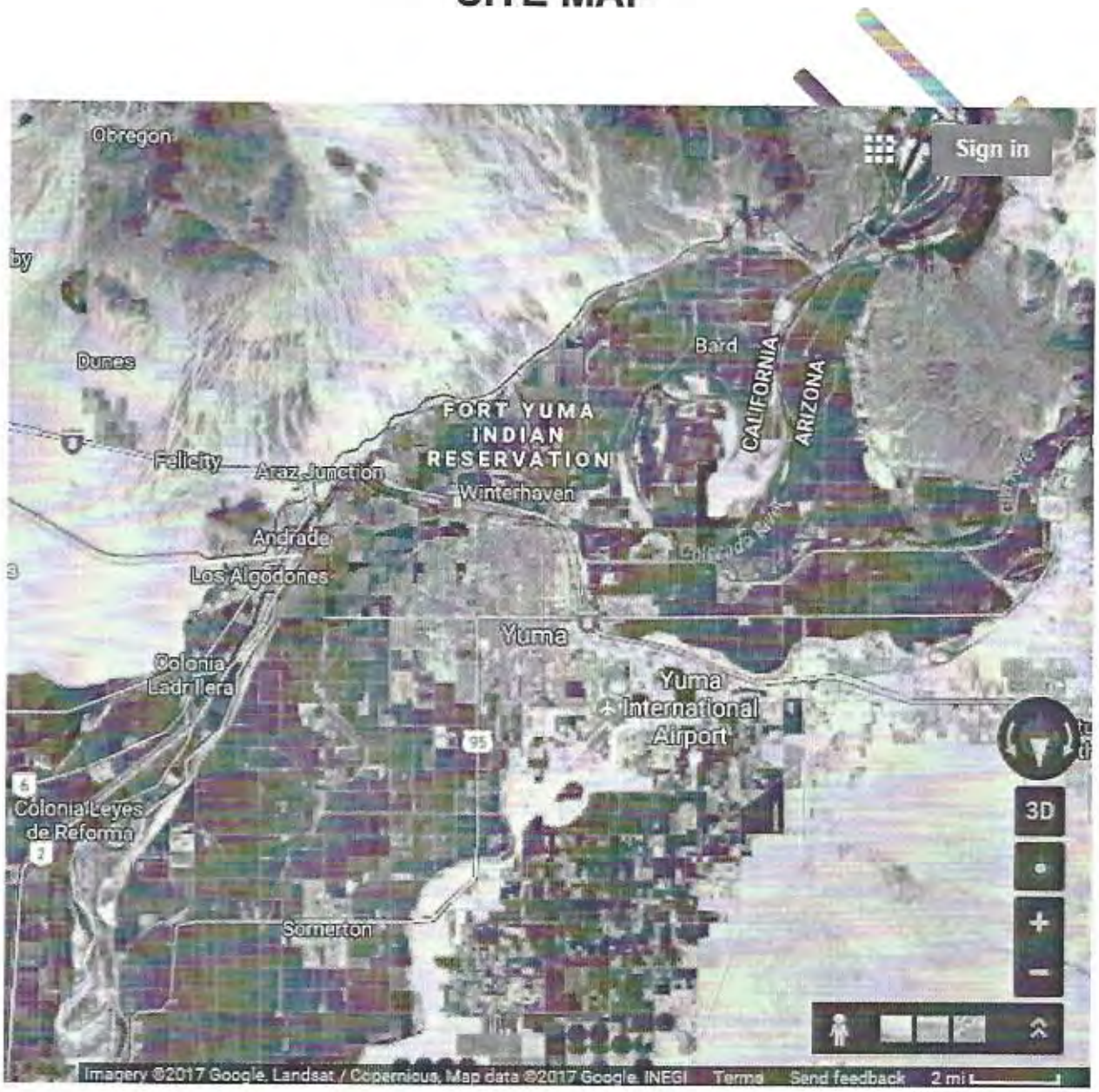
- Sampling of containers and drums shall be conducted in accordance with a site specific sampling procedure

11.5 Shipping and Transport of Drums and Containers

- Drums and containers will be identified, marked and labeled as required by DOT
- Drum or container staging areas will be established and managed as required
- Staging areas will have adequate security, access and egress routes.

APPENDIX A

SITE MAP



APPENDIX B

MSDS/SDS/TECHNICAL SPECIFICATION SHEET(S)

APPENDIX C

HOSPITAL MAP / WEATHER

Yuma, AZ

El Pueblocito Report Change Station

Forecast History Calendar Rain / Snow Health

Elev 121 ft 32.70 °N, 114.64 °W Updated 6 sec ago

79.1 °F

Partly Cloudy Feels Like 79 °F Wind from W 9.4

Today is forecast to be *NEARLY THE SAME* temperature as yesterday.

Pressure	29.75 in
Visibility	10.0 miles
Clouds	Mostly Cloudy 25000 ft
Heat Index	79 °F
Dew Point	41 °F
Humidity	26%
Rainfall	0.00 in
Snow Depth	*Not available.*

Today
High 91 Low 59 °F
0% Chance of Precip.

Yesterday
High 96 Low 53.2 °F
Precip. 0 in

Sun & Moon
7:07 pm
Waning Gibbous, 94% visible

UV Warning

METAR KNYL 131657Z 34007KT 10SM BKN250 25/06 A2989 RMK AO2 SLP118 T02500056

CERTIFICATION

I hereby certify that I have read and understand the SITE HEALTH AND SAFETY PLAN of:

PATRIOT ENVIRONMENTAL SERVICES

I agree to follow the guidelines set forth in this plan during all on-site activities.

NAME	SIGNATURE	DATE

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: NO. 2 DIESEL FUEL
Product Description: Hydrocarbons and Additives
Product Code: 123455-22, 123455-29, 152017-00, 974570, 977606, 977675, 977680, 977903, 978007, 978511, 978687, 979675, 979840, 97AB24, 97AB26, 97AC23, 97AE02, 97AH04, 97AH81, 97AH84, 97AH85, 97AH88, 97AJ12, 97AJ25, 97AJ26, 97AJ30, 97AJ32, 97AJ36, 97AJ37, 97AJ38, 97AJ39, 97AJ40, 97AL47, 97AL49, 97AL50, 97AS73, 97AV80, 97AV81, 97AV82, 97BB19, 97BJ98, 97BJ99, 97BK00, 97BK01, 97BK02, 97BK03, 97BK04, 97BK05, 97BK06, 97BN31, 97BN32, 97BN33, 97BN68, 97BN70, 97BN71, 97BN72, 97BN89, 97BN90, 97BN91, 97BN92, 97BN93, 97BN94, 97BN95, 97BN96, 97BN97, 97BR17, 97BR20, 97BR21, 97BR27, 97BR28, 97BR29, 97BR55, 97BR56, 97BR57, 97BR58, 97BR59, 97BR60, 97BR61, 97BR62, 97BR63, 97BR64, 97BR65, 97BR66, 97BR67, 97BR68, 97BR69, 97BR70, 97BR71, 97BR72, 97BR73, 97BR74, 97BR75, 97BR76, 97BR77, 97BR78, 97BR79, 97BR80, 97BS98, 97BS99, 97BT00, 97BT20, 97BT33, 97BT34, 97BT36, 97BT37, 97BT40, 97BT92, 97BU09, 97BU10, 97BV10, 97BV11, 97BV12, 97BW72, 97BX55, 97BX56, 97BX57, 97BX58, 97BX59, 97BX60, 97BX61, 97BX62, 97BX63, 97BX64, 97BY06, 97BY07, 97BY12, 97U644, 97V859, 97Y149, 97Y564, 97Y797, 97Z972, 97Z976, EMGF22, EMGF29
Intended Use: Diesel engine fuel, Heating Oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
FATTY ACIDS, METHYL ESTERS		0 - 20%
FUELS, DIESEL	68334-30-5	80 - > 99%

Hazardous Constituent(s) Contained in Complex Substance(s)

Name	CAS#	Concentration*
ETHYL BENZENE	100-41-4	0.1 - 1%
NAPHTHALENE	91-20-3	0.1 - 1%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Composition may contain up to 0.5% performance additives and / or dyes.

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an ignition.

POTENTIAL HEALTH EFFECTS

Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage.

Target Organs: Lung | Skin |

ENVIRONMENTAL HAZARDS

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

NFPA Hazard ID:	Health:	1	Flammability:	2	Reactivity:	0
HMIS Hazard ID:	Health:	1*	Flammability:	2	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >55C (131F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor

suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
ETHYL BENZENE		TWA	435 mg/m3	100 ppm	N/A	OSHA Z1
ETHYL BENZENE		TWA	20 ppm		N/A	ACGIH
FUELS, DIESEL	Stable Aerosol.	TWA	5 mg/m3		N/A	ExxonMobil
FUELS, DIESEL	Vapor.	TWA	200 mg/m3		N/A	ExxonMobil
FUELS, DIESEL [total hydrocarb, vapor&aerosol]	Inhalable fraction and vapor	TWA	100 mg/m3		Skin	ACGIH
NAPHTHALENE		TWA	50 mg/m3	10 ppm	N/A	OSHA Z1
NAPHTHALENE		STEL	15 ppm		Skin	ACGIH
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact with material is likely, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical / oil resistant clothing if contact with material is likely.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION
Physical State: Liquid
Color: Clear (May Be Dyed)
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 C): 0.81 - 0.87
Density (at 15 °C): 810 kg/m³ (6.76 lbs/gal, 0.81 kg/dm³) - 876 kg/m³ (7.31 lbs/gal, 0.88 kg/dm³)
Flash Point [Method]: >55C (131F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)
Boiling Point / Range: 145C (293F) - 370C (698F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: 0.067 kPa (0.5 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 1.7 cSt (1.7 mm2/sec) at 40 C - 4.1 cSt (4.1 mm2/sec) at 40 C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: < -6°C (21°F)

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: Halogens, Strong Acids, Strong Bases, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on test data for structurally similar materials.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Sensitization: Non-sensitizing to the skin of laboratory animals.
Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
Diesel fuel: Caused cancer in animal tests. Caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.
Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumors and lymphoma. Extract of particulate produced skin tumors in test animals. Caused mutations in vitro.

Contains:

NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.
ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is

uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	2, 5
ETHYL BENZENE	100-41-4	5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

High molecular wt. component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: DIESEL FUEL
Hazard Class & Division: COMBUSTIBLE LIQUID
ID Number: NA1993
Packing Group: III
Marine Pollutant: Yes
ERG Number: 128
Label(s): NONE
Transport Document Name: NA1993, DIESEL FUEL, COMBUSTIBLE LIQUID, PG III, MARINE POLLUTANT

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid.

LAND (TDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III

SEA (IMDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1202
Packing Group: III
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III, (55°C c.c.), MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: IECSC, EINECS, PICCS, ELINCS, KECI, TSCA, AICS, DSL

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ETHYL BENZENE	100-41-4	0.1 - 1%
NAPHTHALENE	91-20-3	0.1 - 1%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ETHYL BENZENE	100-41-4	1, 4, 10
FUELS, DIESEL	68334-30-5	1, 18, 19
NAPHTHALENE	91-20-3	1, 4, 5, 9, 10

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 01: Product Code was modified.

Section 09: Phys/Chem Properties Note was modified.
Section 09: Flash Point C(F) was modified.
Section 04: First Aid Pre-exsiting Medical Conditions was modified.
Section 11: Tox List Cited Table was modified.
Section 15: National Chemical Inventory Listing - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 08: Exposure Limits Table was modified.
THIS MSDS COVERS THE FOLLOWING MATERIALS: DIESEL NO. 2 | ESSO DIESEL FUEL | EXXON DIESEL FUEL | LOW SULFUR DIESEL | MARINE DIESEL FUEL | MOBIL DIESEL FUEL | ULTRA LOW SULFUR DIESEL | WINTERIZED DIESEL FUEL

PRECAUTIONARY LABEL TEXT:
Contains: FATTY ACIDS, METHYL ESTERS, FUELS, DIESEL
WARNING!
HEALTH HAZARDS
Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage.
Target Organs: Lung | Skin |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an ignition.

PRECAUTIONS
Avoid contact with skin. Do not siphon by mouth. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation.

FIRST AID
Eye: Flush thoroughly with water. If irritation occurs, get medical assistance.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate.

Seek the advice of a specialist before using dispersants.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

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Internal Use Only
MHC: 1A, 0B, 0, 0, 1, 1 PPEC: C

DGN: 7079307XUS (1012398)

14.0 QUALITY ASSURANCE

Sampling will be carried out in conjunction with a well-defined quality assurance (QA) program. The goal of the field QA program is to document that samples are collected without the effects of accidental cross- or systematic contamination and refers to the sampling, analysis, and data validation procedures for generating valid and defensible data. To provide QA for the proposed sampling event, the following sampling, analysis, and data validation procedures will be performed:

14.1 Field Calibration

Instruments used in the field as part of this sampling event are anticipated to consist of Horriba water quality meters (or equivalent), GPS units, digital cameras, and handheld data collection devices such as tablets/smart phones. Horribas will be calibrated daily. Other equipment is not anticipated to require field calibration. Operators of each piece of equipment are responsible for maintaining (including proper battery charge) and operating this equipment such that it conforms to each respective manufacturer's specifications.

14.2 Field Duplicate Sample

For approximately every ten samples collected in the field, one field duplicate will be collected and submitted for laboratory analyses to verify the reproducibility of the sampling methods. Field duplicates will be prepared by separately submitting an aliquot from the same sample location to the laboratory for analysis consistent with the proscribed analyses. The submitted duplicate will be submitted such that the laboratory is not aware that it is a duplicate (i.e., the sample ID will not identify it as a "duplicate" for any specific sample location).

14.3 Field Split Samples

Field split samples refer to samples collected by the regulatory agency or its designee from the same sampling location and independently submitted to a different laboratory for analysis. Field split samples may be collected at the discretion of representatives of the regulatory agency or UC. CTEH may collect split samples for agencies as requested.

14.4 Laboratory QA

Laboratory quality control procedures will be conducted in a manner consistent with relevant State and federal regulatory guidance. Deliverables will contain the supporting documentation necessary for data validation. Internal laboratory quality control checks will include method blanks, matrix spikes (and matrix spike duplicates), surrogate samples, calibration standards, and laboratory control standards (LCSs).

14.5 Matrix Spike/Matrix Spike Duplicate Sample

Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples refer to field samples spiked with the analytes of interest prior to being analyzed at the laboratory to gauge the quality of analysis. Approximately one in twenty samples will be analyzed as MS/MSD samples.

14.6 Data Validation

Validation of the data generated by the laboratory performing the analyses will include at a minimum sample holding times, accuracy, precision, contamination of field generated or laboratory method blanks, and surrogate compound recovery. Accuracy will be determined by evaluating LCS and MS recovery. Precision will be determined by evaluating laboratory and field duplicate samples. 100% of samples will undergo level II validation and 10% of samples will undergo level IV validation.

