

GEOGRAPHICAL RESPONSE PLAN

KEYSTONE PIPELINE SYSTEM

FOR TRANSCANADA PIPELINE USE ONLY

Not controlled when printed.

HARDISTY TANK TERMINALS

RESPONSE SUMMARY

This Geographic Emergency Response Plan (GRP) is a component of the Keystone Emergency Response Plan (ERP). Information herein does not supersede any component of the ERP.

The purpose of this plan is to facilitate expedited and efficient emergency response operations to protect people the environment surrounding the Hardisty A & B Tank Terminals.

This plan should be referenced as a guide only during emergency response. All actions should be modified to meet the demands of a specific incident. This plan does not direct actions, but merely serves as a resource to responders.

All responders using this plan should ensure the TC Energy First Responder Checklist is completed before implementing this plan.

Recommendations in this GRP may be applied to releases from TransCanada's Tank Terminal in Hardisty Alberta.

Both terminals are in Flagstaff county No. 29, located on NW-29-042-09-W4 (A) and SW-32-042-09-W4 (B). The area surrounding the tanks is categorized as naturally undulating, with agricultural lands to the north and to the east, a bulk fuel storage area to the south and agricultural land followed by a brine pond to the west. The neared water bodies to the terminals are the wetlands directly east of the terminals and Battle Creek which is 1.6km to the west. There is a CPR right of way above the A terminal. There is a deep water aquifer flowing to the North West greater than 40mbg. The soil type is a glaciofluvial loamy sand to sandy material that has a well to rapid drainage. The groundwater monitoring that was conducted during the phase II ESA determined the depth to groundwater ranged from 3.3-7.6mbg.

In the event of a release all product should drain into the containment ponds; if a catastrophic fail occurs, our terminals are in a low spot of the land and the land to the west and east are higher, generally sloping towards the west into battle creek. The land slopes downward from north to south.

Culturally and environmentally sensitive receptors need to be protected and preserved in the unlikely event of a release. These receptors have been identified through publically available data from both federal and provincial agencies within a 2km buffer surrounding the terminals. The identified receptors include aquifers, water wells, historic sites, environmentally sensitive areas, aboriginal reserves, soil type, drainage pathway and species of concern.

Below is a table showing all species of concern for both federal and provincial status. Each species are ranked as endangered, extirpated, threatened, of special concern or not listed. The definitions of these classifications are as follows:

Endangered: A wildlife species facing imminent extirpation or extinction

Extirpated: A wildlife species that no longer exists in the wild in Canada, but exists elsewhere

Threatened: A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction

Special concern: A species is of special concern because of characteristics that make it particularly sensitive to human activities or natural events.

Not listed: A species for which there is insufficient scientific information to support status designation.

Wildlife Species	SARA Status	Provincial Status (AB)	Ecoregion
Mammals			
Little Mountain Myotis	no status		Mixed Grassland
Western Small Footed Bat		special concern	Mixed Grassland
American Badger		data deficient	Mixed Grassland
Birds			
Baird's Sparrow	no status		Mixed Grassland
Burrowing Owl	endangered	endangered	Mixed Grassland
Barred Owl			
Piping Plover	endangered	endangered	Mixed Grassland
Ferruginous Hawk	threatened	endangered	Mixed Grassland
Greater Prairie Chicken	extirpated		Mixed Grassland
Common Nighthawk	threatened	not listed	Mixed Grassland
Yellow Rail	special concern	not listed	Mixed Grassland
Loggerhead Shrike	threatened	special concern	Mixed Grassland
Short-eared Owl	special concern	not listed	Mixed Grassland
Sprague's Pipit	threatened	special concern	Mixed Grassland
Bobolink	no status		Mixed Grassland
Horned Grebe	no status		Mixed Grassland
Western Grebe	special concern	special concern	Mixed Grassland
Rusty Blackbird	special concern	not listed	Mixed Grassland
Barn Swallow	no status		Mixed Grassland
Olive Sided Flycatcher	threatened	not listed	Mixed Grassland
Peregrine Falcon	threatened	threatened	Mixed Grassland
Prairie Falcon		special concern	Mixed Grassland
Amphibians			
Northern Leopard Frog	special concern	threatened	Mixed Grassland
Canadian Toad	no status	data deficient	Mixed Grassland
Arthropods			
Monarch Butterfly	special concern	not listed	Mixed Grassland
Vascular Plants			
Smooth Goosefoot	threatened	not listed	Mixed Grassland

