HILAND CRUDE, LLC

Hiland Crude, LLC
302 N. Independence St., Ste 100
Enid, Oklahoma 73701
(580) 242-6040
(580) 616-2080
(866) 431-3635 – 24 Hr.

PHMSA
Pipeline and Hazardous Materials Safety Administration

U.S. Department of Transportation

DOT/PHMSA PIPELINE FACILITY RESPONSE PLAN

30 PU-13-136 Filed 07/15/2014 Pages: 111
Late-filed Exhibit 4
Hiland Crude, LLC

OCTOBER 2013

EXHIBIT
4
tabbies

HILAND CRUDE, LLC
PIPELINE FACILITY RESPONSE PLAN (FRP)

SECTION 1 INFORMATION SUMMARY

1.1 Facility Owner / Operator

Owner / Operator	Hiland Crude, LLC
Address	302 N. Independence St., Ste 100 Enid, Oklahoma 73701
Phone/Fax Number	(580) 242-6040 (580) 616-2080 24 Hr - (866) 431-3635

Hiland Crude has reviewed the National Contingency Plan and the EPA Region VIII – Regional Contingency Plan.

1.2 Pipeline Description

The Market Center Gathering Pipeline System is a crude liquid pipeline system owned, operated and maintained by Hiland Crude. The pipeline is located in Northwest North Dakota and Northeast Montana. The pipeline system started construction in 2011. The pipelines gather crude from surrounding fields and deliver to various terminals throughout the region.

Normal operating pressure of the pipeline system is 1480 psig. The maximum allowable operating pressure (MAOP) of the pipeline is 1480 psig based on the test pressure to which the line was subjected adjusted by the 1.5 factor. All sections of the pipeline system are Fusion Bonded Epoxy (FBE) coated and are X42/52 graded.

1.3 Description of Response Zones

The Market Center Gathering Pipeline System traverses one Response Zone (Market Center Gathering Pipeline System Response Zone). The Market Center Gathering Pipeline System Response Zone is capable of causing significant and substantial harm to the environment because the pipeline is greater than 6 5/8" in diameter, is greater than 10 miles in length, and could impact navigable waters and traverses environmentally sensitive areas. Refer to page 1-4 for a list of line sections and a description of the Market Center Gathering Pipeline System Response Zone.

1.4 Qualified Individual and Alternate

Mike Hein	**Mobile:**	406-480-3954
	Title	Area Manager
	Office Address:	105 26th St. E, Ste. 100 Williston, ND 58801
Keith Gustafson	**Mobile:**	406-973-2255
	Title	Terminal Operator
	Office Address:	14275 48th St. NE Williston ND 58801

THE QUALIFIED INDIVIDUAL HAS BEEN GRANTED FULL AUTHORITY TO IMPLEMENT THE FACILITY RESPONSE PLAN

1.5 Worst Case Discharge

The worst case discharge (WCD) would occur if the crude oil breakout tank at Gore Station had a release per 194.105 The following calculation takes into account adverse weather conditions:

Tank Capacity (bbl)		100,000
Prevention Credits		%
Secondary Containment > 100%	Containment capacity is greater than 110% of the breakout tank capacity	50
Built to API Standards	Tank is built to API 653 Standards	10
Overfill Protection Standards	Tank has both a radar tank gauging system with high and high-high alarms and an independent high-high device that closes an MOV on incoming stream.	5
Testing/Cathodic Protection	Tank is cathodically protected and is inspected annually.	5
WCD Calculation		Tank Capacity: 100,000 - Prevention Credits: 70,000
WCD Volume		**30,000 Barrels**

WCD Methodology: Based on the WCD source comparison, the breakout tank posed the maximum drainage volume in the response zone.

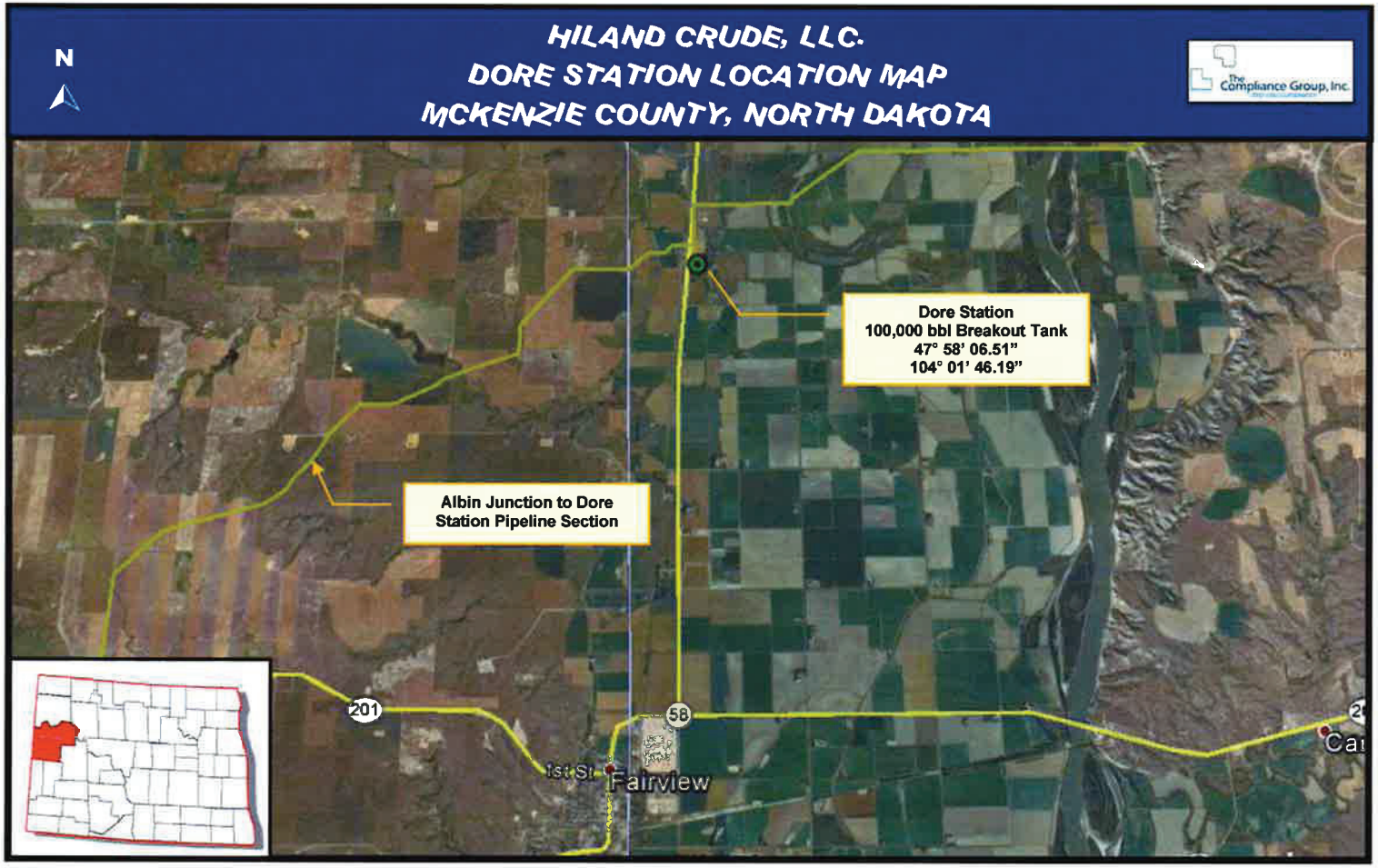
Worst Case Discharge Source Comparison:

1	Pipeline (8" – 32.27 mile Beaver Lodge to Saddlebutte section) Formula: (.6667'/2) x (.6667/2) x 3.147 x 170,385 x 7.48052	10,612 barrels
2	Breakout Tank - See above for calculation	30,000 barrels
3	Maximum Historical Discharge for Market Center Gathering Pipeline System	No reportable spills have occurred on this system

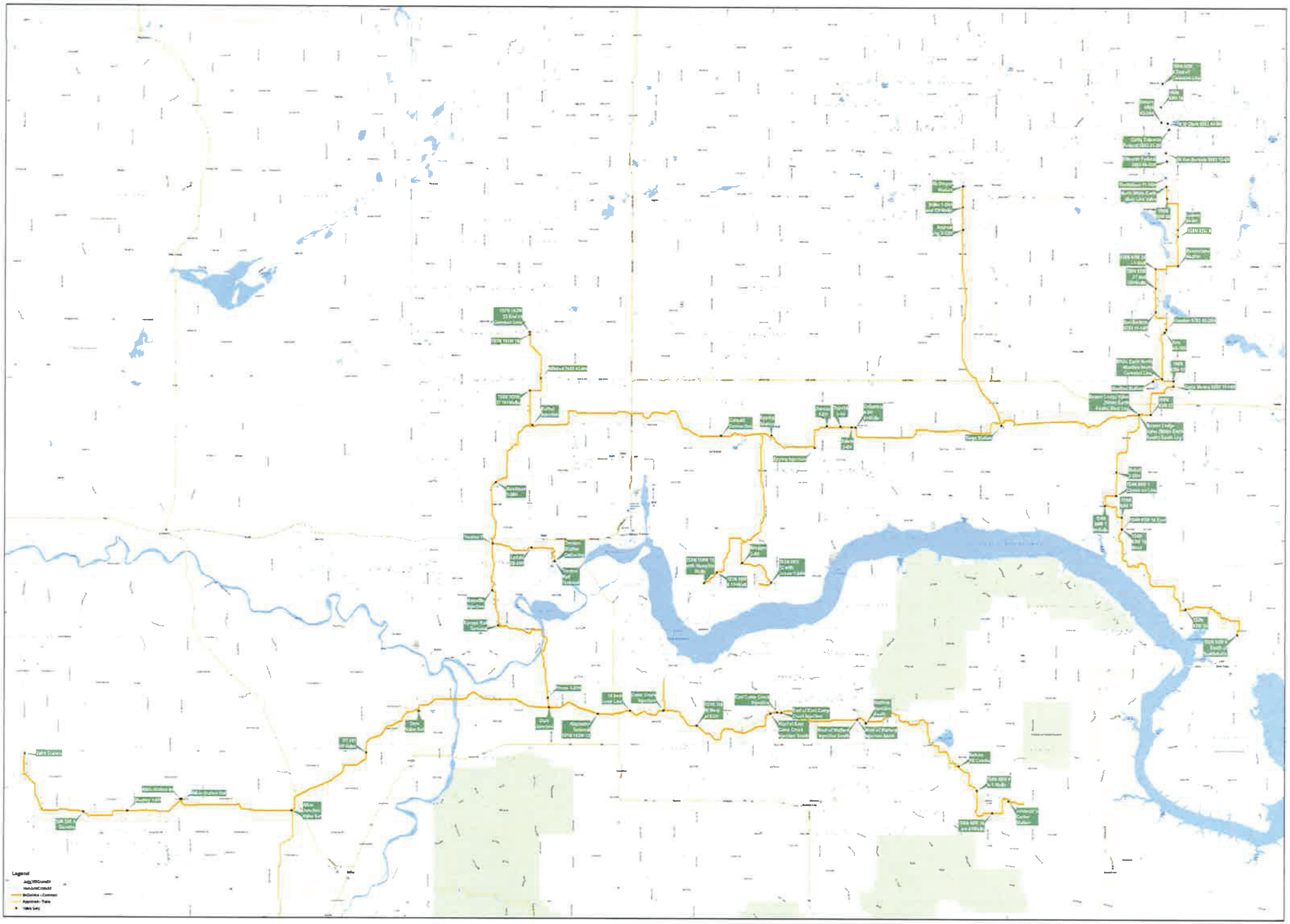
Pipeline Sections

Pipe Section	Pipe O.D. (in)	Length (mi)	WP (psig)	County	Sensitivities*
Vaira Station to Albin Station	8.625	19.47	1480	Richland (MT)	Charlie Creek, Redwater Creek, Three Buttes Creek
Albin Station to Albin Junction	8.625	10.8	1480	Richland (MT)	Lone Tree Creek, North Fork Lone Tree Creek
Albin Junction to Dore Station					
Albin Junction to H1 MLV	12.75	9.57	1480	Richland (MT)	First Hay Creek, North Fork First Hay Creek, Natural Spring, Second Hay Creek
H1 MLV to Dore Station	12.75	7.63	1480	Richland (MT) / McKenzie (ND)	Fourmile Creek
Dore Station to Dore Junction					
Dore Station to Yellowstone River West BV	8.625	3.61	1480	McKenzie (ND)	Yellowstone River, Nohly Lake, Missouri River, Burlington Northern Railroad
Yellowstone River West BV to Yellowstone River East BV	8.625	.75	1480	McKenzie (ND)	Yellowstone River
Yellowstone River East BV to Dore Junction	8.625	8.65	1480	McKenzie (ND)	Yellowstone River, Briar Creek
Dore Junction to Camp Creek					
Dore Junction to 10" Loop MLV	8.625 & 10.75	7.89	1480	McKenzie (ND)	Camp Creek
10" Loop MLV to Camp Creek	8.625 & 10.75	3.45	1480	McKenzie (ND)	Timber Creek
Camp Creek to East Camp Creek					
Camp Creek to 8" Loop Line	8.625	3.75	1480	McKenzie (ND)	Tobacco Garden Creek
8" Loop Line to East Camp Creek	8.625	9.39	1480	McKenzie (ND)	Tobacco Garden Creek
East Camp Creek to Watford Injection	8.625	9.31	1480	McKenzie (ND)	Tobacco Garden Creek, Prong Creek
Watford Injection to Johnson's Corner					
Watford Injection to Nelson Pit Combo	8.625	13.68	1480	McKenzie (ND)	Prong Creek, Little Missouri National Grassland, Demick's Lake
Nelson Pit Combo to Johnson's Corner	8.625	9.67	1480	McKenzie (ND)	Johnson's Corner, Bear Den Creek

Pipe Section	Pipe O.D. (in)	Length (mi)	WP (psig)	County/Parish	Sensitivities*
Dore Junction to Savage Rail Terminal					
Dore Junction to Missouri River South	8.625	6.51	1480	McKenzie (ND)	Missouri River
Missouri River South to Missouri River North	8.625	.37	1480	Williams (ND)	Missouri River, Eightmile Creek
Missouri River North to Savage Rail Terminal	8.625	4.62	1480	Williams (ND)	Eightmile Creek, Trenton State WMA, Lewis and Clark WMA
Savage Rail Terminal to Trenton T					
Savage Rail to Bainville Injection	8.625	3.19	1480	Williams (ND)	Burlington Northern Railroad
Bainville Injection to Trenton T	8.625	4.36	1480	Williams (ND)	Eightmile Creek
Trenton T to Trenton Rail Terminal	8.625	7.15	1480	Williams (ND)	Painted Woods Creek
Trenton T to Bethal Injection	8.625	12.77	1480	Williams (ND)	Painted Woods Creek
Bethel Injection to Epping Station	8.625	25.0	1480	Williams (ND)	Camp Creek, Cow Creek, Stoney Creek, Epping Dam Lake, Little Muddy River
Epping Station to Tioga Station					
Epping Station to Epping Injection	8.625	4.22	1480	Williams (ND)	Stoney Creek
Epping Injection to Tioga Station	8.625	20.38	1480	Williams (ND)	Stoney Creek, Beaver Creek
Tioga Station to Beaver Lodge	8.625	13.24	1480	Williams/Mountrail (ND)	Dry Fork Creek, White Earth River
Beaver Lodge to Saddlebutte (White Earth South)	8.625	32.27	1480	Mountrail (ND)	White Earth River, Lake Sakakawea
Beaver Lodge to North White Earth North MLV					
Beaver Lodge to WEN Common Line	8.625	7.28	1480	Mountrail (ND)	Manitou Lake
WEN Common Line to North WEN MLV	8.625	22.21	1480	Mountrail/Burke (ND)	Cottonwood Lake, National Waterfowl Production Area, Powers Lake, Fish Lake, Helde Lake
Tioga Station to McGregor Station	8.625	22.14	1480	Williams	National Waterfowl Production Area, Burlington Northern Railroad.


HILAND CRUDE, LLC.
DORE STATION LOCATION MAP
MCKENZIE COUNTY, NORTH DAKOTA
N
The Compliance Group, Inc.
Dore Station
100,000 bbl Breakout Tank
47° 58' 06.51"
104° 01' 46.19"
Albin Junction to Dore Station Pipeline Section
201
58
1st St
Fairview

Market Center Gathering Pipeline System Map(s)



1.6 OSRO Contract

Clean Harbors
2541 132nd C Ave NW
P.O. Box 1168
Arnegard, ND 58835

701.586.3170
www.cleanharbors.com

Mike Howerton
Hiland Partners
PO box 5103
Enid, Ok. 73702
580-541-6295

Mr. Howerton;

Clean Harbors is a full service emergency response contractor capable of responding to all your emergency response needs across the country. Clean Harbors employees are trained specialized employees skilled in various response clean ups. Clean Harbors maintains all equipment necessary for timely and efficient clean up operations including but not limited to, spill trailers, hydro vacuum units, roll off boxes, side dump trailers, pressure washers, misc. hand tools, pumps, pneumatic equipment, etc. In accordance with the Master Service Agreement that Clean Harbors currently has in place with Hiland Partners we ensure that Clean Harbors will respond to any and all emergency responses needs across the country.

Sincerely,

Sean Bromley

SECTION 2 NOTIFICATIONS

2.1 Notification Requirements

FEDERAL NOTIFICATIONS

NATIONAL RESPONSE CENTER • USCG HEADQUARTERS – WASHINGTON, D.C.	
24 Hour Phone	**800-424-8802**

The NRC is the **sole** federal point of contact for reporting oil and chemical spills which enter or threaten to enter the navigable waters of the United States. If you have a spill to report, contact the NRC via the toll-free number or visit the NRC Web Site (http://www.nrc.uscg.mil) for additional information on reporting requirements and procedures. For those without 800 access, please contact the NRC at 202-267-2675.

ENVIRONMENTAL PROTECTION AGENCY • REGION 8 – DENVER, CO	
Region 8 Spill Hotline	**800-227-8914**

Calls to the National Response Center will automatically be forwarded to the appropriate EPA Regional Office. However, a courtesy notification can be made directly to the applicable region.

The Environmental Protection Agency must be notified of the following:

1. Any unanticipated bypass exceeding effluent limitation by permit.
2. Any upset condition, which exceeds any effluent limitation in permit.
3. Violation of maximum daily discharge limitation or daily minimum toxicity limitation.
4. Chemical spills of a reportable quantity.

Oral notification is required within 24 hours of the incident. No written report is required.

STATE NOTIFICATIONS

NORTH DAKOTA DEPARTMENT of HEALTH	
24 Hour Phone	**800-222-6362**

Any spill or discharge of waste which may cause pollution of waters of the state must be reported immediately (NDAC 33-16-02.1-11 paragraph 4, bottom of page 22). The owner, operator, or person responsible for a spill or discharge must notify the department as soon as possible (701.328.5210) or the North Dakota hazardous materials emergency assistance and spill reporting number (800.472.2121) and provide all relevant information about the spill. Depending on the severity of the spill or accidental discharge, the department may require the owner or operator to:

- Take immediate remedial measures;
- Determine the extent of pollution to waters of the state;
- Provide alternate water sources to water users impacted by the spill or accidental discharge; or
- Any other actions necessary to protect human health and the environment.

Non-emergency releases may be reported by filling out the online Environmental Incident Report Form:

(https://www.dmr.nd.gov/oilgas/spills/eirform.asp)

Montana Department of Environmental Quality

DEQ SPILL REPORTING LINE	**800-457-0568** **406-841-5000**
AFTER HOURS (DES)	**406-324-4777**

Petroleum releases from regulated above ground storage tanks (AST) and underground storage tanks (UST) must be reported to the DEQ within 24 hours of being detected as required by ARM 17.56.501. DEQ must be notified of releases greater than 25 gallons of petroleum from an AST or UST. Petroleum releases less than 25 gallons in volume must be contained and cleaned up within 24 hours. If cleanup cannot be completed within 24 hours, owners and operators must report the release to DEQ. DEQ maintains a leak line for reporting releases from regulated UST and AST facilities at 406-841-5000 or 800-457-0568. After normal business hours, releases must be reported to the DES 24-hour phone number 406-324-4777. Releases must be reported to a live person – voice mails are not adequate notification.

All other releases and spills should be reported immediately to the state's Disaster and Emergency Services (DES) 24-hour phone number 406-324-4777. If no one can be reached at that number, the release or spill may be reported to the Montana Department of Environmental Quality (DEQ) duty officer at 406-431-0014. In addition to the following reporting requirements, notifications may be required by permits issued by state, federal or local government agencies.

The following types of spills **must** be reported to DEQ/DES:

- Releases or spills of hazardous substances in amounts that meet or exceed the reportable quantities in 40 CFR Part 302. Notification to DES and NRC is required.
- Spills, overfills and suspected releases from underground storage tanks and petroleum storage tanks.
- Releases or spills of any materials that would lower the quality of groundwater below water quality standards.

