

Approved By

Federal OSC:

State OSC:

Incident Commander:

M. C. Smith

3-12-17

# Incident Action Plan

20170312 1400 Sit Stat Map

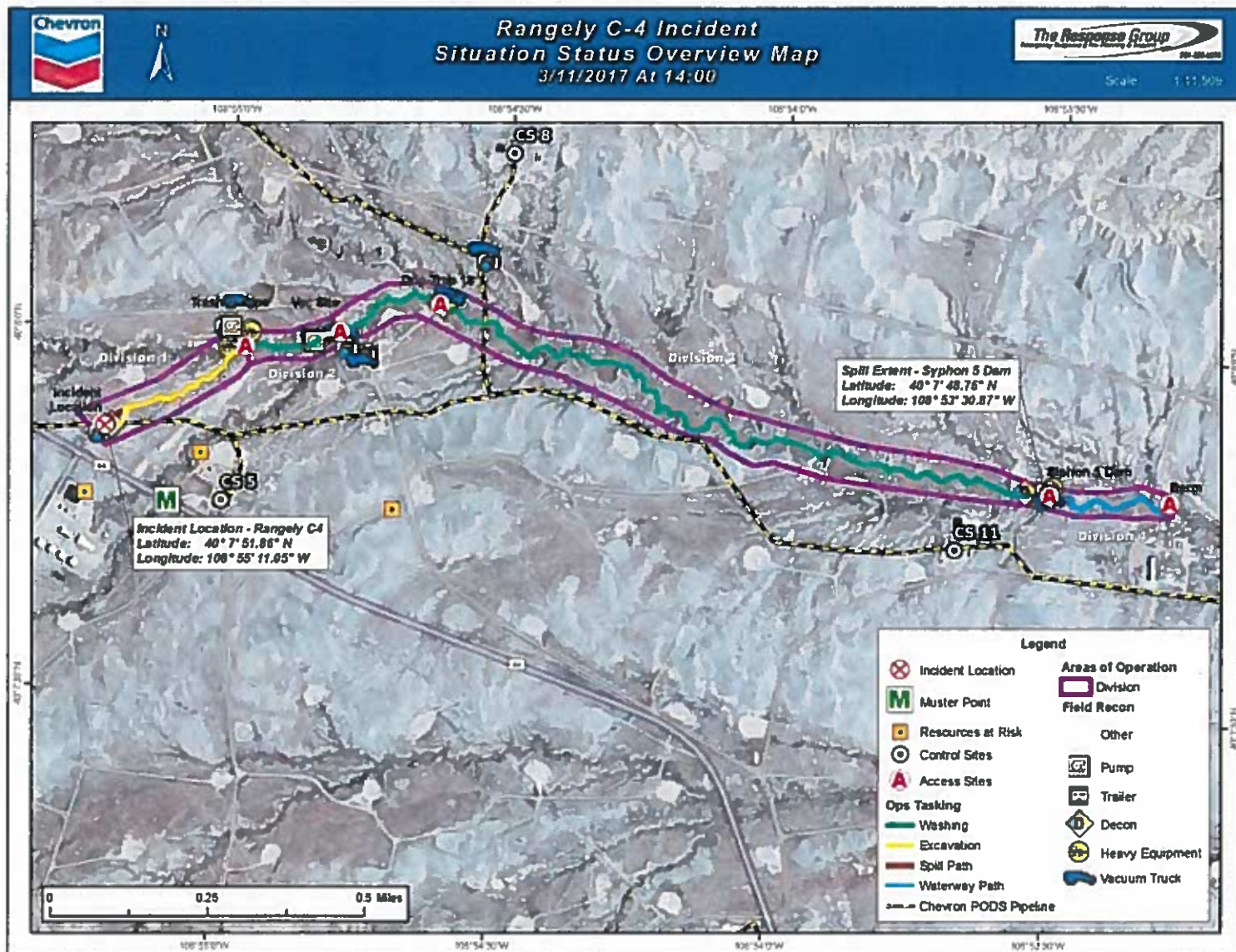
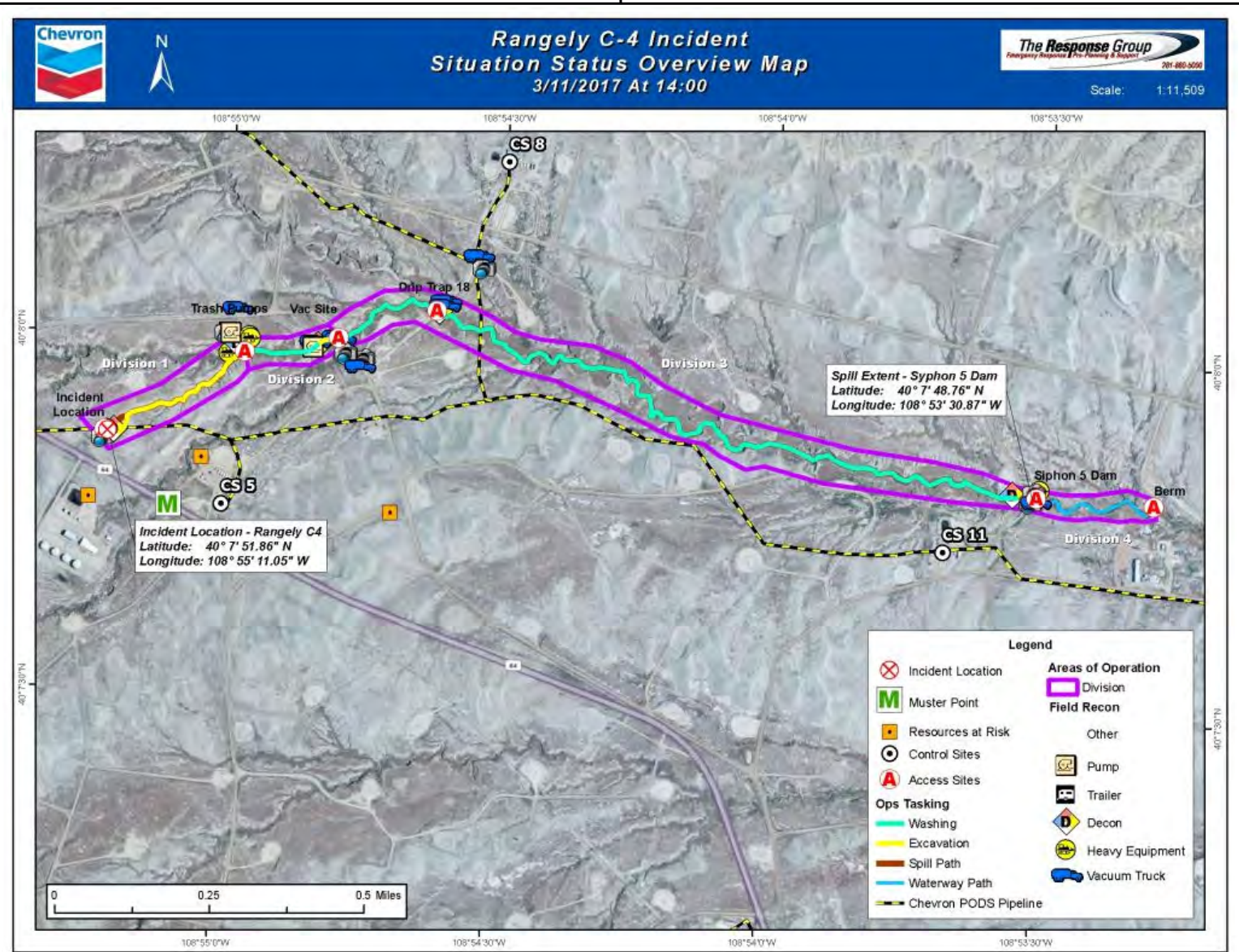