15.0 DECONTAMINATION PROCEDURES

Decontamination procedures refer to the steps undertaken to minimize the potential for offsite contamination and cross-contamination between individual sampling locations. Prior to collecting any sample for this release the following decontamination procedures will be undertaken: non-disposable sampling equipment such as Kemmerer water sampling devices which come into contact with sampling media will be decontaminated using a bristled brush and a solution comprised of a laboratory grade, non-phosphate detergent (e.g., Alconox or Liquinox) and deionized water. Depending on ancillary activities being conducted for the response to this release, the decontamination of sampling equipment will be conducted over poly sheeting at the sample location or in a nearby designated area. The sampling equipment to be decontaminated will first be placed in a bucket containing the detergent solution and thoroughly washed using a bristled brush. The items will then be double rinsed. Decontaminated items will be wrapped in clean aluminum foil for transit to the next sampling location.

Nitrile gloves will be worn by sampling personnel and changed between activities at each discrete sample collection location. Previously worn nitrile gloves will be discarded in appropriate waste receptacles with other PPE.

16.0 WASTE DISPOSAL

The method for storage and disposal of investigative derived waste materials will comply with applicable local, state and federal regulations in a manner consistent with the WMP.

17.0 DATA ANALYSIS

To assess the potential impact from contact with diesel, the results of sampling will be reviewed for the presence/absence of these compounds, and should they be found, the concentrations of these parameters relative to appropriate regulatory standards or guidelines. The results of laboratory analyses will be provided to UC. ~~See Appendix A for a list of analytes to be performed~~ Std

18.0 RECORDS MANAGEMENT

Records management refers to the procedures for generating, controlling, and archiving project-specific records and records of field activities. Project records, particularly those that are anticipated to be used as evidentiary data, directly support current or ongoing technical studies and activities, and provide historical evidence needed for later reviews and analyses, will be legible, identifiable, retrievable and protected against damage, deterioration, or loss on a centralized electronic database. Handwritten records will be written in indelible ink. Records will likely include, but are not limited to, the following: bound field notebooks on pre-numbered pages, sample collection forms, personnel qualification and training forms, sample location maps, equipment maintenance and calibration forms, chain-of custody forms, maps and drawings, transportation and disposal documents, reports issued as a result of the work, procedures used, correspondences, and any deviations from the procedural records. Documentation errors will be corrected by drawing a single line through the error so it remains legible and will be initialed by the responsible individual, along with the date of change, and the correction will be written adjacent to the error.

Records will be maintained in accordance with the document retention policy established for this incident.

Appendix A

Sampling Summary

Surface Water Sampling and Water Column Sampling Summary*

ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Volatile Organic Compounds (VOCs)	8260	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)	8015	3 x 40 mL VOA vials	HCL to pH < 2; Ice, maintained at 0-6°C	7 days
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO)	8015	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Oil Range Organics (ORO)	8015	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Polycyclic Aromatic hydrocarbons (PAHs)	8270SIM	1 x 1 L Amber Glass	Ice, maintained at 0-6°C	14 days
Metals (CAM 17)*	6010/7471	1 x 250 mL Poly	Nitric acid, maintained at 0-6°C	28 days

**The metals analyte list may be reduced after receiving source sample results.*

Sediment and Soil Sampling Summary* (2 – 4oz soil jars and a 5035 kit total)

ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Volatile Organic Compounds (VOCs)	8260b	Terracore or Encore EPA 5035 compliant containers	Terracores preserved, Encore unpreserved. Ice, maintained at 0-6°C	48 hours for Encores and 7 days for Terracores
Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	7 days
Total Petroleum Hydrocarbons (TPH) – Diesel Range Organics (DRO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Total Petroleum Hydrocarbons (TPH) – Oil Range Organics (ORO)	8015	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Polycyclic Aromatic hydrocarbons (PAHs)	8270SIM	1 x 4 oz soil jar	Ice, maintained at 0-6°C	14 days
Metals (CAM17)	6010/7471	1 x 4 oz soil jar	Ice, maintained at 0-6oC	28 days

Source Sampling Summary*

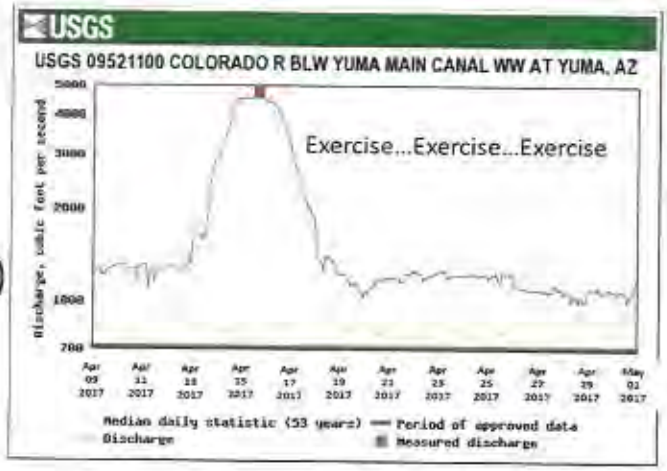
ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
Semi-Volatile Organic Compounds (SVOCs)	8270	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Polycyclic Aromatic Hydrocarbons (PAHs)	8270(SIM)	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Metals (CAM17)	6010/7471	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Comparison of Waterborne Petroleum Oils by Gas Chromatography	ASTM D3328	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.
Total Petroleum Hydrocarbon (TPH) – Gasoline Range Organics (GRO)	8015	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Total Petroleum Hydrocarbon (TPH) – Diesel Range Organics (DRO) and Oil Range Organics (ORO)	8015	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid – Unlimited Water – 14 days.
Oil Spill Source Identification by Gas Chromatography and Positive Ion Electron Impact Low Resolution Mass Spectrometry	ASTM D5759	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.
Boiling Range Distribution of Petroleum Fractions by Gas Chromatography	ASTM 2887	2 x 40ml VOA Vials or 1 x 4oz. jar.	Ice, maintained at 0-6°C	Solid –Unlimited Water – 14 days.

*One or more method may be required additional analysis may be added as needed.

EXERCISE

WEATHER BRIEFING
APRIL 14TH

- **Max Heat Index:** 105°
- **High:** 103°
- **Low:** 82°
- **Afternoon Humidity:** 20%
- **Wind:** East at 12 mph (morning)
  South at 10 mph (afternoon)
- **Thunderstorm Chances:**
  30% (afternoon and evening)



River/Hydrologic Concerns:

- Flow in Colorado River forecast to increase through early evening before cresting.
  - Around 4500 cubic ft/sec, or linear speed of 1.5 mph.
  - Upstream rainfall to the north may support continued flow increases.

Outlook for April 15th:

- **Max Heat Index:** 107°
- **High:** 105°
- **Low:** 81°
- **Thunderstorm Chances:** 30% (afternoon and evening)
- **Wind:** East at 10 mph, becoming southwest at 7 mph

EXERCISE

Site Safety and Health Plan ICS-208-CG (rev 9/06) 4-14-17 -4-14-17

Incident Name: L/S 113 COLORADO RIVER RELEASE **Date/Time Prepared:** 4-13-17 **Operational Period:** 0600 - 0600

Purpose. The ICS Compatible Site Safety and Health Plan is designed for safety and health personnel that use the Incident Command System (ICS). It is compatible with ICS and is intended to meet the requirements of the Hazardous Waste Operations and Emergency Response regulation (Title 29, Code of Federal Regulations, Part 1910.120). The plan avoids the duplication found between many other site safety plans and certain ICS forms. It is also in a format familiar to users of ICS. Although primarily designed for oil and chemical spills, the plan can be used for all hazard situations.

Questions on the document should be addressed to the Coast Guard Office of Incident Management and Preparedness (G-RPP).

Table of Forms

FORM NAME	FORM #	USE	REQUIRED	OPTIONAL	ATTACHED
Emergency Safety and Response Plan	A	Emergency response phase (uncontrolled)	X		
Site Safety Plan	B	Post-emergency phase (stabilized, cleanup)	X		
Site Map	C	Post-emergency phase map of site and hazards	X		
Emergency Response Plan	D	Part of Form B, to address emergencies	X		
Exposure Monitoring Plan	E	Exposure monitoring Plan to monitor exposure	X		
Air Monitoring Log	E-1	To log air monitoring data	X*		
Personal Protective Equipment	F	To document PPE equipment and procedures	X*		
Decontamination	G	To document decon equipment and procedures	X*		
Site Safety Enforcement Log	H	To use in enforcing safety on site		X	
Worker Acknowledgement Form	I	To document workers receiving briefings		X	
Form A Compliance Checklist	J	To assist in ensuring HAZWOPER compliance		X	
Form B Compliance Checklist	K	To assist in ensuring HAZWOPER compliance		X	
Drum Compliance Checklist	L	To assist in ensuring HAZWOPER compliance		X	
Other:					

* *Required only if function or equipment is used during a response*

EMERGENCY SAFETY and RESPONSE PLAN	1. Incident Name LS113 Colorado River Release	2. Date/Time Prepared 9-13-17 1000	3. Operational Period 0600 - 0600 April 14-15	4. Attachments: Attach MSDS for each Chemical:
5. Organization IC/UC:	Safety: Danny Padilla Div/Group Supv:	Entry Team: Patriot	Backup Team: NONE	Decon Team: Patriot

6.a. Physical Hazards and Protection

6.b. Confined Space ☐ Noise ☑ Heat Stress ☑ Cold Stress ☐ Electrical ☑ Animal/Plant/Insect ☑ Ergonomic ☑ Ionizing Rad ☑
Slips/Trips/Falls ☑ Struck by ☑ Water ☑ Violence ☐ Excavation ☐ Biomedical waste and/or needles ☑ Fatigue ☐ Other (specify)

6.c. Tasks & Controls	6d Entry Permit	6.e Ventilate	6f. Hearing Protection	6g. Shoes (type) STEEL TOE	6.h Hard Hats	6i Clothing (cold wx)	6j. Life Jacket	6l. Work/ Rest (hrs)	6.m. Fluids (amt/time)	6.n. Signs & Barricade	6.p. Fall Protect	6.q. Post Guards	6.r. Flash Protect	6.s Work Gloves	6.t. Other
ISOLATE RELEASE	N/A	N/A	N/A	~~STEEL TOE~~	N/A	N/A	☑		N/A	N/A	N/A	N/A	N/A	✓	
DEPLOY BOOM IN SENSITIVE AREAS		N/A	N/A	✓	N/A	N/A	✓			✓				✓	

7.a. Agent	7.b. Hazards	7.c. Target Organs	7.d. Exposure Routes	7.f. PPE	7.g. Type of PPE
	Explosive ☐ Radioactive ☐ Flammable ☐ Carcinogen ☐ Reactive ☐ Oxidizer ☐ Biomedical ☐ Corrosive ☐ Toxic ☐ Specify Other: ☐	Eyes ☐ Nose ☐ ~~Skin~~ ☑ Ears ☐ Central Nervous System ☐ Respiratory ☐ Throat ☐ Lungs ☑ Heart ☐ Liver ☐ Kidney ☐ Blood ☐ Lungs ☑ Circulatory ☐ Gastrointestinal ☐ Bone ☐ Other Specify: ☐	Inhalation ☑ Absorption ☑ Ingestion ☐ Injection ☐ Membrane ☐ ☐	Face Shield ☐ Eyes ☑ Gloves ☑ Inner Suit ☐ Splash Suit ☑ Level A Suit ☐ SCBA ☐ APR ☐ SAR ☐ Cartridges ☐ Fire Resistance ☐	

8. Instruments:	8.a. Action Levels	8.b. Chemical Name(s)	8.c. LEL/UEL %	8.d. Odor Thresh Ppm	8.e Ceiling/ IDLH	8.f. STEL/TLV	8.g. Flash Pt/ Ignition Pt (F or C)	8.h. Vapor Pressure (mm)	8.i. Vapor Density	8.j. Specific Gravity	8.l Boiling Pt F or C
O2 ☐											
CGI ☐											
Radiation ☐											
Total HCs ☐											
Colorimetric ☐											
Thermal ☐											
Other ☐											

MERGENCY SAFETY and ESPONSE PLAN (Cont)	1. Incident Name COLORADO 4/S 113 RIVER RELEASE	2. Date/Time Prepared 4-13-17 1000	3. Operational Period 4-14- 4-15-17 0600-0600	4. Attachments: Attach MSDS for each Chemical

Decontamination:				
Instrument Drop Off ☐	Suit Wash ☐	Bottle Exchange ☐	SCBA/Mask Rinse ☐	Intervening Steps ☐ Specify:
uter Boots/Glove Removal ☐	Decon Agent: Water ☐	Outer Suit Removal ☐	Inner Glove Removal ☐	
Suit/Gloves/Boot Disposal ☐	Other ☐	Inner Suit Removal ☐	Work Clothes Removal ☐	
	Specify:	SCBA/Mask Removal ☐	Body Shower ☐	

). Site Map. Include: Work Zones, Locations of Hazards, Security Perimeter, Places of Refuge, Decontamination Line, Evacuation Routes, Assembly Point, Direction of North
] Attached, ☐ Drawn Below:

SEE PATRIOT CONTAINMENT & DECON PLAN.

.a. Potential Emergencies:	11.b. Evacuation Alarms:	11.c Emergency Prevention and Evacuation Procedures:
Fire ☑	Horn ☑ # Blasts ☐	Safe Distance:
Explosion ☐	Bells ☐ #Rings ☐	
Other ☑ for DECON RESPIRATORY	Radio Code ☐	
	Other:	

.. a. Communications:	12.b. Command #:	12.c. Tactical #:	12.d. Entry #:
adio ☐ Phone ☑ Other ☐			

.a. Site Security:	13.b. Procedures:	13.c. Equipment:
rsonnel Assigned	SEE	

.a. Emergency Medical:	14.b. Procedures:	14.c Equipment:
rsonnel Assigned		

Prepared by:	16. Date/Time Briefed:	
PADILLA	4-13-17	**ICS-208-CG SSP-A Page 2. (rev 9/06):** Page 2 of 5

CG ICS SSP: SITE MAP	1. Incident Name: COLORADO RIVER MS 113 RELEASE	2. Date/Time Prepared: 4/13/17 1000	3. Operational Period: April 14-15 0600 - 0600	4. Safety Officer (include method of contact): DANIEL PADILLA
5. Supervisor/Leader: IC PHIL VASQUEZ	6. Location and Size of Site: PUMP 199.0 COLORADO RIVER	7. Site Accessibility: Land ☐ Water ☐ Air ☐ Comments:	8. For Emergencies Contact:	9. Include: - Work Zones - Security Perimeter - Decontamination Line - Locations of Hazards - Places of Refuge - Evacuation Routes

10. Sketch of Site:
☒ Attached. ☐ Drawn Here

SEE Attachment

11. Prepared By: D. PADILLA	12. Date/Time Briefed: 4-13-17	**HAZARD LIST**: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-C (rev 9/06):** Page 3 of 5

CG ICS SITE SAFETY PLAN (SSP) HAZARD ID/EVAL/CONTROL	1. Incident Name: US 113 COLORADO RIVER RELEASE	2. Date/Time Prepared: 9-13-17 1000	3. Operational Period: April 14-15 0600 – 0600	4. Safety Officer (include method of contact): DANIEL PADILLA 720 550-5335
5. Supervisor/Leader: IC DHEL VASQUEZ	6. Location and Size of Site: MM 193	7. Site Accessibility: Land ☑ Water ☑ Air ☐ Comments:	8. For Emergencies Contact: 911	9. Attachments: **Attach MSDS for each Chemical**

10.a. Job Task/Activity	10.b. Hazards*	10.c. Potential Injury & Health Effects	10.d. Exposure Routes	10.e. Controls: Engineering, Administrative, PPE
Isolate Release Area	Vehicle hazards Snake hazards Heat Stress	Slips Trips & Falls Hand Injury	Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	USE 4 Questions, Be aware of surroundings, Proper PPE & Hand Placement
Deploy Boom in Sensitive areas	Drowning, Product Ignition, Inhalation, Absorption Static, Vapor accumulation	Slips Trips & Falls Possible Cancer hazard Burn / Irritate Skin	Inhalation ☑ Absorption ☑ Ingestion ☐ Injection ☐ Membrane ☐	Proper PPE, BE Aware of surroundings USE 4 Questions, Follow ALL KM & OSHA REGS
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐	

11. Prepared By:	12. Date/Time Briefed:	*HAZARD LIST: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-B (rev 9/06):** Page 9 of 5

CG ICS SSP: EMERGENCY RESPONSE PLAN	1. Incident Name COLORADO MS 113 RIVER RELEASE	2. Date/Time Prepared 4-13-17	3. Operational Period 04-14-17 0600 - 0600	4. Safety Officer (include method of contact) DANIEL PADILLA
5. Supervisor/Leader IC	6. Location and Size of Site PLMP 199.8	7. For Emergencies Contact: 911		8. Attachments: **INCLUDE ICS FORM 206 and EMT Medical Response Procedures**
9. Emergency Alarm (sound and location)	10. Backup Alarm (sound and location) HEAVY EQUIPMENT	11. Emergency Hand Signals	12. Emergency Personal Protective Equipment Required: LEVEL C	
AIR HORN Three Blast				

13. Emergency Notification Procedures	14. Places of Refuge (also see site map form 208B)	15. Emergency Decon and Evacuation Steps	16. Site Security Measures
Call 911 Report to Supervisor Supervisor will tell Safety/group Safety will tell IC Implement ERL CALL	Depending on Location will have EZUP's, water, chairs, ~~First Aid Station~~	SEE "PATRIOT" HAZARDOUS MATERIALS RESPONSE OPERATIONS MANUAL PAGE 12. SEE ATTACHED	LOCAL EMS.