The following types of spills should be reported to DEQ/DES:

- Spills that enter or may enter state waters or a drainage that leads directly to surface water;
- Spills that cause sludge or emulsion beneath the surface of the water, stream banks or shorelines.
- Spills that cause a film, sheen or change the color of the water, stream banks or shorelines; or
- Spills of twenty-five (25) gallons or more of any petroleum product such as crude oil, gasoline, diesel fuel, aviation fuel, asphalt, road oil, kerosene, fuel oil, produced water, injection water or combination thereof; and derivatives of mineral, animal or vegetable oils.

http://www.deq.mt.gov/enf/spill.mcpx

LOCAL NOTIFICATIONS

NORTH DAKOTA

LOCAL AGENCIES - 911	
Agency	**24-Hour**
North Dakota Highway Patrol	701-577-4521
Williams County Sheriff & Law Enforcement Center	701-577-7707
McKenzie County Sheriff	701-444-3654 (xt 1420)
Mountrail County Sheriff	701-628-2975
Mountrail County Emergency Management	701-628-2909
Williston, ND Fire Department	701-572-3400
Epping, ND City Hall (Fire Department)	701-859-5561
Mercy Medical Center	701-774-7400

MONTANA

LOCAL AGENCIES - 911	
Agency	**24-Hour**
Montana Highway Patrol – District 5	406-377-5238
Richland County Sheriff	406-433-2919
Sydney, MT Fire Department	406-433-1122
Sydney Health Center	406-482-2100

OSRO NOTIFICATIONS

Hiland Crude has a Master Service Agreement (MSA) with Clean Harbors to respond to a release on the Market Center Gathering System on a 24-hour basis. Clean Harbors has the equipment necessary to properly respond to a Worst Case Discharge (WCD) on the Pipeline. Hiland Crude does not own or maintain any company-owned response equipment.

A Tier 1 (with 12 hr) response from Clean Harbors will be dispatched from the Williston, ND office. If the incident requires additional resources, Hiland will mobilize resources from additional Clean Harbors locations and Absorbent and Safety Solutions in a Tier 2 (36 hr) and Tier 3 (60 hr) timeframe.

Transfer hoses, connections equipment, portable pumps and all other pertinent equipment is available are loaded on quick response trailers. Vacuum trucks and portable storage equipment are available to receive oil from the pipeline and Clean Harbors has authorized facilities in which to dispose of the oil if necessary.

Clean Harbors – Williston Service Center	**701-774-2201**
Absorbent and Safety Solutions – 24 Hour	**701-838-4558**

FEDERAL/STATE WILDLIFE NOTIFICATIONS

LOCAL AGENCIES - 911	
Agency	**Phone**
United States Fish and Wildlife Service – Bismarck, ND	701-250-4481
North Dakota Game and Fish – Williston, ND Office	701-774-4320
North Dakota Game and Fish – Bismarck, ND	701-328-6300
Montana Fish, Wildlife & Parks – Region 7	406-234-0900

2.2 Notification Checklist

Priority	Notification	Time	Check
1	Oil Spill Removal Organization (OSRO)		☐
2	Hiland Corporate Representative		☐
3	National Response Center (NRC)		☐
4	ND Department of Health (State Notification)		☐
5	County Sheriff (if necessary)		☐
6	County Emergency Management		☐

2.3 Personnel Notifications

QUALIFIED INDIVIDUAL(S) / PIPELINE OPERATOR(S)			
Name	**Title**	**24 Hour**	**Address**
Mike Hein	Area Manager	406-480-3954	105 26th St. E, Ste. 100 Williston, ND 58801
Keith Gustafson	Terminal Operator	406-973-2255	14275 48th St. NE Williston ND 58801

2.4 Qualified Individual Notification Procedures

The Hiland employee who discovers the incident is responsible for initiating immediate notifications. Notification of the Qualified Individual(s) will be made by telephone, starting first with the office numbers followed by mobile numbers. Qualified Individuals are available 24-hours per day, three hundred sixty five days per year by one of the contact methods. Alternate methods of contacting the Qualified Individuals will be two-way radios when in close proximity and e-mail where available.

2.5 Spill Report Information

The following information should be provided in the initial and each follow-up notification:

REPORTING PARTY					
REPORTER'S NAME			POSITION		
PHONE NUMBER	DAY		EVENING		
COMPANY					
ADDRESS					
INCIDENT DESCRIPTION					
NAME OF PIPELINE					
DATE OF INCIDENT		TIME OF INCIDENT			
INCIDENT ADDRESS / LOCATION					
NEAREST CITY					
LATITUDE		LONGITUDE			
TYPE OF MATERIAL					
CAUSE OF DISCHARGE					
DISCHARGE TO WATER	YES NO	ESTIMATED QUANTITY:			BBL OR GAL
DESCRIPTION OF SLICK	BARELY VISIBLE	LIGHT SHEEN	RAINBOW	DULL	DARK
WEATHER CONDITIONS					
RESPONSE ACTIONS TAKEN OR PLANNED					

SECTION 3 SPILL DETECTION & MITIGATION

3.1 Initial Discharge Detection

The Market Center Gathering System is pressure protected by high/low pressure devices. The pipeline is monitored by SCADA during operations by Hiland's Enid, Oklahoma Office. The procedures used to prevent and quickly detect spills are described in the Operations and Maintenance Procedures Manual. In addition to the electronic monitoring system, leaks or ruptures are located by routine pipeline inspections. Following is the maximum leak detection time and shut down time in adverse weather conditions.

Leak Detection Time (hrs)	0.083
Shut Down Time (hrs)	0.083

3.2 Response Mitigation Procedures

Initial Detection	
1	Shut down pipeline operations to minimize the volume of released material as soon as possible.
2	Alert other people in the area of the situation and to any potential dangers caused by the release. Contact the local Sheriff if necessary to prevent personnel from entering affected area.
3	Determine the source and identify of the material. (Any response actions should be attempted only if safe and personnel are properly trained)
4	Fill out Spill Report Information Form (Section 2) and report observations to the Dispatcher and the supervisor(s) of the affected facility.
5	Standby to answer questions or perform tasks as directed by the Qualified Individual.

3.3 Response Equipment

Hiland Crude has a Master Service Agreement (MSA) with Clean Harbors to respond to a release on the Market Center Gathering System on a 24-hour basis. Clean Harbors has the equipment necessary to properly respond to a Worst Case Discharge (WCD) on the Pipeline. Hiland Crude does not own or maintain any company-owned response equipment.

A Tier 1 (with 12 hr) response from Clean Harbors will be dispatched from the Williston, ND office. If the incident requires additional resources, Hiland will mobilize resources from additional Clean Harbors locations and Absorbent and Safety Solutions in a Tier 2 (36 hr) and Tier 3 (60 hr) timeframe.

Transfer hoses, connections equipment, portable pumps and all other pertinent equipment is available are loaded on quick response trailers. Vacuum trucks and portable storage equipment are available to receive oil from the pipeline and Clean Harbors has authorized facilities in which to dispose of the oil if necessary.

Clean Harbors – Williston Service Center	**701-774-2201**
Absorbent and Safety Solutions – 24 Hour	**701-838-4558**

*Refer to Section 4 for a complete listing of equipment from and Clean Harbors and Absorbent and Safety Solutions.

SECTION 4 RESPONSE ACTIVITIES

4.1 Operations Personnel Responsibilities

Operations Personnel	
1	Shut down pipeline operations to minimize the volume of released material as soon as possible.
2	Alert other people in the area of the situation and to any potential dangers caused by the release. Contact the local Sheriff if necessary to prevent personnel from entering affected area.
3	Determine the source and identify of the material. (Any response actions should be attempted only if safe and personnel are properly trained)
4	Fill out Spill Report Information Form (**Section 2**) and report observations to the Dispatcher and the supervisor(s) of the affected facility.
5	Standby to answer questions or perform tasks as directed by the Qualified Individual.

4.2 Qualified Individual Responsibilities

Qualified Individual	
1	Assume company authority (On-Scene Coordinator) and authorize the use of company funds for response.
2	Notify OSRO of the spill and mobilize personnel and equipment based on forecasted response.
3	Notify the Spill Management Team.
4	Notify local agencies of risks associated with spill.
5	Notify federal and state agencies as appropriate.
6	Assure safety procedures are in place and being followed.
7	Work with Agency personnel (Federal On-Scene Coordinator and State On-Scene Coordinator) to bring them up to date on the response and efficiently and cooperatively respond to spill.

4.3 Oil Spill Response Organization (OSRO)

Hiland Crude has a Master Service Agreement (MSA) with Clean Harbors to respond to a release on the Market Center Gathering System on a 24-hour basis. Clean Harbors has the equipment necessary to properly respond to a Worst Case Discharge (WCD) on the Pipeline. Hiland Crude does not own or maintain any company-owned response equipment.

A Tier 1 (with 12 hr) response from Clean Harbors will be dispatched from the Williston, ND office. If the incident requires additional resources, Hiland will mobilize resources from additional Clean Harbors locations and Absorbent and Safety Solutions in a Tier 2 (36 hr) and Tier 3 (60 hr) timeframe.

Transfer hoses, connections equipment, portable pumps and all other pertinent equipment is available are loaded on quick response trailers. Vacuum trucks and portable storage equipment are available to receive oil from the pipeline and Clean Harbors has authorized facilities in which to dispose of the oil if necessary.

Clean Harbors – Williston Service Center	**701-774-2201**
Absorbent and Safety Solutions – 24 Hour	**701-838-4558**

*Refer to the following pages for a complete listing of equipment from Clean Harbors and Absorbent and Safety Solutions.

TIER 1 RESPONSE RESOURCES

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

Ralph Vicente, General Manager EPA / Federal ID #: N/A

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

Ralph Vicente
Virgil Blanchard
Stephen Sheppard

40-Hour OSHA Trained Personnel:

Supervisor	4
Foreman	2
Equipment Operator	8
Field Technician	25

Equipment List Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V423	1	Y	Y	N	N
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V421	1	Y	Y	N	N
Landing Craft	NDSC	LCM / 28 Ft. / # V364	1	Y	Y	N	N
Boat Trailer	NDSC	BT421, BT419	2	Y	Y	N	N
Vessel Transport Trailer	NDSC	CH742	1	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Mobile Command Trailer	NDSC	6202	1	Y	Y	N	N
High Powered Vacuum Truck/Cusco	NDSC	JDS5226, JDS4868, JDS5240, JDS5234, 7910771	5	Y	Y	N	N
Cyclone Vactor/Guzzler	NDSC	4188, 4256	2	Y	Y	N	N
Straight Box Trucks	NDSC	4305, 4262	2	Y	Y	N	N
6 Wheel Dump Truck	NDSC	United Rental (1168637)	1	Y	Y	N	N
Trailer (Skid Vac)	NDSC	CH2157	1	Y	Y	N	N
Crew Cab Pickup	NDSC	8791, 8957, 8531, 8533, 80076	5	Y	Y	N	N
Roll-off frames	NDSC	CH552, CH595, CH633, CH634, 2334T, 4294,	7	Y	Y	N	N
		CH2328, United Rentals (1201088)					
Vacuum Tanker	NDSC	5,000 gallon	1	Y	Y	N	N
Tractor with Side Dump Trailer	NDSC	42'	5	Y	Y	N	N
(3) Pumps and Pressure Equipment							
Hot water Hotsy	NDSC		2	Y	Y	N	N
Vactor Hose	NDSC		200'	Y	Y	N	N
Discharge Hose	NDSC	6"	500'	Y	Y	N	N
Discharge Hose	NDSC	4"	1000'	Y	Y	N	N

(4) Oil Spill Containment Booms							
Oil Containment Boom	NDSC	8" Yellow Slide Pin	10000'	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
MSA Gas Indicator	NDSC	Sirius 5 Gas	1	Y	Y	N	N
Draeger Pump	NDSC	Gas Tech	2	Y	Y	N	N
(6) Recovery Equipment							
Skidmount Vacuum Unit	NDSC	CH2157	1	Y	Y	N	N
Drum Skimmer	NDSC		2	Y	Y	N	Y
Vac Box Containers	NDSC		16	Y	Y	N	Y
Roll-Off Containers	NDSC		13	Y	Y	N	N
Drums	NDSC	55 Gallon	88	Y	Y	N	N
Totes	NDSC	250 Gallon	12	Y	Y	N	N
(7) Beach or Earth Cleaning and Excavating Equipment							
Backhoe	NDSC	John Deere 410	1	Y	Y	N	N
(8) Generators / Compressors / Light Towers							
Sullair Portable Compressor	NDSC	185 Diesel	5	Y	Y	N	N
Winco Generator	NDSC	K4800/A	3	Y	Y	N	N
Coppus Blower	NDSC	4" Pneumatic	3	Y	Y	N	N
Coppus Blower	NDSC	8" Pneumatic	1	Y	Y	N	N
Coppus Blower	NDSC	10" Pneumatic	1	Y	Y	N	N
Coppus Fan	NDSC	RF-20	2	Y	Y	N	N
(9) Health and Safety Equipment							
MSA S.C.B.A.	NDSC	1 Hour/4500	10	Y	Y	N	N
Spare Air Cylinders	NDSC	4500 PSI (1 HR)	8	Y	Y	N	N
MSA SAR	NDSC	Pressure Demand	4	Y	Y	N	N
MSA Escape Units	NDSC	5 Minutes	7	Y	Y	N	N
Mustang Suits	NDSC	Foul Weather PFD	6	Y	Y	N	N
Breathing Air Hose	NDSC		400'	Y	Y	N	N
Hydraulic Hose	NDSC		800'	Y	Y	N	N
Personal Floatation Devices	NDSC		40	Y	Y	N	N
PFD Survival Suits	NDSC		6	Y	Y	N	N
(10) Communications							
(11) Miscellaneous							
Outboard Motor	NDSC	Yamaha	2	Y	Y	N	N
UTV	NDSC	Polaris Ranger 4-Seater	2	Y	Y	N	N

TIER 2 & 3 RESPONSE RESOURCES

CANNON FALLS, MN SERVICE CENTER	**44.53 N 92.91 W**	**24-Hr. #**	**507.263.0200**
211 Holiday Ave		**24-Hr. #**	**800.645.8265**
Cannon Falls, MN 55009		**Fax #**	**507.263.0252**

Jared Nerison, General Manager

EPA / Federal ID #: N/A

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

Jared Nerison
Joseph Wilcox
Jennifer Tamte

40-Hour OSHA Trained Personnel:

Foreman	3
Field Technician	7
Equipment Operator	5

Equipment List **Item Description / Manufacturer**	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(1) Vessels & Marine Support Equipment							
Power Workboat, Alweld	Cannon Falls	17', 25 HP, AWLCO525H708, V321	1	Y	Y	N	N
Workboat, TMG	Cannon Falls	12', BUJ65295H809, V346	1	Y	Y	N	N
Workboat	Cannon Falls	21' 135 HP, V328	1				
(2) Motor Vehicles & Vacuum Equipment							
Crew Cab Pickup	Cannon Falls	F250/Equivalent 8956, 80822, xxx, xxx	4	Y	Y	N	N
Rack Truck	Cannon Falls	F450, 21,000 lb #5433	1	Y	Y	N	N
(3) Pumps and Pressure Equipment							
Cold water pressure washer	Cannon Falls	3800 psi	2	Y	Y	N	N
Hot water pressure washer	Cannon Falls	4000 psi CH544	3	Y	Y	N	N
Skid Mount/ With Pressure Washer	Cannon Falls	500 gallons, Not Assigned yet	1	Y	Y	N	N
Cusco	Cannon Falls	3000 gallon, 7910771	1	Y	Y	N	N
3" DD Pump	Cannon Falls	Poly and Steel	2	Y	Y	N	N
2" DD Pump	Cannon Falls	Poly and Steel	3	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	Cannon Falls	18", Mix, on Trailer	1000	Y	Y	N	Y
Oil Containment Boom	Cannon Falls	18", Mix, in storage	900	Y	Y	N	Y
Oil Containment Boom	Cannon Falls	6", Mix, in storage	300	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
5-Gas Meter	Cannon Falls	LEL/02/CO/H2S/PID Sirius	3	Y	Y	N	N
Lumex	Cannon Falls	RA-915	1	Y	Y	N	N
(6) Recovery Equipment							
Drum Skimmers	Cannon Falls	Crucial 1D18P-24, 24 gpm capacity	2	Y	Y	N	N
(7) Beach or Earth Cleaning and Excavating Equipment							
Skid Loader	Cannon Falls	John Deere 320	1	Y	Y	N	N
(8) Generators / Compressors / Light Towers							
Generator	Cannon Falls	4000 Watt	4	Y	Y	N	N
Compressor	Cannon Falls	185 CFM Pull Behind	2	Y	Y	N	N

(9) Health and Safety Equipment							
SCBA	Cannon Falls	2216 PSI	4	Y	Y	N	N
SAR 4 Way Manifold	Cannon Falls		2	Y	Y	N	N
SAR Regulators	Cannon Falls		1	Y	Y	N	N
SAR w/5 minute egress	Cannon Falls		2	Y	Y	N	N
Air Line	Cannon Falls	Breathing Air	400	Y	Y	N	N
APR Full Face	Cannon Falls	Stock	8	Y	Y	N	N
Tri Pod/Winch	Cannon Falls	75' Cable	1	Y	Y	N	N
(10) Trailers							
ER Trailers	Cannon Falls	14' Enclosed Spill Trailer CH634 CH552	3	Y	Y	N	N
Boom Trailer	Cannon Falls	16' Open	1	Y	Y	N	N
Flat Bed Trailer	Cannon Falls	16' Open	1	Y	Y	N	N
(11) Miscellaneous							
Vacuum Hose	Cannon Falls	2" chemical vacuum hose	350	Y	Y	N	N
Vacuum Hose	Cannon Falls	3&4" chemical vacuum hose	200	Y	Y	N	N
Floor Scubbing Attachment	Cannon Falls	Hydro attachment for the Pressure Washer	1	Y	Y	N	N
Guzzler	Cannon Falls	3,000 gallon Straight with Highrail	1	Y	Y	N	N
Guzzler	Cannon Falls	3,000 gallon Straight 4256	1	Y	Y	N	N
Roll off Truck	Cannon Falls	Single Straight Frame 4205	1	Y	Y	N	N

DENVER, CO FIELD SERVICES	**39.783452 LAT. / -104.863841 LON.**	**24-Hr. #**	**303.371.1100**
4721 IRONTON STREET, UNIT B		**24-Hr. #**	**800.645.8265**
Denver, CO 80239		**Fax #**	**303.371.1516**

Brian Biancavilla, Field Services General Manager

EPA / Federal ID #: N/A

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

Brian Biancavilla
David Hadjes
Kenton Schuh

40-Hour OSHA Trained Personnel:

Supervisor	3
Foreman	2
Field Technician	4
Equipment Operator	3
Site Safety Officer	1

Equipment List **Item Description / Manufacturer**	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(1) Motor Vehicles & Vacuum Equipment							
Vacuum Truck Straight	Denver	3,000 gal.	1	Y	Y	N	N
High Powered Vacuum Loader, Cusco	Denver	3,000 gal / 10 cu. yd.	1	Y	Y	N	N
Box Truck	Denver	24'	1	Y	Y	N	N
Crew Cab Pickup	Denver	1/2 Ton & 3/4 Ton (ALL ARE 4 X 4)	4	Y	Y	N	N
Spill Trailer	Denver	18'	1	Y	Y	N	N
Roll Off Truck	Denver	Straight Truck	1	Y	Y	N	N
Rack Truck / Stakebed	Denver	14' Bed	1	Y	Y	N	N
Equipment List Cont. **Item Description / Manufacturer**	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(2) Pumps and Pressure Equipment							
Wilden Diaphragm Pump	Denver	2"	1	Y	Y	N	N
Wilden Diaphragm Pump	Denver	3"	1	Y	Y	N	N
Hotsy on Trailer	Denver	3,000 PSI - Hot Water Pressure Washer	1	Y	Y	N	N
ALKOTA on Trailer	Denver	5,000 PSI - Hot Water Pressure Washer	1	Y	Y	N	N
Honda Trash Pump	Denver	3" - Gasoline Powered Suction Pump	1	Y	Y	N	N
(3) Oil Spill Containment Booms							
Oil Containment Boom	Denver	American Marine 18", In Garage Bldg.	150'	Y	Y	N	N
(4) Environmental Monitoring Equipment							
MSA Gas Indicator	Denver	Sirius Multi-Gas Indicator	2	Y	Y	N	N
Gastec Sample Pump	Denver	Hand Pump for Specific Chemical Compounds	2	Y	Y	N	N
(5) Recovery Equipment							
Skim Pak	Denver	2" Floating Skimmer	1	Y	Y	N	Y
CH & E	Denver	2" Skimmer Pump	1	Y	Y	N	Y
(6) Beach or Earth Cleaning and Excavating Equipment							

Equipment List Cont.							
(7) Generators / Compressors / Light Towers							
Generator	Denver	5000 Watt	1	Y	Y	N	N
(8) Health and Safety Equipment							
CSE Entry Gear	Denver	Tripod, MSA	2	Y	Y	N	N
Coppus Blower	Denver	36" Pneumatic	1	Y	Y	N	N
Coppus Blower	Denver	Electric	1	Y	Y	N	N
Type C Supplied Air Rig with Escape Bottle	Denver	MSA	4	Y	Y	N	N
SCBA	Denver	MSA	3	Y	Y	N	N
Item Description / Manufacturer	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(9) Communications							
Portable Cellular Telephones	Denver		9	Y	Y	N	N
Vehicle-Mounted CB	Denver	Mounted in Each Commercial Vehicle	4	Y	Y	N	N
(11) Miscellaneous							
Emergency Response Subcontractors							

Absorbent & Safety Solutions

Equipment List
24/7 Emergency Response

Equipment	
3/4 Ton Pickup Truck	
1/2 Ton Pickup Truck	
Wheel Loader	
Mini Wheel Loader	
250 Excavator	
Mini Excavator	
Skid Steer	
Back Hoe	
Lawn Mowers	
Weed Whackers	
Emergency Response Boat	
Drum Skimmer	
Mobile Pressure Washing Truck - 2 Wands	
Side x Side UTV	
Flat Bed Trailer	
Utility Trailer	
65' Man Lift	
4" Pump	
3" Pump	
4" Trailer Transfer Pump	
Light Tower	
Roll Off Container	
400 BBL Tank	
500 BBL Frac Tank	
400 BBL Upright Flow Back Tank	
500 BBL Open Top Flow Back Tank	
Pre-Mix Tank	
Flock Tank	
Shale Tank	
Catch Tank	
Box Tank	

Freight Options	
Side Dump / Belly Dump	
Vac Truck	
Slick Truck & Flat Bed Trailer	
Winch Truck	
Hydro Vac	
Hot Shot	
Roll Off/Connex	
Steam Truck	
Mobile Wash Truck	
Picker/Crane	
Dump Trailer	
Mini Vac Unit	
Products & Materials	
5" Absorbent Boom (40'/Bale)	
Absorbent Pads (100/Bag)	
Pom-Pom Boom (30 Pom-Pom/Bag)	
Absorbent Rolls (32" x 150'/Roll)	
Granular Absorbent (25lb/bag)	
Metal Staples / Box	
Wooden Stakes / Bundle	
Straw Matting Roll	
Straw Waddles / Foot	
S-200 /gallon	
Micro-Blaze / gallon	
Seed / bag	
Drum Liner / box	

4.4 Oil Removal Recovery Techniques

NATURAL RECOVERY

Objective	No attempt is made to remove any stranded oil, when there is no effective method for cleanup or to minimize impact to the environment. Oil is left to degrade naturally.
Description	No action is taken, although monitoring of contamination areas is required.
Applicable Habitat Types	All habitat types.
When to Use	When natural removal rates are fast (e.g., gasoline evaporation or high energy coastlines), when the degree of oiling is light, access is severely restricted or dangerous to cleanup crews, or when cleanup actions will do more harm than natural removal.
Biological Constraints	This method may be inappropriate for areas used by high numbers of mobile animals (birds, marine mammals) or endangered species.
Environmental Effects	Same as from the oil alone.
Waste Generation	None.