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<b>ICS 202a - Command Direction</b>		Version Name: Response	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Priorities</b>			
People (Life Safety)			
Environment (Protection)			
Assets			
Reputation			
<b>Limitations and Constraints</b>			
<ul style="list-style-type: none"> <li>• Weather Conditions</li> <li>• Night Operations (Limited)</li> <li>• Location of the Incident</li> <li>• Availability/shortfall of Resources</li> <li>• Transportation/Logistics</li> <li>• Support Infrastructure</li> <li>• Permits (Authorization to apply Alternate Response Techniques)</li> <li>• Wildlife activities (fish, birds, etc.)</li> <li>• Access to Shoreline (Private vs Public Lands)</li> <li>• Spilled Material Characteristics (monitoring/PPE requirements)</li> <li>• Public Health</li> <li>• Community/Media Perception</li> <li>• Large Scale Evacuation</li> <li>• Evidence Preservation</li> <li>• Delegation of Authority Limitations</li> <li>• Work/rest Rotation Requirements</li> <li>• Disposal of Waste</li> <li>• Jurisdictional Issues</li> </ul>			
<b>Key Decisions and Procedures</b>			
<b>Key Decisions</b> <ul style="list-style-type: none"> <li>• Make up of UC – Federal, State, Local, &amp; RP</li> <li>• Name of Incident = Rangely C-4</li> <li>• Command Post – 100 Chevron Road, Rangely, CO</li> <li>• Operational Period &amp; work hours - 24 hour period, 06:00 to 06:00, minimal night operations</li> <li>• All external releases of information should be approved by UC</li> <li>• Any resource request over \$100k should be approved by IC</li> <li>• Any issues around waterway management will be coordinated by EPA</li> <li>• Only pre-authorized individuals with special indicators are allowed to take photos. Absolutely no one else.</li> </ul>			
<b>ICS 202a - Command Direction</b>		Prepared By Green, Patrick, Updated 03/07/2017 19:08 GMT -7:00 PP	
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ICS 202b - Critical Information Requirements		Version Name: Current	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<div>Unified Command Critical Threshold Reporting Criteria</div> <div>Injury or Death</div> <div>- OSHA/Greater than 1st Aid through Safety Officer</div> <div>Significant change of status of the source</div> <div>Any incidents within the incident</div> <div>Public health impacts</div> <div>Shoreline Oiling/Impact</div> <div>Impacted sensitive areas beyond protection/Any change to trajectories</div> <div>Loss of major tactical resources</div> <div>Unplanned VIP visits en-route/planning/arriving</div> <div>Adverse protest plans or interview requests</div> <div>Adverse political/influence</div> <div>Confirmed wildlife impacts</div> <div>Loss or breach of containment</div> <div>Special requests from agencies</div>			
ICS 202b - Critical Information Requirements		Prepared By Green, Patrick, Updated 03/07/2017 15:31 GMT -7:00 PP	
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<b>ICS 204 - Assignment List</b>			Area Of Operation: Line Pigging & Evacuation TF	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Line Pigging & Evacuation TF Leader	Sewell, Steve	Chevron Pipe Line	208-850-9617	Day Shift
Line Pigging & Evacuation TF Leader	Hutchins, Cody	Chevron Pipe Line	801-598-6052	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Line Pigging & Evacuation TF	Manpower: Responder	CPL Personnel	2	each
Line Pigging & Evacuation TF	Vac Truck Operator	Operator	3	each
Line Pigging & Evacuation TF	Vacuum Truck	Vacuum Truck	2	each
Line Pigging & Evacuation TF	Nitrogen	Nitrogen Bottles	3	each
Line Pigging & Evacuation TF	Miscellaneous	Poly Pig	1	each
Line Pigging & Evacuation TF	Pumper truck	Nitrogen Pumper Truck	1	
<b>Assignments</b>				
1. Evacuate oil out of trap and piping at CS-4 by using 2" drain 2. Open pig trap at CS-4 and load pig 3. Mobilize vac truck to CS 5 and hook up to 2" vent, and install pressure gauge 4. Hook up nitrogen at CS-4 5. Make notifications to IC, OPS Section Chief, Safety Officer, & Environmental Unit Leader that pigging is to begin 6. EE at CS-4 to verify that regulator is set to 50psi on nitrogen truck 7. Call EE at CS-5 to verify that they are ready for pig launch and verify communications 8. CS-4 open valve to launch pig 9. EE at CS-5 to start suction through vac truck 10. Introduce nitrogen to 50psi into trap at CS-4 11. EE at CS-4 ensure pig launching; then notify EE-5 that pig has left 12. EE at CS-5 to monitor product transfer to vac truck and listen for pig arrival 13. When pig arrives EE at CS-5 call EE at CS-4 to stop pumping of nitrogen 14. Isolate pipeline by disconnecting nitrogen truck and vac truck 15. Back in empty vac truck at CS-5 to vent nitrogen 16. Vent nitrogen from CS-4 to CS-5 through empty vac truck 17. Disconnect all equipment between CS-4 and CS-5 18. Isolate pipeline by locking in all valves and placing on IHE. Installation of 2-6" skillets at CS4BV1 & CS5BV01				
<b>Tactical Objectives</b>				
Pig and Evacuate the line				
<b>Special Environmental Considerations</b>				
1. Have a drip tray available to catch any residual product. 2. Be sure to wrap the cam locks with diapers and duct tape.				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/12/2017 16:28 GMT -7:00 PP	
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ICS 204 - Assignment List		Area Of Operation: Line Pigging & Evacuation TF	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<p align="center"><b>Special Site-Specific Safety Considerations</b></p> <ol style="list-style-type: none"> <li>1. Check in with division supervisor as you walk into their areas</li> <li>2. Prior to work beginning follow personal air monitoring plan requirements</li> <li>3. Report all Near Miss and Incidents.</li> <li>4. Plan the work and work the plan.</li> <li>5. Use Stop Work Authority if scope changes or recognize a hazard.</li> <li>6. Work within your JSA / PTW / Specialized Permit scope and mitigations.</li> <li>7. Prior to opening process piping, verify that there is zero psig on the system</li> <li>8. Place operator lock and tag on valves per Isolation of Hazardous Energy Process</li> <li>9. Notify affected personnel and clear the immediate area</li> <li>10. Stay out of the line of fire.</li> <li>11. Verify tattle tale is reinstalled once the pig is loaded and the trap door is closed.</li> <li>12. Verify the valve sequence prior to launching and receiving.</li> <li>13. Stay upwind of the vent valve prior to purging the nitrogen.</li> <li>14. Verify the vac truck is grounded.</li> <li>15. Verify whip checks are installed.</li> <li>16. Verify regulator and pressure gauge is installed and functioning properly.</li> <li>17. Identify Stop Work Triggers with all parties involved.</li> <li>18. Verify vacuum truck will be able to keep up with the pressure being applied by running the pig.</li> <li>19. Follow the Equipment Specific Procedure Sheet.</li> <li>20. Set relief valve on the nitrogen truck.</li> <li>21. Test the hoses on the nitrogen truck to validate the integrity.</li> <li>22. Be observant of the piping around CS4 and CS5 sites when driving your vehicles.</li> <li>23. Have the vac truck and nitrogen truck use spotters.</li> </ol>			
<p align="center"><b>Additional Information</b></p> <p>Communication is paramount. Zero incidents, zero releases.</p>			
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<b>ICS 204 - Assignment List</b>			Area Of Operation: Division 2	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Division 2 Supervisor	Yount, Justin	Chevron Pipe Line	661-623-7453	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Division 2	Manpower: Supervisor	Manpower: Supervisor	2	each
Division 2	Manpower: Responder	Manpower: Responder	7	each
Division 2	Manpower: Operator	Manpower: Operator	3	each
Division 2	Vacuum Truck	Vacuum Truck	3	each
<b>Assignments</b>				
<p>Conduct brooming &amp; washing operations using vac trucks *See map for positioning of trucks*</p> <p>Water wash proposed plan Water wash division 2</p> <p>Prerequisite: Develop safe plan and PPE requirements specific to wash plan with HES support.</p> <p>1- Position one water vac truck near the end of division 2, this site will be manned by one operator controlling the outlet valve 2- Position two vac trucks at CS 5 collection site for wash water collection. This site will be manned with two vac truck operators and one CPL. 3- Flush hot water at near the end of division 2 out of one water vac truck to start water wash. *Note water will be heated to 140 degs. a. Control flow of flush by throttling valve on water vac truck monitoring liquid level to prevent any rise of liquid level in the ravine above stained soil line. 4- Communicate start of flush to personal at containment site via-cell phone. 5- Start sucking with vac truck at CS 5 collection site once product is received. 6- Observe water wash from viewpoints to ensure no breach or splashing of liquid on sides of ravine. "two CPL observers will be used during the flush" 7- Maintain and monitor flow 8- Monitor effectiveness of wash, report back to IC</p> <p>NOTE: Communication of plan will be reviewed by all on site and signed during JSA meeting</p>				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
<p>Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, &amp; contact Phil Mataway. Keep hoses and pumps as close as possible to the impacted area. Dispose of all non-hazardous waste.</p>				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/11/2017 15:05 GMT -7:00 PP	
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ICS 204 - Assignment List		Area Of Operation: Division 2	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<p align="center"><b>Special Site-Specific Safety Considerations</b></p>			
<p>PPE for personnel in crude is FR Tyvek, nitrile gloves, safety footwear, hardhat and glasses.          Spotter agreement w/ operator including stop work signal.          Check in with division supervisor as you enter their areas.          Report all near misses and Incidents.          Plan the work and work the plan.          Use Stop Work Authority if scope changes or recognize a hazard.          Work within your JSA / PTW / Specialized Permit scope and mitigations.          Be sure vac trucks are chocked and grounded.          Use a spotter when backing up.          No cell phones when operating the vehicle from the cab.          Confirm PPE can withstand water temperature to at least 140 degree F.          Reiterate that workers should take breaks as needed.          Maintain visual contact with spotters at all time.</p>			
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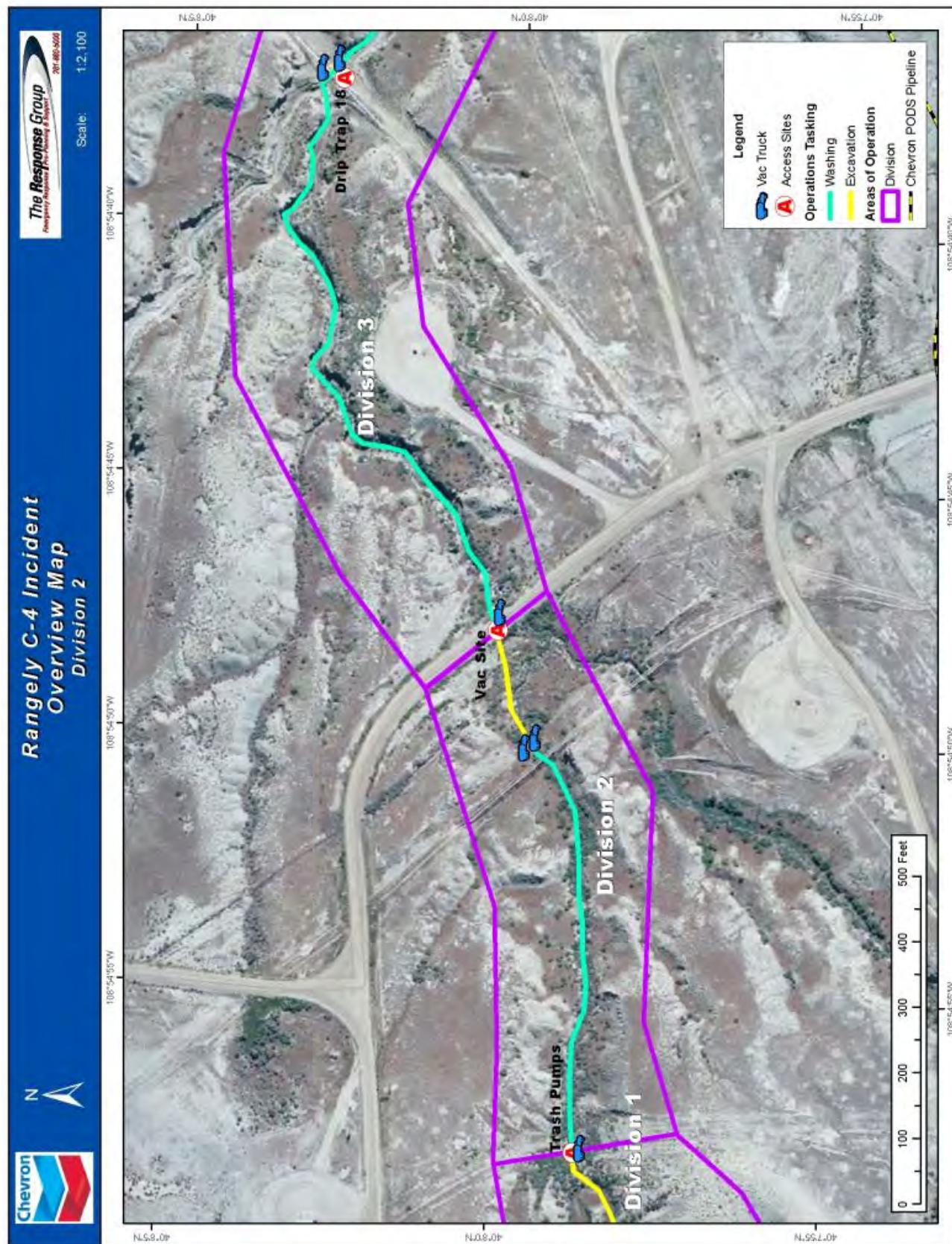
## ICS 204 - Assignment List

Area Of Operation: Division 2

Incident Name: Rangely C-4
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Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]

20170312\_Division\_2\_Overview\_Map



ICS 204 - Assignment List	
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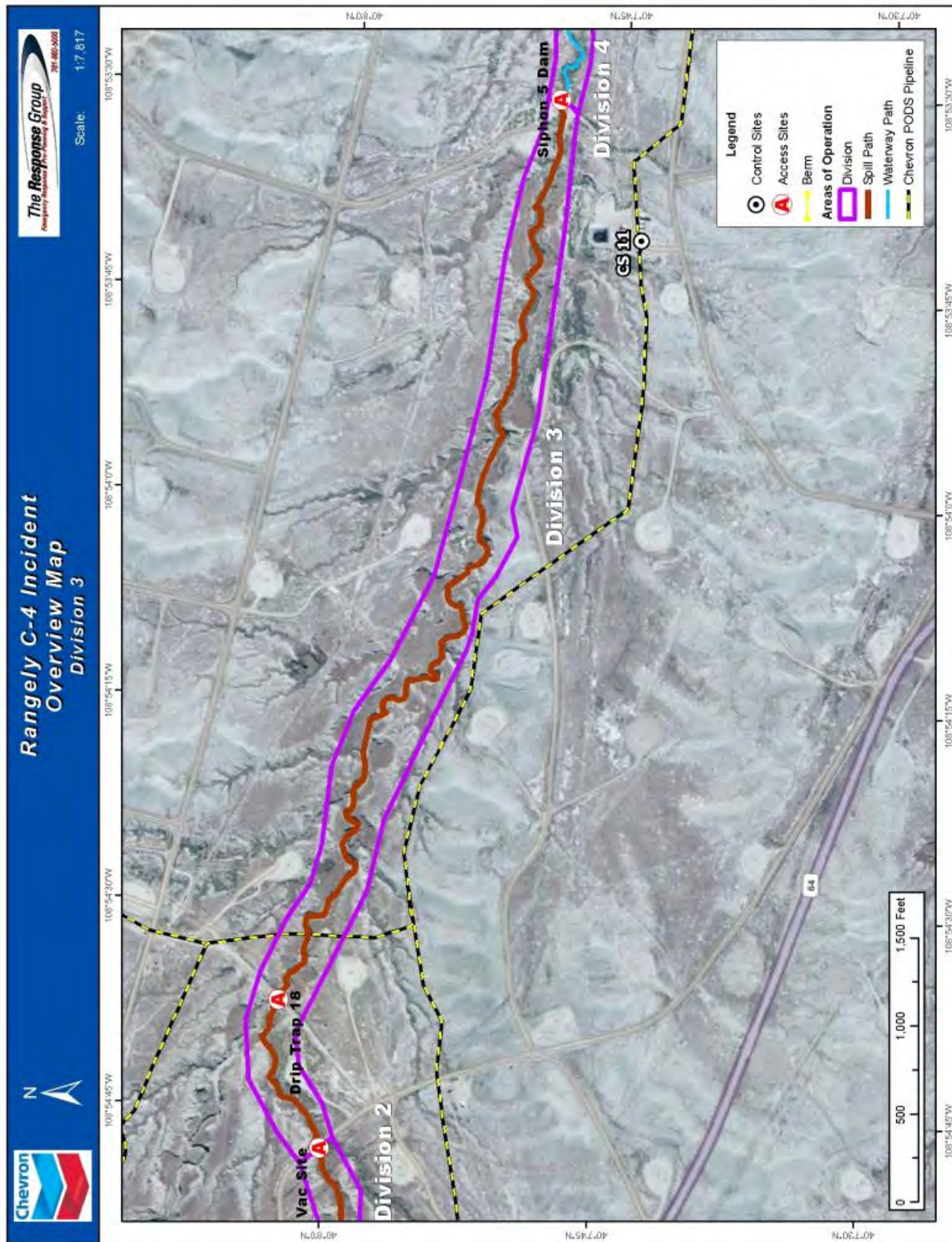
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<b>ICS 204 - Assignment List</b>			Area Of Operation: Scraping Group	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Division 2 Supervisor	Yount, Justin	Chevron Pipe Line	661-623-7453	Day Shift
Scraping Group Supervisor	Brunmeier, Randal	Chevron Pipe Line	925-203-8974	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Scraping Group	Manpower: Operator	Manpower: Operator	8	each
Scraping Group	Manpower: Responder	Manpower: Responder	3	each
Scraping Group	Manpower: Supervisor	Manpower: Supervisor	1	each
Scraping Group	Excavator	Excavator	1	each
Scraping Group	Light Plants	Light Plants	1	each
Scraping Group	Skid Steer	Skid Steer	1	each
Scraping Group	Vehicle	Dump Truck	4	each
Scraping Group	Trackhoe	Trackhoe	3	each
<b>Assignments</b>				
Scrape top layer of contaminated soil in Division 2 and load into dump truck to take to CNAEP land farm				
<b>Special Environmental Considerations</b>				
Stantec to conduct sampling. Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Do not transport soil if free liquids are present in the soil. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
<p>PPE for personnel in crude is FR Tyvek.</p> <p>No respiratory protection needed.</p> <p>Follow monitoring plan.</p> <p>If step in crude, do NOT step out unless through designated decon.</p> <p>Decon set up at each division.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all Near Miss and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p>				
<b>ICS 204 - Assignment List</b>			Updated 03/12/2017 16:21 GMT -7:00	
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<b>ICS 204 - Assignment List</b>			Area Of Operation: Division 3	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Division 3 Supervisor	Griffin, Matt	Chevron Pipe Line	970-629-2589	
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Division 3 (Collection Point)	Manpower: Supervisor	Manpower: Supervisor	1	each
Division 3 (Collection Point)	Light Plants	Light Plants	1	each
Division 3 (Collection Point)	Manpower: Operator	Manpower: Operator	2	each
Division 3 (Collection Point)	Vacuum Truck	Vacuum Truck	1	each
Division 3	Truck, Hot Oil	Truck, Hot Oil	1	each
<b>Assignments</b>				
Conduct collection operations using the vacuum trucks as designated in division 2 at CS 5 Collection point.				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
<p>PPE for personnel in crude is FR Tyvek.</p> <p>No respiratory protection needed.</p> <p>Follow monitoring plan.</p> <p>If step in crude, do NOT step out unless through designated decon.</p> <p>Decon set up at each division.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all NM and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all Near Miss and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p>				
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ICS 204 - Assignment List	Area Of Operation: Division 3
Incident Name: Rangely C-4	Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]
20170312_Division_3_Overview_Map	