17. Prepared By:	18. Date/Time Briefed:	**HAZARD LIST**: Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-D (rev 9/06)** Page 5 of 5

Patriot
Environmental Services

SITE HEALTH AND SAFETY PLAN

HAZARDOUS MATERIALS RESPONSE OPERATIONS

DATE: 04/13/17

INCIDENT NAME: COLORADO RIVER L/S 113 RELEASE

CUSTOMER NAME: KINDER MORGAN

LOCATION: COLORADO RIVER, YUMA, AZ

CUSTOMER CONTACT/PHONE: ROD DILLON / KINDER MORGAN

HEALTH & SAFETY OFFICER CONTACT/PHONE: ANDY PUGET / 661-889-1226

TABLE OF CONTENTS

1.0 INTRODUCTION

This Site Health and Safety Plan (SHSP) has been prepared for the prevention of accidents, exposures, and illnesses for personnel performing work activities specific to this plan. In addition to all other regulatory requirements, the work shall be performed in compliance with:

- General Industry Safety Orders (Title 8 CCR Section 5192) Hazardous Waste Operations and Emergency Response
- Hazard Communication (Employee Right-To-Know) (29 CFR 1910.120), (Title 8 CCR Section 5194)

These regulations were designed to meet the general industry requirements, which were issued under the Occupational Safety and Health Safety Act (OSHA) of 1970. In addition, all personnel will conform to the Construction Industry Standards. Safety policies/procedures and employee safety rules (in addition to the above referenced documents) shall be implemented at all times.

1.1 Purpose

This SHSP has the following designated purposes:

- provide a safe working environment
- conduct operations within the guidelines of safety requirements
- comply with OSHA standards for employee health and safety
- maintain high standards of performance concerning environmental protection and industrial health
- ensure workers are aware of the hazards associated with the site activities and the related protective measures
- ensure compliance with the SHSP and amendment of the SHSP as conditions change on the site

2.0 SCOPE OF WORK

This SHSP covers operations to be performed by all Patriot contractor/subcontractor personnel during all activities relating to the response and/or site remediation for the Incident.
This SHSP has been prepared to ensure that site safety practices are utilized throughout all operations including but not limited to; site security and regulatory oversight.

2.1 Site Map located in **Appendix A**

2.2 Description of Onsite Activities

- Protect Sensitive Sites
- Recover product as required
- Site remediation/cleaning as required
-
-

3.0 SITE ORGANIZATION

All personnel working during the response or remediation project are responsible and accountable to adhere to standard safety policies and compliance with this SHSP. Key project personnel and their responsibilities are listed below.

3.1 Patriot Personnel

Patriot personnel will be using the Incident Command System (ICS) and forms, when applicable.

3.2 Patriot Site Safety Officer

Patriot Site Safety Officer: Kevin Matter
The Safety Officer and Assistant Site Safety Officers are to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations, ensure site compliance with Federal and CAL OSHA regulations, and the SHSP including, but not limited to, hazard analysis, air monitoring, PPE, decontamination, site control and Standard Operating Procedures (SOPs).

3.3 Site Personnel

All personnel must work in a safe and healthful manner, so as not to compromise his/her own health and safety, or the health and safety of others. In the event of an emergency, evacuate the affected area immediately, and notify appropriate individuals. Conform to all aspects of this incident/site specific SHSP. Report any and all accidents, injuries, exposures, and/or near misses to the Site Safety Officer and/or their supervisor. Attend and participate in Tailgate Safety Meetings prior to job start. Observe "Buddy System" during work activities while maintaining Situational Awareness at all times.

3.4 Site Visitors

Authorized site visitors must check in with the Patriot Site Supervisor and/or Health and Safety Officer to sign specific location job safety analysis.

3.5 Field and Emergency Communications

All Patriot personnel utilize cell phones when possible. Communications will be noted on ICS Form 205 and 205A or as specified in the ICS Form 204 Assignment List.
If intrinsically safe communications are required, Patriot utilizes 161-174 MHz UHF radios. For vessel communications, Patriot utilizes Marine Band VHF.

4.0 HAZARD IDENTIFICATION, ANALYSIS AND AIR MONITORING

The following describes potential hazards associated with the tasks that may be performed. A separate site specific Job Safety Analysis (JSA) will be completed daily or for each operational period.

4.1 Chemical Hazards – ***SDS OR MSDS(s) ATTACHED IN APPENDIX B***

The primary objective is to provide protection to workers during the removal activities at the site. Therefore, it is necessary to understand the chemical hazard. The chemical(s), which may present potential occupational and environmental health hazards during the response/mitigation are presented below and/or are attached. The potential hazards of toxic exposure of these contaminants to site personnel can be expressed by:

- Threshold Limit Values- Time Weighted Average (TLVs-TWA) as established by the American Conference of Governmental Industrial Hygienists; (ACGIH)
- Permissible Exposure Limits (PEL) as mandated by OSHA;
- Recommended Exposure Limits (REL) as suggested by National Institute for Occupational Safety and Health (NIOSH); and
- Immediately Dangerous to Life and Health (IDLH) Values established by NIOSH and OSHA

Compound	Exposure Limits	Route	Health Effect	Carcinogen Status
Unleaded Gasoline, Diesels, Jet Fuels (Known as "Trans-Mix)	See MSDS	Inhalation Ingestion Skin contact Eye contact Other	See MSDS	See MSDS
		Inhalation Ingestion Skin contact Eye contact Other		
		Inhalation Ingestion Skin contact Eye contact Other		
		Inhalation Ingestion Skin contact Eye contact Other		

4.2 Physical Hazards

Personnel may be exposed to physical hazards such as noise, vehicular traffic, physical strain, as well as slips, trips, or falls, heat/cold stress, on/over water operations or task specific hazards. Each hazard and potential hazard shall be indicated on the Job Safety Analysis (JSA) for task specific operations and updated as conditions change.

4.3 Air Monitoring / Airborne Hazards Requirement

- Direct reading instruments will be used on sites involving hazardous materials. The instrument to be utilized will be specified in the site health-and-safety plan
- Instruments available can include portable organic vapor analyzers (OVA), photo-ionization detectors (PID), combustible gas indicator / oxygen meter (CGI/O2), hydrogen sulfide monitors, hydrogen cyanide monitors, carbon monoxide monitors, colorimetric tubes, and portable radiological survey meter.
- An action level will be established in the site health-and-safety plan for each suspected airborne contaminant.
- The site supervisor will ensure that all air monitoring data is logged into a Real Time Air Monitoring Log. Data will include instrument used, calibration, wind direction, work process, etc.
- All direct reading instruments, air monitoring pumps and any other instruments used to monitor air contamination are calibrated as needed prior to use. A separate log will be kept detailing date, time, calibration gas or other standard, and name of person performing the calibration. Maintenance of the instruments will be as detailed in the manufacturer's reference manuals
- Personal air monitoring shall be performed on personnel who are working in USEPA Levels C and D protection that have the highest potential for exposure to hazardous substances or health hazards above permissible exposure limits
- Air monitoring shall be conducted at least twice daily (once during the beginning of daily activity and once during peak activity) and:
  - When work begins on a new phase or portion of a site.
  - When contaminants other than those previously identified are being handled.
  - When different types of activities occur (e.g. drum opening as opposed to exploratory well drilling).
  - When employees are handling leaking drums or are exposed to obvious contamination.
  - Upon determination by the site safety officer, monitoring can be conducted continuously, daily or hourly.
  - 10% of LEL "HOT ZONE"

5.0 SITE CONTROL PROGRAM

5.1 Security

Security will be in effect as deemed necessary to protect personnel and assets.

5.2 Site Preparation

Construct roadways to provide ease of access and a sound roadbed for heavy equipment and vehicles:

- arrange traffic flow patterns to ensure safe and efficient operations
- eliminate physical hazards from the work area including:
  - ignition sources in flammable hazard areas

    - exposed or ungrounded electrical wiring, and low overhead wiring that may entangle equipment
- sharp or protruding edges, such as glass, nails, and torn metal, which can puncture protective clothing and equipment and inflict puncture wounds
- holes, loose steps or flooring, protruding objects, slippery surfaces, or unsecured railings, which can cause falls, slips, and trips
- unsecured objects, such as bricks and gas cylinders, near the edges of elevated surfaces, such as catwalks, roof tops, and scaffolding, which may dislodge and fall on workers
- remove debris and weeds that obstruct visibility
- install skid-resistant strips and other anti-skid devices on slippery surfaces
- construct operation pads for mobile facilities and temporary structures
- construct loading docks, processing and staging areas, and decontamination pads
- provide adequate illumination for work activities (equip temporary lights with guards to prevent accidental contact)
- install all wiring and electrical equipment in accordance with the National Electric Code

5.3 Work Zones

To reduce the accidental spread of hazardous substances by workers from the contaminated area to the clean area, zones will be delineated on the site where different types of operations will occur, and the flow of personnel among the zones will be controlled and pre-established. The work zones will help ensure that:

- personnel are properly protected against the hazards present where they are working
- work activities and contamination are confined to the appropriate areas
- personnel can be located and evacuated in an emergency

Site Map: A Site Map drawing is presented in **Appendix A.**

1. Hot Zone
The exclusion zone (or hot zone) is the area with actual or potential contamination and the highest potential for exposure to hazardous substances.

2. Warm Zone
The contamination reduction zone (or warm zone) is the transition area between the exclusion and support zones. This area is where responders enter and exit the exclusion zone and where decontamination activities take place.

3. Cold Zone
The support zone (or cold zone) is the area of the site that is free from contamination and that may be safely used as a planning and staging area.

6.0 PERSONNEL PROTECTIVE EQUIPMENT AND SITE SAFETY

This section details the type of protection that will be provided to workers within all work zones. Job descriptions and locations within the site will determine the specific type of protective clothing and equipment that may be utilized by personnel working in the area. Depending on the presence of hazards, workers entering the work zones will be required to wear approved equipment for protection against respiratory and/or dermal exposure. The level of protection will be based overall on the type and concentration of the chemical substances in the ambient atmosphere and its toxicity and the potential for exposure to substances in air, or other direct contact with material due to work being done.

6.1 General Site Safety Requirements

- Personnel shall wash their hands, face, and any exposed skin when completing decontamination, before eating, drinking or using tobacco products, and at the end of each shift.
- Personnel shall participate in tailgate safety meetings.
- Personnel shall continually observe their work location and be alert to changes in the environment that may affect safety.
- Personnel shall plan and prioritize their tasks prior to donning PPE and entering a designated Exclusion Zone (EZ).
- Personnel shall only enter/exit regulated work areas when instructed by supervisors, and shall only enter/exit through designated control points.
- Personnel shall act to avoid direct contact with Personnel shall report accident, near miss, or unusual situations to the supervisor immediately.
- Personnel shall use the PPE provided.
- All safety equipment shall be inspected prior to use.
- All vehicles and equipment shall be inspected prior to use.
- The buddy system should be used for all personnel entering the EZ.
- Personnel shall work as a team.
- PFD's required for work near/on/over water
- Personnel shall take adequate rest breaks and replace body fluids.
- Personnel shall not deviate from the SHSP and the instruction of the supervisor.

6.2 Respiratory Protection Program

Accordance with OSHA standard [29 CFR 1910.134] the following guidelines shall be instituted at this site.

- Appropriate respiratory equipment will be issued and/or available to all workers.
- All users of respiratory equipment are fit-tested and trained.
- All users are familiar with cleaning and disinfecting respiratory equipment.
- All users are medically cleared to use respirators.

6.3 Levels of Protection

PPE is required for project work. Hard hats and protective footwear are required for all types of work. Eyewear and hearing protection, as well as gloves, shall be worn when required. Employees shall have prior training on the proper use of PPE.

The purpose of PPE and clothing is to protect individuals from chemical and physical hazards. Levels of protection will be selected or deemed necessary by the UIC or the Supervisor. Below are the different levels of protection.

OSHA Level A: To be selected when the greatest level of skin, respiratory, and eye protection is required. **NOT REQUIRED FOR THIS EVENT**

- Positive pressure, full face-piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH).Safety glasses
- Totally-encapsulating chemical-protective suit
- Coveralls
- Long underwear
- Gloves, outer, chemical resistant
- Boots, chemical resistant, steel toe and shank
- Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally-encapsulating suit

OSHA Level B: This is selected when the highest level of respiratory protection is necessary but a lesser level of skin protection is needed. **REQUIRED TO BE AVAILABLE FOR THIS EVENT**

- Positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA
- Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls).
- Coveralls (as needed)
- Gloves, outer, chemical-resistant.
- Gloves, inner, chemical-resistant.
- Boots, outer, chemical-resistant steel toe and shank.
- Boot-covers, outer, chemical-resistant (disposable). (as needed)
- Hard hat. (as needed)
- Face shield. (as needed)

OSHA Level C: Selected when the type of airborne substance is known and the criteria for the use of air purifying respirators is met. **REQUIRED FOR THIS EVENT**

- Full-face or **half-face** air purifying respirator with Organic Vapor Cartridges
- Suitable splash protection
- Neoprene inner and outer gloves
- Hard hat
- Steel-toed boots
- Safety glasses
- Taped wrist and ankle joints
- Chemical goggles (where applicable)
- Hearing protection (where applicable)

OSHA Level D: A work uniform affording minimal protection, used for nuisance contamination only. **REQUIRED AS A MINIMUM FOR THIS EVENT**

- Hard hat
- Steel-toed boots
- Safety glasses
- Coveralls
- Gloves (where applicable)
- Taped wrist and ankle joints (where applicable)
- Chemical goggles (where applicable)
- Hearing protection (where applicable)

6.4 PPE Inspection and Care and Maintenance Program

Regular inspection of PPE, together with respiratory protective equipment, shall be performed inclusive of the following: inspecting all equipment prior to use; discarding all disposable items daily; and cleaning and inspecting all reusable PPE daily. PPE offers a high degree of protection, yet the equipment must be maintained and inspected on a regular basis. Gloves and full body coveralls will be inspected and replaced promptly if a tear develops.