BARRIERS / BERMS

Objective	To prevent entry of oil into a sensitive area or to divert oil to a collection area.
Description	A physical barrier other than a boom is placed across an area to prevent oil from passing. Barriers can consist of earthen berms or filter fences. When it is necessary for water to pass because of water volume, underflow or overflow dams are used.
Applicable Habitat Types	At the mouths of creeks or streams to prevent oil from entering from offshore, or to prevent oil form being released from the creek into offshore waters. Also, on beaches where a high berm can be built above the high-tide line to prevent oil from over-washing the beach and entering a sensitive back-beach habitat (e.g. lagoon).
When to Use	When the oil threatens sensitive habitats and other barriers are not feasible. To protect sensitive areas when cleaning adjacent shorelines
Biological Constraints	Responders must minimize disturbance to sensitive areas, such as shorebird nesting sites on beaches. Placement of dams and filter fences could cause excessive physical disruptions to the site, particularly in wetlands.
Environmental Effects	May disrupt or contaminate sediments and adjacent vegetation. The natural beach or shore profile should be restored (may take weeks to months on gravel beaches).
Waste Generation	Sediment barriers will become contaminated on the oil side and filter fence materials will have to be disposed of as oily wastes.

PHYSICAL HERDING

Objective	To free any oil trapped in debris or vegetation on-water; to direct the movement of floating oil towards containment and recovery devices; or to divert oil away from sensitive areas.
Description	Plunging water jets, water or air hoses, and propeller wash can be used to dislodge trapped oil and divert or herd it to containment and recovery areas. May emulsify the oil. Mostly conducted from small boats.
Applicable Habitat Types	In near shore areas where there are little or no currents, and in and around man-made structures such as wharves and piers. Ins streams where oil is trapped by debris.
When to Use	In low-current or stagnant water bodies, to herd oil towards recovery devices. In high current situations to divert floating oil away from sensitive areas, or dislodge oil form debris.
Biological Constraints	When used near shore and in shallow water, must be careful to not disrupt bottom sediments or submerged aquatic vegetation.
Environmental Effects	May generate high levels of suspended sediments and mix them with the oil, resulting in deposition of contaminated sediments in benthic habitats
Waste Generation	None.

MANUAL OIL REMOVAL / CLEANING

Objective	To remove oil with hand tools and manual labor.
Description	Removal of surface oil with hands, rakes, shovels, buckets, scrappers, sorbents, pitchforks, etc, and placing in containers. No mechanized equipment is used. Includes underwater recovery of submerged oil by divers with hand tools, for example.
Applicable Habitat Types	Can be used on all habitat types.
When to Use	Light to moderate oiling conditions for stranded oil or heavy oils that have formed semi-solid to solid masses that can be picked up manually. Also can be used in areas where roosting or birthing animals cannot or should not be disturbed.
Biological Constraints	Foot traffic over sensitive areas (wetlands, tidal pools, etc.) should be restricted or prevented. There may be periods when shoreline access should be avoided, such as during bird nesting.
Environmental Effects	Minimal, if surface disturbance by crew movement and waste generation is controlled.
Waste Generation	May generate significant quantities of oil mixed with sediment which must be properly disposed of or treated. Decontamination of hand tools may produce oily wastewater that must be treated properly. Worker personal protective gear is usually disposed of daily or decontaminated and the resulting oily wastewater treated properly.

MECHANICAL OIL REMOVAL

Objective	To remove oil from shorelines and bottom sediments with mechanical equipment.
Description	Oil and oiled sediments are collected and removed using mechanical equipment such as backhoes, graders, bulldozers, dredges, draglines, etc. Requires systems for temporary storage, transportation and final treatment and disposal.
Applicable Habitat Types	On land, wherever surface sediments are both amenable to and accessible to heavy equipment. For submerged oil, used in sheltered areas where oil accumulates. On water, used on viscous to solid oil.
When to Use	When large amounts of oiled materials must be removed. Care should be taken to remove sediments only to the depth of oil penetration, which can be difficult when using heavy equipment. Should be used carefully where excessive sediment removal may cause erosion.
Biological Constraints	Heavy equipment may be restricted in sensitive habitats (e.g. wetlands, soft substrate) or areas containing endangered species. Will need special permission to use in areas with known cultural resources. Dredging in sea grass beds or coral reef habitats may be prohibited. The noise generated by the mechanical equipment may also be a constraint.
Environmental Effects	The equipment is heavy, with may support personnel required. May be detrimental if excessive sediments are removed without replacement. All organisms in the sediments will be affected, although the need to remove the oil may make this response method the best overall alternative. Re-suspension of exposed oil and fine-grained oil sediments can affect adjacent bodies of water.
Waste Generation	Can generate significant quantities of contaminated sediment that must be cleaned or land filled. The amount of waste generated by this cleanup option should be given careful consideration by response planners when reviewing potential environmental impacts of the oily wastes, debris and residues.

SORBENTS

Objective	To remove surface oil by absorption onto oleophilic (oil-attracting) material placed tin water or at the waterline.
Description	Sorbent material is placed on the floating oil or water surface to allow it to absorb oil, or alternatively, the material can be used to wipe or dab stranded oil. Forms include sausage boom, pads, rolls, sweeps, snares, and loose granules or particles. These products can be either synthetic or natural substances. Efficacy depends on the capacity of the particular sorbent, energy available for lifting oil off the substrate, and stickiness of the oil. Recovery of all sorbent material is mandatory. Loose particulate sorbents must be contained in a mesh or other material.
Applicable Habitat Types	Can be used on any habitat or environment type.
When to Use	When oil is free-floating close to shore or stranded on shore. The oil must be able to be released from the substrate and absorbed by the sorbent. Often used as a secondary treatment method after gross oil removal and in sensit9ive areas where access is restricted. Selection of sorbent varies by oil type; heavy oils only coat surfaces, requiring a high surface area to be effective, whereas lighter oils can penetrate sorbent material.
Biological Constraints	Access for deploying and retrieving sorbents should not be through soft or sensitive habitats or affect wildlife. Sorbent use should be monitored to prevent overuse and generation of large volumes of waste. Sorbent should not be used in a fashion that would endanger or trap wildlife. Sorbents left in place too long can break apart and present an ingestion hazard to wildlife.
Environmental Effects	Physical disturbance of habitat during deployment and retrieval. Improperly deployed or tended sorbent material can crush or smother sensitive substrates.
Waste Generation	Sorbents must eventually be collected for proper disposal so care should be taken to select and use sorbents properly, and prevent generation of large amounts of lightly-oiled sorbents. Recycling should be emphasized rather than disposal.

VACUUM

Objective	To remove oil pooled on a shoreline substrate or sub tidal sediments
Description	A vacuum unit is attached via a flexible hose to a suction head that recovers free oil. The equipment can range from small, portable units that fill individual 55-gallon drums to large super suckers that are truck or vessel mounted and can generate enough suction to lift large rocks.
Applicable Habitat Types	Any accessible habitat type. May be mounted on barges for water-based operations, on trucks driven to the recovery area, or hand-carried to remote sites.
When to Use	When oil is stranded on the substrate, concentrated in trenches or trapped in vegetation. Usually requires shoreline access points.
Biological Constraints	Special restrictions should be established for areas where foot traffic and equipment operation may be damaging, such as soft substrates. Operations in wetlands need to be very closely monitored, with a site-specific list of restriction developed to prevent damage to vegetation.
Environmental Effects	Minimal, if foot and vehicular traffic is controlled and minimal substrate is damaged or removed.
Waste Generation	Collected oil and or oil/water mix will need to be stored temporarily prior to recycling or disposal. Large amounts of water are often recovered, requiring separation and treatment.

DEBRIS REMOVAL

Objective	To remove contaminated debris from the shoreline or water surface.
Description	Manual or mechanical removal of debris from the shore or water surface. Can include cutting and removal of oiled logs.
Applicable Habitat Types	Can be used on any habitat or environment type where access is safe.
When to Use	When driftwood and debris are heavily contaminated and provide a potential source of chronic oil release. When it may create aesthetic problems, be a source of contamination for other resources in the area, because clogging problems in the skimmer, or create safety problems for responders. Used in areas of debris accumulation on beaches prior to oiling to minimize the amount of oiled debris to be handled.
Biological Constraints	Foot traffic over sensitive areas (wetlands, spawning grounds) needs to be restricted. May be periods when access should be restricted (spawning periods, influx of large numbers of migratory water birds).
Environmental Effects	Physical disruption of substrate, especially when mechanized equipment must be deployed to recover a large quantity of debris.
Waste Generation	Will generate contaminated debris (volume depends on what, and how much, is collected, e.g. logs, brush). Unless there is an approved hazardous waste incinerator that will take oily debris, burning will seldom be allowed, especially on-site burning. However, this option should still be explored, especially for remote locations, with the appropriate state or federal agencies who must give approvals for burning.

SEDIMENT REWORKING / TILLING

Objective	To enhance the rate of degradation, by breaking up oily sediments and surface oil deposits, increasing the surface area, and mixing deep subsurface oil layers to the surface.
Description	The oiled sediments are roto-tilled, disked, or otherwise mixed using mechanical equipment or manual tools. Along beaches, oiled sediments may also be pushed to the water's edge (surf washing) to enhance natural cleanup by wave activity. The process may be aided with high-volume flushing of gravel.
Applicable Habitat Types	On any sedimentary substrate that can support mechanical equipment or foot traffic.
When to Use	On sand to gravel beaches with subsurface oil, where sediment removal is not feasible (due to erosion or disposal problems). On sand beaches where the sediment is stained or lightly oiled. Appropriate where oil is stranded above normal high waterline.
Biological Constraints	Avoid use on shores near sensitive wildlife habitat, such as fish spawning areas or bird-nesting or concentration areas because of the potential for release of oil and oiled sediments into adjacent bodies of water. Should not be used in shellfish beds.
Environmental Effects	Due to the mixing of oil into sediments, this method could further expose organisms that live below the original layer of oil. Repeated mixing over time could delay re-establishing organisms. Re-floating oil from treated sites could contaminate adjacent areas.
Waste Generation	None.

VEGETATION CUTTING / REMOVAL

Objective	To remove portions of oiled vegetation or oil trapped in vegetation to prevent oiling of wildlife or secondary oil release.
Description	Oiled vegetation is cut with weed wackers, blades, etc., and picked or raked up and bagged for disposal.
Applicable Habitat Types	Habitats composed of vegetation such as wetlands, sea grass beds, and kelp beds.
When to Use	When the risk of oiled vegetation contaminating wildlife is greater than the value of the vegetation that is to be cut, and there is no less-destructive method that removes or reduces the risk to acceptable standards.
Biological Constraints	Operations must be strictly monitored to minimize the degree of root destruction and mixing of oil deeper into the sediments. Access in bird nesting areas should be restricted during nesting seasons. Cutting only the oiled portions of the plants and leaving roots and as much of the stem as possible minimizes impact to plants.
Environmental Effects	Vegetation removal will destroy habitat for many animals. Cut areas will have reduced plant growth, and in some instances, plants may be killed. Cutting at the base of the plant stem may allow oil to penetrate into the substrate, causing subsurface contamination. Along exposed sections of shoreline, the vegetation may not recover, resulting in erosion and habitat loss. Trampled areas will recover much more slowly.
Waste Generation	Cut portions of oiled plant must be collected and disposed.

FLOODING

Objective	To wash oil stranded on the land surface to the water's edge for collection.
Description	A perforated header pipe or hose is placed above the oiled shore or bank. Ambient temperature water is pumped through the header pipe at low pressures and flows down slope to the water. On porous sediments, water flows through the substrate, pushing loose oil ahead of it, or floating oil to the water's surface and transporting the oil down the slope for pickup. On saturated, fine-grained sediments, the technique becomes more of a flushing of the surface.
Applicable Habitat Types	All shoreline types where the equipment can be effectively deployed. Not effective in steep inter-tidal areas.
When to Use	In heavily oiled areas when the oil is still fluid and adheres loosely to the substrate, and where oil has penetrated into gravel sediments. This method is frequently used with other washing techniques (low or high pressure, cold-to-hot water flushing).
Biological Constraints	Special care should be taken to recover oil where near shore habitats contain rich biological communities. Not appropriate for muddy substrates.
Environmental Effects	Habitat may be physically disturbed by foot traffic during operations and smothered by sediments washed down the slope. Oiled sediment may be transported to shallow near shore areas, contaminating them and burying benthic organisms.
Waste Generation	Depends on the effectiveness of the collection method.

LOW-PRESSURE AMBIENT-WATER FLUSHING

Objective	To remove fluid oil that has adhered to the substrate or man-made structures, pooled on the surface, or become trapped in vegetation.
Description	Ambient-temperature water is sprayed at low pressures (<10 psi), usually from hand-held hoses, to lift oil from the substrate and direct it to the water's edge for recovery by skimmers, vacuum, or sorbents. Can be used with a flooding system to prevent released oil from re-adhering to the substrate downstream of the treatment area.
Applicable Habitat Types	On substrates, riprap, and solid man-made structures, where the oil is still fluid. In wetlands and along vegetated banks where oil is trapped in vegetation.
When to Use	Where fluid oil is stranded onshore or floating on shallow inter-tidal areas.
Biological Constraints	May need to restrict use so that the oil/water effluent does not drain across sensitive inter-tidal habitats and mobilized sediments do not affect rich sub tidal communities. Use from boats will reduce the need for foot traffic in soft substrates and vegetation. Flushed oil must be recovered to prevent further oiling of adjacent areas.
Environmental Effects	If containment methods are not sufficient, oil and oiled sediments may be flushed into offshore areas. Some trampling of substrate and attached biota will occur
Waste Generation	Depends on the effectiveness of the collection method.

HIGH-PRESSURE AMBIENT-WATER FLUSHING

Objective	To remove oil that has adhered to hard substrates of man-made structures.
Description	Similar to low-pressure flushing except that water pressure is 100-1,000 psi. High-pressure spray will more effectively remove sticky or viscous oils. If low-water volumes are used, sorbents are placed directly below the treatment area to recover oil.
Applicable Habitat Types	On bedrock, man-made structures, and gravel substrates.
When to Use	When low-pressure flushing is not effective at removing adhered oil that must be removed to prevent continued oil release or for aesthetic reasons. When a directed water jet can remove oil from hard-to-reach sites.
Biological Constraints	May have to restrict flushing so that the oil does not drain across sensitive habitats. Flushed oil must be recovered to prevent further oiling of adjacent areas.
Environmental Effects	Attached animals and plants in the direct spray zone will be removed. May drive oil deeper into the substrate or erode shorelines of fine sediments if water jet is improperly applied. If containment methods are not sufficient, oil and oiled sediments may be flushed into offshore areas. Some trampling of substrate and attached biota will occur.
Waste Generation	Depends on the effectiveness of the collection method.

LOW-PRESSURE, HOT-WATER FLUSHING

Objective	To remove non-fluid oil that has adhered to the substrate or man-made structures, or pooled on the surface.
Description	Hot water (90°F up to 170°F) is sprayed with hoses at low pressures (<10 psi) to liquefy and lift oil from the substrate and direct it to the water's edge for recovery by skimmers, vacuums or sorbents. Used with flooding to prevent released oil form re-adhering to the substrate.
Applicable Habitat Types	On bedrock, sand to gravel substrates, and man-made structures.
When to Use	Where heavy, but relatively fresh oil is stranded onshore. The oil must be heated above its pour point, so it will flow. Less effective on sticky oils.
Biological Constraints	Avoid wetlands or rich inter-tidal communities so that hot oil/water effluent does not contact sensitive habitats. Operations from boats will help reduce foot traffic in soft substrates and vegetation. Flushed oil must be recovered to prevent further oiling of adjacent areas.
Environmental Effects	Hot water contact can kill all attached animals and plants. If containment methods are not sufficient, oil may be flushed into downstream areas. Some trampling of substrate and biota will occur.
Waste Generation	Depends on the effectiveness of the collection method.

HIGH-PRESSURE HOT-WATER FLUSHING

Objective	To mobilize weathered and viscous oil strongly adhered to surfaces.
Description	Hot water (90°F up to 171°F) is sprayed with hand-held wands at pressures greater than 100 psi (720 kpa). If used without water flooding, this procedure requires immediate use of vacuum or sorbents to recover the oil/water runoff. When used with a flooding system, the oil is flushed to the water surface for collection by skimmers, vacuum, or sorbents.
Applicable Habitat Types	Gravel substrates, bedrock and man-made structures.
When to Use	When oil has weathered to the point that warm water at low pressure no longer effectively removes oil. To remove viscous oil from man-made structures for aesthetic reasons.
Biological Constraints	Use should be restricted so that the oil/water effluent does not drain across sensitive habitats (damage can result from exposure to oil, oiled sediments, and hot water). Should not be used directly on attached algae nor rich, inter-tidal areas. Released oil must be recovered to prevent further oiling of adjacent areas.
Environmental Effects	All attached animals and plants in the direct spray zone will be removed or killed, even when used properly. Oiled sediment may be transported to shallow near shore areas, contaminating them and burying benthic organisms.
Waste Generation	Depends on the effectiveness of the collection method.

STEAM CLEANING

Objective	To remove heavy residual oil from solid substrates or man-made structures.
Description	Steam or very hot water (171°F to 212°F) is sprayed with hand-held wands at high pressure (2000+ psi). Water volumes are very low compared to flushing methods.
Applicable Habitat Types	Man-made structures such as seawalls and riprap.
When to Use	When heavy oil residue must be removed for aesthetic reasons, and when hot-water flushing is not effective and no living resources are present.
Biological Constraints	Not to be used in areas of soft substrates, vegetation, or high biological abundance directly on, or below, the structure.
Environmental Effects	Complete destruction of all organisms in the spray zone. Difficult to recover all released oil.
Waste Generation	Depends on the effectiveness of the collection method. Usually sorbents are used, generating significant waste volumes.

SAND BLASTING

Objective	To remove heavy residual oil from solid substrates or man-made structures.
Description	Use of sandblasting equipment to remove oil from the substrate. May include recovery of used (oiled) sand in some cases.
Applicable Habitat Types	On heavily oiled bedrock, artificial structures such as seawalls and riprap.
When to Use	When heavy oil residue must be cleaned for aesthetic reasons, and even steam cleaning is not effective.
Biological Constraints	Not to be used in areas of soft substrate, vegetation or high-biological abundance directly below or adjacent to, the structures.
Environmental Effects	Complete destruction of all organisms in the blast zone. Possible smothering of downstream organisms. Un-recovered, used sand will introduce oiled sediments into the adjacent habitat.
Waste Generation	Will need to recover and dispose of oiled sand used in blasting.

EMULSION-TREATING AGENTS

Objective	To break or destabilize emulsified oil into separate oil and water phases. Can be used to prevent emulsion formation, increasing oil recovery rates, extending the window for dispersant application, or making burning possible.
Description	Emulsion-treating agents are surfactants that are applied to emulsified oil at low concentrations (0.1-2 percent). They can be injected into skimmer reservoirs to break the emulsion as it is skimmed from the water. They can be sprayed (similar to dispersants) directly onto slicks to break or prevent emulsions, although this type of application has not been used operationally.
Applicable Habitat Types	On all water environments where emulsified oil is present.
When to Use	Where storage capabilities are very limited, to separate the recovered, emulsified oil and water so that the water can be treated and discharged. On floating slicks, where emulsified oil can reduce skimmer efficiency.
Biological Constraints	There is insufficient information to evaluate biological constraints.
Environmental Effects	Because this is a new method, there are few data available to evaluate environmental effects. Effective dosages are one to two orders of magnitude lower than dispersants. Environmental concerns include the potential for increased oil content of separated water; whether the oil will be more readily dispersed; and how the treated oil will behave upon contact with skimming equipment, birds, mammals and shorelines.
Waste Generation	May enable recycling of oil/water mixtures by breaking down emulsions.