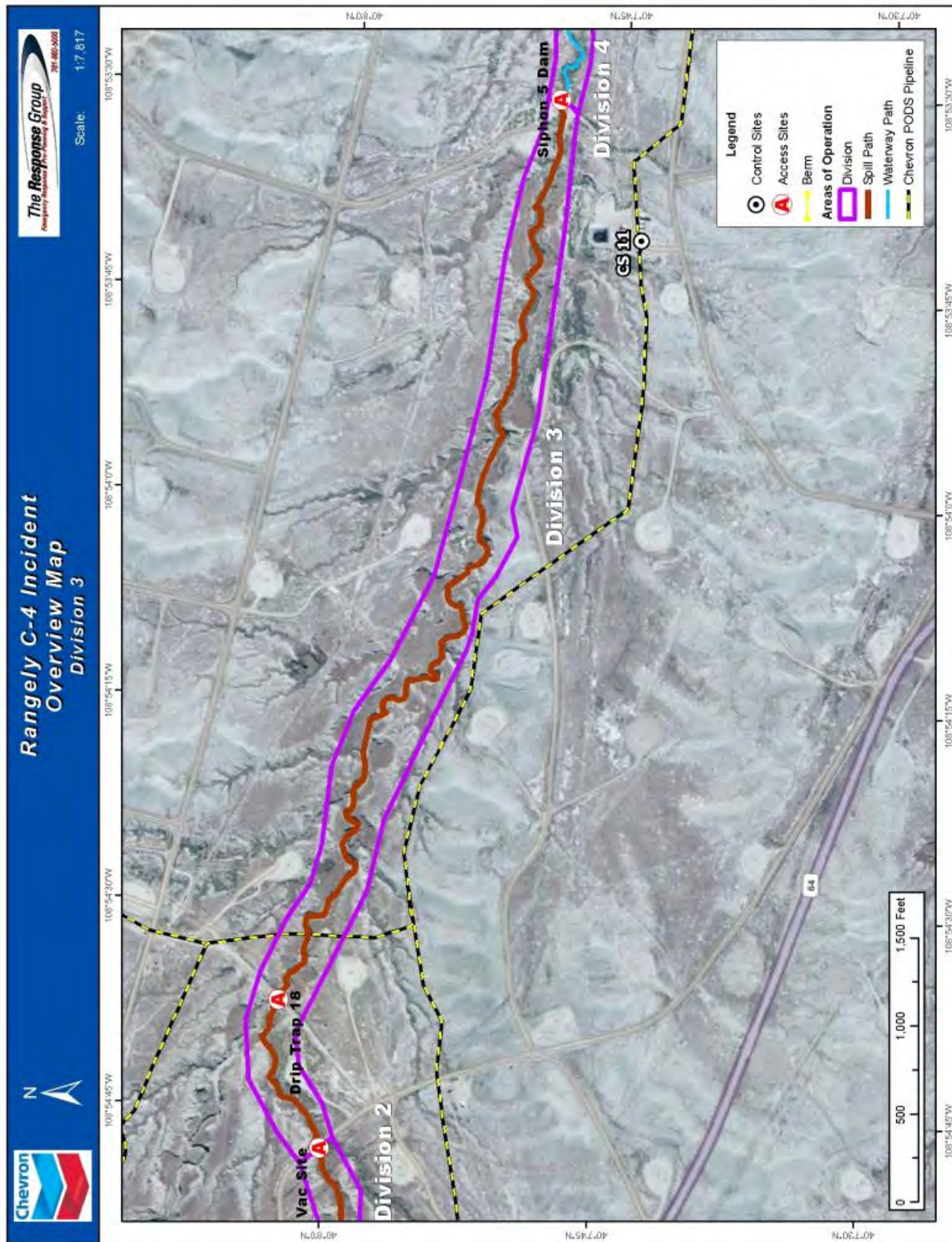


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<b>ICS 204 - Assignment List</b>			Area Of Operation: Group 1 (Brooming)	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Group 1 (Brooming) Supervisor	Berge, Marcus	Chevron Pipe Line	801-598-1082	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Group 1 (Brooming)	Manpower: Supervisor	Manpower: Supervisor	1	each
Group 1 (Brooming)	Manpower: Responder	Manpower: Responder	5	each
Group 1 (Brooming)	Equipment: Small	Brooms/Squigees	5	each
<b>Assignments</b>				
Conduct brooming of liquid within Division 3 using 5 Weldon manpower 1. Broom crew will start brooming wash bottom pushing standing liquid towards siphon and dam				
<b>Special Instructions</b>				
Enviro/Safety to include AC/PA/JSA permits & supervisor				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Do not transport soil without any liquid containment if free liquids are present in the soil. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
PPE for personnel in crude is FR Tyvek, nitrile gloves, safety footwear, hardhat and glasses. If step in crude, do NOT step out unless through designated decon. Decon at drip trap 18. Spotter agreement w/ operator including stop work signal. Check in with division supervisor as you enter their areas. Report all near misses and incidents. Plan the work and work the plan. Use Stop Work Authority if scope changes or recognize a hazard. Work within your JSA / PTW / Specialized Permit scope and mitigations. Avoid any overhanging/sluffing areas. Confirm PPE can withstand water temperature to at least 140 degree F. Ensure PPE is well taped to avoid tearing and compromising the protection from liquids. Have enough spotters to have eyes on all workers in the wash/slough, with at least one CPL Safety Rep on site. Reiterate that workers should take breaks as needed. Maintain visual contact with spotters at all time.				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/12/2017 13:28 GMT -7:00 PP	
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ICS 204 - Assignment List	Area Of Operation: Group 1 (Brooming)
Incident Name: Rangely C-4	Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]
20170312_Division_3_Overview_Map	

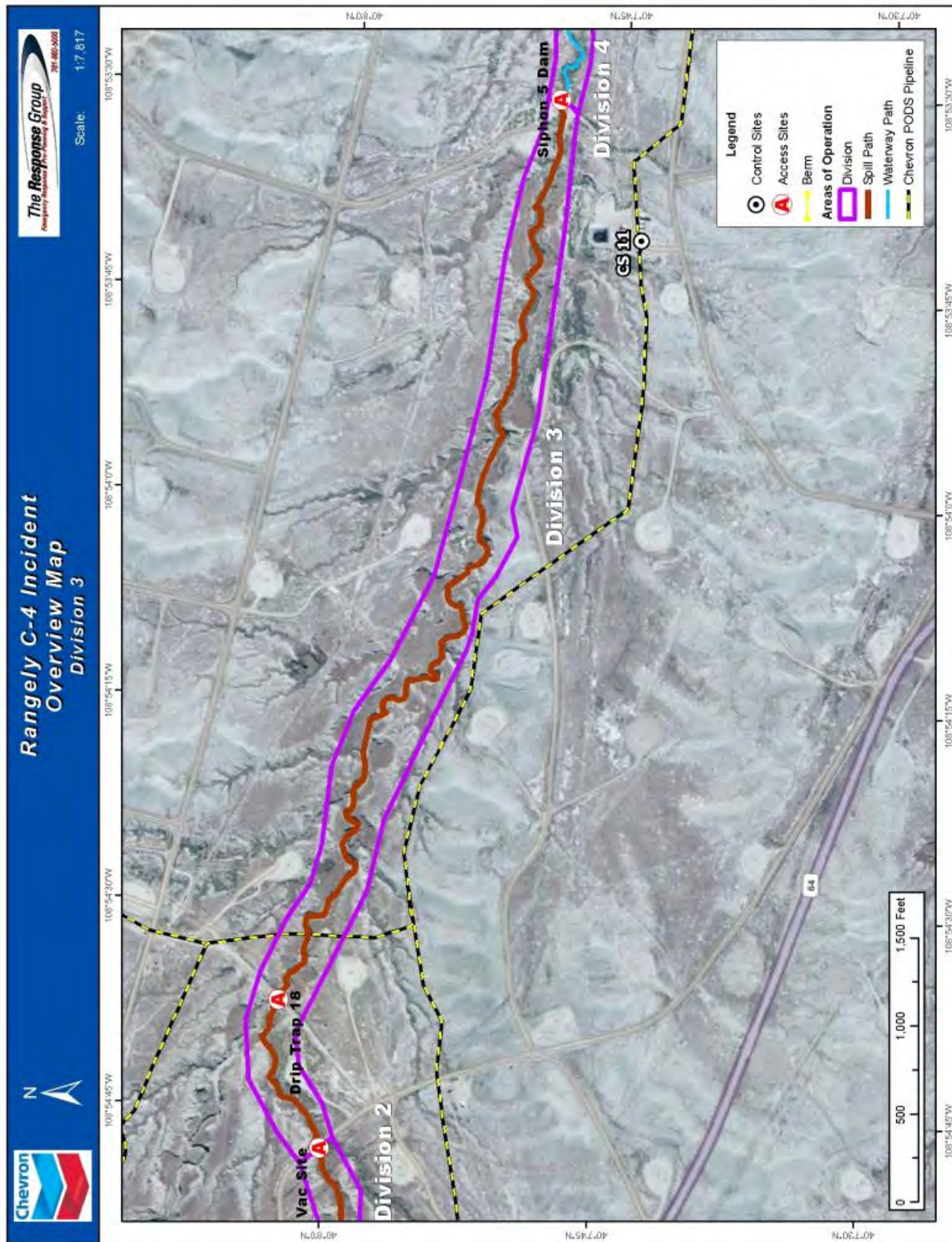


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<b>ICS 204 - Assignment List</b>			Area Of Operation: Group 2 (Brooming)	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Group 2 (Brooming)	George, Danny	Chevron Pipe Line	435-630-3180	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Group 2 (Brooming)	Manpower: Supervisor	Manpower: Supervisor	2	each
Group 2 (Brooming)	Manpower: Responder	Manpower: Responder	11	each
Group 2 (Brooming)	Equipment: Small	Brooms/Squigees	11	each
<b>Assignments</b>				
Conduct brooming of liquid within Division 3 using 8 EnviroCare and 3 MP manpower 1. Broom crew will start brooming wash bottom pushing standing liquid towards siphon and dam				
<b>Special Instructions</b>				
Enviro/Safety to include AC/PA/JSA permits & supervisor				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
PPE for personnel in crude is FR Tyvek, nitrile gloves, safety footwear, hardhat and glasses. If step in crude, do NOT step out unless through designated decon. Decon at drip trap 18. Spotter agreement w/ operator including stop work signal. Check in with division supervisor as you enter their areas. Report all near misses and Incidents. Plan the work and work the plan. Use Stop Work Authority if scope changes or recognize a hazard. Work within your JSA / PTW / Specialized Permit scope and mitigations. Avoid any overhanging/sluffing areas. Confirm PPE can withstand water temperature to at least 140 degree F. Ensure PPE is well taped to avoid tearing and compromising the protection from liquids. Have enough spotters to have eyes on all workers in the wash/slough, with at least one CPL Safety Rep on site. Reiterate that workers should take breaks as needed. Maintain visual contact with spotters at all time. Use a spotter when backing up. No cell phones when operating the vehicle from the cab.				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/08/2017 13:50 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:30 GMT -7:00	Page 18 of 59	© TRG	



ICS 204 - Assignment List	Area Of Operation: Group 2 (Brooming)
Incident Name: Rangely C-4	Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]
20170312_Division_3_Overview_Map	