6.5 Equipment Selection

The Supervisor will be in charge of equipment selection. The level of protection may be upgraded or downgraded by the Supervisor or UIC, as the conditions change at the site. PPE will be selected according to the site hazards.

6.5.1 Upgrade PPE

Reasons to upgrade include any changes that occur in a work task that will increase contact or potential contact with hazardous materials or when an action level is detected

6.5.2 Downgrade PPE

Reasons to downgrade includes any new information that indicates the situation is less hazardous, any changes in site conditions that decrease the hazards, or monitoring or lab analysis data support a decision to downgrade.

7.0 DECONTAMINATION PROGRAM (See appropriate Decontamination Plan)

7.1 General

A decontamination area will be set up at appropriate areas for equipment and personnel decontamination prior to entry to the Exclusion Zone.

- All personnel prior to their entering the Exclusion Zones will review the decontamination procedures.
- Decontamination will consist of soap and/or degreaser and water. When exiting the EZ disposable PPE will be removed and placed in appropriate bins. Water will be available to wash face and hands.
- Respirators, reusable protective clothing, and other personal articles, which have become contaminated because of use, must be decontaminated and sanitized before re-use. The manufacturers' instructions shall always be followed.
- Persons individually assigned a respirator will be responsible for decontaminating their respirators. Wipes will be available for use.
- Personnel not assigned a personal respirator will ensure the respirator is thoroughly sanitized and cleaned prior to next use.
- If respirators become grossly contaminated, they may have to be discarded. The SOFR shall make this decision on a case-by-case basis.

7.2 Personal Hygiene and routine Decontamination:

- All Employees' shall be kept in good personal hygiene prior to beginning any work. All loose jewelry, excessive or extreme hair styles, earrings, or clothing that could potentially pose a safety hazard shall not be permitted. As industry professionals, a clean-shaven and professional appearance must be kept at all times.
- Wash stations shall be made available at all points of ingress and egress of the warm zone. Showers will be available as necessary.
- All personnel will avoid contact with potent contaminated substances. Avoid walking through puddles or mud, kneeling on the ground, or leaning against contaminated surfaces.
- Contaminated protective equipment will not be removed from a regulated area until it has been decontaminated and properly packaged and labeled.
- Removal of materials from protective clothing and equipment by blowing, striking, or any other means, which may disperse materials into the air, is prohibited.

7.3 Equipment Decontamination

- All contaminated equipment will be decontaminated prior to leaving the site.
- All contaminated materials generated from decontamination operations, shall be contained and disposed per the Waste Management Plan for this incident.
- Appropriate decontamination procedures will be adjusted to take into account the product and type of material that may be encountered in the exclusion zone.

8.0 EMERGENCY RESPONSE PROCEDURES

8.1 General

All personnel will follow site specific JSA.

8.2 Evacuation Routes

8.2.1 Requirements - All Personnel

In case of an emergency or hazardous situation, the person that observes this condition shall immediately notify the Supervisor. The Supervisor will sound an air-horn alarm (3 long blast) to alert the Patriot crew(s). The terminal alarm is a wailing horn.

Upon receiving direction to evacuate, stop work immediately and direct all employees and visitors to proceed promptly to the designated evacuation assembly area.

- If the emergency is related to airborne particulates, evacuation routes shall provide access for personnel to be traveling in an crosswind then upwind direction
- 911 Notification will be made if necessary.
- Upon hearing an alarm, all non-emergency communications will cease and the person sounding the alarm will immediately give the assistant safety officer present all pertinent information;
- Power equipment will be shut down;
- Any injured personnel will be transported to the support zone, as long as transportation does not jeopardize the employee's health further. A hospital map and directions are presented in Appendix C
- Upon arrival at the safe locations, the Supervisor will take a complete head count and affected personnel will stay at the safe locations until the area is secured.

8.2.2 **Designated Assembly Area: Garden Inn Hilton**

8.3 HOSPITAL INFORMATION (SEE APPENDIC C)

Yuma Regional Medical Hospital
2400 S Avenue A, Yuma, AZ 85364
Phone: (928) 336-2000

9.0 TRAINING / MEDICAL SURVEILLANCE REQUIREMENTS

All employees who perform work on the site must understand potential hazards to health and safety associated with work activities. All employees potentially exposed to hazardous substances, health hazards or safety hazards will therefore have undergone the appropriate level of federal and state OSHA off-site training, commensurate with their level of response, job function and responsibility.
Employees are also covered by a medical surveillance program that complies with the OSHA requirements for applicability, frequency and content of medical examinations and consultations and recordkeeping.

10.0 CONFINED SPACE / PERMIT REQUIRED CONFINED SPACE AND CONFINED SPACE RESCUE REQUIREMENTS.

Confined Space

This incident: Is confined space required: NO

A Confined Space is a space which by design has limited openings for entry and exit; large enough and so configured that an employee can enter and perform his assigned task, has unfavorable natural ventilation which could contain or produce dangerous air contaminants, and which is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, storage tanks, compartments of ships, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, pipelines, and open-top excavations greater than four feet in depth. The overall objectives of this section are to provide the minimum safety requirements to be followed while entering, exiting and working in confined spaces. This section will address the following as detailed in Patriot's Confined Space Entry / Rescue section of our Health and Safety Policies and Procedures Manual:

- duties and responsibilities
- identification and evaluation
- hazard assessment
- hazard controls
- entry permits
- entry procedures
- atmospheric testing
- isolation and lockout/tag out safeguards
- ingress/egress safeguards
- warning signs and symbols
- training
- emergency response

Permit Required Confined Space

This incident: Is this a Permit required confined space entry: NO

A Permit Required Confined Space (PRCF) has additional hazards. Prior to entry; complete and utilize a Patriot Confined Space Entry Permit and checklist. A PRCS has one or more of the following:

- Contains or has the potential to contain a hazardous or IDLH atmosphere
- Contains a material that has the potential to engulf an entrant
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or a floor which slopes downward and tapers to a smaller cross section
- Contains any other recognized serious safety or health hazard

Confined Space Rescue

This incident: Does this incident require confined space rescue? NO

- Patriot's provides its own certified Confined Space Rescue Team. Their duties include immediate response to rescue calls from the Attendant or any other person recognizing a need for rescue from the confined space and have no other duties other than standby and respond. Additional requirements include Preparation, Assessment, Pre-Entry Operations, Entry and Rescue Operations and Termination as detailed in Patriot's Confined Space Rescue Permit.

11.0 SPILL CONTAINMENT PROGRAM

The overall objectives of the Spill Containment section are to identify the minimum requirements of the spill containment program that may be relevant to the site and provide methods to contain and isolate the entire volume of any hazardous substance spilled in the course of a transfer, major spill, or an onsite release; and provide information on the initial spill action, spill response evaluation and organization, and spill clean-up procedures.

11.1 General

In order to develop a successful spill containment program, an assessment should be conducted of the site conditions, current operations, and planned activities. The assessment should carefully examine all hazardous materials on site for where and how the materials are stored, handled and transported.
As part of the assessment, each area or activity should be analyzed for potential accidental releases or spills. Examples of situations that have potential for spill or release are:

- Bulging or corroded containers,
- Transfer line connections (e.g., leaking seals, misaligned connections),
- Metal fatigue of storage tanks,

- Leaking or inoperable valves, and
- Poor housekeeping (e.g., drums improperly staged).

11.2 Opening Drums and Containers

- Employees not involved are to be kept a safe distance from the containers being opened
- A suitable shield shall be placed to protect employees, equipment controls, monitoring and fire suppression equipment in case of explosion
- Hand tools and handling equipment shall be of a type to prevent sources of ignition where a flammable atmosphere may be possible
- Employees shall not stand upon or work from drums or containers

11.3 Radioactive, Shock Sensitive and Explosive Wastes

- These materials shall not be handled or managed by Patriot Environmental

11.4 Sampling of Drum and Container Contents

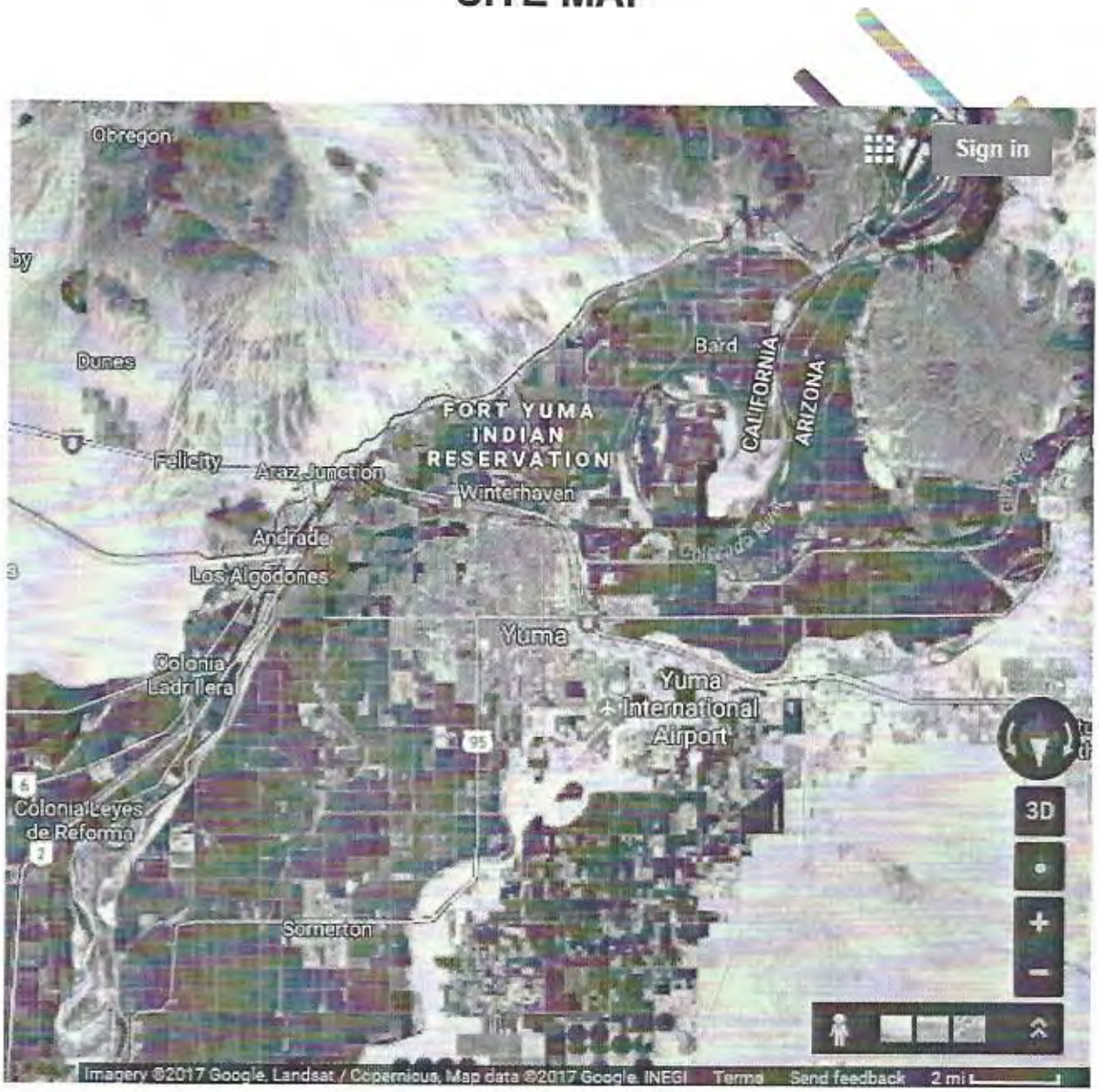
- Sampling of containers and drums shall be conducted in accordance with a site specific sampling procedure

11.5 Shipping and Transport of Drums and Containers

- Drums and containers will be identified, marked and labeled as required by DOT
- Drum or container staging areas will be established and managed as required
- Staging areas will have adequate security, access and egress routes.

APPENDIX A

SITE MAP



APPENDIX B

MSDS/SDS/TECHNICAL SPECIFICATION SHEET(S)

APPENDIX C

HOSPITAL MAP / WEATHER

Yuma, AZ

El Pueblocito Report Change Station

Forecast History Calendar Rain / Snow Health

Elev 121 ft 32.70 °N, 114.64 °W Updated 6 sec ago

79.1 °F

Partly Cloudy Feels Like 79 °F Wind from W 9.4

Today is forecast to be *NEARLY THE SAME* temperature as yesterday.

Pressure	29.75 in
Visibility	10.0 miles
Clouds	Mostly Cloudy 25000 ft
Heat Index	79 °F
Dew Point	41 °F
Humidity	26%
Rainfall	0.00 in
Snow Depth	*Not available.*

Today
High 91 Low 59 °F
0% Chance of Precip.

Yesterday
High 96 Low 53.2 °F
Precip. 0 in

Sun & Moon
7:07 pm
Waning Gibbous, 94% visible

UV Warning

METAR KNYL 131657Z 34007KT 10SM BKN250 25/06 A2989 RMK AO2 SLP118 T02500056

CERTIFICATION

I hereby certify that I have read and understand the SITE HEALTH AND SAFETY PLAN of:

PATRIOT ENVIRONMENTAL SERVICES

I agree to follow the guidelines set forth in this plan during all on-site activities.