ELASTICITY MODIFIERS

Objective	To impart visco-elastic properties to floating oil, thereby increasing skimming rates.
Description	The product is applied as liquid, slurry, or solid onto the oil. Some mixing is required and is usually provided by the water spray during applications. Treated oil is rendered visco-elastic (gelatinous or semi-solid), but still fluid; there is no chemical change in the oil. The primary purpose is to increase skimmer efficiency removal rates while minimizing water recovery amounts. Increases the efficiency of some skimmers, but my clog other skimmers and pumps.
Applicable Habitat Types	On all water environments where oil can be contained for skimming. Not for use near wetlands nor debris because of increased adhesive properties of the treated oil.
When to Use	When skimmer efficiency is low. Must be used with booming or other physical containment. Not for use on heavy oils, which are already highly viscous.
Biological Constraints	Not suitable for vegetated shores or where there is extensive debris mixed in the oil. Should be avoided when birds or other wildlife cannot be kept away from the treated oil.
Environmental Effects	May increase the smothering effect of oil on organisms; therefore, the treatment should be considered only when recovered of the treated oil is likely.
Waste Generation	If skimming efficiency is increased, will reduce the volume of water in oil/water collections. Effects on recycling of oil treated with elasticity modifiers is unknown.

HERDING AGENTS

Objective	To collect or herd oil into a smaller area and thicker slick in order to increase recovery. Can be used to herd oil away from sensitive areas or to help keep oil contained when it is necessary to move a boom.
Description	These agents, which are insoluble surfactants and have a high spreading pressure, are applied in small quantities (1-2 gallons per lineal mile) to the clean water surrounding the edge of a fresh oil slick. They contain the oil, prevent spreading, but do not hold the spill in place. Hand-held or vessel-mounted systems can be used. Must be applied early in spill, when oil is still fluid.
Applicable Habitat Types	On all still water environments.
When to Use	Potential use for collection and protection. For collection, used to push slicks out from under docks and piers where it has become trapped, or in harbors where the equipment is readily accessible for use early in the spill. For protection in low-current areas, use to push slicks away from sensitive resources such as wetlands. Not effective in fast currents, rough seas, or rainfall.
Biological Constraints	Not suitable for use in very shallow water or fish-spawning areas.
Environmental Effects	Direct acute toxicity to surface-layer organisms possible, though available products vary greatly in the aquatic toxicity.
Waste Generation	Same as for manual oil recovery.

SOLIDIFIERS

Objective	To change the physical state of spilled oil from a liquid to a solid.
Description	Chemical agents (polymers) area applied to oil at rates of 10-45 percent or more, solidifying the oil min minutes to hours. Various broadcast systems, such as leaf blowers, water cannons, or fire suppression systems, can be modified to apply the product of large areas. Can be applied to both floating and stranded oil.
Applicable Habitat Types	All water environments, bedrock, sediments and artificial structures.
When to Use	When immobilization of the oil is desired, to prevent refloating from a shoreline, penetration into the substrate, or further spreading. However, the oil may not fully solidify unless the product is well mixed with the oil, and may result in a mix of solid and untreated oil. Generally not used on heavy oil spills which are already viscous.
Biological Constraints	Must be able to recover all treated material.
Environmental Effects	Available products are insoluble and have very low aquatic toxicity. Un-recovered solidified oil may have longer impact because of slow weathering rates.
Waste Generation	If skimming efficiency is increased, solidifiers may reduce the volume of water collected during oil recovery. Effects on recycling oil treated with solidifiers are unknown. Most solidifier producers state that treated oil can pass leachate tests, allowing disposal in landfills.

SHORELINE CLEANING AGENTS (SURFACE WASHING AGENTS)

Objective	To increase the efficiency of oil removal from contaminated substrates.
Description	Special formulations are applied to the substrate, as a presoak and /or flushing solution, to soften or lift weathered or heavy oils from the substrate to enhance flushing methods. The intent is to lower the water temperature and pressure required to mobilize the oil from the substrate during flushing. Some agents will disperse the oil as it's washed off the beach, others will not.
Applicable Habitat Types	On any habitat where water flooding and flushing procedures are applicable.
When to Use	When the oil has weathered to the point where it cannot be removed using ambient water temperatures and low pressures. This approach may be most applicable where flushing effectiveness decreases as the oil weathers.
Biological Constraints	When the product does not disperse the oil into the water column, the released oil must be recovered from the water surface. Use may be restricted where suspended sediment concentrations are high, near wetlands, and near sensitive near shore resources.
Environmental Effects	The toxicity and effects on dispersability of treated oil vary widely among products. Selection of a product should consider the toxicity of the product.
Waste Generation	Because treated oil must be recovered, waste generation is a function of recovery method, which often includes sorbents.

NUTRIENT ENRICHMENT (BIO-STIMULATION)

Objective	To accelerate the rate of oil hydrocarbon degradation due to natural microbial processes using a form of bioremediation that adds nutrients (generally nitrogen and phosphorus) that stimulate microbial growth.
Description	If nutrients are a limiting factor (as mentioned using the interstitial pore water) in an area where shoreline oiling has occurred, water-soluble nutrients can be applied by a spray irrigation system. Nutrients should be applied daily if the impacted area gets completely submerged by tides and waves and if maximum bio-stimulation is desired. If the impacted area gets submerged only during spring tides, the frequency of nutrient addition will be determined by the inter-tidal zone water coverage. Using slow-release granular or encapsulated nutrients or oleophilic fertilizer (which adheres to the oil residue on the surface_ should require less frequent addition, by time-series monitoring of interstitial pore water nutrient levels is needed to ensure target levels are being maintained, especially throughout the depth of the impacted inter-tidal zone.
Applicable Habitat Types	Any shoreline habitat type where access is allowed and nutrients are deficient.
When to Use	On moderate to heavy oiled substrates, after other techniques have been used to remove free product on lightly-oiled shorelines, where other techniques are destructive or ineffective; and where nutrients limit natural attenuation. Most effective on light to medium crude oils and fuel oils (asphaltenes tend to inhibit rapid bio-degradation). Less effective where oil residues are thick. Not considered for gasoline spills, which evaporate rapidly.
Biological Constraints	Avoid using ammonia-based fertilizers at highly elevated concentrations because unionized ammonia is toxic to aquatic life. Nitrate is an equally good nitrogen source, minus the toxicity. Sodium tripolyphosphate is a better phosphorus source than orthophosphates because it is more soluble in seawater. If nutrients are applied properly with adequate monitoring, eutrophication should not be a problem. Only nutrient additives proven to be nontoxic and effective in either the laboratory or the field should be used in the environment. Contact toxicity of oleophilic nutrients may restrict their use as other chemicals in the product could be more toxic to aquatic organisms in the presence of oil.
Environmental Effects	Detrimental effects to shoreline from foot or vehicle traffic caused by workers applying nutrients (unless nutrients are sprayed from a vessel or aircraft).
Waste Generation	None.

NATURAL MICROBE SEEDING (BIO-AUGMENTATION)

Objective	To accelerate natural microbial degradation of oil by using a form of bioremediation that adds high numbers of oil-degrading microorganisms.
Description	Formulations containing specific hydrocarbon-degrading microbes are added to the oiled area because indigenous hydrocarbon degraders are low in number, or those that are present cannot degrade the oil effectively. Since microbes require nitrogen and phosphorus to convert hydrocarbons to biomass, formulations containing these oil degraders must also contain adequate nutrients. Research studies conducted with bioengineered organisms or organisms enriched from different environments, grown in the laboratory to high numbers, and applied to an oiled beach to stimulate rapid bio-degradation, have failed to prove conclusively that seeding is effective. Bio-augmentation appears less effective than bio-stimulation because: 1) hydrocarbon degraders are ubiquitous in nature and, when an oil spill occurs at a given site, the influx of oil will cause an immediate increased response in the hydrocarbon degrading populations; but 2) if nutrients are in limited supply, the rate of oil degradation will be less than optimal; thus 3) supplying nutrients will enhance the process initiated by the spill, but adding microorganisms will not, because they still lack the necessary nitrogen and phosphorus to support growth.
Applicable Habitat Types	There is insufficient information on impact or effectiveness of this method to make a judgment on applicable habitat.
When to Use	There is insufficient information on impact of effectiveness of this method to make a judgment on when to use it.
Biological Constraints	Avoid using products containing ammonia-based fertilizers at elevated concentrations because un-ionized ammonia is toxic to aquatic life. Nitrate is an equally good a nitrogen source, minus the toxicity. If the protect containing nutrients is applied properly with adequate monitoring, eutrophication should not be a problem; but toxicity tests should be evaluated carefully, as other chemicals in the product could be toxic to aquatic organisms.
Environmental Effects	Detrimental physical effects to shoreline from foot or vehicle traffic caused by workers applying bio-augmentation products (unless nutrients are sprayed from a vessel or aircraft).
Waste Generation	None.

IN-SITU BURNING

Objective	To remove oil from the water surface or habitat by burning it in place.
Description	Oil floating on the water surface is collected into slicks at least 2-3 mm thick and ignited. The oil can be contained in fire-resistant booms, or by natural barriers such as ice or the shore. On land, oil can be burned when it is on a combustible substrate such as vegetation, logs and other debris. Oil can be burned from non-flammable substrates using a burn promoter. On sedimentary substrates, it may be necessary to dig trenches for oil to accumulate in pools to a thickness that will sustain burning. Heavy oils are hard to ignite but can sustain a burn. Emulsified oils may not ignite nor sustain a burn when the water content is greater that 30 or 50 percent.
Applicable Habitat Types	On most habitats except dry muddy substrates where heat may impact the biological productivity of the habitat. May increase oil penetration into permeable substrates. Use in marshes should be undertaken using special precautions. Not suitable for woody vegetation such as mangroves and hardwood swamps.
When to Use	On land, where there is heavy oil in sites neither amenable nor accessible to physical removal and it is important to remove the stranded oil quickly. In wetlands and mud habitats, a water layer will minimize impacts to sediments and roots. Many potential applications for spills in ice. There are many operational and public health limitations.
Biological Constraints	The possible effect of smoke on wildlife and populated areas should be evaluated.
Environmental Effects	Temperature and air quality effects are likely to be localized and short-lived. Toxicological impacts from burn residues have not been evaluated. On-water burn residues are likely to sink. On land, removal of residues is often necessary for crude and heavy oils. Limited data on burning oiled wetlands indicate recovery of wetland vegetation will depend on season of burn, type of vegetation, and water level in the marsh at time of burn.
Waste Generation	Any residues remaining after burning will need to be collected and land filled, but with an efficient burn will be a small fraction of the original oil volume.

4.5 Disposal

Storage Devices - Spill response operations can quickly generate large volumes of waste. Completing arrangements for the permanent disposition of wastes may require a great deal of time that could delay recovery operations. Therefore, facilities for the temporary storage of waste should be provided. There are many temporary storage operations that will meet operations requirements, including commercial products specifically designed for oil spill response, general-purpose devices, and containers-of-opportunity.

The selection of appropriate storage devices and methods is based on the type and volume of material to be stored. The following factors should be considered.	• Storage Location • Storage Capacity Required • Type of Material to Be Stored • Degree of permanence • Method of Disposal

The following table lists options for storage of wastes and debris associated with the oil spill cleanup operations and the appropriate timeframe for their use.

TYPE OF STORAGE	ESTIMATED TIMEFRAME FOR USE
Air Berm	Initial (days)
Container of Opportunity	Temporary (weeks)
Deck Barge with Deck Tanks	Temporary (weeks)
Drum 55-Gallon	Initial (days) – Temporary (weeks)
Dumpster (roll-off container)	Temporary (weeks) – Semi-permanent (months)
Dump truck (lined)	Initial (days)
Earthen Dike	Initial (days)
Earthen Pit	Initial (days)
Flexible, Towable Tank/Bladder	Temporary (weeks)
Heavy Duty Plastic Trash Bag	Initial (days) - Temporary (weeks)
Oilfield Tank	Semi-permanent (months)
Open-top barge, lash barge, or hopper barge	Temporary (weeks)
Pickup Truck (lined)	Initial (days) – Temporary (weeks) in Containers
Pillow Tank	Initial (days) – Temporary (weeks)
Plastic Swimming Pool	Initial (days)
Plastic Tubing	Initial (days)
Prefabricated Kit	Initial (days) – Temporary (weeks)
Production Facility	Temporary (weeks)
Skimmer Vessel	Initial (days)
Small Boat	Initial (days)
Supply Boat with Deck Tanks	Temporary (weeks)
Tank Barge	Temporary (weeks) – Semi-permanent (months)
Tanker	Semi-permanent (months)
Tank Truck	Temporary (weeks)
Vacuum or Air Conveyor Truck	Initial (days) – Temporary (weeks)

Disposal Methods

Non-oily wastes that are generated during cleanup operations can be disposed at local wastewater treatment plants and municipal landfills. Operations for disposing of oiled and hazardous wastes (subject to regulatory requirements include):	• Industrial Landfill
	• Landfarms
	• Open Burning
	• Portable Incineration
	• Commercial Incineration
	• Reprocessing
	• Reclaiming / Recycling

Transportation

Transportation of waste oil is subject to regulation. Usually, these must comply with regulations that stipulate a symbol and number that properly identify the material. Placards must be clearly visible from the back and sides of the vehicle. Permits may also be required for such vehicles as well as manifests that indicate the material being transported. A transportation contingency plan may be part of the regulatory requirements that includes emergency contacts product data, and spill cleanup procedures.

Equipment	Use
Dump Trucks	Removal of Oiled Material
Vacuum Trucks	Removal of Pooled Liquid
Garbage Cans	Removal of Oiled Material
Flatbed Trucks	Removal of Oiled Material
Liners	Lining Storage Containers
Protective Clothing	Personal Protection
Incinerators	Burning of Oiled Materials
Pumps / Hoses / Connectors	Transfer

Decontamination

Personnel involved in any oil spill cleanup operation can get very dirty. It is important to keep oily gear and dirty personnel out of the berthing facilities in order to maintain satisfactory living conditions. Once way to do this is to set up personnel decontamination facilities for workers coming of the job. This includes showers and lockers for workers to change into clean clothes as well as facilities for cleaning and storing soiled rain gear and rubber boots. A typical design of a decontamination facility can be set up as follows:

Decontamination capability must be provided in all responses and should address personnel, vessels, and equipment. Only approved cleaning chemicals should be used:

Personnel Decontamination	Personnel decontamination will be required throughout the response effort. Personnel decontamination units can be fabricated on site or commercial modular units may be leased or purchased.
Vessel Decontamination	Boats will accumulate oil on their hulls at and near the waterline. Soiled boats should not be brought into uncontaminated harbors without first being cleaned.
	Boat hulls may be manually washed from a low-freeboard pontoon float in a temporary slip constructed inside a protected, boomed-off area.
	Small skimmers may be pressure-washed while being suspended over a wash pit.
Equipment Decontamination	Equipment decontamination will be necessary as soon as equipment is moved through or to uncontaminated areas. This is especially evident as contaminated boom is moved from containment to protection or storage; or when cleanup equipment is moved from one area to another.

Investigation

A thorough investigation of the spill cause, cleanup activities, costs incurred and Spill Management System will be conducted by the Incident Commander and/or his designee following all response activities. A report will be prepared, discussed internally and submitted within Unified Command (if requested).

4.6 Booming/Response Locations

A Worst Case Discharge from the Dore Breakout Tank would drain north of the facility and enter the drainage canal which travels east on the north side of CR140 and proceeds northeast to the Missouri River. The roadside drainage turns into Fourmile Creek prior to convergence with the Missouri River. Hiland has identified booming and collection points along the drainage canal(s) to prevent spilled material from traveling downstream and impacting the Missouri River. Points were determined by ease of access for vacuum trucks and equipment.

Response Points

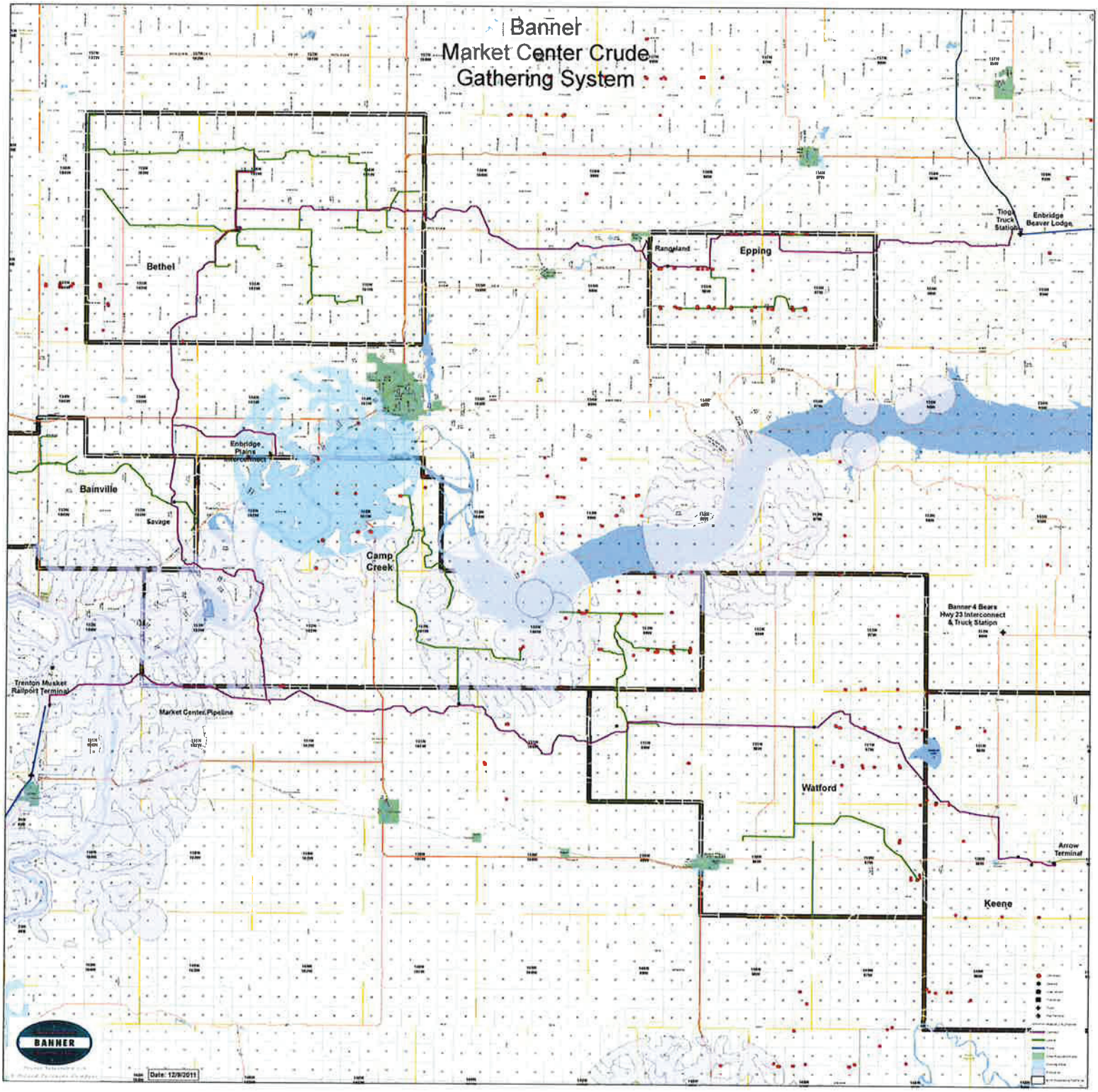
#	Location Description	Latitude	Longitude	Elevation
1	Drainage ditch north of facility	47° 55' 14.69"	104° 01' 39.25"	1894'
2	Field corner	47° 55' 17.47"	104° 00' 50.75"	1888'
3	CR 141 road crossing	47° 56' 06.03"	104° 00' 30.28"	1884'
4	Dead end road in field	47° 56' 32.04'	104° 00' 13.61"	1879'
5	Drainage ditch near production facility	47° 56' 57.77"	103° 59' 50.90"	1869'
6	Convergence with Missouri River	47° 58' 14.03"	103° 59' 20.97"	1864'

Missouri River Boat Ramp Locations

Ramp	Latitude	Longitude
Buford Boat Ramp (153rd Dr. NW)	47° 59' 09.65"	103° 58' 55.42"
Hwy 85 Ramp - Williston	48° 06' 28.59"	103° 42' 51.50"

DORE STATION
WORST CASE DISCHARGE
RESPONSE POINT MAP

MARKET CENTER PIPELINE SYSTEM
HIGH CONSEQUENCE AREAS (HCA) MAP


Banner
Market Center Crude
Gathering System
Bethel
Rangeland
Epping
Tioga Truck Station
Enbridge Beaver Lodge
Enbridge Plains Interconnect
Bainville
Savage
Camp Creek
Banner-4 Bears Hwy 23 Interconnect & Truck Station
Trenton Musker Railport Terminal
Market Center Pipeline
Watford
Arrow Terminal
Keene
BANNER
Date: 12/9/2011

4.7 Alternative Response Strategies

Hiland will consult with the OSRO, the State On-scene Coordinator and the Federal On-scene Coordinator about the possible use of alternative response strategies (specifically dispersants and in-situ burning). If the use of alternative response strategies looks like a feasible option, the procedure for obtaining Federal and State permission for use will be immediately implemented. The pipeline is onshore and is not in a pre-approved area for dispersants. The procedure for obtaining permission is listed below:

1. Determine the feasibility of alternative response strategies for the spill area with State and Federal Officials.

2. Develop an action plan for the use of the alternative response strategies at the spill area.

3. Submit the request for authorization to the RRT and the State, along with the required information listed in the Application\Checklist form.