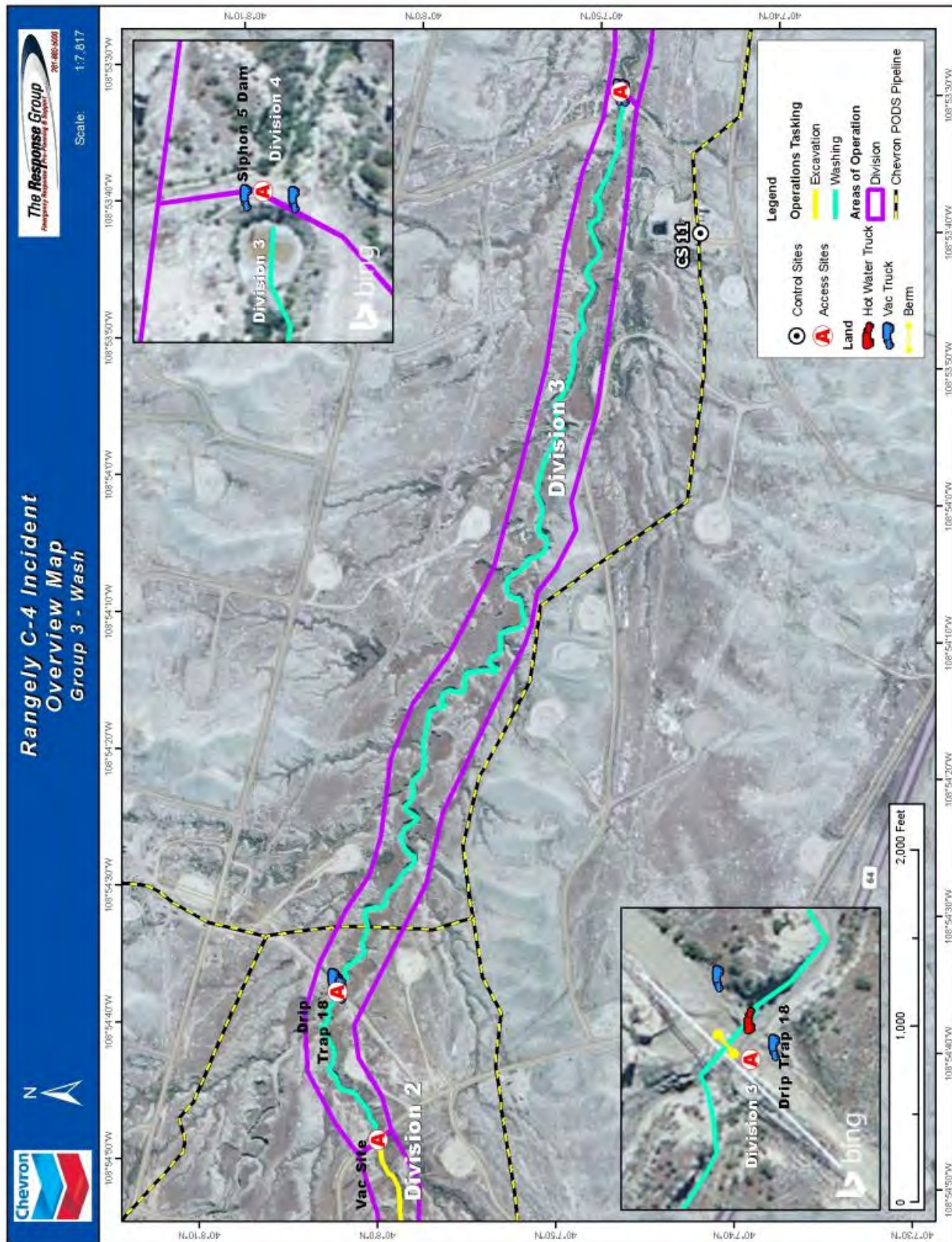


<b>ICS 204 - Assignment List</b>			Area Of Operation: Group 3 (Washing)	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Group 3 (Wash) Supervisor	Motty, Reggie	Chevron Pipe Line	337-319-6988	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Group 3 (Washing)	Manpower: Operator	Manpower: Operator	4	each
Group 3 (Washing)	Manpower: Responder	Manpower: Responder	2	each
Group 3 (Washing)	Manpower: Supervisor	Manpower: Supervisor	2	each
Group 3 (Washing)	Vacuum Truck	Vacuum Truck	3	each
<b>Assignments</b>				
<p>Water wash proposed plan  Water wash division 3 from drip trap 18 to siphon 5</p> <p>Prerequisite:  Develop safe plan and PPE requirements specific to wash plan with HES support.</p> <p>1- Position two vac-truck and one water heater truck at drip trap 18, this site will be manned by one water heater truck operator controlling the outlet valve and one CEE handling the hose.  2- Position two vac trucks at siphon 5 for wash water collection. This site will be manned with two vac truck operators and one CPL.  3- Flush hot water at drip trap 18 out of one water heater truck to start water wash.  *Note water will be heated to 140 degs.  a. Control flow of flush by throttling valve on water heater truck monitoring liquid level to prevent any rise of liquid level in the ravine beyond contamination.  4- Communicate start of flush to personal at containment site via-cell phone.  5- Start sucking with vac truck at siphon 5 once product is received.  6- Observe water wash from viewpoints to ensure no breach or splashing of liquid on sides of ravine. "two CPL observers will be used during the flush"  7- Maintain and monitor underflow dam  8- Monitor effectiveness of wash, report back to IC</p> <p>NOTE: Communication of plan will be reviewed by all on site and signed during JSA meeting</p>				
<b>Special Instructions</b>				
Enviro/Safety to include AC/PA/JSA permits & supervisor CPL Safety to provide monitoring and observations during wash				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Jenkins, Travis		970-629-1635		
Byars, Cody		385-290-7462		
Safety Officer: Billiott, Stephen		281-796-7236		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
<b>Special Environmental Considerations</b>				
Look for animal burrows in the side walls. Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Potential additional remediation. Dispose of all non-hazardous waste.				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/12/2017 13:29 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:30 GMT -7:00	Page 20 of 59	© TRG	



ICS 204 - Assignment List		Area Of Operation: Group 3 (Washing)	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
Special Site-Specific Safety Considerations			
<p>PPE for personnel in crude is FR Tyvek, nitrile gloves, safety footwear, hardhat and glasses.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you enter their areas.</p> <p>Report all near misses and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes or recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p> <p>Be sure vac trucks are chocked and grounded.</p> <p>Use a spotter when backing up.</p> <p>No cell phones when operating the vehicle from the cab.</p> <p>Confirm PPE can withstand water temperature to at least 140 degree F.</p> <p>Reiterate that workers should take breaks as needed.</p> <p>Maintain visual contact with spotters at all time.</p>			
ICS 204 - Assignment List		Prepared By Pasquier, John, Updated 03/12/2017 13:29 GMT -7:00 PP	
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ICS 204 - Assignment List	Area Of Operation: Group 3 (Washing)
Incident Name: Rangely C-4	Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]
20170312_Group_3_Overview_Map	



ICS 204 - Assignment List	Prepared By Pasquier, John, Updated 03/12/2017 13:29 GMT -7:00 PP		
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<b>ICS 204 - Assignment List</b>			Area Of Operation: Decon Group	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Decon Group Supervisor	Christensen, Derek	Chevron Pipe Line	208-949-5566	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Decon Group	Manpower: Supervisor	Manpower: Supervisor	1	each
<b>Assignments</b>				
Setup & Work decon stations for decontamination of personnel & equipment at division 1, 2, & 3 as needed following the Personnel/Equipment Decontamination Plan				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
<p>PPE for personnel in crude is FR Tyvek. - Dispose of oiled Tyvek by double bagging and hauling to EnviroCare bin at staging area on top of the hill.</p> <p>No respiratory protection needed.</p> <p>Follow monitoring plan.</p> <p>If step in crude, do NOT step out unless through designated decon.</p> <p>Decon set up at each division.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all Near Miss and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p>				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/07/2017 08:31 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:30 GMT -7:00	Page 23 of 59	© TRG	

<b>ICS 204 - Assignment List</b>			Area Of Operation: Air Monitoring Group	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Environmental Branch Director	Mataway, Phil	Chevron Pipe Line	832-494-7705	Day Shift
Air Monitoring Group Supervisor	Bass, Brian	Stantec	970-413-1844	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Air Monitoring Group	Manpower: Responder	Manpower: Responder	2	each
Air Monitoring Group	Equipment: Safety	Air Monitors	2	each
Air Monitoring Group	Pickup Truck	Pickup Truck	1	each
<b>Assignments</b>				
<p>Selected response personnel to wear personal air monitoring devices while working.</p> <p>Stantec to conduct work area air monitoring across divisions.</p> <p>Bump test air meters</p> <p>Action levels are detailed in the Air Monitoring Plan</p>				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
<p>PPE for personnel in crude is FR Tyvek.</p> <p>No respiratory protection needed.</p> <p>Follow monitoring plan.</p> <p>If step in crude, do NOT step out unless through designated decon.</p> <p>Decon set up at each division.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all Near Miss and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p>				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/09/2017 14:51 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:30 GMT -7:00	Page 24 of 59	© TRG	

<b>ICS 204 - Assignment List</b>			Area Of Operation: Environmental Field Group	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Environmental Branch Director	Mataway, Phil	Chevron Pipe Line	832-494-7705	Day Shift
Environmental Field Group Supervisor	Nein, Daniel	Stantec	2076537729	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
SCAT Group	Manpower: Responder	Manpower: Responder	2	each
SCAT Group	Pickup Truck	Pickup Truck	2	each
<b>Assignments</b>				
<p>Stantec personnel to complete the following:</p> <ol style="list-style-type: none"> <li>1. Review areas where work has occurred to document removal of visible oil.</li> <li>2. Document and collect GPS location of all wildlife resources (nest, game trails through oil, etc.)</li> <li>3. Collect survey points for mapping of SCAT.</li> <li>4. Collect photo documentation daily between 14:00 &amp; 16:00 at the six photo locations.</li> <li>5. Provide written summary of daily SCAT observations.</li> <li>6. Provide GPS locations to TRG to incorporate into maps.</li> <li>7. Monitor and repair wildlife deterrents.</li> <li>8. Respond to any notifications of impacted wildlife or wildlife entering the impacted area. Identify species of impacted wildlife.</li> </ol>				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
<p>PPE for personnel in crude is FR Tyvek.</p> <p>No respiratory protection needed.</p> <p>Follow monitoring plan.</p> <p>If step in crude, do NOT step out unless through designated decon.</p> <p>Decon set up at each division.</p> <p>Spotter agreement w/ operator including stop work signal.</p> <p>Check in with division supervisor as you walk into their areas</p> <p>Report all Near Miss and Incidents.</p> <p>Plan the work and work the plan.</p> <p>Use Stop Work Authority if scope changes are recognize a hazard.</p> <p>Work within your JSA / PTW / Specialized Permit scope and mitigations.</p>				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/11/2017 15:07 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:30 GMT -7:00	Page 25 of 59	© TRG	

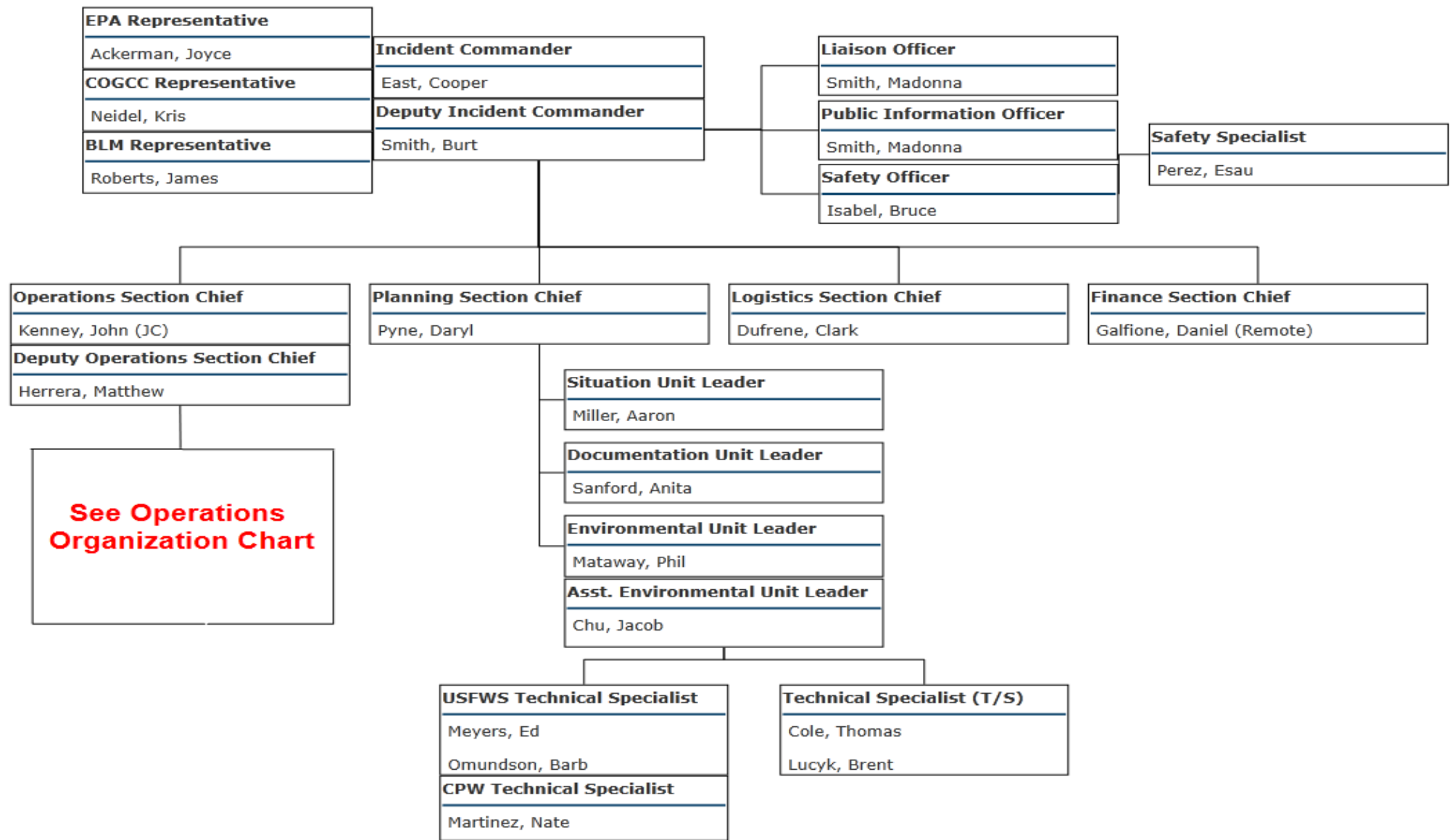
<b>ICS 204 - Assignment List</b>			Area Of Operation: Waste Management Group	
Incident Name: Rangely C-4			Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Operations Personnel</b>				
<b>Position</b>	<b>Name</b>	<b>Affiliation</b>	<b>Contact Number(s)</b>	<b>Work Shift</b>
Operations Section Chief	Kenney, John	Chevron Pipe Line	970-629-1637	Day Shift
Operations Section Deputy	Herrera, Matthew	Chevron Pipe Line	970-629-8123	Day Shift
Waste Management Group	Ackerman, Gary	Stantec	517-819-1956	Day Shift
Environmental Branch Director	Mataway, Phil	Chevron Pipe Line	832-494-7705	Day Shift
<b>Resources Required</b>				
<b>Area Of Operation</b>	<b>Resource Kind</b>	<b>Description</b>	<b>Quantity</b>	<b>Size</b>
Waste Management Group	Manpower: Supervisor	Manpower: Supervisor	1	each
Waste Management Group	Pickup Truck	Pickup Truck	1	each
<b>Assignments</b>				
Observe waste loading into bins at staging area. Properly label waste containers as required. Observe collection of PPE waste at decon stations. Track volumes of waste generated, location of storage and receiving location. Report daily volumes of waste. Observe loading of soils into trucks. Observe spreading of soil onto land farm. Collect manifest.				
<b>Communications</b>				
<b>Name / Function</b>		<b>Contact Details</b>		
Environmental/Wildlife: Mataway, Phil		832-494-7705		
Safety Officer: Billiott, Stephen		281-796-7236		
<b>Special Environmental Considerations</b>				
Monitor for impacted wildlife. If impacted wildlife observed, stop work, do not touch, & contact Phil Mataway. Dispose of all non-hazardous waste.				
<b>Special Site-Specific Safety Considerations</b>				
PPE for personnel in crude is FR Tyvek. No respiratory protection needed. Follow monitoring plan. If step in crude, do NOT step out unless through designated decon. Decon set up at each division. Spotter agreement w/ operator including stop work signal. Check in with division supervisor as you walk into their areas Report all Near Miss and Incidents. Plan the work and work the plan. Use Stop Work Authority if scope changes are recognize a hazard. Work within your JSA / PTW / Specialized Permit scope and mitigations.				
<b>ICS 204 - Assignment List</b>			Prepared By Pasquier, John, Updated 03/09/2017 14:53 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:31 GMT -7:00	Page 26 of 59	© TRG	