NAME	SIGNATURE	DATE

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: NO. 2 DIESEL FUEL
Product Description: Hydrocarbons and Additives
Product Code: 123455-22, 123455-29, 152017-00, 974570, 977606, 977675, 977680, 977903, 978007, 978511, 978687, 979675, 979840, 97AB24, 97AB26, 97AC23, 97AE02, 97AH04, 97AH81, 97AH84, 97AH85, 97AH88, 97AJ12, 97AJ25, 97AJ26, 97AJ30, 97AJ32, 97AJ36, 97AJ37, 97AJ38, 97AJ39, 97AJ40, 97AL47, 97AL49, 97AL50, 97AS73, 97AV80, 97AV81, 97AV82, 97BB19, 97BJ98, 97BJ99, 97BK00, 97BK01, 97BK02, 97BK03, 97BK04, 97BK05, 97BK06, 97BN31, 97BN32, 97BN33, 97BN68, 97BN70, 97BN71, 97BN72, 97BN89, 97BN90, 97BN91, 97BN92, 97BN93, 97BN94, 97BN95, 97BN96, 97BN97, 97BR17, 97BR20, 97BR21, 97BR27, 97BR28, 97BR29, 97BR55, 97BR56, 97BR57, 97BR58, 97BR59, 97BR60, 97BR61, 97BR62, 97BR63, 97BR64, 97BR65, 97BR66, 97BR67, 97BR68, 97BR69, 97BR70, 97BR71, 97BR72, 97BR73, 97BR74, 97BR75, 97BR76, 97BR77, 97BR78, 97BR79, 97BR80, 97BS98, 97BS99, 97BT00, 97BT20, 97BT33, 97BT34, 97BT36, 97BT37, 97BT40, 97BT92, 97BU09, 97BU10, 97BV10, 97BV11, 97BV12, 97BW72, 97BX55, 97BX56, 97BX57, 97BX58, 97BX59, 97BX60, 97BX61, 97BX62, 97BX63, 97BX64, 97BY06, 97BY07, 97BY12, 97U644, 97V859, 97Y149, 97Y564, 97Y797, 97Z972, 97Z976, EMGF22, EMGF29
Intended Use: Diesel engine fuel, Heating Oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
FATTY ACIDS, METHYL ESTERS		0 - 20%
FUELS, DIESEL	68334-30-5	80 - > 99%

Hazardous Constituent(s) Contained in Complex Substance(s)

Name	CAS#	Concentration*
ETHYL BENZENE	100-41-4	0.1 - 1%
NAPHTHALENE	91-20-3	0.1 - 1%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Composition may contain up to 0.5% performance additives and / or dyes.

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an ignition.

POTENTIAL HEALTH EFFECTS

Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage.

Target Organs: Lung | Skin |

ENVIRONMENTAL HAZARDS

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

NFPA Hazard ID:	Health:	1	Flammability:	2	Reactivity:	0
HMIS Hazard ID:	Health:	1*	Flammability:	2	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >55C (131F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor

suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
ETHYL BENZENE		TWA	435 mg/m3	100 ppm	N/A	OSHA Z1
ETHYL BENZENE		TWA	20 ppm		N/A	ACGIH
FUELS, DIESEL	Stable Aerosol.	TWA	5 mg/m3		N/A	ExxonMobil
FUELS, DIESEL	Vapor.	TWA	200 mg/m3		N/A	ExxonMobil
FUELS, DIESEL [total hydrocarb, vapor&aerosol]	Inhalable fraction and vapor	TWA	100 mg/m3		Skin	ACGIH
NAPHTHALENE		TWA	50 mg/m3	10 ppm	N/A	OSHA Z1
NAPHTHALENE		STEL	15 ppm		Skin	ACGIH
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact with material is likely, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical / oil resistant clothing if contact with material is likely.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION
Physical State: Liquid
Color: Clear (May Be Dyed)
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 C): 0.81 - 0.87
Density (at 15 °C): 810 kg/m³ (6.76 lbs/gal, 0.81 kg/dm³) - 876 kg/m³ (7.31 lbs/gal, 0.88 kg/dm³)
Flash Point [Method]: >55C (131F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0
Autoignition Temperature: >200°C (392°F)
Boiling Point / Range: 145C (293F) - 370C (698F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: 0.067 kPa (0.5 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 1.7 cSt (1.7 mm2/sec) at 40 C - 4.1 cSt (4.1 mm2/sec) at 40 C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: < -6°C (21°F)

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: Halogens, Strong Acids, Strong Bases, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on test data for structurally similar materials.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Sensitization: Non-sensitizing to the skin of laboratory animals.
Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.
Diesel fuel: Caused cancer in animal tests. Caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.
Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumors and lymphoma. Extract of particulate produced skin tumors in test animals. Caused mutations in vitro.

Contains:

NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.
ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is

uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	2, 5
ETHYL BENZENE	100-41-4	5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

High molecular wt. component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: DIESEL FUEL
Hazard Class & Division: COMBUSTIBLE LIQUID
ID Number: NA1993
Packing Group: III
Marine Pollutant: Yes
ERG Number: 128
Label(s): NONE
Transport Document Name: NA1993, DIESEL FUEL, COMBUSTIBLE LIQUID, PG III, MARINE POLLUTANT

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid.

LAND (TDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III

SEA (IMDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1202
Packing Group: III
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III, (55°C c.c.), MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: IECSC, EINECS, PICCS, ELINCS, KECI, TSCA, AICS, DSL

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ETHYL BENZENE	100-41-4	0.1 - 1%
NAPHTHALENE	91-20-3	0.1 - 1%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ETHYL BENZENE	100-41-4	1, 4, 10
FUELS, DIESEL	68334-30-5	1, 18, 19
NAPHTHALENE	91-20-3	1, 4, 5, 9, 10

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 01: Product Code was modified.

Section 09: Phys/Chem Properties Note was modified.
Section 09: Flash Point C(F) was modified.
Section 04: First Aid Pre-exsiting Medical Conditions was modified.
Section 11: Tox List Cited Table was modified.
Section 15: National Chemical Inventory Listing - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 08: Exposure Limits Table was modified.
THIS MSDS COVERS THE FOLLOWING MATERIALS: DIESEL NO. 2 | ESSO DIESEL FUEL | EXXON DIESEL FUEL | LOW SULFUR DIESEL | MARINE DIESEL FUEL | MOBIL DIESEL FUEL | ULTRA LOW SULFUR DIESEL | WINTERIZED DIESEL FUEL

PRECAUTIONARY LABEL TEXT:
Contains: FATTY ACIDS, METHYL ESTERS, FUELS, DIESEL
WARNING!
HEALTH HAZARDS
Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage.
Target Organs: Lung | Skin |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an ignition.

PRECAUTIONS
Avoid contact with skin. Do not siphon by mouth. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation.

FIRST AID
Eye: Flush thoroughly with water. If irritation occurs, get medical assistance.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate.

Seek the advice of a specialist before using dispersants.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

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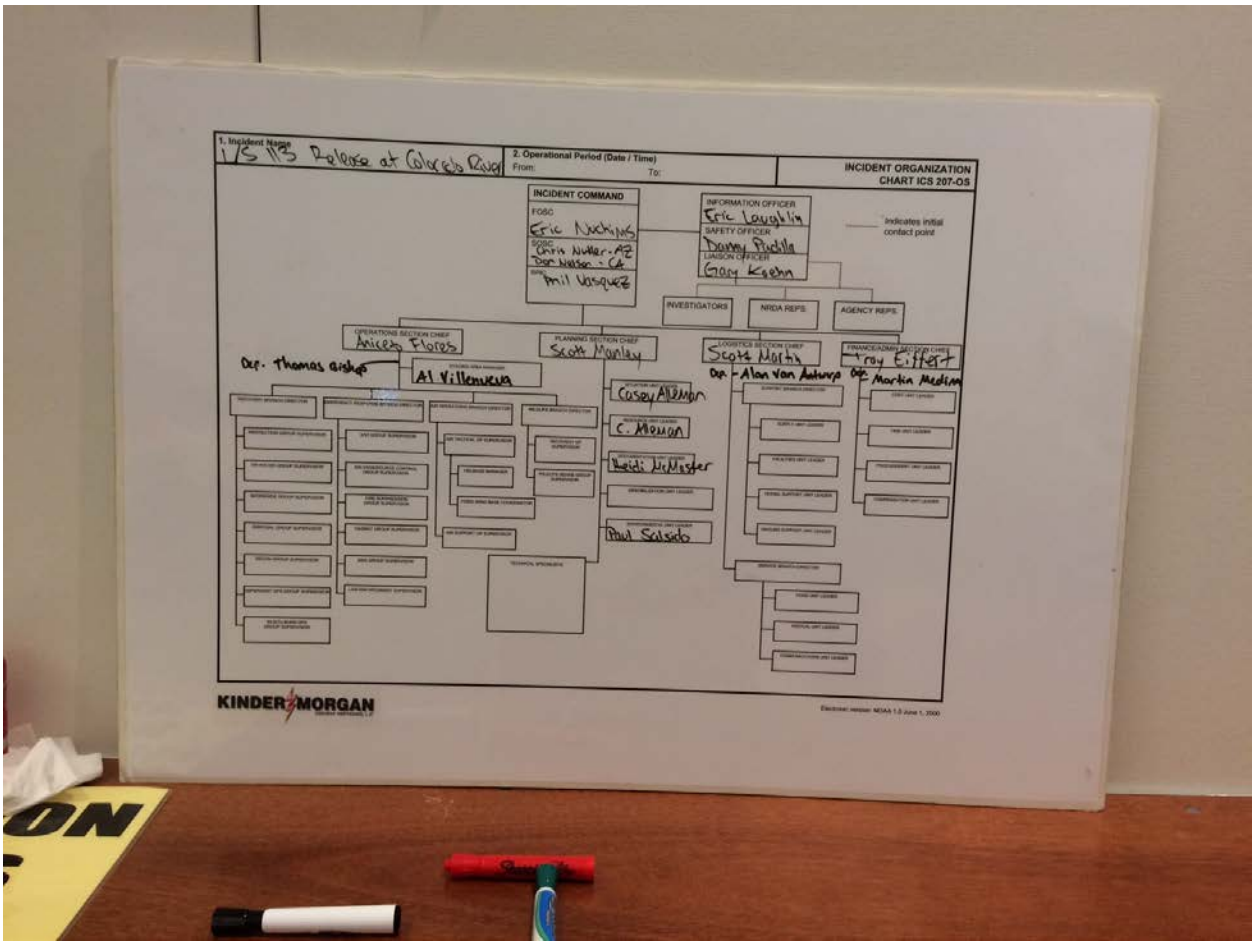
Internal Use Only
MHC: 1A, 0B, 0, 0, 1, 1 PPEC: C

DGN: 7079307XUS (1012398)

VARIOUS ICS FORMS AND SITUATION BOARDS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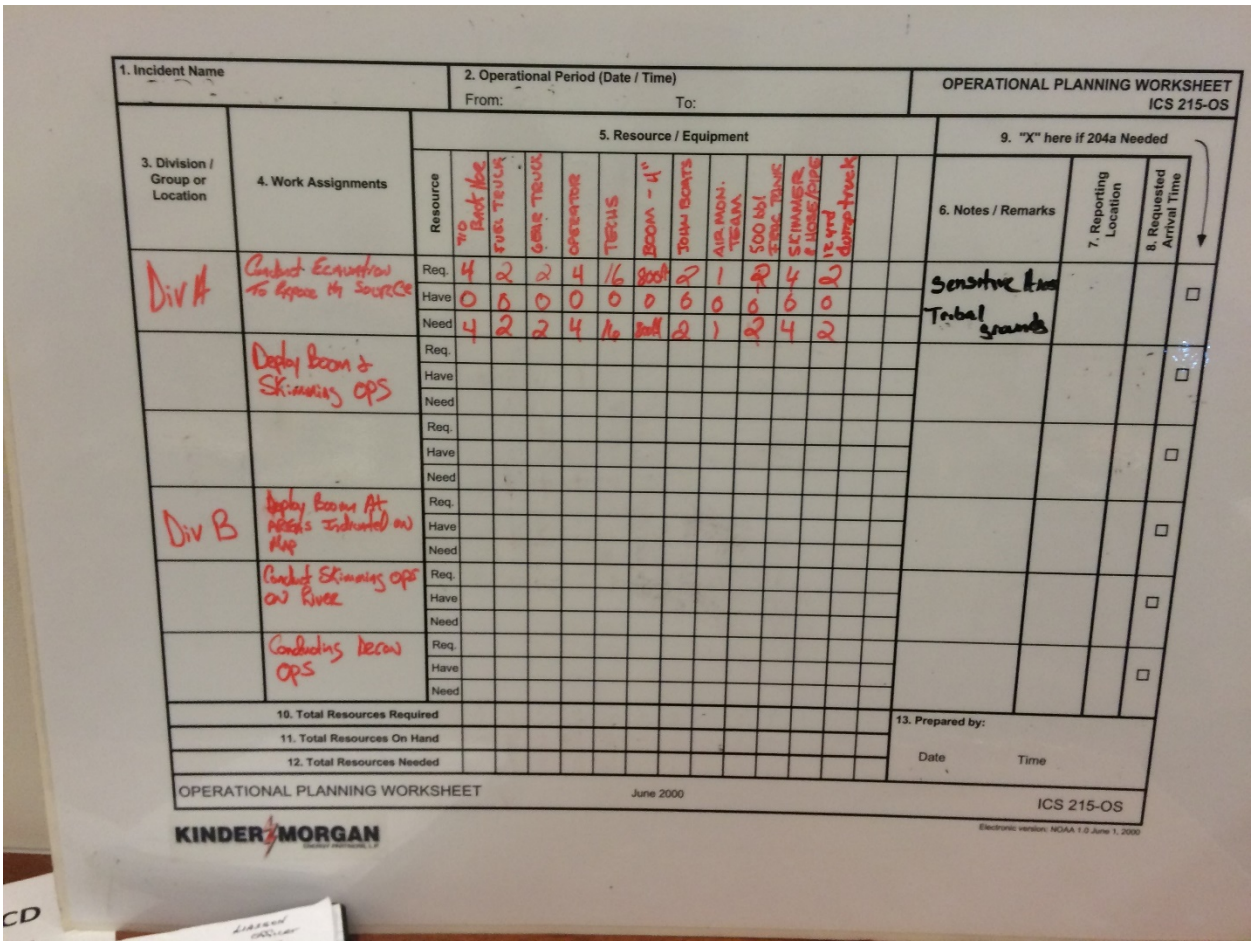
I/S 1173 Release at Colorado River
2. Operational Period (Date / Time)
From:
To:
INCIDENT ORGANIZATION CHART ICS 207-OS
INCIDENT COMMAND
FOSC
Eric Nuckles
SOSC
Chris Nuller - AZ
Don Hester - CA
Phil Vasquez
INFORMATION OFFICER
Eric Laughlin
SAFETY OFFICER
Danny Padilla
LIAISON OFFICER
Gary Kaehn
Indicates initial contact point
INVESTIGATORS
NRDA REPS
AGENCY REPS
OPERATIONS SECTION CHIEF
Angel Flores
Dep. Thomas Bishop
Al Villanueva
PLANNING SECTION CHIEF
Scott Manley
Casey Allman
C. Mannon
Heidi McMaster
Paul Salcido
LOGISTICS SECTION CHIEF
Scott North
Dep. - Alan Van Antwerp
FINANCE/ADMIN SECTION CHIEF
Troy Eitert
Dep. Martin Medina
KINDER MORGAN