Expedited Decision for Dispersant Use

An expedited approval process (EAP) for dispersant use or other chemicals will not apply to the Market Center Pipeline System. A spill on the Market Center Pipeline System will likely impact sensitive areas in and around the river immediately unlike a near shore area as the EAP was designed for. If the spill is discovered prior to entering a water source, Hiland will use mechanical methods to prevent it from entering the water.

SECTION 5 CONTACT LIST

5.1 Qualified Individual(s)

Mike Hein	**Mobile:**	406-480-3954
	Title	Area Manager
	Office Address:	105 26th St. E, Ste. 100 Williston, ND 58801
Keith Gustafson	**Mobile:**	406-973-2255
	Title	Terminal Operator
	Office Address:	14275 48th St. NE Williston ND 58801

THE QUALIFIED INDIVIDUAL HAS BEEN GRANTED FULL AUTHORITY TO IMPLEMENT THE FACILITY RESPONSE PLAN

5.2 Insurance Representative

Name	24-Hr Phone

5.3 Response Resources Supplier

Name	Address	24-Hr Phone
Clean Harbors – Williston Service Center	PO Box 1168 Watford, ND 58854	701-774-2201
Absorbent and Safety Solutions	2716 Roughneck Rd. Alexander, ND 58831	701-838-4558

SECTION 6 TRAINING

6.1 Training

Operations Personnel

All operations personnel are trained for the following:
Responsibilities under this response plan,
Name and address of, and the procedure for contacting, the operator on a 24-hour basis, and
Name of, and procedures for contacting, the Qualified Individual (QI) on a 24-hour basis.

Reporting Personnel

All reporting personnel are trained for the following:
Content of the information summary of the response plan,
Toll-free telephone number of the National Response Center,
Notification process (both internal and external),

Company Response Personnel

All company response personnel are trained for the following:
Characteristics and hazards of the discharge,
Incident Command System,
HAZWOPER,
Conditions that are likely to worsen the emergency, including the consequences of facility malfunctions or failures, and the appropriate corrective actions.
Steps necessary to control any accidental discharges and to minimize the potential for fire, explosion, toxicity, or environmental damage, and
Proper firefighting procedures and use of equipment, fire suits and breathing apparatus.

6.2 Training Records

Training records, for each individual that has been trained, are maintained at the Hiland Enid, Oklahoma Headquarters and are kept for as long as that individual is assigned those duties.

SECTION 7 DRILLS

7.1 Drills

The Hiland drill program is based on the Preparedness for Response Exercise Program (PREP) guidelines.

#	TYPE EXERCISE	TIMING	COMMENTS
1.	QI Notification	Quarterly	- Exercise communications between Facility personnel and QI (IC). - Contact by telephone, radio, message- pager, or fax with confirmation of receipt. - Must be conducted during non-business hours.
2.	Spill Management Team Table-Top Exercise	Annually	- Exercise the SMT's organization, communication, and decision making in spill managing a spill response. - Test 15 PREP components in 3-year period.
3.	Equipment Deployment With OSRO Equipment Sited in Plan.	Annually	- Demonstrate the ability of the personnel to deploy and operate their response equipment. - Ensure the response equipment is in proper working order. - Representative sample = 1,000' each type boom, except bottom seal boom (50'). - Each type skimmer in each type operating environment. - Facility owner/operator ensures that OSRO identified in response plan provides adequate documentation that requirements for this exercise have been met.
	Hiland Owned Equipment	Semi-Annually	- Demonstrate ability of facility personnel to deploy and operate equipment. - Ensure equipment is proper working order.
4.	Discharge Prevention Meetings	Annually	- Meetings should be held once each year to discuss new topics in Discharge Prevention Measures throughout the facility.
5.	Unannounced and Area Exercises	Periodically	- Unannounced and area SMT Table-Top-Exercises will be held on a periodic basis.

7.2 Records

Records of all drills/exercises will be maintained at the Hiland Corporate Office in Enid, Oklahoma for a period of 5 years.

SECTION 8 PLAN REVIEW

8.1 Plan Review Matrix

Plan Review	***This plan will be reviewed at least once every 5 years.***	
	If a new or different operations condition of information that substantially affects the implementation of this response plan, Hiland will immediately modify the response plan to address such changes. Examples of changes in operating conditions that would cause a significant change to the response plan are:	
	1	An extension of the existing pipeline or construction of a new pipeline or purchase of a pipeline in a response zone not covered by the previously approved plan;
	2	Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan, such as a change to the worst case discharge volume;
	3	The type of oil transported, if the type affects the required response resources, such as a change from crude oil to gasoline;
	4	The name of the oil spill removal organization (OSRO);
	5	Change in emergency response procedures;
	6	Change in Qualified Individual(s);
	7	A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities; and
	8	Any other information relating to circumstances that may affect full implementation of the plan.
	9	Post-drill or post-incident results.
Revision Distribution	All plan amendments / revisions will be prepared and submitted to PHMSA, as well as, each plan holder within 30 days after the required plan review.	

SECTION 9 RESPONSE ZONE APPENDIX

9.1 Qualified Individual

Mike Hein	**Mobile:**	406-480-3954
	Title	Area Manager
	Office Address:	105 26th St. E, Ste. 100 Williston, ND 58801
Keith Gustafson	**Mobile:**	406-973-2255
	Title	Terminal Operator
	Office Address:	14275 48th St. NE Williston ND 58801

THE QUALIFIED INDIVIDUAL HAS BEEN GRANTED FULL AUTHORITY TO IMPLEMENT THE FACILITY RESPONSE PLAN

9.2 QI Notification Procedures

Notification of the Qualified Individual(s) will be made by telephone, starting first with the office numbers, followed by mobile and then pagers. Qualified Individuals are available 24-hours per day by one of the contact methods. Alternate methods of contacting the Qualified Individuals will be two-way radios when in close proximity and e-mail where available.

9.3 Spill Detection & Mitigation Procedures

The Market Center Gathering Pipeline System is protected by high/low pressure devices and a SCADA system. The pipeline is monitored during operations by Hiland personnel at Enid, Oklahoma Corporation Headquarters. The procedures used to prevent and quickly detect spills are described in the Operations and Maintenance Procedures Manual. In addition to the electronic monitoring system, leaks or ruptures are located by routine pipeline inspections. The Market Center Gathering Pipeline System Foreman is responsible for leak detection along the Market Center Gathering Pipeline System.

Initial Detection	
1	Shut down pipeline operations to minimize the volume of released material as soon as possible.
2	Alert other people in the area of the situation and to any potential dangers caused by the release. Contact the local Sheriff if necessary to prevent personnel from entering affected area.
3	Determine the source and identify of the material. (Any response actions should be attempted only if safe and personnel are properly trained)
4	Fill out Spill Report Information Form (Section 2) and report observations to the Dispatcher and the supervisor(s) of the affected facility.
5	Standby to answer questions or perform tasks as directed by the Qualified Individual.

9.4 Oil Spill Response Organization (OSRO)

Clean Harbors – Williston Service Center	**701-774-2201**
Absorbent and Safety Solutions – 24 Hour	**701-838-4558**

9.5 Response Activities and Resources

Hiland Crude has a Master Service Agreement (MSA) with Clean Harbors to respond to a release on the Market Center Gathering System on a 24-hour basis. Clean Harbors has the equipment necessary to properly respond to a Worst Case Discharge (WCD) on the Pipeline. Hiland Crude does not own or maintain any company-owned response equipment.

A Tier 1 (with 12 hr) response from Clean Harbors will be dispatched from the Williston, ND office. If the incident requires additional resources, Hiland will mobilize resources from additional Clean Harbors locations and Absorbent and Safety Solutions in a Tier 2 (36 hr) and Tier 3 (60 hr) timeframe.

Transfer hoses, connections equipment, portable pumps and all other pertinent equipment is available are loaded on quick response trailers. Vacuum trucks and portable storage equipment are available to receive oil from the pipeline and Clean Harbors has authorized facilities in which to dispose of the oil if necessary.

9.6 Agency Notifications

FEDERAL NOTIFICATIONS

NATIONAL RESPONSE CENTER • USCG HEADQUARTERS – WASHINGTON, D.C.	
24 Hour Phone	**800-424-8802**

The NRC is the **sole** federal point of contact for reporting oil and chemical spills which enter or threaten to enter the navigable waters of the United States. If you have a spill to report, contact the NRC via the toll-free number or visit the NRC Web Site (http://www.nrc.uscg.mil) for additional information on reporting requirements and procedures. For those without 800 access, please contact the NRC at 202-267-2675.

ENVIRONMENTAL PROTECTION AGENCY • REGION 8 – DENVER, CO	
Region 8 Spill Hotline	**800-227-8914**

Calls to the National Response Center will automatically be forwarded to the appropriate EPA Regional Office. However, a courtesy notification can be made directly to the applicable region.

The Environmental Protection Agency must be notified of the following:

1. Any unanticipated bypass exceeding effluent limitation by permit.
2. Any upset condition, which exceeds any effluent limitation in permit.
3. Violation of maximum daily discharge limitation or daily minimum toxicity limitation.
4. Chemical spills of a reportable quantity.

Oral notification is required within 24 hours of the incident. No written report is required.

STATE NOTIFICATIONS

NORTH DAKOTA DEPARTMENT of HEALTH	
24 Hour Phone	**800-222-6362**
	Any spill or discharge of waste which may cause pollution of waters of the state must be reported immediately (NDAC 33-16-02.1-11 paragraph 4, bottom of page 22). The owner, operator, or person responsible for a spill or discharge must notify the department as soon as possible (701.328.5210) or the North Dakota hazardous materials emergency assistance and spill reporting number (800.472.2121) and provide all relevant information about the spill. Depending on the severity of the spill or accidental discharge, the department may require the owner or operator to: • Take immediate remedial measures; • Determine the extent of pollution to waters of the state; • Provide alternate water sources to water users impacted by the spill or accidental discharge; or • Any other actions necessary to protect human health and the environment. Non-emergency releases may be reported by filling out the online Environmental Incident Report Form: (https://www.dmr.nd.gov/oilgas/spills/eirform.asp)

Montana Department of Environmental Quality

DEQ SPILL REPORTING LINE	**800-457-0568 406-841-5000**
AFTER HOURS (DES)	**406-324-4777**

Petroleum releases from regulated above ground storage tanks (AST) and underground storage tanks (UST) must be reported to the DEQ within 24 hours of being detected as required by ARM 17.56.501. DEQ must be notified of releases greater than 25 gallons of petroleum from an AST or UST. Petroleum releases less than 25 gallons in volume must be contained and cleaned up within 24 hours. If cleanup cannot be completed within 24 hours, owners and operators must report the release to DEQ. DEQ maintains a leak line for reporting releases from regulated UST and AST facilities at 406-841-5000 or 800-457-0568. After normal business hours, releases must be reported to the DES 24-hour phone number 406-324-4777. Releases must be reported to a live person – voice mails are not adequate notification.

All other releases and spills should be reported immediately to the state's Disaster and Emergency Services (DES) 24-hour phone number 406-324-4777. If no one can be reached at that number, the release or spill may be reported to the Montana Department of Environmental Quality (DEQ) duty officer at 406-431-0014. In addition to the following reporting requirements, notifications may be required by permits issued by state, federal or local government agencies.

The following types of spills **must** be reported to DEQ/DES:

- Releases or spills of hazardous substances in amounts that meet or exceed the reportable quantities in 40 CFR Part 302. Notification to DES and NRC is required.
- Spills, overfills and suspected releases from underground storage tanks and petroleum storage tanks.
- Releases or spills of any materials that would lower the quality of groundwater below water quality standards.

The following types of spills should be reported to DEQ/DES:

- Spills that enter or may enter state waters or a drainage that leads directly to surface water;
- Spills that cause sludge or emulsion beneath the surface of the water, stream banks or shorelines.
- Spills that cause a film, sheen or change the color of the water, stream banks or shorelines; or
- Spills of twenty-five (25) gallons or more of any petroleum product such as crude oil, gasoline, diesel fuel, aviation fuel, asphalt, road oil, kerosene, fuel oil, produced water, injection water or combination thereof; and derivatives of mineral, animal or vegetable oils.

http://www.deq.mt.gov/enf/spill.mcpx

9.7 Worst Case Discharge Volume

The worst case discharge (WCD) would occur if the crude oil breakout tank at Gore Station had a release per 194.105 The following calculation takes into account adverse weather conditions:		
Tank Capacity (bbl)		100,000
Prevention Credits		%
Secondary Containment > 100%	Containment capacity is greater than 110% of the breakout tank capacity	50
Built to API Standards	Tank is built to API 653 Standards	10
Overfill Protection Standards	Tank has both a radar tank gauging system with high and high-high alarms and an independent high-high device that closes an MOV on incoming stream.	5
Testing/Cathodic Protection	Tank is cathodically protected and is inspected annually.	5
WCD Calculation		Tank Capacity: 100,000 - Prevention Credits: 70,000
WCD Volume		**30,000 Barrels**

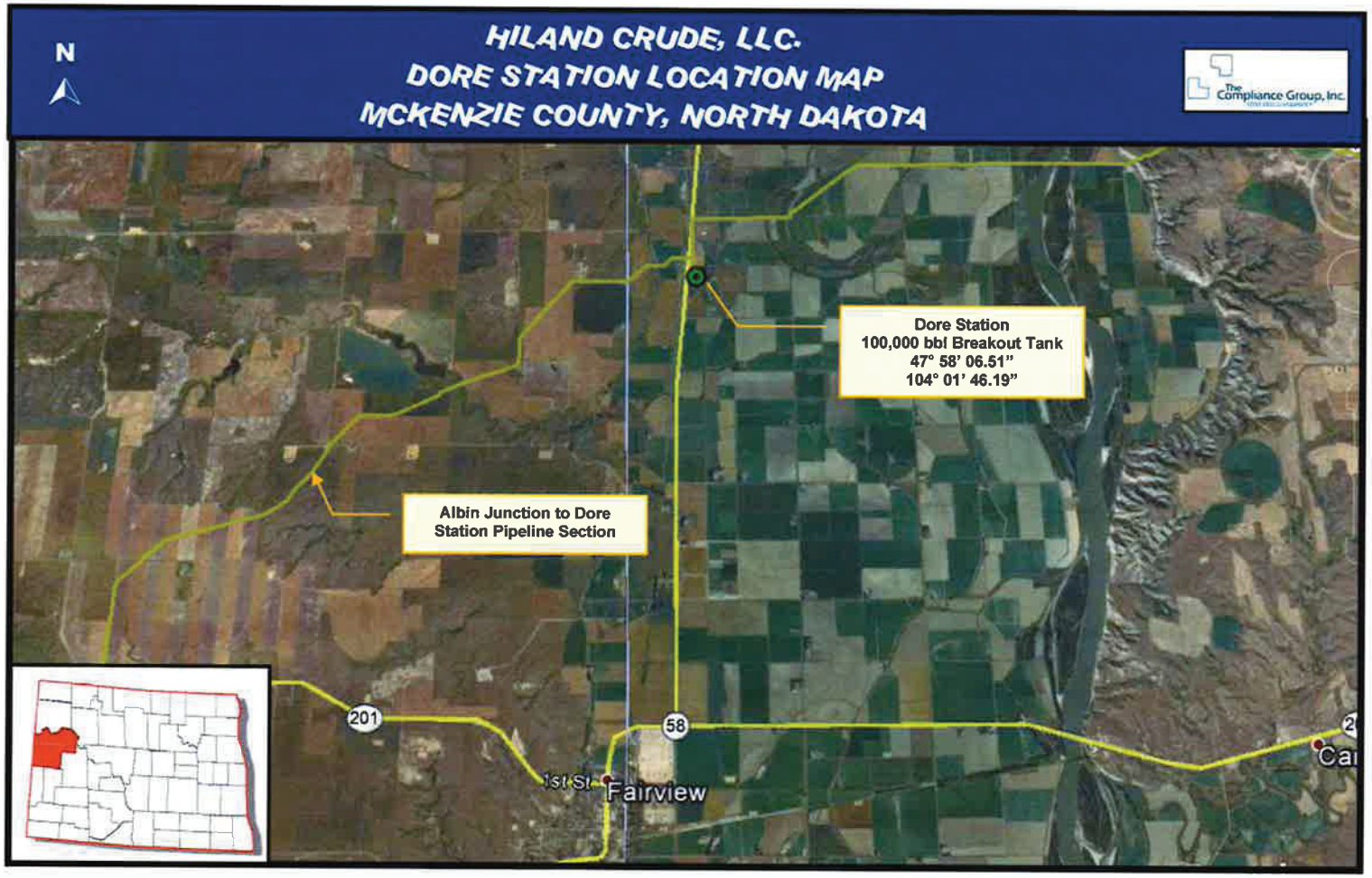
9.8 Worst Case Discharge Methodology

WCD Methodology: Based on the WCD source comparison, the breakout tank posed the maximum drainage volume in the response zone.

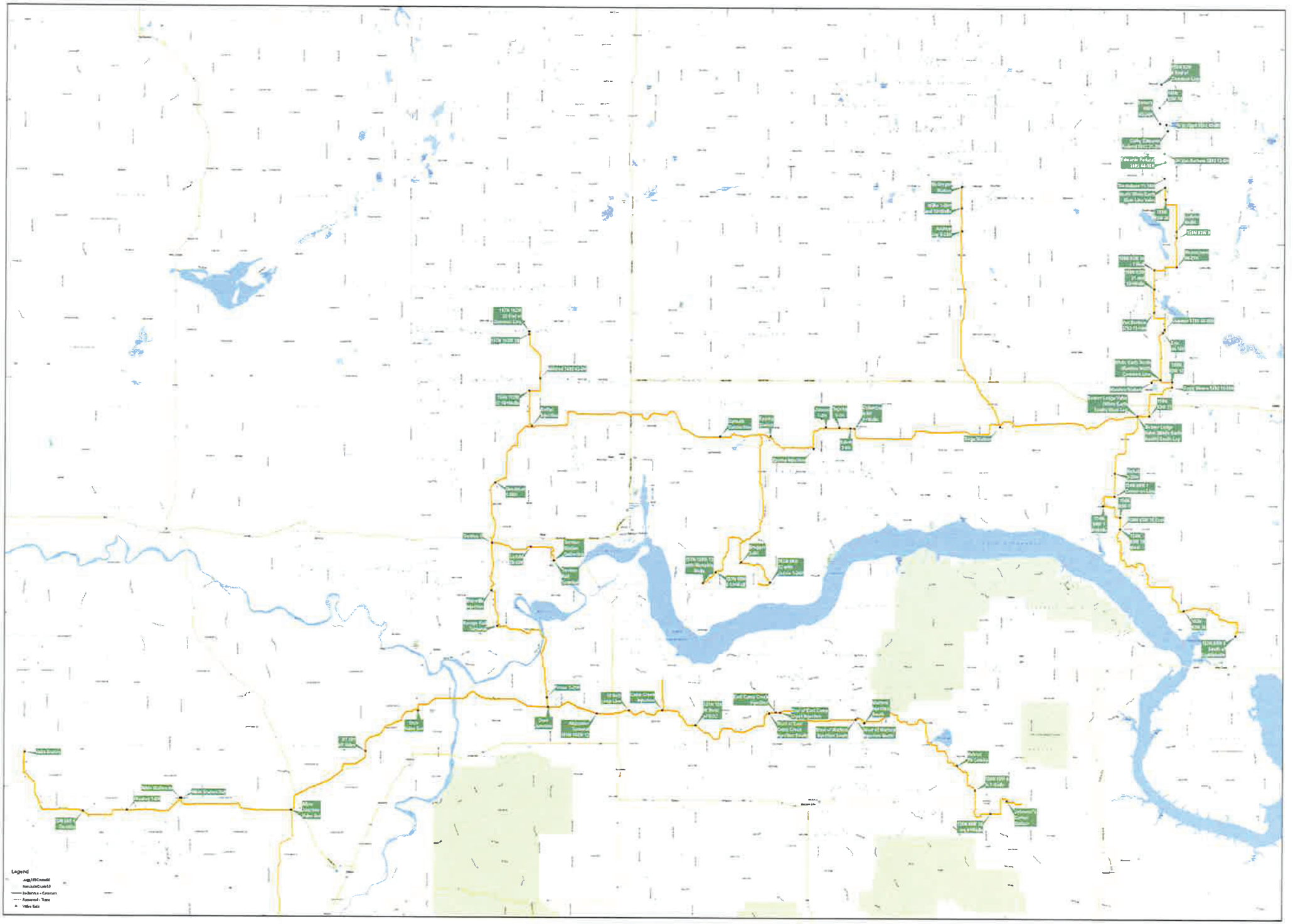
Worst Case Discharge Source Comparison:

1	Pipeline (8" – 32.27 mile Beaver Lodge to Saddlebutte section) Formula: (.6667'/2) x (.6667/2) x 3.147 x 170,385 x 7.48052	10,612 barrels
2	Breakout Tank - See above for calculation	30,000 barrels
3	Maximum Historical Discharge for Market Center Gathering Pipeline System	No reportable spills have occurred on this system

9.9 System Map(s)



Market Center Gathering Pipeline System Map(s)


Legend

9.10 Pipeline Sections

Pipe Section	Pipe O.D. (in)	Length (mi)	WP (psig)	County	Sensitivities*
Vaira Station to Albin Station	8.625	19.47	1480	Richland (MT)	Charlie Creek, Redwater Creek, Three Buttes Creek
Albin Station to Albin Junction	8.625	10.8	1480	Richland (MT)	Lone Tree Creek, North Fork Lone Tree Creek
Albin Junction to Dore Station					
Albin Junction to H1 MLV	12.75	9.57	1480	Richland (MT)	First Hay Creek, North Fork First Hay Creek, Natural Spring, Second Hay Creek
H1 MLV to Dore Station	12.75	7.63	1480	Richland (MT) / McKenzie (ND)	Fourmile Creek
Dore Station to Dore Junction					
Dore Station to Yellowstone River West BV	8.625	3.61	1480	McKenzie (ND)	Yellowstone River, Nohly Lake, Missouri River, Burlington Northern Railroad
Yellowstone River West BV to Yellowstone River East BV	8.625	.75	1480	McKenzie (ND)	Yellowstone River
Yellowstone River East BV to Dore Junction	8.625	8.65	1480	McKenzie (ND)	Yellowstone River, Briar Creek
Dore Junction to Camp Creek					
Dore Junction to 10" Loop MLV	8.625 & 10.75	7.89	1480	McKenzie (ND)	Camp Creek
10" Loop MLV to Camp Creek	8.625 & 10.75	3.45	1480	McKenzie (ND)	Timber Creek
Camp Creek to East Camp Creek					
Camp Creek to 8" Loop Line	8.625	3.75	1480	McKenzie (ND)	Tobacco Garden Creek
8" Loop Line to East Camp Creek	8.625	9.39	1480	McKenzie (ND)	Tobacco Garden Creek
East Camp Creek to Watford Injection	8.625	9.31	1480	McKenzie (ND)	Tobacco Garden Creek, Prong Creek
Watford Injection to Johnson's Corner					
Watford Injection to Nelson Pit Combo	8.625	13.68	1480	McKenzie (ND)	Prong Creek, Little Missouri National Grassland, Demick's Lake
Nelson Pit Combo to Johnson's Corner	8.625	9.67	1480	McKenzie (ND)	Johnson's Corner, Bear Den Creek

Pipe Section	Pipe O.D. (in)	Length (mi)	WP (psig)	County/Parish	Sensitivities*
Dore Junction to Savage Rail Terminal					
Dore Junction to Missouri River South	8.625	6.51	1480	McKenzie (ND)	Missouri River
Missouri River South to Missouri River North	8.625	.37	1480	Williams (ND)	Missouri River, Eightmile Creek
Missouri River North to Savage Rail Terminal	8.625	4.62	1480	Williams (ND)	Eightmile Creek, Trenton State WMA, Lewis and Clark WMA
Savage Rail Terminal to Trenton T					
Savage Rail to Bainville Injection	8.625	3.19	1480	Williams (ND)	Burlington Northern Railroad
Bainville Injection to Trenton T	8.625	4.36	1480	Williams (ND)	Eightmile Creek
Trenton T to Trenton Rail Terminal	8.625	7.15	1480	Williams (ND)	Painted Woods Creek
Trenton T to Bethal Injection	8.625	12.77	1480	Williams (ND)	Painted Woods Creek
Bethel Injection to Epping Station	8.625	25.0	1480	Williams (ND)	Camp Creek, Cow Creek, Stoney Creek, Epping Dam Lake, Little Muddy River
Epping Station to Tioga Station					
Epping Station to Epping Injection	8.625	4.22	1480	Williams (ND)	Stoney Creek
Epping Injection to Tioga Station	8.625	20.38	1480	Williams (ND)	Stoney Creek, Beaver Creek
Tioga Station to Beaver Lodge	8.625	13.24	1480	Williams/Mountrail (ND)	Dry Fork Creek, White Earth River
Beaver Lodge to Saddlebutte (White Earth South)	8.625	32.27	1480	Mountrail (ND)	White Earth River, Lake Sakakawea
Beaver Lodge to North White Earth North MLV					
Beaver Lodge to WEN Common Line	8.625	7.28	1480	Mountrail (ND)	Manitou Lake
WEN Common Line to North WEN MLV	8.625	22.21	1480	Mountrail/Burke (ND)	Cottonwood Lake, National Waterfowl Production Area, Powers Lake, Fish Lake, Helde Lake
Tioga Station to McGregor Station	8.625	22.14	1480	Williams	National Waterfowl Production Area, Burlington Northern Railroad.

9.11 Material Safety Data Sheets (MSDS)

Following is the MSDSs for liquids transported by the Market Center Gathering Pipeline System. MSDS sheets are also available at the North Dakota Field Office and Enid, Oklahoma Corporate Office.

MATERIAL SAFETY DATA SHEET

Crude Oil (Sour)

MSDS Number: HP013
Issue Date: 12/14/12
Revision: NEW

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION - SECTION 1

Company Identification: Hiland Crude
302 N. Independence, Suite 100
Enid, OK 73702

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT:
In the continental U.S., call: Daytime: (580) 242-6040
After Hours: (800) 495-0653
For additional non-emergency information, call: (580) 616-2024

Product Name: Crude Oil (Sour)
CAS Number: 8002-05-9
Synonym(s): Crude Petroleum (Sour)
Chemical Formula: Mixture

COMPOSITION/ INFORMATION ON INGREDIENTS - SECTION 2

Chemical Name	OSHA PEL (ppm)	ACGIH TLV (ppm)	Other (ppm)	CAS Number	% By Weight
Petroleum Crude Oil	500 ppm	350 mg/m^3	1100 ppm IDLH	8002-05-9	95 - 100
Hydrogen Sulfide	10 ppm	100 ppm	15 ppm STEL	7783-06-4	0 - 2
Benzene	10 ppm	0.5 ppm	2.5 STEL	71-43-2	0 - 2

Note: *These analytical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

HEALTH EFFECTS SUMMARY - SECTION 3

The following information summarizes human experience and results of scientific investigations reviewed by health professionals for hazard evaluation of and development of Precautionary Measures and Occupational Control Procedures recommended in this document.

Primary Route of Entry: Dermal contact and ingestion.
Medical Conditions Which Might be Aggravated: Preexisting skin, eye and respiratory disorders may be aggravated by exposure.
Acute Exposure Effects:

1. **Skin:** Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.
2. **Eyes:** Irritation.
3. **Inhalation:** Irritation
4. **Ingestion:** May be toxic.

EMERGENCY AND FIRST AID PROCEDURES - SECTION 4

Skin: Remove contaminated clothing. Wash with soap and large amounts of water. If irritation develops, obtain medical attention.
Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation: Move to fresh air. Provide artificial respiration if not breathing. Get medical attention if breathing becomes difficult or respiratory irritation persists.
Ingestion: Do not induce vomiting! Do not give liquids! Obtain immediate medical assistance.

FIRE PROTECTION INFORMATION - SECTION 5

Flash Point: 20 - 100° F
Auto ignition Temperature: Not Determined.
Combustibility: Not Determined
Flammable Limits in Air, % by Volume: **LEL:** Not determined **UEL:** Not determined
Extinguishing Media: Use dry chemical, foam or carbon dioxide to extinguish flames.
Special Fire Fighting Procedures: Avoid using water streams. Firefighters should wear proper protective equipment and self-contained breathing apparatus.
Unusual Fire and Explosive Hazards: Can be ignited by heat, spark, or flame. Do not expose to heat, sparks, flame, static, or other sources of ignition.

ACCIDENTAL RELEASE MEASURES - SECTION 6

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Notify appropriate local, state and federal agencies. Protect bodies of water.

HANDLING AND STORAGE PROCEDURES - SECTION 7

Handle as a flammable liquid. Keep away from heat, sparks, flame, and other sources of ignition. Bond and ground containers during product transfer.

OCCUPATIONAL CONTROL PROCEDURES - SECTION 8

Eye Protection: Wear chemical type goggles or face shield.
Skin Protection: Neoprene or nitrile gloves to prevent skin contact.
Respiratory Protection: Not required under normal conditions.
Ventilation: Use explosion-proof equipment to maintain adequate ventilation to meet occupational exposure limits.

PHYSICAL PROPERTIES - SECTION 9

Appearance: Clear colorless liquid
Odor: Similar to Gasoline
Boiling Point: -20° to 600° F (-29° to 316° C)
Vapor Density: 3.4 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .5 to .75 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Hydrocarbons

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

PHYSICAL PROPERTIES - SECTION 9

Appearance: Amber, black, brown to greenish black liquid
Odor: Hydrocarbon
Boiling Point: 100° to 1000° F
Vapor Density: 3 to 5 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .7 to .9 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Not determined

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

REACTIVITY DATA - SECTION 10

Stability: Stable under normal conditions.
Incompatibility: Strong oxidizers.
Hazardous Decomposition Products: Combustion may produce carbon monoxide, aldehydes, or other hydrocarbons.
Hazardous Polymerization: Polymerization will not occur.

TOXICOLOGY INFORMATION - SECTION 11

Toxicity: Skin – rabbit; >2 ml/kg
Inhalation – No data available
Oral – rat; >5 gm/kg
Teratogenicity: Not established.
Reproductive Toxicity: Not established.
Mutagenicity: Some crude oils have been positive.
Synergistic Products: Not established.
Sensitization to Product: Not established.
Carcinogenicity: Dermal carcinogenicity positive in mice:

NTP	IARC	OSHA
No	No	No

ECOLOGICAL INFORMATION - SECTION 12

Keep out of sewers, drainage and waterways.

DISPOSAL CONSIDERATIONS - SECTION 13

Dispose of container and unused contents in accordance with federal, state and local requirements.

TRANSPORTATION INFORMATION - SECTION 14

DOT
Proper Shipping Name: Petroleum Crude Oil
Hazard Class/I.D. No./Packing Group: 3, UN 1267, I
Label: Flammable liquid and Poison

EMERGENCY RESPONSE GUIDEBOOK – Guide 128 & 131

REGULATORY INFORMATION - SECTION 15

TSCA Inventory: No

Reportable Quantity (RQ) Under US EPA CERCLA Regulations: Film or sheen upon or discoloration of any water surface.

SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Yes

Section 313 Toxic Chemical(s): Yes - Benzene

Hazardous Chemical(s) Under OSHA Hazard Communication Standard: Yes.

OTHER INFORMATION - SECTION 16

Hazard Ratings:

NFPA	HMIS
Fire -- 3	**Health** – 1
Health -- 2	**Flammability -- 3**
Reactivity -- 0	**Reactivity -- 0**
Specific Hazard -- N/A.	**PPE** – Neoprene or nitrile gloves

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

MATERIAL SAFETY DATA SHEET

Crude Oil

MSDS Number: HP012
Issue Date: 1/08
Revision: 12-14-12

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION - SECTION 1

Company Identification: Hiland Crude
302 N. Independence, Suite 100
Enid, OK 73702

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT:
In the continental U.S., call: Daytime: (580) 242-6040
After Hours: (800) 495-0653
For additional non-emergency information, call: (580) 616-2024

Product Name: Crude Oil
CAS Number: 8002-05-9
Synonym(s): Crude Petroleum
Chemical Formula: Mixture

COMPOSITION/ INFORMATION ON INGREDIENTS - SECTION 2

Chemical Name	OSHA PEL (ppm)	ACGIH TLV (ppm)	Other (ppm)	CAS Number	% By Weight
Petroleum Crude Oil	500 ppm	350 mg/m^3	1100 ppm IDLH	8002-05-9	95 - 100
Benzene	10 ppm	0.5 ppm	2.5 STEL	71-43-2	0 - 2

Note: *These analytical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

HEALTH EFFECTS SUMMARY - SECTION 3

The following information summarizes human experience and results of scientific investigations reviewed by health professionals for hazard evaluation of and development of Precautionary Measures and Occupational Control Procedures recommended in this document.

Primary Route of Entry: Dermal contact and ingestion.
Medical Conditions Which Might be Aggravated: Preexisting skin, eye and respiratory disorders may be aggravated by exposure.
Acute Exposure Effects:

1. **Skin:** Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.
2. **Eyes:** Irritation.
3. **Inhalation:** Irritation
4. **Ingestion:** May be toxic.

EMERGENCY AND FIRST AID PROCEDURES - SECTION 4

Skin: Remove contaminated clothing. Wash with soap and large amounts of water. If irritation develops, obtain medical attention.
Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation: Move to fresh air. Provide artificial respiration if not breathing. Get medical attention if breathing becomes difficult or respiratory irritation persists.
Ingestion: Do not induce vomiting! Do not give liquids! Obtain immediate medical assistance.

FIRE PROTECTION INFORMATION - SECTION 5

Flash Point: 20 - 100° F
Auto ignition Temperature: Not Determined.
Combustibility: Not Determined
Flammable Limits in Air, % by Volume: **LEL:** Not determined **UEL:** Not determined
Extinguishing Media: Use dry chemical, foam or carbon dioxide to extinguish flames.
Special Fire Fighting Procedures: Avoid using water streams. Firefighters should wear proper protective equipment and self-contained breathing apparatus.
Unusual Fire and Explosive Hazards: Can be ignited by heat, spark, or flame. Do not expose to heat, sparks, flame, static, or other sources of ignition.

ACCIDENTAL RELEASE MEASURES - SECTION 6

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Notify appropriate local, state and federal agencies. Protect bodies of water.

HANDLING AND STORAGE PROCEDURES - SECTION 7

Handle as a flammable liquid. Keep away from heat, sparks, flame, and other sources of ignition. Bond and ground containers during product transfer.

OCCUPATIONAL CONTROL PROCEDURES - SECTION 8

Eye Protection: Wear chemical type goggles or face shield.
Skin Protection: Neoprene or nitrile gloves to prevent skin contact.
Respiratory Protection: Not required under normal conditions.
Ventilation: Use explosion-proof equipment to maintain adequate ventilation to meet occupational exposure limits.

PHYSICAL PROPERTIES - SECTION 9

Appearance: Clear colorless liquid
Odor: Similar to Gasoline
Boiling Point: -20° to 600° F (-29° to 316° C)
Vapor Density: 3.4 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .5 to .75 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Hydrocarbons

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

PHYSICAL PROPERTIES - SECTION 9

Appearance: Amber, black, brown to greenish black liquid
Odor: Hydrocarbon
Boiling Point: 100° to 1000° F
Vapor Density: 3 to 5 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .7 to .9 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Not determined

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

REACTIVITY DATA - SECTION 10

Stability: Stable under normal conditions.
Incompatibility: Strong oxidizers.
Hazardous Decomposition Products: Combustion may produce carbon monoxide, aldehydes, or other hydrocarbons.
Hazardous Polymerization: Polymerization will not occur.

TOXICOLOGY INFORMATION - SECTION 11

Toxicity: Skin – rabbit; >2 ml/kg
Inhalation – No data available
Oral – rat; >5 gm/kg
Teratogenicity: Not established.
Reproductive Toxicity: Not established.
Mutagenicity: Some crude oils have been positive.
Synergistic Products: Not established.
Sensitization to Product: Not established.
Carcinogenicity: Dermal carcinogenicity positive in mice:

NTP	IARC	OSHA
No	No	No

ECOLOGICAL INFORMATION - SECTION 12

Keep out of sewers, drainage and waterways.

DISPOSAL CONSIDERATIONS - SECTION 13

Dispose of container and unused contents in accordance with federal, state and local requirements.

TRANSPORTATION INFORMATION - SECTION 14

DOT
Proper Shipping Name: Petroleum Crude Oil
Hazard Class/I.D. No./Packing Group: 3, UN 1267, I
Label: Flammable liquid

EMERGENCY RESPONSE GUIDEBOOK – Guide 128

REGULATORY INFORMATION - SECTION 15

TSCA Inventory: No

Reportable Quantity (RQ) Under US EPA CERCLA Regulations: Film or sheen upon or discoloration of any water surface.

SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Yes

Section 313 Toxic Chemical(s): Yes - Benzene

Hazardous Chemical(s) Under OSHA Hazard Communication Standard: Yes.

OTHER INFORMATION - SECTION 16

Hazard Ratings:

NFPA	HMIS
Fire -- 3	**Health** – 1
Health -- 1	**Flammability -- 3**
Reactivity -- 0	**Reactivity -- 0**
Specific Hazard -- N/A.	**PPE** – Neoprene or nitrile gloves

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

MATERIAL SAFETY DATA SHEET

Natural Gas Condensates

MSDS Number: HP008
Issue Date: 1/08
Revision: 12-14-12

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION - SECTION 1

Company Identification: Hiland Partners.
302 N. Independence, Suite 100
Enid, OK 73702

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT:
In the continental U.S., call: Daytime: (580) 242-6040
After Hours: (866) 431-3635
For additional non-emergency information, call: (580) 616-2024

Product Name: Natural Gas Condensates

Synonym(s): Gas drip, field liquids, field condensate

CAS Number: 68919-39-1

Chemical Formula: Mixture

COMPOSITION/ INFORMATION ON INGREDIENTS - SECTION 2

Chemical Name	OSHA PEL (ppm)	ACGIH TLV (ppm)	Other (ppm)	CAS Number	% By Weight
Hydrocarbons	None	None	None	64741-47-5	70-99
n-Hexane	500	50	1100 IDLH	110-54-3	5-25
Toluene	200, Ceiling 300	100, STEL 150	500 IDLH	108-88-3	1-15
Xylene	100	100, STEL 150	900 IDLH	1330-20-7	1-12
Benzene	1, STEL 5	.1, STEL 1	500 IDLH	71-43-2	1-2

Note: *These analytical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

HEALTH EFFECTS SUMMARY - SECTION 3

The following information summarizes human experience and results of scientific investigations reviewed by health professionals for hazard evaluation of and development of Precautionary Measures and Occupational Control Procedures recommended in this document.

Primary Route of Entry: Dermal contact and inhalation.
Medical Conditions Which Might be Aggravated: Not Determined

HEALTH EFFECTS SUMMARY - SECTION 3 continued

Acute Exposure Effects:

1. **Skin:** Repeated or prolonged exposure may cause irritation and/or defat skin.
2. **Eyes:** Contact may cause mild to moderate irritation.
3. **Inhalation:** Excessive exposure may cause central nervous system effects, dizziness, loss of balance/coordination, unconsciousness, coma, respiratory failure and death. Benzene can cause blood and bone marrow disorders such as cancer and leukemia.
4. **Ingestion:** Harmful or fatal if swallowed. Pulmonary aspiration hazard if swallowed and vomiting occurs.

EMERGENCY AND FIRST AID PROCEDURES - SECTION 4

Skin: Wash skin with plenty of soap and water until no odor remains. If redness or swelling develops, obtain medical attention. Immediately remove soaked clothing and wash clothing.
Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation: If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.
Ingestion: Do not induce vomiting! Do not give liquids! Obtain immediate medical assistance. Small amounts that accidentally enter mouth should be rinsed out until the taste is gone.

FIRE PROTECTION INFORMATION - SECTION 5

Flash Point: -40° F **Method:** PMCC
Auto ignition Temperature: 500° F (260 °C). **Method:** N/A.
Combustibility: Not Determined **Method:** Not Determined
Flammable Limits in Air, % by Volume: **LEL:** .4% **UEL:** 11%
Extinguishing Media: Use dry chemical, foam or carbon dioxide to extinguish flames.
Special Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus. Products of combustion may contain carbon monoxide, carbon dioxide, or other toxic vapors. Do not enter enclosed area or confined space without proper protective equipment including respiratory protection.
Unusual Fire and Explosive Hazards: Extremely flammable, can be ignited by heat, spark, or flame. Do not expose to heat, sparks, flame, static, or other sources of ignition. When handling, use non-sparking tools, ground and bond all containers. Readily forms explosive air-vapor mixtures. May release explosive vapors that can travel, be ignited at remote locations, and flash back. Containers may explode in fire.

ACCIDENTAL RELEASE MEASURES - SECTION 6

Material is heavier than air and can accumulate in low-lying areas. Eliminate all ignition sources including internal combustion engines and power tools. Ventilate area. Keep people away. Stay upwind and warn of possible downwind explosion hazard. Avoid breathing vapor. Avoid contact with eyes, skin, or clothing. Wear respiratory protection and other personal protective equipment as appropriate for the potential exposure hazards.

HANDLING AND STORAGE PROCEDURES - SECTION 7

Use spark-proof tools. Material may be at elevated temperatures and/or pressures. Exercise care when opening bleeders and sampling ports. Eyewash and safety shower should be available nearby when this product is handled or used. Ground and bond shipping container, transfer line, and receiving container. Keep away from heat, sparks, flame, and other sources of ignition. Outside storage is recommended.

OCCUPATIONAL CONTROL PROCEDURES - SECTION 8

Eye Protection: Wear chemical type goggles or face shield.
Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory Protection: Air supplied respirators should always be worn when airborne concentrations of the contaminant are known.
Ventilation: Use explosion-proof equipment to maintain adequate ventilation to meet occupational exposure limits, prevent accumulation of explosive air-gas mixtures, and avoid significant oxygen displacement.