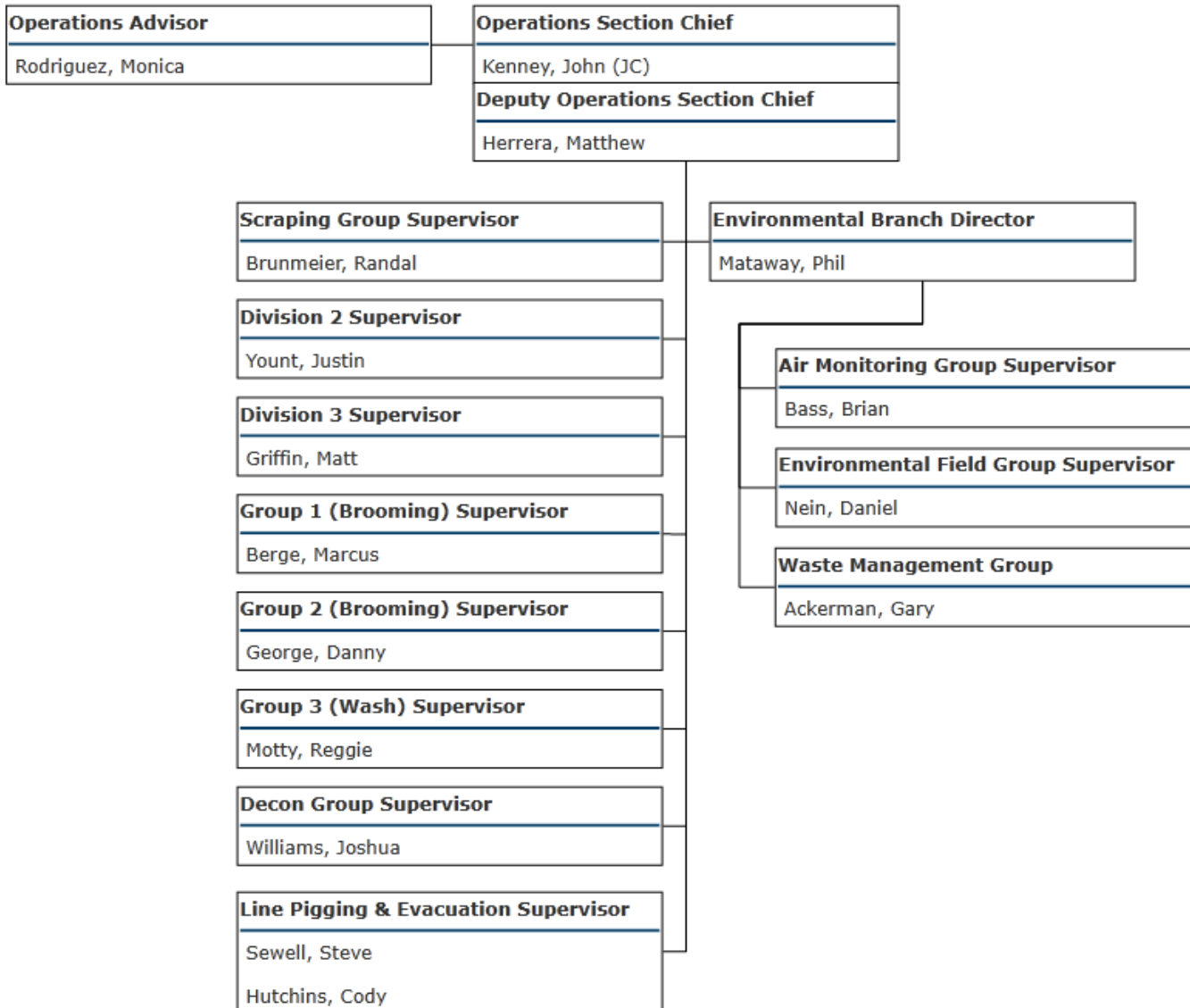


<b>ICS 205a - Communications List</b>				Version Name: Period 7	
Incident Name: Rangely C-4				Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Local Communications Information</b>					
<i>Name</i>	<i>Incident Assigned Position</i>	<i>Mobile Phone</i>	<i>Work Phone</i>	<i>Email</i>	<i>Notes</i>
Ackerman, Gary	Waste Management Group	517-819-1956			
Ackerman, Joyce	EPA Representative	303-886-1632			
Bass, Brian	Air Monitoring Group Supervisor	970-413-1844			
Berge, Marcus	Group 1 (Brooming) Supervisor	801-598-1082			
Brunmeier, Randal	Division 1 Supervisor	925-203-8974			
Chu, Jacob	Asst. Environmental Unit Leader	713-492-6830		Jnakoachu@chevron.com	
Cole, Thomas	Technical Specialist (T/S)	517-712-7969			
Dufrene, Clark	Logistics Section Chief				
East, Cooper	Incident Commander	337-319-7524			
Galfione, Daniel (Remote)	Finance Section Chief				
George, Danny	Group 2 (Brooming) Supervisor	435-630-3180			
Griffin, Matt	Division 3 Supervisor	970-629-2589			
Herrera, Matthew	Deputy Operations Section Chief	970-629-8123			
Isabel, Bruce	Safety Officer	713-562-4232		BEIS@chevron.com	
Kenney, John (JC)	Operations Section Chief	970-629-1637			
Lucyk, Brent	Technical Specialist (T/S)	517-749-9405			
Mataway, Phil	Environmental Branch Director	832-494-7705		PMataway@chevron.com	
Miller, Aaron	Situation Unit Leader	909-764-7649	281-880-5000	amiller@responsegroupinc.com	
Motty, Reggie	Group 3 (Wash) Supervisor	337-319-6988			
Nein, Daniel	Environmental Field Group Supervisor	2076537729			
Pyne, Daryl	Planning Section Chief	713-857-4498		Daryl.pyne@chevron.com	
Roberts, James	BLM Representative	970-620-6589			
Rodriguez, Monica	Operations Advisor	385-242-5659			
Sanford, Anita	Documentation Unit Leader	970-640-3572			
<b>ICS 205a - Communications List</b>				Prepared By Pasquier, John, Updated 03/12/2017 14:26 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>		Printed 03/12/2017 16:31 GMT -7:00		Page 27 of 59	
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Overall Organization Chart



**Operations Section Organization Chart**

<b>ICS 208 - Site Safety Plan</b>				Version Name: OVERALL				
Incident Name: Rangely C-4				Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]				
Applies to Site: OVERALL								
<b>Site Characterization</b>								
<b>Water</b>		N/A	<b>Land</b>		<b>Weather</b>			SUNNY
<b>Wave Height</b>		N/A	<b>Land Use</b>		<b>Air Temp</b>			19.00 F
<b>Speed</b>					<b>Wind Speed</b>			7.00 mph
<b>Direction</b>					<b>Direction</b>			WNW
<b>Site Hazards</b>								
<b>Yes</b>	<b>No</b>	<b>Hazards</b>	<b>Yes</b>	<b>No</b>	<b>Hazards</b>	<b>Yes</b>	<b>No</b>	<b>Hazards</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Boat Safety	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Heat Stress	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Steam and Hot Water
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chemical Hazards	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Helicopter Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Trenching/Excavation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cold Stress	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lifting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	UV Radiation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Confined Spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Motor Vehicles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Visibility
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Drum Handling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Weather
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Equipment Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Overhead/Buried Utilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Work Near Water
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Electrical Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plants/Wildlife	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Blowing Dust
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fatigue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pump Hose			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fire, Explosion, In-situ Burning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Slips, Trips, and Falls			
<b>Air Monitoring Limits</b>								
Oxygen Level		19.5 - 20 %	Hydrogen Sulfide		10 ppm	Total Hydrocarbons		5 ppm
LEL		0-10 %	Benzene		1 ppm			
<b>Engineering Controls</b>								
<input checked="" type="checkbox"/>	Source of release secured		<input checked="" type="checkbox"/>	Valve(s) closed		<input checked="" type="checkbox"/>	Energy sources locked/tagged out	
<input type="checkbox"/>	Site secured		<input type="checkbox"/>	Facility shut down				
<b>Personal Protective Equipment Required</b>								
<input type="checkbox"/>	Impervious suit		<input checked="" type="checkbox"/>	Hard hats		<input checked="" type="checkbox"/>	Boots	
<input type="checkbox"/>	Inner gloves		<input type="checkbox"/>	Respirators		<input checked="" type="checkbox"/>	Air Monitors	
<input checked="" type="checkbox"/>	Outer gloves		<input checked="" type="checkbox"/>	Eye protection		<input checked="" type="checkbox"/>	Chemical Gloves	
<input checked="" type="checkbox"/>	Flame resistant clothing		<input type="checkbox"/>	Personal flotation		<input checked="" type="checkbox"/>	Impervious Suit when entering Hot Zone	
<b>Additional Control Measures Established</b>								
<input checked="" type="checkbox"/>	Decontamination		<input type="checkbox"/>	Medical surveillance		<input checked="" type="checkbox"/>	Portable Eyewash Station	
<input checked="" type="checkbox"/>	Sanitation		<input checked="" type="checkbox"/>	Additional stations established				
<input checked="" type="checkbox"/>	Illumination		<input checked="" type="checkbox"/>	Facilities provided				
<b>Work Plan</b>								
<input checked="" type="checkbox"/>	Booming		<input checked="" type="checkbox"/>	Excavation		<input checked="" type="checkbox"/>	Hot work	
<input type="checkbox"/>	Skimming		<input checked="" type="checkbox"/>	Heavy equipment		<input checked="" type="checkbox"/>	Appropriate permits used	
<input checked="" type="checkbox"/>	Vac trucks		<input checked="" type="checkbox"/>	Sorbent pads				
<input type="checkbox"/>	Pumping		<input type="checkbox"/>	Patching				
<b>Training</b>								
<input type="checkbox"/>	Verified site workers trained per local/federal regulatory requirements			<b>Training Requirements</b>	HAZWOPER LEVEL 3/5			
<b>ICS 208 - Site Safety Plan</b>								
Prepared By Triche, Chad, Updated 03/07/2017 19:24 GMT -7:00 PP								
<b>INCIDENT ACTION PLAN SOFTWARE™</b>		Printed 03/12/2017 16:31 GMT -7:00			Page 31 of 59		© TRG	

ICS 208 - Site Safety Plan				Version Name: OVERALL			
Incident Name: Rangely C-4				Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]			
Organization							
Position		Name		Telephone/Radio		Position	
Incident Commander		East, Cooper		(281) 684-9727		Safety Officer	
Deputy Incident Commander		Smith, Burt		801-244-9825		Operations Section Chief	
						Kenney, John	
						970-629-1637	
Emergency Plan							
<input type="checkbox"/>	Fire Prevention Plan			<input type="checkbox"/>	Evacuation Plan		
<input type="checkbox"/>	Alarm System			<input type="checkbox"/>	First Aid Location		
Notifications							
Facility				Phone		Facility	
<input type="checkbox"/>	Hospital		Rangely District Hospital	970-878-9600		<input type="checkbox"/>	Fire
<input type="checkbox"/>	Ambulance		Local	214-348-0850		<input type="checkbox"/>	Law Enforcement
<input type="checkbox"/>	Air Ambulance					<input type="checkbox"/>	Emergency Response/Rescue
						Rangely Fire Department	
						970-675-5011	
						970-878-9600	
						970-675-5011	
Initial Briefing							
<input checked="" type="checkbox"/>	Initial safety briefing prepared for each site						
Attachments/Appendices							
Attachment				Filename			
3617 Rangely Leak JSSP (002).docx				3617 Rangely Leak JSSP (002).docx			
Crude Oil Weber Sand Mix MSDS 2015.pdf				Crude Oil Weber Sand Mix MSDS 2015.pdf			
<div>ICS 208 - Site Safety Plan</div> <div>Prepared By Triche, Chad, Updated 03/07/2017 19:24 GMT -7:00 PP</div> <div> <div>INCIDENT ACTION PLAN SOFTWARE™</div> <div>Printed 03/12/2017 16:31 GMT -7:00</div> <div>Page 32 of 59</div> <div>© TRG</div> </div>							



## **JOB SITE SAFETY PLAN (JSSP)**

**JSSP is not a substitute for the Safe Work Permit or any other CPL required permit.**

### **PURPOSE:**

This Site Safety Plan must be completed to:

- Comply with OSHA requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER) 29 CFR 1910.120; NOTE: All personnel directly involved with oil clean-up efforts reporting to the site, must have Level 3 Technician training.
- Comply with Chevron Pipe Line Company's Incident Reduction Program requirements.