**Disclaimer: if a species is not listed in on either provincial status or on SARA, it is listed on COSEWIC as a species at risk*

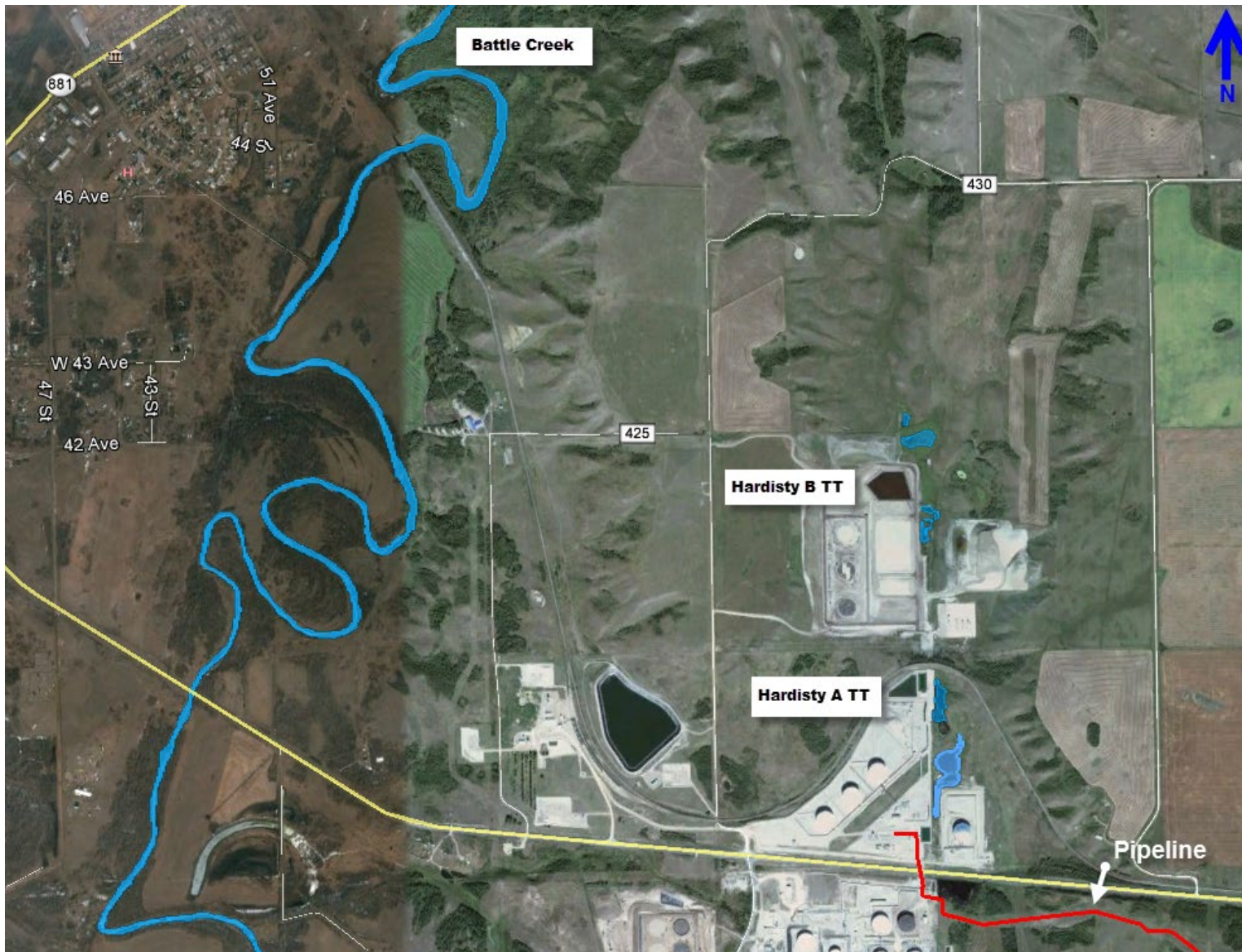
A TC Energy Environmental Specialist will be responsible for managing environmental matters associated with incident response operations, including environmental assessment; permitting; environmental monitoring and damage assessment; and sensitive habitat and wildlife protection and rehabilitation.