PHYSICAL PROPERTIES - SECTION 9

Appearance: Clear colorless liquid
Odor: Similar to Gasoline
Boiling Point: -20° to 600° F (-29° to 316° C)
Vapor Density: 3.4 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .5 to .75 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Hydrocarbons

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

REACTIVITY DATA - SECTION 10

Stability: Stable under normal conditions.
Incompatibility: May react with oxidizers.
Hazardous Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide and water vapor.
Hazardous Polymerization: Polymerization will not occur.

TOXICOLOGY INFORMATION - SECTION 11

Toxicity: skin - rat; LD50: 4500 mg/kg (Slightly toxic)
Inhalation – rat; LC50: 6,700 ppm (Very low toxicity)
Eye – rabbit; ALD: 4,320 mg/kg (Moderately toxic)
Teratogenicity: Not established.
Reproductive Toxicity: Not established.
Mutagenicity: Not established.
Synergistic Products: Not established.
Sensitization to Product: Not established.

TOXICOLOGY INFORMATION - SECTION 11

Carcinogenicity: Contains more than 0.1% by weight of a material listed as a potential carcinogen:

NTP	IARC	OSHA
No	Yes	No

TOXICOLOGY INFORMATION - SECTION 11 continued

Other Chronic Effects: Not Determined.
Signs and Symptoms of Overexposure: Pain, tears, swelling, redness and blurred vision in the eyes. Dizziness, headache, loss of appetite, weakness, loss of coordination.

ECOLOGICAL INFORMATION - SECTION 12

No data is available on the adverse effects of this material on the environment. Neither COD nor BOD data are available.

DISPOSAL CONSIDERATIONS - SECTION 13

Dispose of container and unused contents in accordance with federal, state and local requirements.

TRANSPORTATION INFORMATION - SECTION 14

DOT
Proper Shipping Name: Hydrocarbons, liquid, n.o.s. (Condensate)
Hazard Class/I.D. No./Packing Group: 3, UN 3295, II
Label: Flammable liquid

EMEREGNCY RESPONSE GUIDEBOOK – Guide 128

REGULATORY INFORMATION - SECTION 15

TSCA Inventory: Exempt

Reportable Quantity (RQ) Under US EPA CERCLA Regulations: Film or sheen upon or discoloration of any water surface.

SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): No

Section 313 Toxic Chemical(s): Not listed

Hazardous Chemical(s) Under OSHA Hazard Communication Standard: Yes.

OTHER INFORMATION - SECTION 16

Hazard Ratings:

NFPA	HMIS
Fire --3	**Health** – 2 (Chronic)
Health --1	**Flammability** -- 3
Reactivity --0	**Reactivity** -- 0
Specific Hazard -- N/A.	**PPE** – Depends on conditions

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

MATERIAL SAFETY DATA SHEET

Natural Gas Condensate, petroleum (Sour)

MSDS Number: HP009
Issue Date: 1/08
Revision: 12-14-12

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION - SECTION 1

Company Identification: Hiland Partners
302 N. Independence, Suite 100
Enid, OK 73702

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT:
In the continental U.S., call: Daytime: (580) 242-6040
After Hours: (866) 431-3635
For additional non-emergency information, call: (580) 616-2024

Product Name: Natural Gas Condensate, Petroleum (Sour)
CAS Number: 68919-39-1
Synonym(s): Gas drip (Sour), field liquids (Sour), field condensate (Sour)
Chemical Formula: Mixture

COMPOSITION/ INFORMATION ON INGREDIENTS - SECTION 2

Chemical Name	OSHA PEL (ppm)	ACGIH TLV (ppm)	Other (ppm)	CAS Number	% By Weight
Hydrocarbons	None	None	None	64741-47-5	70-99
n-Hexane	500	50	1100 IDLH	110-54-3	5-25
Toluene	200, Ceiling 300	100, STEL 150	500 IDLH	108-88-3	1-15
Xylene	100	100, STEL 150	900 IDLH	1330-20-7	1-12
Benzene	1, STEL 5	.1, STEL 1	500 IDLH	71-43-2	1-2
Hydrogen Sulfide	Ceiling 20	Ceiling 10	100 IDLH	7783-06-4	1

Note: *These analytical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

HEALTH EFFECTS SUMMARY - SECTION 3

The following information summarizes human experience and results of scientific investigations reviewed by health professionals for hazard evaluation of and development of Precautionary Measures and Occupational Control Procedures recommended in this document.

Primary Route of Entry: Dermal contact and inhalation.
Medical Conditions Which Might be Aggravated: Not Determined

HEALTH EFFECTS SUMMARY - SECTION 3 continued

Acute Exposure Effects:

1. **Skin:** Repeated or prolonged exposure may cause irritation and/or defat skin.
2. **Eyes:** Contact may cause mild to moderate irritation.
3. **Inhalation:** Excessive exposure may cause central nervous system effects, dizziness, loss of balance/coordination, unconsciousness, coma, respiratory failure and death. Benzene can cause blood and bone marrow disorders such as cancer and leukemia. Hydrogen sulfide is toxic by inhalation.
   At up to 100 ppm, effects will be rotten-egg smell, burning eyes and respiratory tract irritation.
   If prolonged exposure up to 100 ppm, effects will be loss of smell, headache, dizziness and coughing.
   Exposure from 100 to 300, in addition to above will be drowsiness, severe eye and throat irritation and possible pulmonary edema.
   Exposures up to 600 ppm will cause loss or reasoning/balance and eventual unconsciousness.
4. **Ingestion:** Harmful or fatal if swallowed. Pulmonary aspiration hazard if swallowed and vomiting occurs.

EMERGENCY AND FIRST AID PROCEDURES - SECTION 4

Skin: Wash skin with plenty of soap and water until no odor remains. If redness or swelling develops, obtain medical attention. Immediately remove soaked clothing. Wash clothing before reuse.

Eyes: Flush eyes with plenty of water for at least 15 minutes. Get medical attention if eye irritation persists.

Inhalation: If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Ingestion: Do not induce vomiting! Do not give liquids! Obtain immediate medical assistance. Small amounts that accidentally enter mouth should be rinsed out until the taste is gone.

FIRE PROTECTION INFORMATION - SECTION 5

Flash Point: -40° F **Method:** PMCC
Auto ignition Temperature: 500° F (260 °C). **Method:** N/A.
Combustibility: Not Determined **Method:** Not Determined
Flammable Limits in Air, % by Volume: **LEL:** 0.4% **UEL:** 11%
Extinguishing Media: Use dry chemical, foam or carbon dioxide to extinguish flames.
Special Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus. Products of combustion may contain carbon monoxide, carbon dioxide, or other toxic vapors. Do not enter enclosed area or confined space without proper protective equipment including respiratory protection.

FIRE PROTECTION INFORMATION - SECTION 5 continued

Unusual Fire and Explosive Hazards: Extremely flammable, can be ignited by heat, spark, or flame. Do not expose to heat, sparks, flame, static, or other sources of ignition. When handling, use non-sparking tools, ground and bond all containers. Readily forms explosive air-vapor mixtures. May release explosive vapors that can travel, be ignited at remote locations, and flash back. Containers may explode in fire.

ACCIDENTAL RELEASE MEASURES - SECTION 6

Material is heavier than air and can accumulate in low-lying areas. Eliminate all ignition sources including internal combustion engines and power tools. Ventilate area. Keep people away. Stay upwind and warn of possible downwind explosion hazard. Avoid breathing vapor. Avoid contact with eyes, skin, or clothing. Wear respiratory protection and other personal protective equipment as appropriate for the potential exposure hazards.

HANDLING AND STORAGE PROCEDURES - SECTION 7

Use spark-proof tools. Material may be at elevated temperatures and/or pressures. Exercise care when opening bleeders and sampling ports. Eyewash and safety shower should be available nearby when this product is handled or used. Ground and bond shipping container, transfer line, and receiving container. Keep away from heat, sparks, flame, and other sources of ignition. Outside storage is recommended.

OCCUPATIONAL CONTROL PROCEDURES - SECTION 8

Eye Protection: Wear chemical type goggles or face shield.
Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory Protection: Air supplied respirators should always be worn when airborne concentrations of the contaminant are known.
Ventilation: Use explosion-proof equipment to maintain adequate ventilation to meet occupational exposure limits, prevent accumulation of explosive air-gas mixtures, and avoid significant oxygen displacement.

PHYSICAL PROPERTIES - SECTION 9

Appearance: Clear colorless liquid
Odor: Similar to Gasoline with a rotten egg odor
Boiling Point: -20° to 600° F (-29° to 316° C)
Vapor Density: 3.4 (Air = 1).
Viscosity: Not Determined
Specific Gravity: .5 to .75 (Water = 1)
Solubility in Water (wt. %): No
Solubility in Other Solvents: Hydrocarbons

Note: *These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

REACTIVITY DATA - SECTION 10

Stability: Stable under normal conditions.
Incompatibility: May react with oxidizers.
Hazardous Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide and water vapor.
Hazardous Polymerization: Polymerization will not occur.

TOXICOLOGY INFORMATION - SECTION 11

Toxicity: skin-rat; LD50: 4500 mg/kg (Slightly toxic)
Inhalation–rat; LC50: 6,700 ppm (Very low toxicity)
Eye – rabbit; ALD: 4,320 mg/kg (Moderately toxic)
Teratogenicity: Not established
Reproductive Toxicity: Not established
Mutagenicity: Not established
Synergistic Products: Not established
Sensitization to Product: Not established
Carcinogenicity: Contains more than 0.1% by weight of a material listed as a potential carcinogen:

NTP	IARC	OSHA
No	Yes	No

Signs and Symptoms of Overexposure: Pain, tears, swelling, redness and blurred vision in the eyes. Dizziness, headache, loss of appetite, weakness, loss of coordination.

ECOLOGICAL INFORMATION - SECTION 12

No data is available on the adverse effects of this material on the environment. Neither COD nor BOD data are available.

DISPOSAL CONSIDERATIONS - SECTION 13

Dispose of container and unused contents in accordance with federal, state and local requirements.

TRANSPORTATION INFORMATION - SECTION 14

DOT
Proper Shipping Name: Hydrocarbons, liquid, n.o.s. (Sour Condensate)
Hazard Class/I.D. No./Packing Group: 3, UN 3295, II
Label: Flammable liquid and Poison

EMEREGNCY RESPONSE GUIDEBOOK – Guide 128 & 131

REGULATORY INFORMATION - SECTION 15

TSCA Inventory: Exempt

Reportable Quantity (RQ) Under US EPA CERCLA Regulations: Film or sheen upon or discoloration of any water surface.

SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): No

Section 313 Toxic Chemical(s): Not listed

Hazardous Chemical(s) Under OSHA Hazard Communication Standard: Yes.

OTHER INFORMATION - SECTION 16

Hazard Ratings:

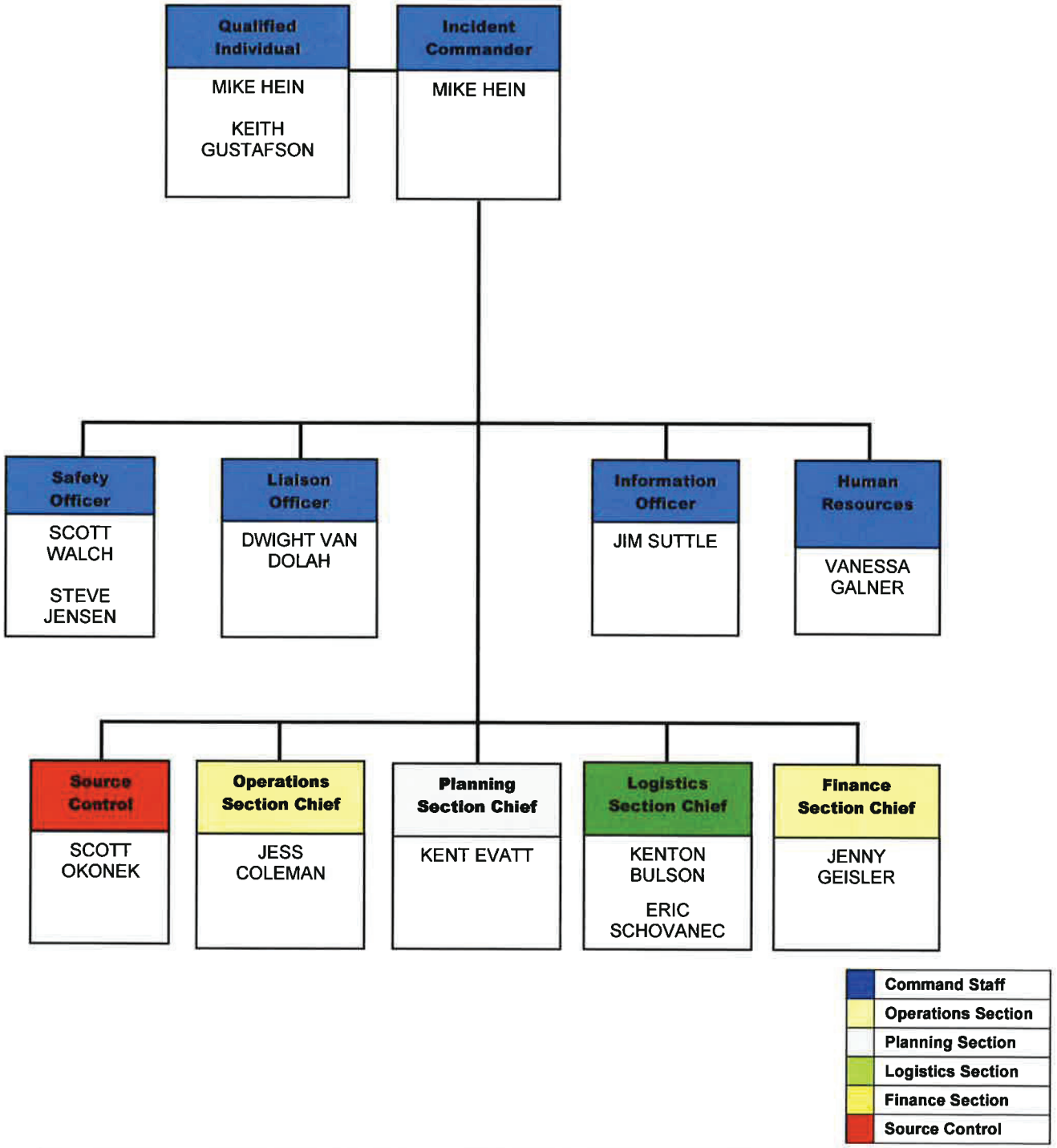
NFPA	**HMIS**
Fire --3	**Health** – 2 (Chronic)
Health --2	**Flammability** -- 3
Reactivity --0	**Reactivity** -- 0
Specific Hazard -- N/A.	**PPE** – Depends on conditions

H_2S TOXICITY CHART

CONCENTRATION			PHYSICAL EFFECTS
Percent	Parts per Million	Grains per 100 scf	
0.001	10	0.63	Possible eye irritation
0.002	20	1.26	OSHA Ceiling level; safe for 8 hour exposure
0.005	50	3.14	OSHA Peak level; exposure to concentrations between Ceiling and Peak level acceptable only for a 10 minute period per 8-hours
0.01	100	6.29	NIOSH's IDLH level (Immediately Dangerous to Life or Health); coughing, eye irritation, loss of sense of smell in 3-15 minutes
0.02	200	12.58	Significant eye & respiratory irritation
0.05	500	31.45	Dizziness; breathing ceases within a few minutes
0.07	700	44.02	Breathing ceases; death will result if not rescued quickly
0.10	1,000	62.89	Death
1	10,000	628.93	

SECTION 10 RESPONSE MANAGEMENT

INCIDENT COMMAND ORGANIZATIONAL CHART



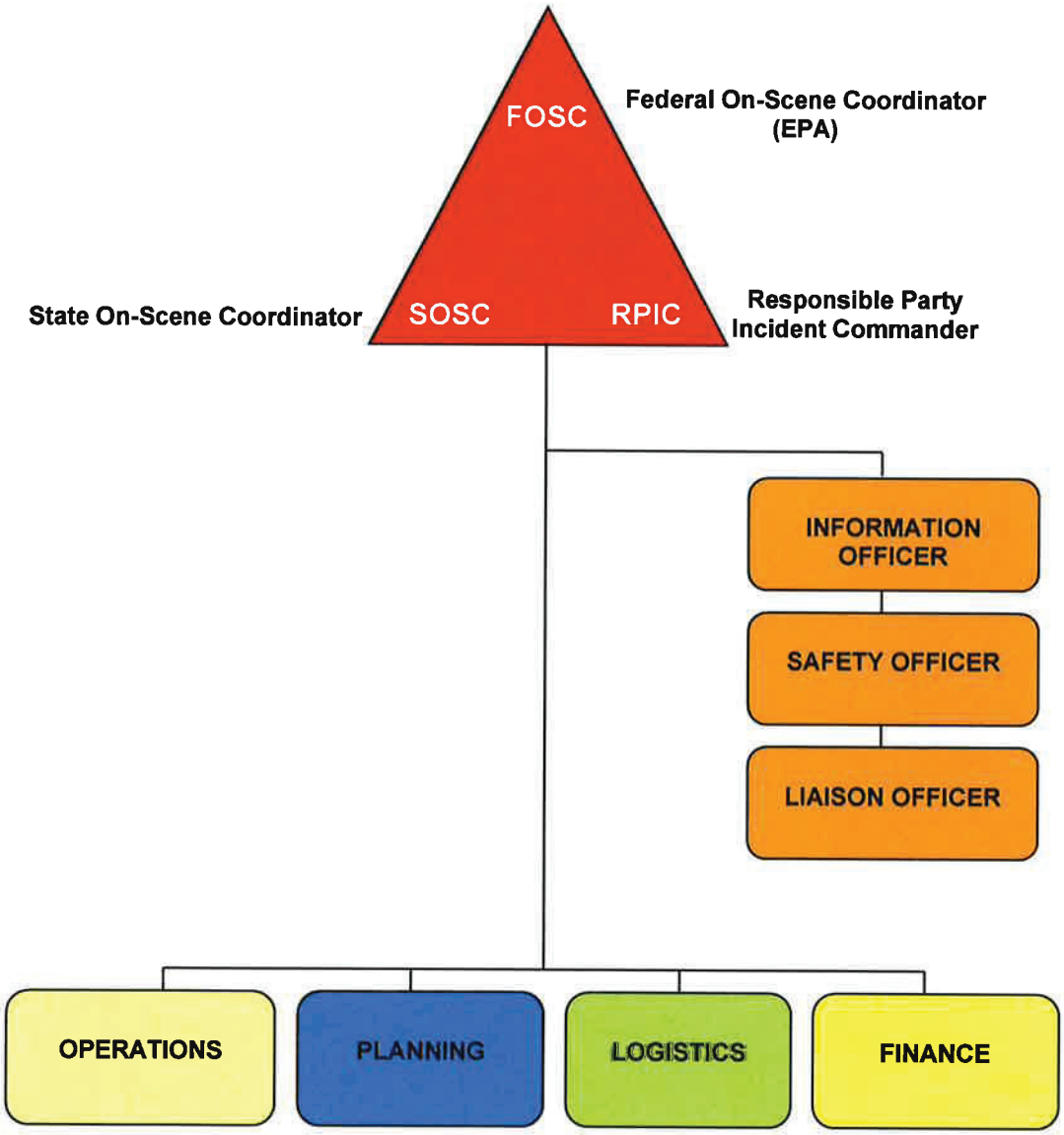
Spill Management Team Phone Listing

Name/Position	Office	Home	Mobile
QUALIFIED INDIVIDUAL			
Mike Hein, Operations Supervisor			406-480-3954
Keith Gustafson, Terminal Manager		406-742-3686	406-973-2255
INCIDENT COMMANDER			
Mike Hein, Operations Supervisor			406-480-3954
SAFETY OFFICER			
Scott Walch, Sr. EH&S Representative			701-580-2427
LIAISON OFFICER			
Dwight Van Dolah	580-616-2006		580-977-8204
INFORMATION OFFICER			
Jim Suttle, Sr. VP Operations	580-616-2050		580-278-4602
HUMAN RESOURCES			
Vanessa Galner, Director Human Resources	580-252-6040		
SOURCE CONTROL			
OPERATIONS SECTION CHIEF			
Jess Coleman, Operations Manager, Crude Oil Division	701-648-9361		406-381-2002
PLANNING SECTION CHIEF			
Kent Evatt, Crude Oil Planning and Ops. Manager	580-252-6040		580-278-9935
LOGISTICS SECTION CHIEF			
Kenton Bulson, Director of Engineering	405-702-5424		405-318-1257
Eric Schovanec	405-702-5421		
FINANCE SECTION CHIEF			
Jenny Geisler, Assistant Controller	580-252-6040		

Incident Command System

ICS is based upon a flexible, scalable response organization providing a common framework within which people can work together effectively. These people may be drawn from multiple agencies that do not routinely work together, and ICS is designed to give standard response and operation procedures to reduce the problems and potential for miscommunication on such incidents. ICS has been summarized as a "first-on-scene" structure, where the first responder of a scene has charge of the scene until the incident has been declared resolved, a superior-ranking responder arrives on scene and seizes command, or the Incident Commander appoints another individual Incident Commander.