This plan, which must remain on site, shall address all safety and health hazards and include the requirements for employee protection.

### **SCOPE:**

This plan applies to all **Emergency Response incidents** and the personnel, company and contractor, working in or on Chevron Pipe Line Company owned or operated facilities.

**Note:** The JSSP can be used as tool for planning work activities. The JSSP does not replace any CPL required permits for normal work activities.

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### **INSTRUCTIONS:**

Complete Section I, **Hazards Analysis** for all jobs listed above. A hazards analysis shall be performed by a qualified employee in order to aid in the selection of appropriate personal protective methods prior to commencing work activities.

Complete Section II, **Job Specific Activity Planning** for only those jobs listed above that involve confined space entry; excavation; lockout/tagout; or hot work. Complete only those sections that apply to the job.

Complete Section III, **Specific Requirements for Emergency Response and Clean-up Operations** for those jobs involving emergency response activities covered by HAZWOPER.

## I. HAZARDS ANALYSIS

All suspected conditions that might pose safety and health hazards shall be identified and evaluated. Identify specific safety and health hazards and determine the appropriate safety and health control procedures needed to protect personnel from the identified hazards.

<b>DATE(s):</b>	<b>03/07/2016</b>
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<b>LOCATION:</b>	<b>Rangely Gathering field</b>
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**SITE DESCRIPTION:** Describe the work site and the surrounding terrain. Attach a map to this plan, if available.

Rural desert area, oil gathering field. Rolling desert hills and dry creek beds.
--

**WORKPLAN:** Brief description of the work (project/clean-up operation) and related work activities and tasks, approximate work force, tools to be used, expected duration of project/clean-up operation, and any special equipment to be used.

Contain released product. Recover product from ground using vac trucks, build under dams for containment. Frac tanks and roll off bins used for product containment and disposal. Air/ Crude sampling plan procedure developed.
---

**SAFETY AND HEALTH HAZARDS:** Describe safety and health hazards which may be associated with the workplan described above. Potential hazards may include: (check all that apply)

<input checked="" type="checkbox"/>	inhalation of hazardous substance (list below)	<input checked="" type="checkbox"/>	hazards to eyes
<input checked="" type="checkbox"/>	skin contact with hazardous substance (list below)	<input checked="" type="checkbox"/>	cuts and abrasions
<input checked="" type="checkbox"/>	flammable or toxic substances (list below)	<input checked="" type="checkbox"/>	vehicular / pedestrian traffic
<input checked="" type="checkbox"/>	heat stress and/or exhaustion	<input checked="" type="checkbox"/>	confined space entry (potential at repair site only)
<input checked="" type="checkbox"/>	cold stress	<input checked="" type="checkbox"/>	Excavation (repair site only)
<input checked="" type="checkbox"/>	noise	<input checked="" type="checkbox"/>	lockout/tag out
<input type="checkbox"/>	water hazards	<input checked="" type="checkbox"/>	hot work
<input checked="" type="checkbox"/>	other hazards / concerns (list)		

Comments:

Crude oil minor irritation to skin - if collecting debris crates contact with arms, tyvek is required Ensure grounding and bonding of vac trucks Be mindful of areas for animal encounters: When traveling to and from work site(s) animals are most active around dawn and dusk hours. Weather conditions are variable: hypothermia hazards exist, as well as overheating as the temp increases during daytime debris removal operations. Outer most layer must be FR Stop work trigger: Hi winds, sudden change in weather or flash flooding.
--

**MATERIAL CHARACTERIZATION:** Provide data for known materials, if any.

MATERIAL	PEL / IDLH	HEALTH HAZARDS	ROUTE(S) OF EXPOSURE
H2S	TWA 10ppm STEL 15ppm	carcinogen	skin, inhalation, eye contact
"Benzene"	TWA 1 ppm	carcinogen	inhalation, skin, eye contact
<b>See attached SDS for Weber Sands Crude</b>			

**ATTACHED MSDS(s):** A MSDS's must be available on site for all chemicals used on the project or during the clean-up operations. Attach all MSDS's and list all MSDS's that are attached below.

Diesel fuel MSDS attached and (ICS files) # 6894. Benzene potentail component of diesel.

**INITIAL ASSESSMENT:** Provide initial air monitoring data. Air monitoring conducted after the initial assessment should be entered onto the monitoring log sheet on page

MATERIAL	DATE & TIME	LOCATION	RESULTS	SAMPLED BY
O2, CO, H2S, Benzene, LEL	3/5/2017	Leak site, down wash, down wash, and vac truck.	neg	WhiteRiver Safety
<b>See attached Gas Testing Log</b>				

**PERSONAL PROTECTIVE EQUIPMENT REQUIRED:** (Check all that apply)

X	Boots		Respirators (check appropriate type)
	Slicker Suit		Half-mask cartridge
X	Tyvek Suit (may include hoods/ booties) Workers cleaning/pushing oil only.		Full mask cartridge
X	FRC		Specific cartridge type for activity: hydro carbon
X	Gloves	X	Chemical gloves (for workers handling crude oil)
	Goggles		Puncture resistant gloves/sleaves
X	Safety Glasses		Self-Contained Breathing Apparatus
X	Hard Hat		Airline Unit
		X	Monitor for specific LEL's for Product released

**SAFETY EQUIPMENT:**

First aid supplies	location(s):	All Vehicles and Rangely Station.
First aid kits		Each CPL truck. Incident Command Post
Medic		Command Post
Eye wash/Shower	location(s)	Flush in medical station/first aid kits. Rangely Command Post

**EMERGENCY EVACUATION:** If an emergency occurs at this site, how will workers be alerted and where should personnel evacuate to? Review with all personnel.

Cell phone, verbal with crews on site. Muster at HWY 65 entrance south of leak site.

**EMERGENCY INFORMATION:** List phone numbers of local emergency services.

**NOTE: Best Practice- List direct numbers to local Law and ER response personnel. Avoid using 911.**

FIRE:	Rangely Fire Department (970) 675-5093	
DOCTOR:	Rangely District Hospital 911	
AMBULANCE:	911 or 970-675-5011	
HOSPITAL:	<ul style="list-style-type: none"> <li>225 Eagle Crest Drive, Rangely, CO 81648 (970) 675-5011</li> </ul>	
	Rangely District Hospital	
SHERIFF:	970-878-9600	

**PRE-START UP BRIEFING:** The Project Coordinator or Incident Commander will ensure that pre-start up briefings are conducted before commencing any work to ensure employees and contractors are aware of this entire work plan. Briefly outline this process below.

**Copies will be distributed to each division supervisor. Division supervisors will conduct daily JSA with crew, use JSSP to address any potential hazards associated with tasks for shifts.**

## **II. JOB SPECIFIC ACTIVITY PLANNING:**

Check and complete all sections that apply to this project or clean-up operations.

### **X CONFINED SPACE:**

Briefly describe the work activity, if any, involving confined spaces and complete the Confined Space Entry Permit and the Emergency Action Plan, as required by HES Procedure (HES-201), Confined Space Operations.

**Excavation depths of 5 ft or more, potential for repair site to be confined space.**

### **X EXCAVATION: Repair site only**

Briefly describe the work activity, if any, involving excavations and complete the Excavation Work Permit and the Competent Safety Person - Daily Excavation Inspection form, as required by HES Procedure (HES-202), Excavations.

Excavate around leak site, permits on site with pipe repair division  
Excavation sites barricaded when left unattended  
Division 1 - soil removal for remediation

Evaluate work site to ensure the minimum required clearance between equipment and overhead power lines in accordance with the table below:

**Minimum Required Clearances for Overhead Lines**

<b>Power Lines Nominal System</b>	<b>Minimum Required Clearance</b>
50 or under	10 feet (3.05 meters)
69	12 feet (3.66 meters)
115-161	15 feet (4.57 meters)
230-285	20 feet (6.10 meters)
345	25 feet (7.62 meters)
500	35 feet (10.67 meters)

### **X LOCKOUT/TAGOUT:**

Briefly describe the work activity, if any, involving lockout/tagout and complete the Equipment Specific Procedure Sheet as required by HES Procedure (HES-203), Isolation and Release of Equipment/Systems for Work.

LOTO, ESPS completed by Rangely Operations, Documentation with Rangely operations

<b>X</b>	<b>HOT WORK:</b>
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Briefly describe the work activity, if any, involving hot work and complete the Hot Work Permit as required by HES Procedure (HES-205), Hot Work.

Hot work around leak site at the pipe repair division permit at pipe repair division  
Hot work in operational area: non explosion proof equipment, vehicles, cell phones

### III. SPECIFIC REQUIREMENTS FOR EMERGENCY RESPONSE AND CLEAN-UP

### OPERATION

Complete this section for those jobs involving emergency response activities covered by HAZWOPER.

**NOTE: All personnel responding to the onsite release; that will be working in the Hot Zone or cleaning up the release must present their current Hazwoper Training card upon check-in to the site. TRG will manage Hazwoper verification at the Ranglely Station and supply badges to everyone reporting to incident. NO ONE can enter the site prior to this verification.**

**ORGANIZATION STRUCTURE:** List by name the following personnel in the ICS.

Incident Commander:

Patrick Green

Safety Representative:

Stephen Billiott SOFR

Public Affairs Representative:

Jennifer Silva

Contractor's Project Manager:

**TRAINING PROGRAM:** Personnel working in response operations and clean-up activities must be trained per OSHA's HAZWOPER requirements.

Non-HAZWOPPER trained personnel can be allowed to work under the following conditions per OSHA 1910.120 (q) (4):

Prior to allowing a "Non-HAZWOPER" trained individual to provide support during this response they shall be properly briefed on all site safety issues and what duties they will be allowed to perform.

All operations where a "Non-HAZWOPER" trained responder is conducting work must be supervised, on-site, by a person who has the proper level of HAZWOPER training for the task(s) being performed.



Contractor supervisors to provide list of Hazwoper certified personnel to CPL. This will be managed through the check in/out process at Rangely Station, provided by TRG.

Prior to allowing a "Non-HAZWOPER" trained individual to provide support during this response there shall be properly briefed on all site safety issues and what duties they will be allowed to perform.

All operations where a "Non-HAZWOPER" trained responder is conducting work must be supervised, on-site, by a person who has the proper level of HAZWOPER training for the task(s) being performed.

**EFFECTIVENESS OF SITE SAFETY PLAN:** Inspections shall be conducted by the Safety Representative to determine the effectiveness of this site safety plan. Any deficiencies in the effectiveness of the site safety plan shall be corrected. Describe this process below

Day shift will include at minimum one on-site safety specialist, with one on-call safety specialist for the night shift.

Safety representative conduct periodic inspections at each division, copies of JSSP will be given to each division supervisor. Division supervisor will conduct JSA before each shift with work crew.

**SITE CONTROL:** Briefly describe the process and methods to control access to and egress from the various emergency response and clean-up operations. Describe the process to allow personnel into the various zones (i.e., hot zone). Explain how the various zones are going to be marked.

Site Security will be managed by CPL reps at each division.

**ENGINEERING CONTROLS:** Engineering controls, work practices, and personal protective equipment, or a combination of these shall be used to protect employees from exposure to the hazardous substances listed above. Examples of engineering controls are: the use of pressurized cabs or control booths, and/or the use of remotely operated material handling equipment. Describe below the engineering controls in use during the emergency response and clean-up operations.

Periodic monitoring at each division, collect readings every 1hr to monitor for LELs, H<sub>2</sub>S, O<sub>2</sub>, CO. Roving- Stantech person will be continuously monitoring divisions for Total VOCs and Benzene. All Division leaders will conduct continuous gas monitoring at each site per MSW requirements.

**WORK PRACTICES:** Describe below the work practices in use during the emergency response and clean-up operations. Some examples of work practices are: removing all non-essential personnel from potential exposure during opening of drums, wetting down dusty operations, and locating personnel upwind of possible hazards.

Develop isolation zones, check - in plan, decon stations. Follow MSW work practices. JSA conducted before each shift to identify and mitigate hazards. Bonding and grounding vac trucks and frac tanks. Follow IIR procedure for immediate incident/ near miss notification.

**MEDICAL SURVEILLANCE REQUIRED:** Personnel who may have developed signs or symptoms which may have resulted from exposure to hazardous substances resulting for emergency response or clean-up operations, or exposed during emergency response or clean-up operations to hazardous substances above the permissible exposure limits without the necessary personal protective equipment shall receive a medical examination as soon as possible following the incident or development of signs or symptoms. Describe below how this will be handled.

If you develop signs or symptoms of exposure, report to division supervisor. Axiom will be offered (1-877-502-9466). See above Material Characterization
--

**MONITORING PROGRAM:** Air monitoring shall be used to identify and quantify airborne levels of hazardous substances in order to continually determine the appropriate level of personal protective equipment that is required. Describe below what monitoring will be done and how the monitoring will be conducted. A monitoring log sheet is attached to this plan.

Stantech air monitoring contractor will conduct continuous monitoring for total VOCs during day shift.
--

**NOTE:** Attach Monitoring Log Sheet to plan.

**DECONTAMINATION:** A decontamination procedure shall be developed, communicated to all employees and implemented before any employees or equipment may enter areas on site where potential for exposure to hazardous substances exist. Describe these decontamination procedures below.

Response personnel and equipment shall Decon at Decon stations established at each division as needed
---

**DISPOSAL METHODS:** Describe the various methods available to properly dispose of the listed material and/or equipment. If you have any questions contact your Waste Specialist.