1. Incident Name

2. Operational Period (Date / Time)
From: To:

OPERATIONAL PLANNING WORKSHEET
ICS 215-OS

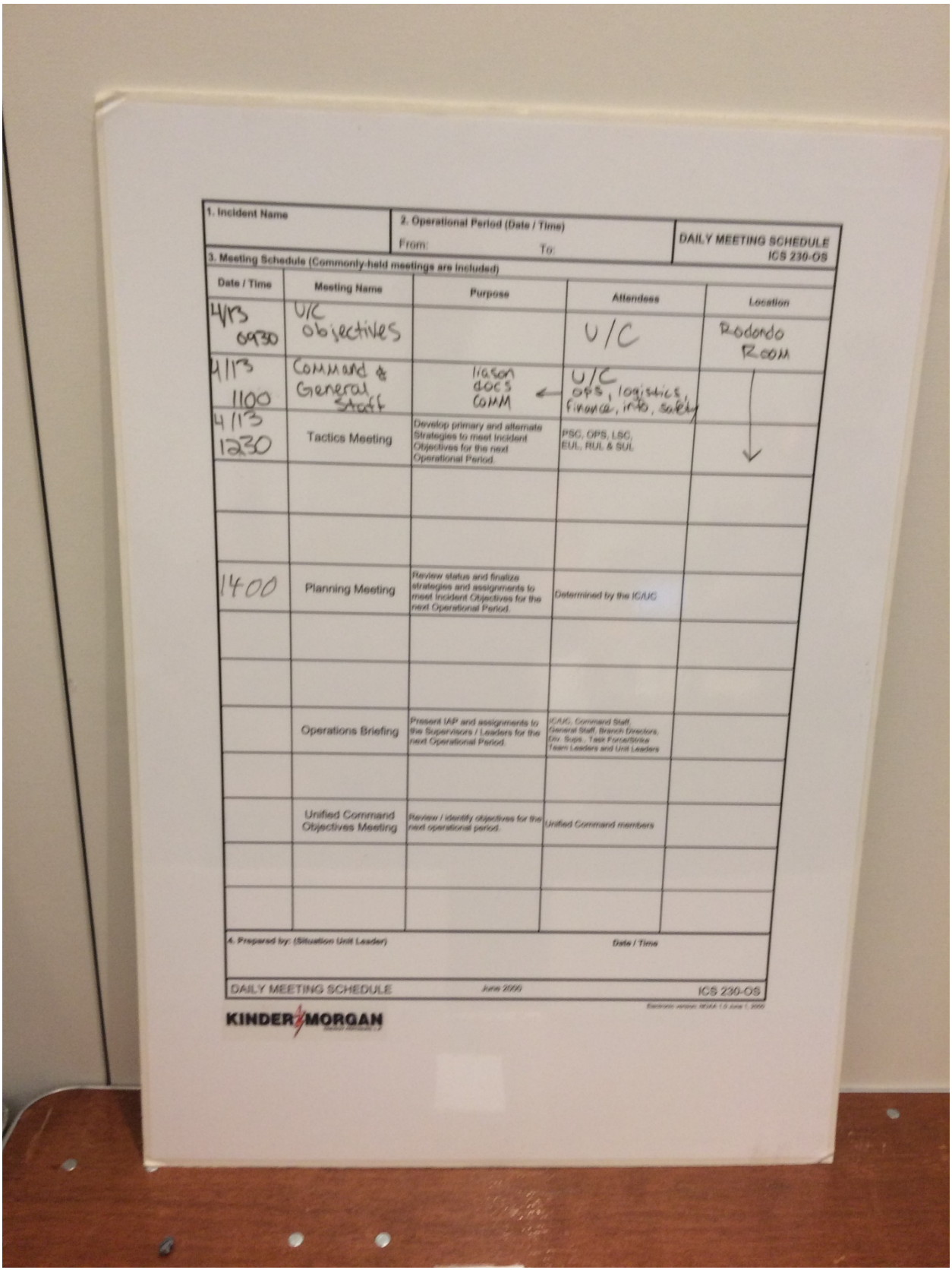
3. Division / Group or Location	4. Work Assignments	Resource	5. Resource / Equipment: 710 Backhoe	FUEL TRUCK	GRAB TRUCK	OPERATORS	TECHS	BOOM - 4"	JOHN BOATS	AIR MON. TEAMS	500 bbl FRAC TANK	SKIMMER & HOSE/PIPE	12 yrd dump truck	9. "X" here if 204a Needed	6. Notes / Remarks	7. Reporting Location	8. Requested Arrival Time
Div A	Conduct Excavation to expose Hy Source	Req.	4	2	2	4	16	8ea	2	1	20	4	2		Sensitive Area Tribal grounds			☐
		Have	0	0	0	0	0	0	0	0	0	0	0					
		Need	4	2	2	4	16	8ea	2	1	20	4	2					
	Deploy Boom & Skimming OPS	Req.																☐
		Have																
		Need																
		Req.																☐
		Have																
		Need																
Div B	Deploy Boom At Areas Indicated on Map	Req.																☐
		Have																
		Need																
	Conduct Skimming ops on River	Req.																☐
		Have																
		Need																
	Conducting decon ops	Req.																☐
		Have																
		Need																
10. Total Resources Required																		
11. Total Resources On Hand																		
12. Total Resources Needed																		

13. Prepared by:
Date Time

OPERATIONAL PLANNING WORKSHEET June 2000 ICS 215-OS

KINDER MORGAN

Electronic version: NOAA 1.0 June 1, 2000



1. Incident Name	2. Operational Period (Date / Time) From: To:	DAILY MEETING SCHEDULE ICS 230-OS

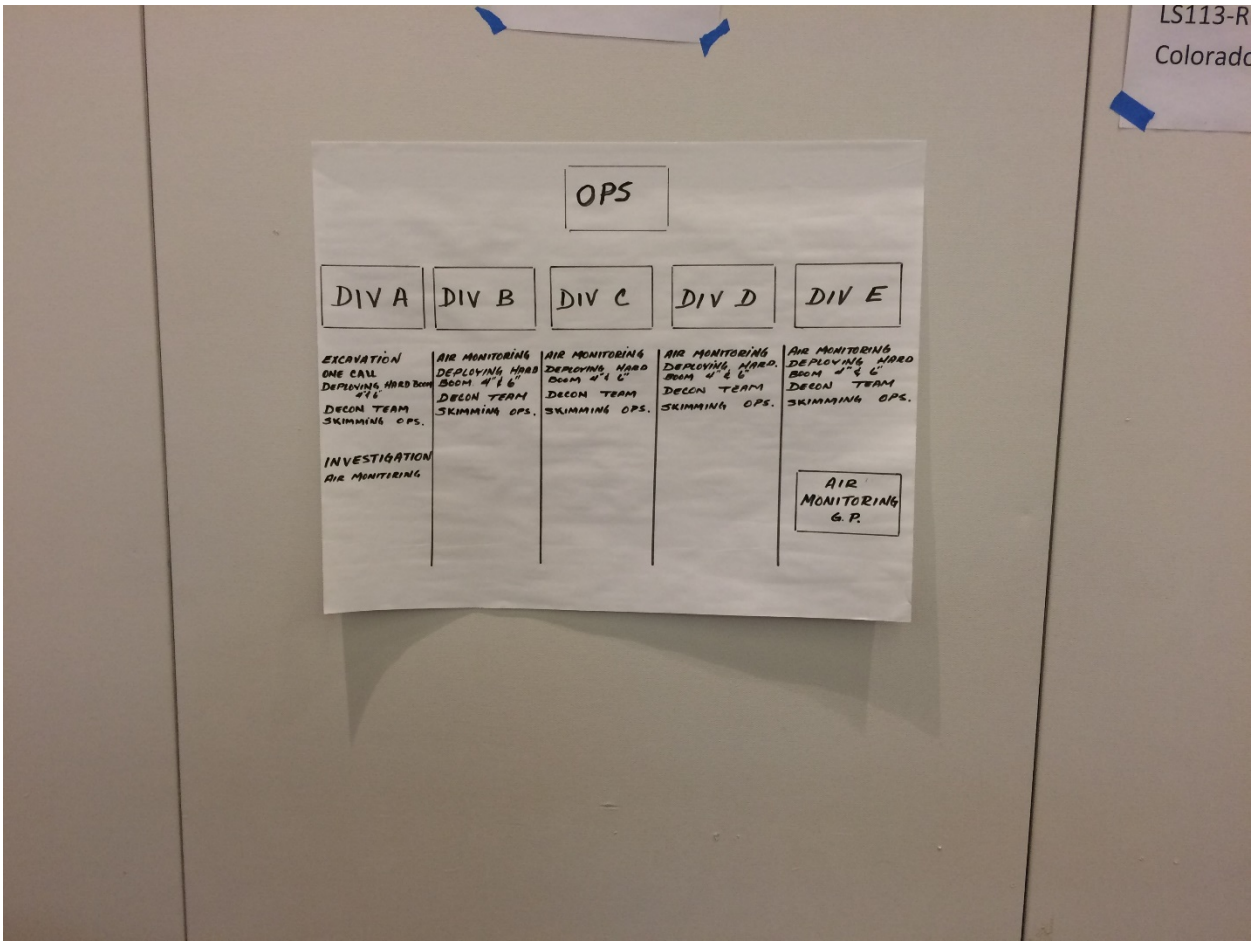
3. Meeting Schedule (Commonly-held meetings are included)

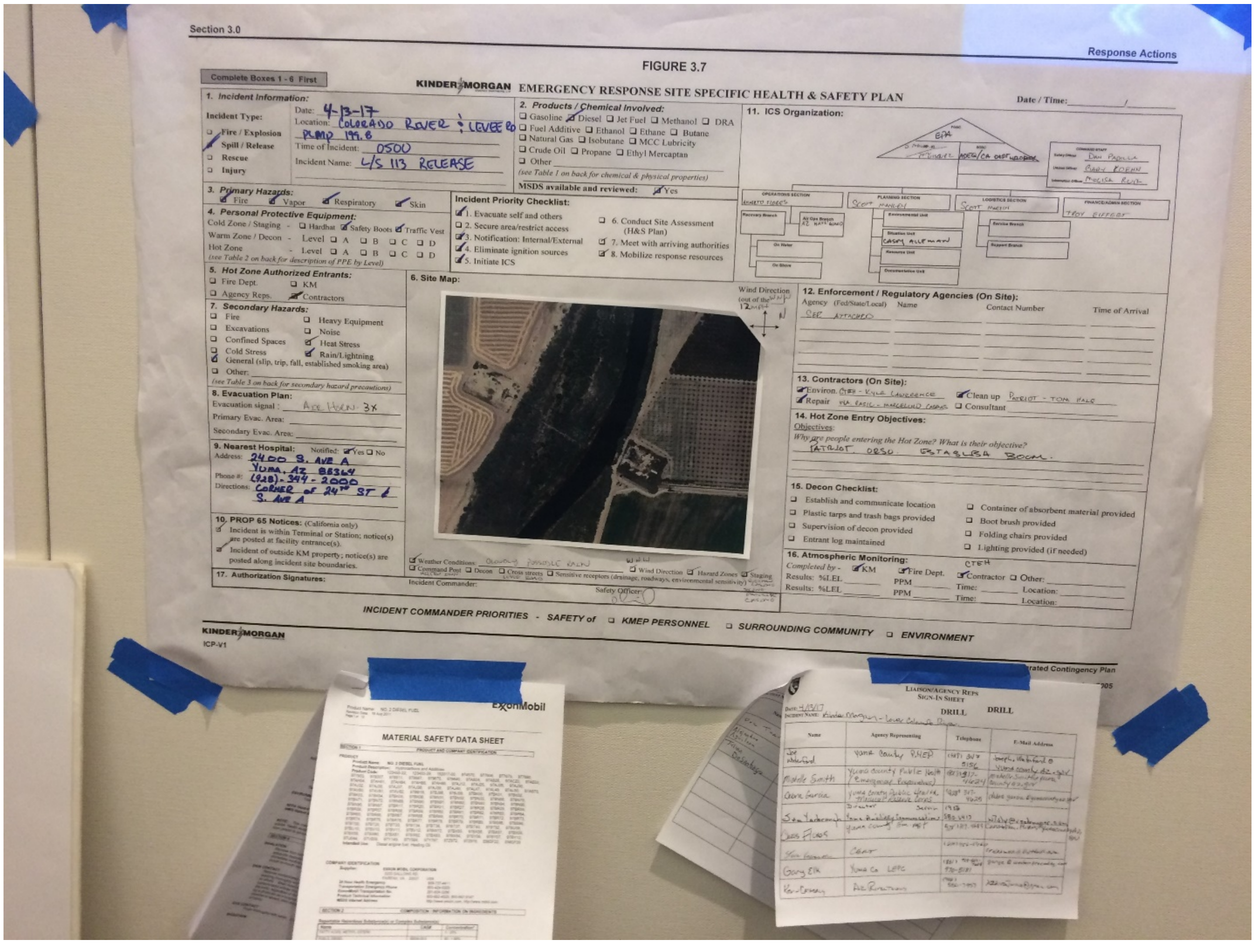
Date / Time	Meeting Name	Purpose	Attendees	Location
4/13 0930	U/C objectives		U/C	Redondo Room
4/13 1100	Command & General Staff	liason docs COMM	U/C ops, logistics, Finance, info, safety	↓
4/13 1230	Tactics Meeting	Develop primary and alternate Strategies to meet Incident Objectives for the next Operational Period.	PSC, OPS, LSC, EUL, RUL & SUL	
1400	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. Supts., Task Force/Strike Team Leaders and Unit Leaders	
	Unified Command Objectives Meeting	Review / identify objectives for the next operational period.	Unified Command members	

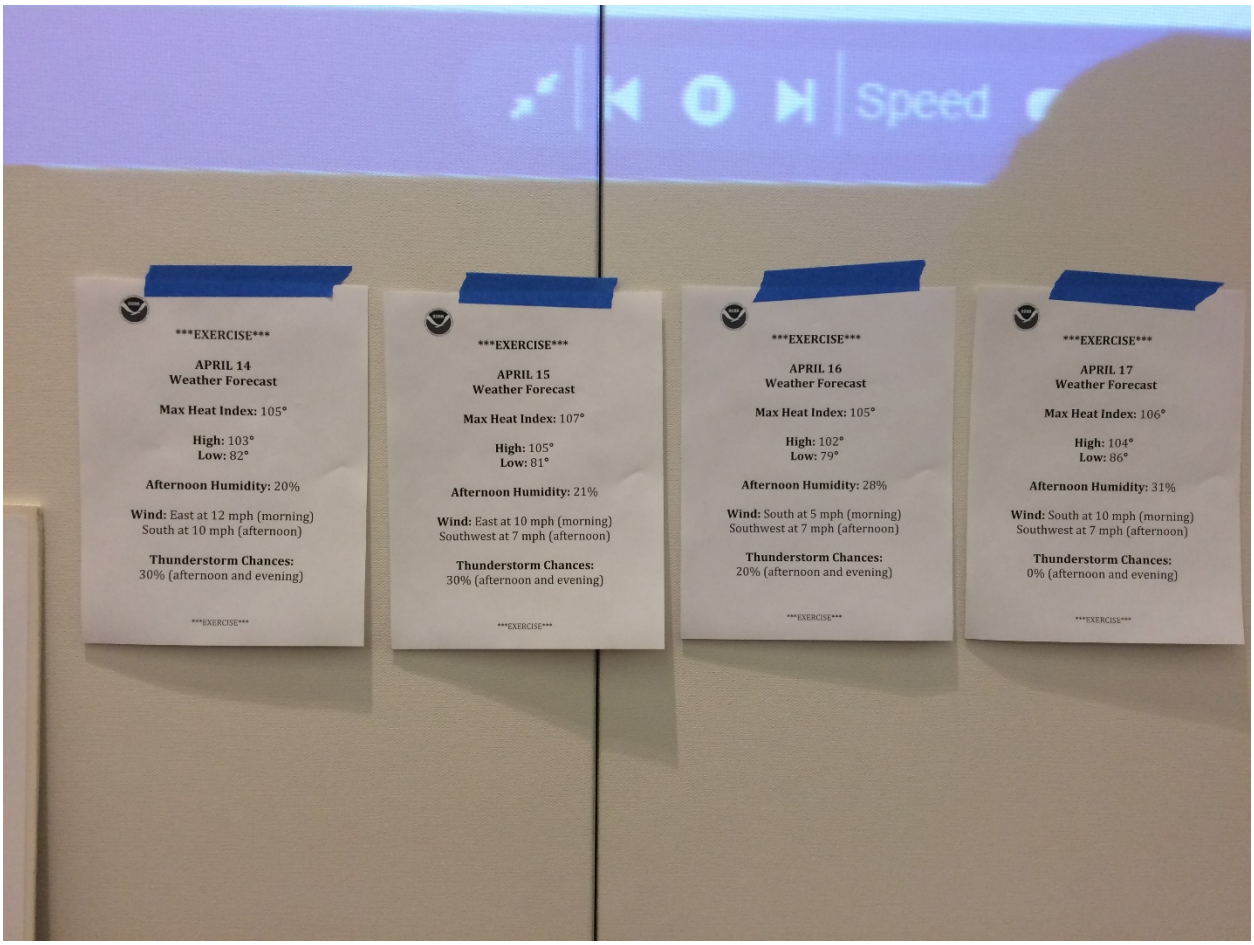
4. Prepared by: (Situation Unit Leader) Date / Time