Emergency Response Team Organizational Chart



`INCIDENT COMMANDER

	On most incidents, a single Incident Commander carries out the Command activity. The Incident Commander is selected through pre-designation, qualifications, or experience. The Incident Commander may have a deputy, who may be from the same entity or from an assisting entity. Deputies must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.
A	Review common responsibilities.
B	Assess the situation and/or obtain a briefing from the prior Incident Commander.
C	Determine incident objectives and strategies.
D	Establish the immediate priorities.
E	Establish an Incident Command Post.
F	Establish an appropriate organization.
G	Ensure that adequate safety measures are in place.
H	Coordinate activity of all Command and General Staff.
I	Coordinate with key stakeholders and officials through the Liaison Officer.
J	Approve requests for additional resources or for the release of resources.
K	Approve, if appropriate, the use of trainees, volunteers, or auxiliary personnel.
L	Authorize release of information through the Information Officer.
M	Approve and authorize implementation of a Repair Plan.
N	Ensure incident funding is available.
O	Coordinate incident investigation responsibilities.
P	Order the demobilization of incident resources, when appropriate.

UNIFIED COMMAND

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

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

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

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

As a component of an ICS, the Unified Command facilitates and coordinates the effective involvement of various agencies and responders. It links the organizations responding to the incident and provides a forum for these agencies to make consensus decisions. Under Unified Command, the various jurisdictions and/or agencies, and non-government responders may blend together throughout the Incident Command System organization to create an integrated response team. Assisting or cooperating agencies that are not part of the Unified Command can also participate through Agency Representatives working with the Liaison Officer. It is important to note that participation in a Unified Command occurs without any agency abdicating authority, responsibility, nor accountability.

INFORMATION OFFICER

The Information Officer is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations.

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

A	Review Common Responsibilities.
B	Determine from the Incident Commander if there are any limits on information release.
C	Develop material for use in news briefings.
D	Obtain Incident Commander approval for news media releases.
E	Inform news media and conduct news briefings.
F	Arrange for tours and other interviews or briefings that may be required.
G	Obtain news media information that may be useful for incident planning.
H	Maintain current information summaries and/or displays on the incident.
I	Provide information on status of incident to assigned personnel.
J	Establish and staff a Joint Information Center (JIC), as necessary.
K	Maintain Unit/Activity Log (ICS 214).

SAFETY OFFICER

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

Only one Safety Officer will be assigned for each incident, including incidents operating under Unified Command and multi-jurisdiction incidents.

A	Review Common Responsibilities.
B	During initial response, document the hazard analysis process addressing hazard identification, personal protective equipment, control zones, and decontamination area.
C	Participate in planning meetings to identify any health and safety concerns inherent in the operations daily work plan.
D	Review the Repair Plan for safety implications.
E	Exercise emergency authority to prevent or stop unsafe acts.
F	Investigate accidents that have occurred within incident areas.
G	Ensure preparation and implementation of Site Safety and Health Plan (SSHP) in accordance with the Area Contingency Plan (ACP) and state and Federal OSHA regulations. The SSHP shall, at a minimum, address, include, or contain the following elements: - Health and safety hazard analysis for each site task or operation. - Personnel training requirements. - PPE selection criteria. - Site-specific occupational medical monitoring requirements. - Air monitoring plan: area/personal. - Site control measures. - Confined space entry procedures "only if needed". - Pre-entry briefings (tailgate meetings): initial and as needed. - Pre-operations health and safety conference for all incident participants. - Quality assurance of SSHP effectiveness
H	Assign assistants and manage the incident safety organization.
I	Maintain Unit/Activity Log (ICS 214).

LIAISON OFFICER

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

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

A	Review Common Responsibilities (page 6-2).
B	Provide a point of contact for assisting and cooperating Agency Representatives.
C	Identify Agency Representatives from each agency, including communications link and location.
D	Maintain a list of assisting and cooperating agency and stakeholder group contacts.
E	Assist in establishing and coordinating interagency contacts.
F	Keep agencies supporting incident aware of incident status.
G	Monitor incident operations to identify current or potential inter-organizational issues and advise Incident Command, as appropriate.
H	Participate in planning meetings; provide current resource status information, including limitations and capabilities of assisting agency resources.
I	Provide information and support to local government officials and stakeholder groups.
J	Maintain Unit/Activity Log (ICS 214).

OPERATIONS SECTION CHIEF

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

A	Review Common Responsibilities.
B	Develop operations portion of Repair Plan.
C	Brief and assign operations personnel in accordance with Repair Plan.
D	Supervise execution of the Repair Plan for Operations.
E	Request resources needed to implement Operation's tactics as part of the Repair Plan development (ICS 215).
F	Ensure safe tactical operations.
G	Make, or approve, expedient changes to the Repair Plan during the operational period, as necessary.
H	Approve suggested list of resources to be released from assigned status (not released from the incident).
I	Assemble and disassemble teams/task forces assigned to operations section.
J	Report information about changes in the implementation of the Repair Plan, special activities, events, and occurrences to Incident Commander as well as to Planning Section Chief and Information Officer.
K	Maintain Unit/Activity Log (ICS 214).

STAGING AREA MANAGER

Under the Operations Section Chief, the Staging Area Manager is responsible for managing all activities within the designated staging areas.	
A	Review Common Responsibilities.
B	Implement pertinent sections of the Repair Plan.
C	Establish and maintain boundaries of staging areas.
D	Post signs for identification and traffic control.
E	Establish check-in function, as appropriate.
F	Determine and request logistical support for personnel and/or equipment, as needed.
G	Advise Operations Section Chief of all changing situation/conditions on scene.
H	Respond to requests for resource assignments.
I	Respond to requests for information, as required.
J	Demobilize or reposition staging areas, as needed.
K	Maintain Unit/Activity Log (ICS 214).

RECOVERY & PROTECTION BRANCH DIRECTOR

The Recovery and Protection Branch Director is responsible to oversee and implement the protection, containment, and cleanup activities established in the Incident Action Plan. The Recovery and Protection Branch Director report to the Operations Section Chief.	
A	Review Common Responsibilities.
B	Participate in planning meetings, as required.
C	Develop operations portion of Repair Plan.
D	Brief and assign operations personnel in accordance with Repair Plan.
E	Supervise operations.
F	Determine resource needs.
G	Review recommendations and initiate release of resources.
H	Report information about special activities, events, and occurrences to Operations Section Chief.
I	Maintain Unit/Activity Log (ICS 214).

DISPOSAL GROUP SUPERVISOR

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

A	Review Common Responsibilities.
B	Participate in planning meetings, as required.
C	Develop operations portion of Repair Plan.
D	Brief and assign operations personnel in accordance with Repair Plan.
E	Supervise operations.
F	Determine resource needs.
G	Review recommendations and initiate release of resources.
H	Report information about special activities, events, and occurrences to Operations Section Chief.
I	Maintain Unit/Activity Log (ICS 214).

SOURCE CONTROL SUPERVISOR

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

A	Review Common Responsibilities.
B	Coordinate development of Repair Plan.
C	Determine resource needs.
D	Direct and coordinate implementation of the Repair Plan.
E	Manage dedicated resources.
F	Brief Emergency Response Branch Director on activities.
G	Maintain Unit/Activity Log (ICS 214).

WILDLIFE BRANCH DIRECTOR

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

A	Review Common Responsibilities.
B	Develop Wildlife Branch portion of the Repair Plan.
C	Supervise Wildlife Branch operations.
D	Determine resource needs.
E	Review suggested list of resources to be released and initiate recommendation for release of resources.
F	Assemble and disassemble Strike Teams/Task Forces assigned to the Wildlife Branch.
G	Report information about special activities, events, and occurrences to Operations Section Chief.
H	Maintain Unit/Activity Log (ICS 214).

PLANNING SECTION CHIEF

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

A	Review Common Responsibilities.
B	Activate Planning Section units.
C	Assign available personnel already on site to ICS organizational positions, as appropriate.
D	Collect and process information about the incident.
E	Supervise Repair Plan preparation.
F	Provide input to the Incident Command and Operations Sections Chief in preparing the Repair Plan.
G	Participate in planning and other meetings, as required.
H	Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the Repair Plan.
I	Determine need for any specialized resources in support of the incident.
J	Provide Resources Unit with the Planning Section's organizational structure, including names and locations of assigned personnel.
K	Assign Technical Specialists, where needed.
L	Assemble information on alternative strategies.
M	Assemble and disassemble Strike Teams or Task Forces, as necessary.
N	Provide periodic predictions on incident potential.
O	Compile and display incident status summary information.
P	Provide status reports to appropriate requesters.
Q	Advise General Staff of any significant changes in incident status.
R	Instruct Planning Section Units in distribution and routing of incident information.
S	Prepare resource release recommendations for submission to Incident Command.
T	Maintain Section records.
U	Maintain Unit/Activity Log (ICS 214).

SITUATION UNIT LEADER

The Situation Unit Leader is responsible for collecting and evaluating information about the current and possible future, status of the spill and the spill response operations. This responsibility includes compiling information regarding the type and amount of oil spilled the amount of oil recovered, the oil's current location and anticipated trajectory, and impacts on natural resources. This also includes providing information to the GIS Specialist(s) for mapping the current and possible future situation, and preparing reports for the Planning Section Chief.	
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing and special instructions from the Planning Section Chief.
D	Participate in planning meetings, as required.
E	Prepare and maintain Incident Situation Display.
F	Collect and maintain current incident data.
G	Prepare periodic predictions, as requested by the Planning Section Chief.
H	Prepare, post, and disseminate resource and situation status information, as required in the Incident Information Center.
I	Prepare the Incident Status Summary (ICS 209).
J	Provide status reports to appropriate requesters.
K	Provide photographic services and maps.

RESOURCES UNIT LEADER

The Resources Unit Leader (RUL) is responsible for maintaining the status of all resources (primary and support) at an incident. The RUL achieves this by developing and maintaining a master list of all resources, including check-in, status, current location, etc. This unit is also responsible for preparing parts of the Incident Action Plan (ICS 203, 204 & 207) and compiling the entire plan in conjunction with other members of the ICS, (e.g., Situation Unit, Operations, Logistics) and determining the availability of resources	
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing and special instructions from the Planning Section Chief.
D	Participate in Planning Meetings, as required.
E	Establish check-in function at incident locations.
F	Using the Incident Briefing (ICS 201), prepare and maintain the Incident Situation Display (organization chart and resource allocation and deployment sections).
G	Establish contacts with incident facilities to track resource status.
H	Gather, post, and maintain incident resource status.
I	Maintain master roster of all resources checked in at the incident.
J	Prepare Organization Assignment List (ICS 203) and Organization Chart (ICS 207).
K	Prepare appropriate parts of Assignment Lists (ICS 204).
L	Provide status reports to appropriate requesters.

DOCUMENTATION UNIT LEADER

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

A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing and special instructions from Planning Section Chief.
D	Participate in Planning Meetings, as required.
E	Establish and organize incident files.
F	Establish duplication service and respond to requests.
G	File copies of all official forms and reports.
H	Check on accuracy and completeness of records submitted for files and correct errors or omissions by contacting appropriate ICS units.
I	Provide incident documentation to appropriate requesters.

DISPOSAL WASTE MANAGEMENT SPECIALIST

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

A	Review Common Responsibilities.
B	Determine resource needs.
C	Participate in planning meetings, as required.
D	Develop a Cleanup Plan and monitor cleanup operations, if appropriate.
E	Develop a detailed Waste Management Plan.
F	Calculate and verify the volume of petroleum recovered, including petroleum collected with sediment/sand, etc.
G	Provide status reports to appropriate requesters.
H	Maintain Unit/Activity Log (ICS 214).

LEGAL

The Legal Specialist will act in an advisory capacity during an oil spill response.	
A	Review Common Responsibilities.
B	Participate in planning meetings, if requested.
C	Advise on legal issues relating to in-situ burning, dispersants, and other response technologies.
D	Advise on legal issues relating to Natural Resource Damage Assessment.
E	Advise on legal issues relating to investigation.
F	Advise on legal issues relating to finance and claims.
G	Advise on response related legal issues.
H	Maintain Unit/Activity Log (ICS 214).

HUMAN RESOURCES

The Human Resources Specialist is responsible for providing direct human resources services to the response organization, including ensuring compliance with all labor-related laws and regulations. If it is necessary to form a Human Resources Unit, it is normally in the Finance/Administration Section.	
A	Review Common Responsibilities.
B	Provide a point of contact for incident personnel to discuss human resource issues and/or concerns.
C	Participate in daily briefings and planning meetings to provide appropriate human resource information.
D	Post human resource information, as appropriate.
E	Receive and address reports of inappropriate behavior, acts, or conditions through appropriate lines of authority.
F	Maintain Unit/Activity Log (ICS 214).

LOGISTICS SECTION CHIEF

The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident response. The Logistics Section Chief participates in developing and implementing the Incident Action Plan and activates and supervises Branches and Units within the Logistics Section.	
A	Review Common Responsibilities.
B	Plan organization of Logistics Section.
C	Assign work locations and preliminary work tasks to Section personnel.
D	Notify Resources Unit of Logistics Section units activated including names and locations of assigned personnel.
E	Assemble and brief Branch Directors and Unit Leaders.
F	Participate in Repair Plan preparation.
G	Identify service and support requirements for planned and expected operations.
H	Coordinate and process requests for additional resources.
I	Advise on current service and support capabilities.
J	Prepare service and support elements of the Repair Plan.
K	Estimate future service and support requirements.
L	Ensure general welfare and safety of Logistics Section personnel.
M	Maintain Unit/Activity Log (ICS 214).

SERVICE BRANCH DIRECTOR

	The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for managing all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical, and Food Units.
A	Review Common Responsibilities.
B	Determine level of service required to support operations.
C	Confirm dispatch of Branch personnel.
D	Participate in planning meetings of Logistics Section personnel.
E	Review Repair Plan.
F	Coordinate activities of Service Branch Units.
G	Inform Logistics Section Chief of activities.
H	Resolve Service Branch problems.
I	Maintain Unit/Activity Log (ICS 214).

COMMUNICATIONS UNIT LEADER

	The Communications Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing communications equipment; supervising the Incident Communications Center; distributing communications equipment to incident personnel; and communications equipment maintenance and repair.
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing from Service Branch Director or Logistics Section Chief.
D	Determine unit personnel needs.
E	Advise on communications capabilities/limitations.
F	Ensure the Incident Communications Center and Message Center are established.
G	Set up telephone and public address systems.
H	Establish appropriate communications distribution/maintenance locations.
I	Ensure communications systems are installed and tested.
J	Ensure an equipment accountability system is established.
K	Ensure personal portable radio equipment is available.
L	Provide technical information, as required on: - Adequacy of communications systems currently in operation. - Geographic limitation on communications systems. - Equipment capabilities. - Amount and types of equipment available. - Anticipated problems in the use of communications equipment.
M	Supervise Communications Unit activities.
N	Maintain records on all communications equipment, as appropriate.
O	Ensure equipment is tested and repaired.
P	Recover equipment from relieved or released units.
Q	Maintain Unit/Activity Log (ICS 214).

SUPPORT BRANCH DIRECTOR

The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for developing and implementing logistics plans in support of the Repair Plan, including providing personnel, equipment, facilities, and supplies to support incident operations. The Support Branch Director supervises the operation of the Supply, Facilities, Ground Support, and Vessel Support Units.	
A	Review Common Responsibilities.
B	Identify Support Branch personnel dispatched to the incident.
C	Determine initial support operations in coordination with Logistics Section Chief and Service Branch Director.
D	Prepare initial organization and assignments for support operations.
E	Determine resource needs.
F	Maintain surveillance of assigned unit work progress and inform Logistics Section Chief of activities.
G	Resolve problems associated with requests from Operations Section.
H	Maintain Unit/Activity Log (ICS 214).

SUPPLY UNIT LEADER

The Supply Unit Leader is primarily responsible for ordering personnel, equipment and supplies; receiving and storing all supplies for the incident; maintaining an inventory of supplies; and servicing non-expendable supplies and equipment.	
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain a briefing from the Support Branch Director or Logistics Section Chief.
D	Participate in Logistics Section/Support Branch planning activities.
F	Determine the type and amount of supplies enroute.
G	Arrange for receiving ordered supplies.
H	Review Repair Plan for information on operations of the Supply Unit.
I	Develop and implement safety and security requirements.
J	Order, receive, distribute, and store supplies and equipment and coordinate contracts and resource orders with the Finance Section.
K	Receive, and respond to, requests for personnel, supplies, and equipment.
L	Maintain inventory of supplies and equipment.
M	Coordinate service of reusable equipment.
N	Submit reports to the Support Branch Director.
O	Maintain Unit/Activity Log (ICS 214).

SECURITY MANAGER

The Security Manager is responsible to provide safeguards for protecting personnel and property from loss or damage.	
A	Review Common Responsibilities.
B	Establish contacts with local law enforcement agencies, as required.
C	Contact Agency Representatives to discuss any special custodial requirements which may affect operations.
D	Request required personnel support to accomplish work assignments.
E	Ensure that support personnel are qualified to manage security problems.
F	Develop Security Plan for incident facilities.
G	Adjust Security Plan for personnel and equipment changes and releases.
H	Coordinate security activities with appropriate incident personnel.
I	Keep the peace, prevent assaults, and settle disputes by coordinating with Agency Representatives.
J	Prevent theft of government and personal property.
K	Document all complaints and suspicious occurrences.
L	Maintain Unit/Activity Log (ICS 214).

FINANCE / ADMINISTRATION SECTION CHIEF

The Finance/Administration Section Chief, a member of the General Staff, is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section.	
A	Review Common Responsibilities.
B	Attend briefing with responsible company/agency to gather information.
C	Attend planning meetings to gather information on overall strategy.
D	Determine resource needs.
E	Develop an operating plan for Finance/ Administration function on incident.
F	Prepare work objectives for subordinates, brief staff, make assignments, and evaluate performance.
G	Inform members of the Unified Command and General Staff when Section is fully operational.
H	Meet with assisting and cooperating company/agency representatives, as required.
I	Provide input in all planning sessions on financial and cost analysis matters.
J	Maintain daily contact with company/agency(s) administrative headquarters on finance matters.
K	Ensure that all personnel time records are transmitted to home company/agency according to policy.
L	Participate in all demobilization planning.
M	Ensure that all obligation documents initiated at the incident are properly prepared and completed.
N	Brief agency administration personnel on all incident related business management issues needing attention and follow-up prior to leaving incident.
O	Insure proper authorization levels.
P	Have ability to cut checks locally.

COST UNIT LEADER

	The Cost Unit Leader is responsible for collecting all cost data, performing cost-effectiveness analyses, and providing cost estimates and cost-saving recommendations for the incident.
A	Obtain briefing from Finance/Administration Section Chief.
B	Coordinate with company/agency headquarters on cost-reporting procedures.
C	Obtain and record all cost data.
D	Prepare incident cost summaries.
E	Prepare resource-use cost estimates for Planning.
F	Make recommendations for cost-savings to Finance/Administration Section Chief.
G	Maintain cumulative incident cost records.
H	Ensure that all cost documents are accurately prepared.
I	Complete all records prior to demobilization.
J	Provide reports to Finance/Administration Section Chief.
K	Maintain Unit/Activity Log (ICS 214).

PROCUREMENT UNIT LEADER

	The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts.
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing from Finance/Administration Section Chief.
D	Contact appropriate unit leaders on incident needs and any special procedures.
E	Coordinate with local jurisdictions on plans and supply sources.
F	Prepare and sign contracts and land use agreements, as needed.
G	Draft memorandums of understanding.
H	Establish contracts with supply vendors, as required.
I	Interpret contracts/agreements and resolve claims or disputes within delegated authority.
J	Coordinate with Compensation/Claims Unit on procedures for handing claims.
K	Finalize all agreements and contracts.
L	Coordinate use of funds, as required.
M	Complete final processing and send documents for payment.
N	Coordinate cost data in contracts with Cost Unit Leader.
O	Maintain Unit/Activity Log (ICS 214).

COMPENSATION / CLAIMS UNIT LEADER

The Compensation/Claims Unit Leader is responsible for the overall management and direction of all administrative matters pertaining to compensation-for-injury and claims-related activity for an incident.	
A	Review Common Responsibilities.
B	Review Unit Leader Responsibilities.
C	Obtain briefing from Finance/Administration Section Chief.
D	Establish contact with Safety Officer, Liaison Officer and Company/Agency Representatives.
E	Determine the need for Compensation for Injury and Claims Specialists and order personnel, as needed.
F	If possible, allocate Compensation-for-Injury work area with the Medical Unit.
G	Coordinate with Procurement Unit on procedures for handling claims.
H	Periodically review documents produced by subordinates.
I	Obtain Demobilization Plan and ensure that Compensation-for-Injury and Claims Specialists are adequately briefed on Demobilization Plan.
J	Ensure that all Compensation-for-Injury and Claims documents are up to date and routed to the proper company/agency.
K	Maintain Unit/Activity Log (ICS 214).

OIL SPILL REMOVAL ORGANIZATION

An Oil Spill Removal Organization (OSRO) is a third party environmental cleanup contractor capable of assisting in an oil spill response. Personnel should be trained in hazard recognition, oil contamination, oil containment, disposal & waste storage issues. In addition the roles & responsibilities for OSRO personnel are listed below:	
A	Provide equipment as requested by the Company.
B	Provide manpower as requested by the Company.
C	Conduct daily safety meetings with employees on potential threats & chemicals.
D	Ensure personnel responding are properly trained.
E	Coordinate cleanup operations with Company personnel.
F	Assist in Unified Command requests.
G	Provide cost analysis upon request.