Hazardous Material:	Roll off bins, Frac tanks, vac trucks, drums
Personal Protective Equipment:	Roll off bins
Recovered Debris:	Roll off bins

**\*\* Verify Hazwoper Training Certification to Level 3 of all personnel onsite prior to authorizing work!!!**

**PERSONNEL LIST**                      **LOCATION:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

[illegible]

**MONITORING LOG SHEET ---- Monitoring results must be recorded and consistent with the JSSP plan.**

Project/Task \_\_\_\_\_  
 Sheet \_\_\_\_\_ of \_\_\_\_\_

[illegible]

NOTE: Verify monitoring equipment prior to use

CHEVRON PIPE LINE CO.  
PERSONNEL MONITORING WORKSHEET

LOCATION:

DATE:

SAMPLED BY:

	Sample #	Contaminant s	Collector	Pump	Flow rate (LPM)	Time On	Time Off	Duration (Min.)	Vol. (L)	Refer (Work employee social se
#1										
#2										
#3										
#4										
#5										
#6										
#7										

Calibration Std: \_\_\_\_\_ Comments: \_\_\_\_\_

Temperature: \_\_\_\_\_

% Relative Humidity: \_\_\_\_\_

Pressure: \_\_\_\_\_

Analytical Methods: \_\_\_\_\_

# Safety Data Sheet



## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Crude Oil

**Product Use:** Refinery feed stock

**Product Number(s):** CPS294605, CPS294607, CPS294609, CPS294611, CPS294613, CPS294615, CPS294617, CPS294619, CPS294623, CPS294629, CPS294635, CPS294637, CPS294639, CPS294647, CPS296000, CPS296251, CPS296252, CPS296253, CPS296254, CPS296277, CPS296926, CPS296927, CPS296935, CPS296936, CPS296938, CPS296945, CPS296946, CPS296999, CPS297556, CPS301455

**Synonyms:** Sour Crude, Heavy Crude, Petroleum, Sweet Crude

#### Company Identification

Chevron Products Company  
Environment & Safety  
P. O. Box 1635, 1301 McKinney  
Houston, TX 77251  
United States of America

#### Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

#### Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

#### Product Information

MSDS Requests: (510) 242-7131

## SECTION 2 HAZARDS IDENTIFICATION

**CLASSIFICATION:** Flammable liquid: Category 2. Aspiration toxicant: Category 1. Carcinogen: Category 1B. Eye irritation: Category 2A. Target organ toxicant (repeated exposure): Category 2. Target organ toxicant (central nervous system): Category 3. Chronic aquatic toxicant: Category 2.



**Signal Word:** Danger

**Physical Hazards:** Highly flammable liquid and vapor.

**Health Hazards:** May be fatal if swallowed and enters airways. May cause cancer. Causes serious eye irritation. May cause drowsiness or dizziness.

**Environmental Hazards:** Toxic to aquatic life with long lasting effects.

**Target Organs:** May cause damage to organs (Blood/Blood Forming Organs, Liver, Spleen, Thymus) through prolonged or repeated exposure.

#### PRECAUTIONARY STATEMENTS:

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Wash thoroughly after handling. Avoid release to the environment.

**Response:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. IF SWALLOWED: Immediately call a poison center or doctor/physician. Do NOT induce vomiting. Call a poison center or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention. In case of fire: Use media specified in the SDS to extinguish. Collect spillage.

**Storage:** Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**HAZARDS NOT OTHERWISE CLASSIFIED:** May release highly toxic and flammable hydrogen sulfide gas (H<sub>2</sub>S).

#### SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Crude oil	8002-05-9	100 %wt/wt
Xylene	1330-20-7	< 5 %wt/wt
Toluene	108-88-3	< 3 %wt/wt
Hexane	110-54-3	< 2 %wt/wt
Benzene	71-43-2	< 1 %wt/wt
Ethylbenzene	100-41-4	< 1 %wt/wt
Hydrogen sulfide	7783-06-4	> 0.002 %wt/wt

#### SECTION 4 FIRST AID MEASURES

##### Description of first aid measures

**Eye:** Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists.

**Skin:** Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue. If exposure to hydrogen



sulfide (H<sub>2</sub>S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

### **Most important symptoms and effects, both acute and delayed**

#### **IMMEDIATE SYMPTOMS AND HEALTH EFFECTS**

**Eye:** Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.

**Skin:** Skin contact may cause drying or defatting of the skin. Contact with the skin is not expected to cause an allergic skin response. Symptoms may include pain, itching, discoloration, swelling, and blistering. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

**Inhalation:** The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H<sub>2</sub>S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

**DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS:** Prolonged or repeated exposure to this material can cause cancer. Contains material that may cause damage to the following organ(s) following repeated skin contact based on animal data: Liver Blood/Blood Forming Organs spleen Thymus Risk depends on duration and level of exposure. See Section 11 for additional information.

### **Indication of any immediate medical attention and special treatment needed**

**Note to Physicians:** Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H<sub>2</sub>S, see Chevron MSDS No. 301. Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

## **SECTION 5 FIRE FIGHTING MEASURES**

See Section 7 for proper handling and storage.

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames. Do not use water spray or a direct stream of water.

### **PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sulfur, Nitrogen.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator. If this material is released into a work area, evacuate the area immediately. Persons entering the contaminated area to correct the problem or to determine whether it is safe to resume normal activities must comply with all instructions in the Exposure Controls/Personal Protection section.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Do not get in eyes, on skin, or on clothing. This material presents a fire hazard. Liquid quickly evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above -10C (15F). Do not get in eyes. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling.

**General Storage Information:** DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces. USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

**Unusual Handling Hazards:** Toxic quantities of hydrogen sulfide (H<sub>2</sub>S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H<sub>2</sub>S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H<sub>2</sub>S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H<sub>2</sub>S, the concentration should be measured by the use of fixed or portable devices.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

**Skin Protection:** Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Polyvinyl Alcohol (PVA) (Note: Avoid contact with water. PVA deteriorates in water.), Viton.

**Respiratory Protection:** Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors.

Determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron MSDS No. 301. Refer to the OSHA Benzene Standard to determine what type of respirator is required based on exposure levels.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Crude oil	Not Applicable	--	--	--	--
Hydrogen sulfide	ACGIH	10 ppm (weight)	15 ppm (weight)	--	--
Hydrogen sulfide	CVX	5 ppm	15 ppm	--	--
Hydrogen sulfide	OSHA Z-2	--	--	20 ppm (weight)	--
Xylene	ACGIH	100 ppm (weight)	150 ppm (weight)	--	A4
Xylene	OSHA Z-1	435 mg/m3	--	--	--
Toluene	ACGIH	50 ppm (weight)	--	--	Skin A4
Toluene	OSHA Z-2	200 ppm (weight)	--	300 ppm (weight)	--
Hexane	ACGIH	50 ppm (weight)	--	--	Skin
Hexane	OSHA Z-1	1800 mg/m3	--	--	--
Benzene	ACGIH	.5 ppm (weight)	2.5 ppm (weight)	--	Skin A1 Skin
Benzene	CVX	1 ppm (weight)	5 ppm (weight)	--	--

Benzene	OSHA SRS	1 ppm (weight)	5 ppm (weight)	--	--
Benzene	OSHA Z-2	10 ppm (weight)	--	25 ppm (weight)	--
Ethylbenzene	ACGIH	20 ppm (weight)	125 ppm (weight)	--	A3
Ethylbenzene	OSHA Z-1	435 mg/m3	--	--	--

Consult local authorities for appropriate values.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Attention:** the data below are typical values and do not constitute a specification.

**Color:** Amber to Black

**Physical State:** Viscous liquid

**Odor:** Mild to pungent sulfurous odor

**Odor Threshold:** No data available

**pH:** Not Applicable

**Vapor Pressure:** 0 - 14 psia

**Vapor Density (Air = 1):** >1

**Initial Boiling Point:** 37.8°C (100°F) - >815.6°C (1500°F)

**Solubility:** Soluble in hydrocarbon solvents; insoluble in water.

**Freezing Point:** Not Applicable

**Specific Gravity:** 0.75 - 1.04

**Viscosity:** <0.9 cSt - >20000 cSt @ 40°C (104°F)

**Decomposition temperature:** No Data Available

**Octanol/Water Partition Coefficient:** No data available

### FLAMMABLE PROPERTIES:

**Flammability (solid, gas):** No Data Available

**Flashpoint:** < 15 °C - 93 °C (< 59 °F - 199 °F)

**Autoignition:** 280 °C (536 °F)

**Flammability (Explosive) Limits (% by volume in air):** Lower: 1.4 Upper: 7.6

## SECTION 10 STABILITY AND REACTIVITY

**Reactivity:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Conditions to Avoid:** Avoid contact with heat, light, catalysts, halogens or any other chemicals.

**Incompatibility With Other Materials:** Not applicable

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

**Serious Eye Damage/Irritation:** The eye irritation hazard is based on evaluation of data for product components.

**Skin Corrosion/Irritation:** The skin irritation hazard is based on evaluation of data for product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for product components.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for product components.

**Acute Toxicity Estimate:** Not Determined

**Germ Cell Mutagenicity:** The hazard evaluation is based on data for components or a similar material.

**Carcinogenicity:** The hazard evaluation is based on data for components or a similar material. Contains benzene, which has been classified as a carcinogen by the National Toxicology Program (NTP) and a Group 1 carcinogen (carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains ethylbenzene which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

**Reproductive Toxicity:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Single Exposure:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Repeated Exposure:** The hazard evaluation is based on data for components or a similar material.

#### **ADDITIONAL TOXICOLOGY INFORMATION:**

The International Agency for Research on Cancer (IARC) reviewed the carcinogenic potential of crude oil in 1989 and concluded that there was limited evidence for the carcinogenicity of crude oil in animals and inadequate evidence for the carcinogenicity of crude oil in humans. The basis for the findings for animals are results from studies in which crudes applied to the skin of lab animals showed benign and malignant skin tumors in some studies, but not in others.

This product contains n-hexane.

**TARGET ORGAN TOXICITY:** Prolonged or repeated ingestion, skin contact or breathing of vapors of n-hexane has been shown to cause peripheral neuropathy. Recovery ranges from no recovery to complete recovery depending upon the severity of the nerve damage. Exposure to 1000 ppm n-hexane for 18 hr/day for 61 days has been shown to cause testicular damage in rats. However, when rats were exposed to higher concentrations for shorter daily periods (10,000 ppm for 6 h/day, 5 days/wk for 13 weeks), no testicular lesions were seen.

**CARCINOGENICITY:** Chronic exposure to commercial hexane (52% n-hexane) at a concentration of 9000ppm was not carcinogenic to rats or to male mice, but did result in an increased incidence of liver tumors in female mice. No carcinogenic effects were observed in female mice exposed to 900 or 3000 ppm hexane or in male mice. The relevance for humans of these hexane-induced mouse liver tumors is questionable.

**GENETIC TOXICITY:** n-Hexane caused chromosome aberrations in bone marrow of rats, but was negative in the AMES and mouse lymphoma tests.

This product may contain significant amounts of Polynuclear Aromatic Hydrocarbons (PAH's) which have been shown to cause skin cancer after prolonged and frequent contact with the skin of test animals. Brief or intermittent skin contact with this product is not expected to have serious effects if it is washed from the skin. While skin cancer is unlikely to occur in human beings following use of this product, skin contact and breathing, of mists, vapors or dusts should be reduced to a minimum.

This product contains toluene.

**GENERAL TOXICITY:** The primary effects of exposure to toluene in animals and humans are on the central nervous system. Solvent abusers, who typically inhale high concentrations (thousands of ppm) for brief periods of time, in addition to experiencing respiratory tract irritation, often suffer permanent central nervous system effects that include tremors, staggered gait, impaired speech, hearing and vision loss, and changes in brain tissue. Death in some solvent abusers has been attributed to cardiac arrhythmias, which appear to have been triggered by epinephrine acting on solvent sensitized cardiac tissue. Although liver and kidney effects have been seen in some solvent abusers, results of animal testing with toluene do not support these as primary target organs.

**HEARING:** Humans who were occupationally exposed to concentrations of toluene as low as 100 ppm for long periods of time have experienced hearing deficits. Hearing loss, as demonstrated using behavioral and electrophysiological testing as well as by observation of structural damage to cochlear hair cells, occurred in experimental animals exposed to toluene. It also appears that toluene exposure and noise may interact to produce hearing deficits.

**COLOR VISION:** In a single study of workers exposed to toluene at levels under 50 ppm, small decreases in the ability to discriminate colors in the blue-yellow range have been reported for female workers. This effect, which should be investigated further, is very subtle and would not likely have been noticed by the people tested.

**REPRODUCTIVE/DEVELOPMENTAL TOXICITY:** Toluene may also cause mental and/or growth retardation in the children of female solvent abusers who directly inhale toluene (usually at thousands of ppm) when they are pregnant. Toluene caused growth retardation in rats and rabbits when administered at doses that were toxic to the mothers. In rats, concentrations of up to 5000 ppm did not cause birth defects. No effects were observed in the offspring at doses that did not intoxicate the pregnant animals. The exposure level at which no effects were seen (No Observed Effect Level, NOEL) is 750 ppm in the rat and 500 ppm in the rabbit.

This product contains xylene.

**ACUTE TOXICITY:** The primary effects of exposure to xylene in animals and humans are on the central nervous system. In addition, in some individuals, xylene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. **DEVELOPMENTAL TOXICITY:** Xylene has been reported to cause developmental toxicity in rats and mice exposed by inhalation during pregnancy. The effects noted consisted of delayed development and minor skeletal variations. In addition, when pregnant mice were exposed by ingestion to a level that killed nearly one-third of the test group, lethality (resorptions) and malformations (primarily cleft palate) occurred. Since xylene can cross the placenta, it may be appropriate to prevent exposure during pregnancy. **GENETIC TOXICITY/CARCINOGENICITY:** Xylene was not genotoxic in several mutagenicity testing assays including the Ames test. In a cancer study sponsored by the National Toxicology Program (NTP), technical grade xylene gave no evidence of carcinogenicity in rats or mice dosed daily for two years. **HEARING:** Mixed xylenes have been shown to cause measurable hearing loss in rats exposed to 800 ppm in the air for 14 hours per day for six weeks. Exposure to 1450 ppm xylene for 8 hours caused hearing loss while exposure to 1700 ppm for 4 hours did not. Although no information is available for lower concentrations, other chemicals that cause hearing loss in rats at relatively high concentrations do not cause hearing loss in rats at low concentrations. Worker exposure to xylenes at the permissible exposure limit (100 ppm, time-weighted average) is not expected to cause hearing loss.