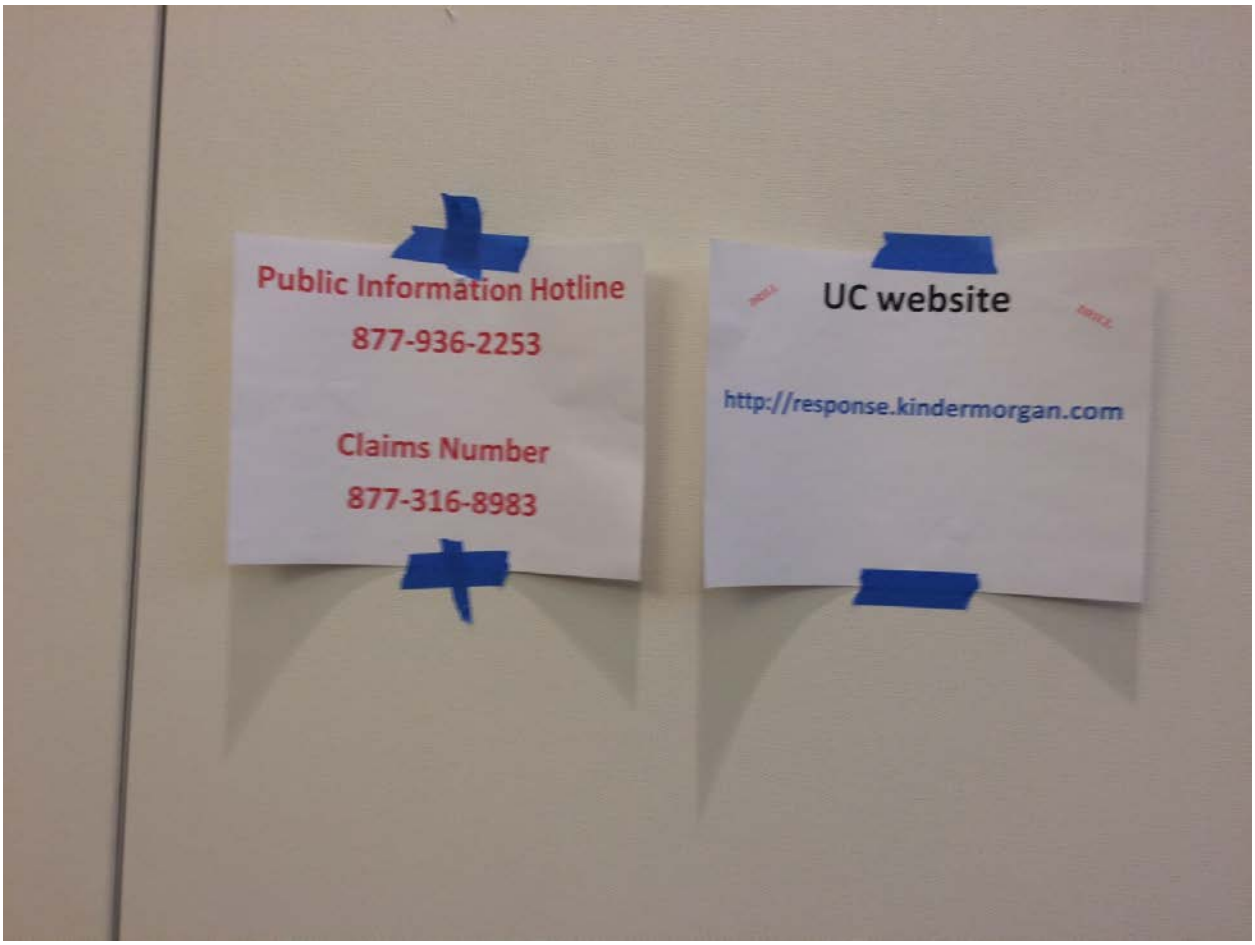
DAILY MEETING SCHEDULE June 2006 ICS 230-OS

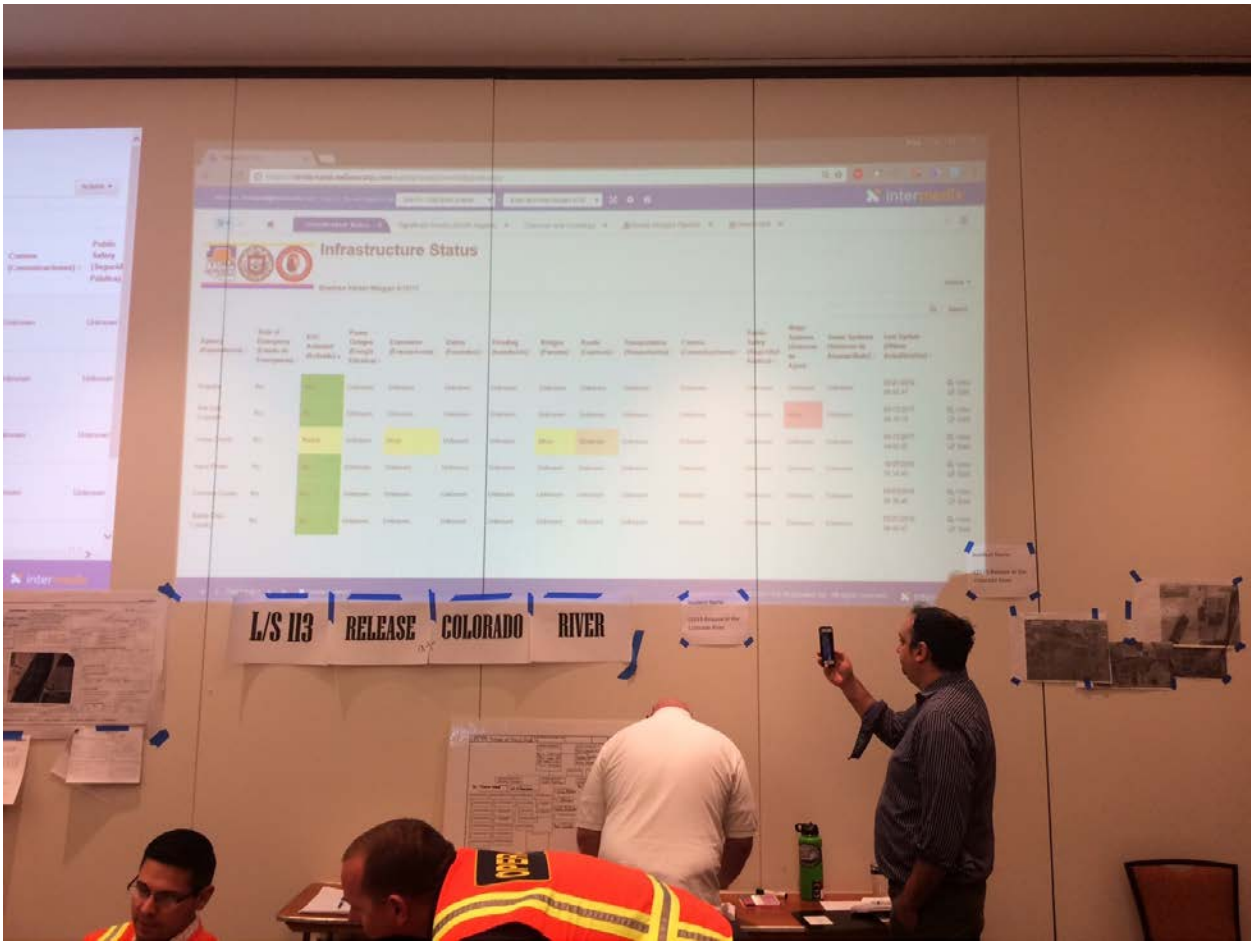
KINDER MORGAN


LS113-R
Colorado
OPS
DIV A
DIV B
DIV C
DIV D
DIV E
EXCAVATION
ONE CALL
DEPLOYING HARD BOOM 4" & 6"
DECON TEAM
SKIMMING OPS.
INVESTIGATION
AIR MONITERING
AIR MONITORING
DEPLOYING HARD BOOM 4" & 6"
DECON TEAM
SKIMMING OPS.
AIR MONITORING
DEPLOYING HARD BOOM 4" & 6"
DECON TEAM
SKIMMING OPS.
AIR MONITORING
DEPLOYING HARD BOOM 4" & 6"
DECON TEAM
SKIMMING OPS.
AIR MONITORING
DEPLOYING HARD BOOM 4" & 6"
DECON TEAM
SKIMMING OPS.
AIR MONITORING G.P.


Section 3.0
Response Actions
FIGURE 3.7
KINDER MORGAN EMERGENCY RESPONSE SITE SPECIFIC HEALTH & SAFETY PLAN
INCIDENT COMMANDER PRIORITIES - SAFETY of ❑ KMEP PERSONNEL ❑ SURROUNDING COMMUNITY ❑ ENVIRONMENT
KINDER MORGAN
ICP-V1
MATERIAL SAFETY DATA SHEET
ExxonMobil


EXERCISE
APRIL 14
Weather Forecast
Max Heat Index: 105°
High: 103°
Low: 82°
Afternoon Humidity: 20%
Wind: East at 12 mph (morning)
South at 10 mph (afternoon)
Thunderstorm Chances:
30% (afternoon and evening)
EXERCISE
EXERCISE
APRIL 15
Weather Forecast
Max Heat Index: 107°
High: 105°
Low: 81°
Afternoon Humidity: 21%
Wind: East at 10 mph (morning)
Southwest at 7 mph (afternoon)
Thunderstorm Chances:
30% (afternoon and evening)
EXERCISE
EXERCISE
APRIL 16
Weather Forecast
Max Heat Index: 105°
High: 102°
Low: 79°
Afternoon Humidity: 28%
Wind: South at 5 mph (morning)
Southwest at 7 mph (afternoon)
Thunderstorm Chances:
20% (afternoon and evening)
EXERCISE
EXERCISE
APRIL 17
Weather Forecast
Max Heat Index: 106°
High: 104°
Low: 86°
Afternoon Humidity: 31%
Wind: South at 10 mph (morning)
Southwest at 7 mph (afternoon)
Thunderstorm Chances:
0% (afternoon and evening)
EXERCISE


Public Information Hotline
877-936-2253
Claims Number
877-316-8983
UC website
http://response.kindermorgan.com


Infrastructure Status
L/S 113
RELEASE
COLORADO
RIVER

EXERCISE EVALUATION GUIDES

EXERCISE EVALUATION GUIDE

Exercise Name: Lower Colorado River Pipeline Exercise *Exercise Date:* April 13, 2017	*Organization/Jurisdiction:* Environmental Protection Agency	*Venue:* Hilton Garden Inn - Yuma, AZ

Response

Exercise Objective: Establish a Command Post, Unified Command and Incident Command System / Incident Management Assistance Team (ICS / IMAT) among Federal, State, Local, Tribal, Mexican, and Kinder Morgan responders to the incident and create appropriate documentation, e.g., IAP, Sit Report.

Core Capability: **Operational Coordination**

Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Organizational Capability Target 1: Activate an Incident Command Post (ICP) to support on-scene response efforts following an incident on the Lower Colorado River.

Critical Task: Following National Incident Management System (NIMS) compliance and the Lower Colorado River Geographic Response Plan (LCRGRP) Concept of Operations (CONOPS), establish an ICP in support of the Lower Colorado River incident. (LCRGRP W1-1)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 2: To support the ICP, activate the County Emergency Operations Center (EOC) following an incident on the Lower Colorado River.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, activate an EOC to provide support to on-scene responders at the Lower Colorado River incident. (LCRGRP W2-2)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 3: Establish a Multi-Agency Coordination Center (MACC) with key agencies/organizations to support ongoing response efforts following an incident on the Lower Colorado River.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, establish a MACC to coordinate the actions of the agencies/organizations supporting the Lower Colorado River incident response. (LCRGRP W1-4, W2-2)

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, establish coordination between the ICP Unified Command and the MACC operations. (LCRGRP W2-2)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 4: Detail an Incident Action Plan (IAP) and/or Situation Report (SitRep) to support the ongoing efforts at the Lower Colorado River incident.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, produce an IAP and/or SitRep in response to the Lower Colorado River incident. (LCRGRP W7-1)

Critical Task: Document all MACC support that has been provided in the IAP and/or SitRep including located resources and coordination of mutual aid. (LCRGRP W1-4)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Activate an Incident Command Post (ICP) to support on-scene response efforts following an incident on the Lower Colorado River.	• Following National Incident Management System (NIMS) compliance and the Lower Colorado River Geographic Response Plan (LCRGRP) Concept of Operations (CONOPS), establish an ICP in support of the Lower Colorado River incident.	Please See Write-Up	P
To support the ICP, activate the County Emergency Operations Center (EOC) following an incident on the Lower Colorado River.	• Following NIMS compliance and the LCRGRP CONOPS, activate an EOC to provide support to on-scene responders at the Lower Colorado River incident.		S
Establish a Multi-Agency Coordination Center (MACC) with key agencies/organizations to support ongoing response efforts following an incident on the Lower Colorado River.	• Following NIMS compliance and the LCRGRP CONOPS, establish a MACC to coordinate the actions of the agencies/organizations supporting the Lower Colorado River incident response.		S
	• Following NIMS compliance and the LCRGRP CONOPS, establish coordination between the ICP Unified Command and the MACC operations.		S

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Detail an Incident Action Plan (IAP) and/or Situation Report (SitRep) to support the ongoing efforts at the Lower Colorado River incident.	• Following NIMS compliance and the LCRGRP CONOPS, produce an IAP and/or SitRep in response to the Lower Colorado River incident.		S
	• Document all MACC support that has been provided in the IAP and/or SitRep including located resources and coordination of mutual aid.		S
		Final Core Capability Rating	

Evaluator Name john wojtek

Evaluator E-mail john.wojtak@fema.dhs.gov

Phone 510 627-7167

Ratings Key
P – Performed without Challenges
S – Performed with Some Challenges
M – Performed with Major Challenges
U – Unable to be Performed

Ratings Definitions

Performed without Challenges (P)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
Performed with Some Challenges (S)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
Performed with Major Challenges (M)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
Unable to be Performed (U)	The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

EXERCISE EVALUATION GUIDE

Exercise Name: Lower Colorado River Pipeline Exercise *Exercise Date:* April 13, 2017	*Organization/Jurisdiction:* Environmental Protection Agency	*Venue:* Hilton Garden Inn - Yuma, AZ

Response

Exercise Objective: Exercise the notification procedures in the Lower Colorado River Geographic Response Plan (LCRGRP), including our Mexican counterparts and the Tribes.