This product contains benzene.

**GENETIC TOXICITY/CANCER:** Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation.

**REPRODUCTIVE/DEVELOPMENTAL TOXICITY:** No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother. However, some evidence of fetal toxicity such as delayed physical development has been seen at such levels. The available information on the effects of benzene on human pregnancies is inadequate but it has been established that benzene can cross the

human placenta.

OCCUPATIONAL: The OSHA Benzene Standard (29 CFR 1910.1028) contains detailed requirements for training, exposure monitoring, respiratory protection and medical surveillance triggered by the exposure level. Refer to the OSHA Standard before using this product.

GENETIC TOXICITY: Ethylbenzene tested negative in the bacterial mutation test, Chinese Hamster Ovary (CHO) cell in vitro assay, sister chromatid exchange assay and an unscheduled DNA synthesis assay. Conflicting results have been reported for the mouse lymphoma cell assay. Increased micronuclei were reported in an in vitro Syrian hamster embryo cell assay; however, two in vivo micronuclei studies in mice were negative. In Syrian hamster embryo cells in vitro, cell transformation was observed at 7 days of incubation but not at 24 hours. Based on these results, ethylbenzene is not expected to be mutagenic or clastogenic. CARCINOGENICITY: In studies conducted by the National Toxicology Program, rats and mice were exposed to ethylbenzene at 25, 250 and 750 ppm for six hours per day, five days per week for 103 weeks. In rats exposed to 750 ppm, the incidence of kidney tubule hyperplasia and tumors was increased. Testicular tumors develop spontaneously in nearly all rats if allowed to complete their natural life span; in this study, the development of these tumors appeared to be enhanced in male rats exposed to 750 ppm. In mice, the incidences of lung tumors in males and liver tumors in females exposed to 750 ppm were increased as compared to control mice but were within the range of incidences observed historically in control mice. Other liver effects were observed in male mice exposed to 250 and 750 ppm. The incidences of hyperplasia were increased in the pituitary gland in female mice at 250 and 750 ppm and in the thyroid in male and female mice at 750 ppm.

## SECTION 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from the properties of the individual components.

### MOBILITY

No data available.

### PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

### POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

## SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

## SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.



Due to the potential variability in the physical and chemical properties of naturally occurring hydrocarbon materials, transport classifications should be evaluated at the time of shipment on a cargo specific basis, if possible. The guidance provided below is given for convenience only, without any warranty or guarantee of any kind, and is accepted and used at the recipient's sole risk:

The DG Transport Packing group (PG) is a function of the Initial Boiling Point (IBP) and Flash Point, Pensky-Martens, Closed Cup (PM CC) of the material:

- PG I if the IBP  $\leq$  35 deg C (95 deg F);
- PG II if the IBP > 35 deg C (95 deg F) with a FP is below 23 deg C (73 deg F); or
- PG III if the IBP > 35 deg C (95 deg F) with a FP  $\geq$  23 deg C (73 deg F) but  $\leq$  60 deg C (140 deg F)
- For US DOT jurisdictions only, liquids with a Flash Point (PM CC) > 60 deg C (140 deg F) but < 93 deg C (200 deg F) may be derogated to be Hazard Class, COMBUSTIBLE LIQUID. Disclosure as Toxic to the Aquatic Environment (marine pollutant) is optional.
- For International jurisdictions, liquid petroleum crude oils outside the regulated Flash Point ranges are UN3082 Environmentally Hazardous Substances when classified Toxic to the Aquatic Environment (e.g., Acute 1, Chronic 1, and/or Chronic 2 Aquatic Toxics per IMO/IMDG , ADR, UNMR Chapters 2.9).

***Petroleum crude oils NOT containing or NOT potentially generating hydrogen sulfide in sufficient concentrations to pose an inhalation hazard in head space vapors may be consigned under the following:***

#### US DOT

**Shipping Description:** UN1267, PETROLEUM CRUDE OIL, 3, PG I, II, *or* III

- **UN number:** UN1267
- **UN proper shipping name:** PETROLEUM CRUDE OIL
- **Transport hazard class(es):** 3
- **Packing group:** I, II, *or* III
- **Environmental hazards:** Disclosure of Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics as an environmentally hazardous/marine pollutant (MP) is optional.
- **Special precautions for user:** See Special Provisions in the 49 CFR HMR

#### ADR/RID:

**Shipping Description:** UN1267 PETROLEUM CRUDE OIL, 3, PG I, II, *or* III ADR CODE F1, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS SUBSTANCE

- **UN number:** UN1267
- **UN proper shipping name:** PETROLEUM CRUDE OIL
- **Transport hazard class(es):** 3
- **Packing group:** I, II, *or* III
- **Environmental hazards:** Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics are environmentally hazardous/marine pollutant (MP) for Transport
- **Special precautions for user:** See Special Provisions in the ADR/RID code

#### ICAO/IATA:

**Shipping Description:** UN1267, PETROLEUM CRUDE OIL, 3, PG I, II, *or* III

- **UN number:** UN1267
- **UN proper shipping name:** PETROLEUM CRUDE OIL

- **Transport hazard class(es):** 3
- **Packing group:** I, II, *or* III
- **Environmental hazards:** Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics are environmentally hazardous/marine pollutants (MP) for transport. Environmentally hazardous/Marine Pollutant disclosure is not required if the material has another transport Hazard Class 1 -8.
- **Special precautions for user:** See all Special Provisions in ICAO Technical Instructions or the IATA DGR

#### IMO/IMDG:

**Shipping Description:** UN1267, PETROLEUM CRUDE OIL, 3, PG I, II, *or* III, (FLASH POINT SEE SECTION 5 OR 9), MARINE POLLUTANT

- **UN number:** UN1267
- **UN proper shipping name:** PETROLEUM CRUDE OIL
- **Transport hazard class(es):** 3
- **Packing group:** I, II, *or* III
- **Flash Point:** See appropriate MSDS Section for Flash Point, Pensky-Martens, Closed Cup
- **Environmental hazards:** Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics are environmentally hazardous/marine pollutants (MP) for Transport
- **Special precautions for user:** See all Special Provisions in the IMO/IMDG
- **Bulk marine cargoes of petroleum are carried under the IBC Code as MARPOL ANNEX I.**

**TC Shipping Description:** SEE IMO/IMDG SHIPPING DESCRIPTION OR REFERENCE BILL OF LADING

*Petroleum Crude Oils containing or known to generate hydrogen sulfide in sufficient concentrations to pose an inhalation hazard in head space vapors must be consigned under UN3494 in all international jurisdictions. Consignor/offers should be aware that flammable liquids meeting the criteria of two or more transport hazards might best be described by alternative shipping names, e.g. UN1992, FLAMMABLE LIQUIDS, TOXIC, N.O.S. or UN2924, FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.:*

*Note: In US DOT DG/HazMat jurisdictions, a bulk packaging of crude oil that emits hydrogen sulfide in sufficient concentration that vapors evolved may present an inhalation hazard must be marked as specified in 49 CFR 172.327. Bulk packagings used to transport of such hydrogen sulfide generating petroleum crude oils must include a marking, label, tag, or sign to warn of the H2S hazard. A warning on the shipping papers in association with the Proper Shipping Description (PSD) is also advised. For example: WARNING - HYDROGEN SULFIDE INHALATION HAZARD or POTENTIAL HYDROGEN SULFIDE INHALATION HAZARD*

**US DOT** (Use of UN3494 is not mandated, but permitted.)

**Shipping Description:** For crude oils not expected to have, but could have, an H2S Inhalation Hazard – UN1267, PETROLEUM CRUDE OIL, 3, PG I, II, *or* III Optional note: (POTENTIAL HYDROGEN SULFIDE INHALATION HAZARD) or

**Shipping Description:** For crude oils known to have a potential H2S Inhalation Hazard (e.g., meets the regulatory criteria of a Toxic for transport) - UN3494, PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC, 3 (6.1), PG I, II, *or* III (WARNING - HYDROGEN SULFIDE INHALATION HAZARD) SEE 49 CFR 172.327 AND 172.102, SPECIAL PROVISION 357

- **UN number:** UN3494
- **UN proper shipping name:** PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
- **Transport hazard class(es):** 3(6.1)
- **Packing group:** I, II, *or* III
- **Environmental hazards:** Disclosure of Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics as environmentally hazardous/marine pollutants is optional.
- **Special precautions for user:** See all Special Provisions in the 49 CFR HMR. Please note 49 CFR 173.327 and 172.102, Special Provision 357

#### ADR/RID

**Shipping Description:** UN3494 PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC, 3 (6.1), PG I, II, *or* III ADR CODE FT1 MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS (WARNING - HYDROGEN SULPHIDE INHALATION HAZARD) SEE ADR CHAPTER 3.3, SPECIAL PROVISION 343

- **UN number:** UN3494
- **UN proper shipping name:** PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
- **Transport hazard class(es):** 3(6.1)
- **Packing group:** I, II, *or* III
- **Environmental hazards:** Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics are environmentally hazardous/marine pollutants (MP) for Transport
- **Special precautions for user:** See all Special Provisions in the ADR/RID code. Please note ADR CHAPTER 3.3, Special Provision 343

**ICAO/IATA** – Air transport of Hydrogen Sulfide bearing materials is not recommended. Please consult with your qualified Dangerous Goods Safety Advisor.

#### IMO/IMDG

**Shipping Description:** UN3494, PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC, 3 (6.1), PG I, II, *or* III, (FLASH POINT SEE SECTION 5 or 9), MARINE POLLUTANT (WARNING - HYDROGEN SULPHIDE INHALATION HAZARD) SEE IMDG CHAPTER 3.3, SPECIAL PROVISION 343

- **UN number:** UN3494
- **UN proper shipping name:** PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
- **Transport hazard class(es):** 3(6.1)
- **Packing group:** I, II, *or* III
- **Flash Point:** See MSDS Section 5 or 9 for Flash Point
- **Environmental hazards:** Acute 1, Chronic 1 and/or Chronic 2 Aquatic Toxics are environmentally hazardous/marine pollutants (MP) for Transport
- **Special precautions for user:** See all Special Provisions in the IMO/IMDG. Please note IMDG CHAPTER 3.3, Special Provision 343
- **Bulk marine cargoes of petroleum are carried under the IBC Code as MARPOL ANNEX I**
- 

**TC Shipping Description:** SEE IMO/IMDG SHIPPING DESCRIPTION OR REFERENCE BILL OF LADING

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:**

Not applicable

### SECTION 15 REGULATORY INFORMATION

#### EPCRA 311/312 CATEGORIES:

- |                                       |     |
|---------------------------------------|-----|
| 1. Immediate (Acute) Health Effects:  | YES |
| 2. Delayed (Chronic) Health Effects:  | YES |
| 3. Fire Hazard:                       | YES |
| 4. Sudden Release of Pressure Hazard: | NO  |

## 5. Reactivity Hazard:

NO

## REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Benzene	01-1, 02, 03, 04, 05, 06, 07
Crude oil	03, 05, 06, 07
Ethylbenzene	01-2B, 03, 04, 05, 06, 07
Hexane	03, 05, 06, 07
Hydrogen sulfide	05, 06, 07
Toluene	03, 04, 05, 06, 07
Xylene	03, 05, 06, 07

## CERCLA REPORTABLE QUANTITIES(RQ)/EPCRA 302 THRESHOLD PLANNING QUANTITIES(TPQ):

Component	Component RQ	Component TPQ	Product RQ
Benzene	10 lbs	None	1010 lbs
Hydrogen sulfide	100 lbs	None	101 lbs

## CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

## SECTION 16 OTHER INFORMATION

**NFPA RATINGS:** Health: 3 Flammability: 3 Reactivity: 0

**HMIS RATINGS:** Health: 3\* Flammability: 3 Reactivity: 0  
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:** This revision updates the following sections of this Safety Data Sheet: 1-16

**Revision Date:** OCTOBER 02, 2014

## ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on	OSHA - Occupational Safety and Health Administration

Cancer	
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

<b>ICS 223 - Health and Safety Message</b>		Version Name: Period 6	
Incident Name: Rangely C-4		Period: Period 7 [03/13/2017 06:00 - 03/14/2017 06:00]	
<b>Major Hazards and Risks</b>			
<ul style="list-style-type: none"> <li>- Working alone</li> <li>- Potentially impacted wildlife</li> <li>- Loud equipment</li> <li>- Spills</li> </ul>			
<b>Narrative</b>			
<ul style="list-style-type: none"> <li>- Always use the buddy system and check in with the division supervisor</li> <li>- Report impacted wildlife to your Division Supervisor who will contact the Environmental Unit Lead or further action</li> <li>- Wear hearing protection when &gt; 85 db and double hearing protection &gt; 105 db</li> <li>- Place diapers and duct tape around camlocks, vac trucks have caps reinstalled before shipping</li> </ul>			
<b>ICS 223 - Health and Safety Message</b>		Prepared By Triche, Chad, Updated 03/12/2017 07:29 GMT -7:00 PP	
<b>INCIDENT ACTION PLAN SOFTWARE™</b>	Printed 03/12/2017 16:31 GMT -7:00	Page 59 of 59	© TRG