Core Capability: **Operational Communications**

Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

Organizational Capability Target 1: Assess the ability of your agency/organization to quickly disseminate notification of an incident in the Lower Colorado River.

Critical Task: Incident Command will make Mandatory Notifications within one hour of assessment based on the Lower Colorado River Geographic Response Plan (LCRGRP) following Federal Mandatory Spill Notification requirements. (LCRPRG, W1-3 and R-3)

Critical Task: Incident Command will provide notifications within one hour of assessment to affected and/or adjacent entities based on the LCRGRP following Federal Mandatory Spill Notification requirements. (LCRPRG W1-3, R-3)

Critical Task: Incident summary included in the notification reflects the information in the National Response Center (NRC) Incident Report Form. (LCRPRG R-11)

Critical Task: Affected and/or adjacent entities identify additional agencies/organizations that need to be notified of the incident. (Agency-specific Plans, Polices and Procedures)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP), Agency-specific Plans, Polices and Procedures

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Assess the ability of your agency/organization to quickly disseminate notification of an incident in the Lower Colorado River.	• Incident Command will make Mandatory Notifications within one hour of assessment based on the Lower Colorado River Geographic Response Plan (LCRGRP) following Federal Mandatory Spill Notification requirements.	Initial notification were made per exercise briefings. KinderMorgan has an immediate system for notification That contacts all appropriate agencies. The Liasion officer has a call down list for notfications.	P
	• Incident Command will provide notifications within one hour of assessment to affected and/or adjacent entities based on the LCRGRP following Federal Mandatory Spill Notification requirements.	Notifications were made with 1-hour. Notification briefing was part of the intial incident (drill) briefing.	P
	• Incident summary included in the notification reflects the information in the National Response Center (NRC) Incident Report Form.	All notifications conform with all applicable laws.	P
	• Affected and/or adjacent entities identify additional agencies/organizations that need to be notified of the incident.	Yuma County EM, Yuma County Public Health, Cocopah Tribe, Yuma County CERT, State and Federal agencies, Mexico Agencies, Red Cross, Law Enforcement, Coast Guard were all represented with a liasion officer	P
		Final Core Capability Rating	

Evaluator Name Christine Medley

Evaluator E-mail christine.medley@fortmojave.com

Phone 760-326-9650 office/909-573-4899 cell

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Performed without Challenges (P)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
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Performed with Major Challenges (M)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
Unable to be Performed (U)	The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

EXERCISE EVALUATION GUIDE

Exercise Name: Lower Colorado River Pipeline Exercise *Exercise Date:* April 13, 2017	*Organization/Jurisdiction:* Environmental Protection Agency	*Venue:* Hilton Garden Inn - Yuma, AZ

Response

Exercise Objective: Test WEBEOC or other common operating platform for situational awareness and common operating picture for agencies/organizations working the exercise. Work towards better interoperability. Upload Incident Action Plan (IAP) and/or Situation report to the platform for sharing.

Core Capability: **Operational Communications**

Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

Organizational Capability Target 1: Support the development of a shared common operating picture for an incident on the Lower Colorado River.

Critical Task: Using the Concept of Operations (CONOPS) identified in the Lower Colorado River Geographic Response Plan (LCRGRP), determine which system to utilize for developing situational awareness for the Lower Colorado River incident. (LCRGRP W1-1, Agency-Specific Plans, Policies, and Procedures)

Critical Task: Develop and maintain a common operating picture for the various agencies/organizations responding to the Lower Colorado River incident. (Agency-Specific Plans, Policies, and Procedures).

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP), Agency-Specific Plans, Policies, and Procedures

Organizational Capability Target 2: Disseminate a joint Incident Action Plan (IAP) / Situation Report (SitRep) for an incident on the Lower Colorado River.

Critical Task: Share the completed IAP/SitRep for the Lower Colorado River incident with the Incident Command Post (ICP) and external partners. (Agency-Specific Plans, Policies, and Procedures)

Source(s): Agency-Specific Plans, Policies, and Procedures

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Support the development of a shared common operating picture for an incident on the Lower Colorado River.	• Using the Concept of Operations (CONOPS) identified in the Lower Colorado River Geographic Response Plan (LCRGRP), determine which system to utilize for developing situational awareness for the Lower Colorado River incident.	WEBEOC - CAL OSPR has their own system	P
	• Develop and maintain a common operating picture for the various agencies/organizations responding to the Lower Colorado River incident.	Common Operating Picture is developed 1. Identifying Sensitive Areas 2. Booming (Clean-up) 3. Monitoring	P
Disseminate a joint Incident Action Plan (IAP)/ Situation Report (SitRep) for an incident on the Lower Colorado River.	• Share the completed IAP/SitRep for the Lower Colorado River incident with the Incident Command Post (ICP) and external partners.	Briefing at 11:00 - Attended by Lead Laision Officer - Brief back to agencies	P
		Final Core Capability Rating	

Evaluator Name _____

Evaluator E-mail _____

Phone _____

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Performed with Some Challenges (S)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
Performed with Major Challenges (M)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
Unable to be Performed (U)	The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

EXERCISE EVALUATION GUIDE

Exercise Name: Lower Colorado River Pipeline Exercise *Exercise Date:* April 13, 2017	*Organization/Jurisdiction:* Environmental Protection Agency	*Venue:* Hilton Garden Inn - Yuma, AZ

Response

Exercise Objective: Establish a Command Post, Unified Command and Incident Command System / Incident Management Assistance Team (ICS / IMAT) among Federal, State, Local, Tribal, Mexican, and Kinder Morgan responders to the incident and create appropriate documentation, e.g., IAP, Sit Report.

Core Capability: **Operational Coordination**

Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Organizational Capability Target 1: Activate an Incident Command Post (ICP) to support on-scene response efforts following an incident on the Lower Colorado River.

Critical Task: Following National Incident Management System (NIMS) compliance and the Lower Colorado River Geographic Response Plan (LCRGRP) Concept of Operations (CONOPS), establish an ICP in support of the Lower Colorado River incident. (LCRGRP W1-1)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 2: To support the ICP, activate the County Emergency Operations Center (EOC) following an incident on the Lower Colorado River.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, activate an EOC to provide support to on-scene responders at the Lower Colorado River incident. (LCRGRP W2-2)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 3: Establish a Multi-Agency Coordination Center (MACC) with key agencies/organizations to support ongoing response efforts following an incident on the Lower Colorado River.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, establish a MACC to coordinate the actions of the agencies/organizations supporting the Lower Colorado River incident response. (LCRGRP W1-4, W2-2)

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, establish coordination between the ICP Unified Command and the MACC operations. (LCRGRP W2-2)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target 4: Detail an Incident Action Plan (IAP) and/or Situation Report (SitRep) to support the ongoing efforts at the Lower Colorado River incident.

Critical Task: Following NIMS compliance and the LCRGRP CONOPS, produce an IAP and/or SitRep in response to the Lower Colorado River incident. (LCRGRP W7-1)

Critical Task: Document all MACC support that has been provided in the IAP and/or SitRep including located resources and coordination of mutual aid. (LCRGRP W1-4)

Source(s): Lower Colorado River Geographic Response Plan (LCRGRP)

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Activate an Incident Command Post (ICP) to support on-scene response efforts following an incident on the Lower Colorado River.	• Following National Incident Management System (NIMS) compliance and the Lower Colorado River Geographic Response Plan (LCRGRP) Concept of Operations (CONOPS), establish an ICP in support of the Lower Colorado River incident.	Incident Command Structure was set up and used	P
To support the ICP, activate the County Emergency Operations Center (EOC) following an incident on the Lower Colorado River.	• Following NIMS compliance and the LCRGRP CONOPS, activate an EOC to provide support to on-scene responders at the Lower Colorado River incident.	Yuma County EOC will be on standby until needed - Emergency Management is at the Liasion table	P
Establish a Multi-Agency Coordination Center (MACC) with key agencies/organizations to support ongoing response efforts following an incident on the Lower Colorado River.	• Following NIMS compliance and the LCRGRP CONOPS, establish a MACC to coordinate the actions of the agencies/organizations supporting the Lower Colorado River incident response.	The Liasion group is the MACC - coordinating with the IC group and branching out to provide tech assistance to other grops in the EOC. Separated Mexico Group from larger MACC group	P
	• Following NIMS compliance and the LCRGRP CONOPS, establish coordination between the ICP Unified Command and the MACC operations.	Good Coordination through group meetings and briefings	P

Organizational Capability Target	Associated Critical Tasks	Observation Notes and Explanation of Rating	Target Rating
Detail an Incident Action Plan (IAP) and/or Situation Report (SitRep) to support the ongoing efforts at the Lower Colorado River incident.	• Following NIMS compliance and the LCRGRP CONOPS, produce an IAP and/or SitRep in response to the Lower Colorado River incident.		
	• Document all MACC support that has been provided in the IAP and/or SitRep including located resources and coordination of mutual aid.	`	
		Final Core Capability Rating	

Evaluator Name Christine Medley

Evaluator E-mail Christine. Medley@fortmojave.com

Phone office: 760-326-9650/cell: 909-573-4899

Ratings Key
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Additonal Observations:

1. Mexican Group should have been in the Unified Command
2. County officials sometimes felt like the State or Kinder Morgan took charge and County resources were under utilized

Ratings Definitions

Performed without Challenges (P)	The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
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Unable to be Performed (U)	The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

IMPROVEMENT PLAN

Lower Colorado River

Pipeline Incident Exercise

KINDER MORGAN
ENERGY PARTNERS, L.P.

2017

Sponsors

KINDER MORGAN RRT9

ADEQ Arizona Department of Environmental Quality · YUMA COUNTY ARIZONA · CalEPA California Environmental Protection Agency · CALIFORNIA FISH & WILDLIFE · PHMSA · EM · EPA EMERGENCY RESPONSE · FEMA · BORDER 2020 FRONTERA 2020 · U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

IMPROVEMENT PLAN

EXERCISE OVERVIEW

EXERCISE DETAILS

Exercise Name: Lower Colorado River Pipeline Incident Exercise 2017

Type of Exercise: Functional Exercise

Date: April 12-13

Duration: 1.5 days

Location: Hilton Pivot Point Conference Center, Yuma Arizona

Sponsors: ADEQ, YUMA EM, OPPR, CAL EPA, PHMSA, EPA, FEMA, Department of Toxic Substances, The Federal Government of Mexico, U.S. Department of Interior – Bureau of Reclamation, Cocopah Tribe.

Core Capabilities Tested: Operational Communications, Operational Coordination, Public Information and Warning (Taken from EEGs)

ACKNOWLEDGEMENTS

Exercise Design Team:

- Rod Dillon, Kinder Morgan
- Gary Koehn, Kinder Morgan
- Lance Richman, United States Environmental Protection Agency
- Dan Shane, United States Environmental Protection Agency
- Paul Penn, California Environmental Protection Agency
- Jeffery Smith, United States Bureau of Reclamation
- David Lyons, California Department of Fish and Wildlife
- Joseph Urrea, Arizona Department of Emergency and Military Affairs
- Chris Thixton, California Department of Fish and Wildlife

- Tony Badilla, Yuma County
- Ana Morales, International Boundary and Water Commission
- Michael Fila, COCOPAH Emergency Management
- Nichole Fortson, Arizona Department of Emergency Management and Military Affairs
- George Baker, Cal EPA DTSA/LEPC 6
- John McHugh, Midstream Compliance & Response Management, LLC

Exercise Venue provided by:

Hilton Garden Inn
310 N. Madison Avenue
Yuma, Arizona 85364

PARTICIPATING ORGANIZATIONS

- Kinder Morgan
- Regional Response Team
- Midstream Compliance & Response Management, LLC
- Patriot Environmental
- Environmental Protection Agency (EPA)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- Federal Emergency Management Agency (FEMA)
- United States Bureau of Reclamation (USBR)
- International Boundary and Water Commission (IBWC)
- Fort Yuma Quechan Tribe
- Organismo de Cuenca (Mexico)
- Cocopah Indian Tribe

- Other tribes (TBD)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Department of Emergency and Military Affairs (DEMA)
- California Office of Spill Prevention and Response (Cal OSPR)
- Cal EPA
- California Department of Toxic Substance Control (DTSC)
- Yuma County
- Arizona National Guard (AZNG)
- National Oceanic and Atmospheric Agency (NOAA)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- US Fish and Wildlife Service (USFWS)
- Comision Nacional Del Agua (CONAGUA)
- California State Fire Marshal
- United States Coast Guard (USCG)
- California Environmental Protection Agency (Cal EPA)
- ClearTec
- CTEH
- Bureau of Indian Affairs (BIA)

NUMBER OF PARTICIPANTS

As per the 211 - 93

TOTAL: 93

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ATTACHMENT B IMPROVEMENT PLAN

Objective	Observation	Recommendation	Action Item	Priority	Program Element	Responsible Party	Timeframe
	Observation Situational Awareness	The use of WebEOC versus traditional situation boards should be clearly defined during the next event to avoid confusion on roles and responsibilities (Exercise Director when planning next event).	Y	☐ High ☐ Medium ☒ Low	Exercise	Federal, State, or local Exercise Director when next event.	TBD
	Observation Training	Kinder Morgan should have more in depth training on ICS to allow for better communication between groups and to conduct more effective meetings (Rod Dillon).	Y	☒ High ☐ Medium ☐ Low	Exercise	Rod Dillon	TBD
	Observation Training	When using injects, consider using colored paper and assign numbers from the main MSEL list to aid in tracking (Midstream)	Y	☒ High ☐ Medium ☐ Low	Planning	Midstream	Immediately

Objective	Observation	Recommendation	Action Item	Priority	Program Element	Responsible Party	Timeframe
	Observation Command Post	Provide signs or other identifiers to distinguish the various functional areas to make it easier to distinguish the distinct groups (Documentation Unit and/or Midstream)	Y	☐ High ☒ Medium ☐ Low	Planning	Documentation Unit and/or Midstream	TBD
	Observation Agency Personnel Knowing Responsibilities	Ensure all non-Kinder Morgan participants know what roles they will play during the event (Agency Liaison).	Y	☐ High ☐ Medium ☒ Low	Planning	Agency Liaison	TBD
	Observation Update ICP	Update the Integrated Contingency Plan (ICP) to include the reporting requirements for Mexico and draw more attention to the GRP to ensure that it is ease to access during a real event (Midstream).	Y	☒ High ☐ Medium ☐ Low	Exercise	Midstream	2 weeks