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MAPS



Map 1: Overview Map of entire GRP Area

MEDICAL PLAN (ICS FORM 206)

Transportation

Name	Location	Contact #	Paramedics On-Site (Y/N)
Hardisty Fire Department	4807 49 St, Hardisty, AB	911	N
Flagstaff County Emergency Medical Services	4531 47 Avenue Hardisty, Alberta T0B 1V0	911	Y

Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Center	Heli-Pad
			Air	Ground		
Hardisty Health Centre	4531 47 Avenue Hardisty, Alberta T0B 1V0	(780) 888-3742		12 mins Ground	N	Y
Wainwright Health Centre	530 6 Avenue Wainwright, Alberta T9W 1R6	(780) 842-3324		50 mins Ground	N	Y
Killam General Hospital	4203-49ave Killam, Alberta T0B2L0	(780) 385-3741		30 mins Ground	N	Y
St. Mary's Hospital	4607 53 Street Camrose, Alberta T4V 1Y5	(780) 679-6100		60 mins Ground	N	Y

Special Medical Emergency Procedures

-Killam Helipad not able to land stars at hospital location. Stars gets rerouted to Killam airport

RESOURCE REQUIREMENT MATRIX

	Calculation	Substantive Spills Avg. Probable (1% WCD) Redacted 2d	Large Spills Max. Most Probable (10% WCD) Redacted 2d	Worst Case Discharge (WCD) Redacted 2d
Skimmer (TDS 118)	=Volume of oil released/2,400 bbls x 2 to compensate for less 100% efficiency 1 skimmer = 2,400 bbls/day	1	8	78
Powerplant (Generator)	=1 per skimmer	1	8	78
Pump	=1 per skimmer	1	8	78
Boom (ft)	=1000 feet per recovery site	1000	4000	94,000
Vac Truck	=Volume of oil released/Vac Truck capacity/4 trips per day Vac Truck Capacity= 70bbls	4	34	334
Storage (Frac Tank)	=Volume of oil released/Frac Tank capacity x 2 Frac Tanks = 500 bbls	4	38	375

**this GRP is located in Response Zone 1 of the Keystone ERP. The Breakout Tank WCD was determined by the Pipeline and Hazardous Materials Safety Administration Discharge Volume Association. This discharge amount would likely only occur due to a natural disaster or catastrophic event. The tank capacity at Terminals A&B is Redacted 2d, the maximum fill volume for the tanks are Redacted 2d; Redacted 2d is determined through a 70% reduction due to the spill prevention measures that have been in place at the terminals.*

POTENTIAL INCIDENT COMMAND POST FACILITIES

Name/Address	Phone Number	Distance From – Center (km)	Conference Room Size	Food Service On Site (Y/N)	Internet Access (Y/N)	Notes
Elks Hall 5016 - 52 Avenue Hardisty, Alberta	(780) 888-3537 (780) 888-3614			N	N	
Sedgewick Community Hall 4809 47 St, Sedgewick, AB T0B 4C0	(780) 384-2155			N	N	
Hardisty Community Hall 4807 49 St, Hardisty, AB	(780) 888-3623			N	N	
Wainwright & District Communiplex	(780) 842-3381		360 people	N	Y	
Elks Hall Wainwright	(780) 842-9134		400 people	N	N	Largest Space On list
Legion Hall Wainwright	(780) 842-4223		300 people	N	N	
Prairie Rose Seniors Center	(780) 842-5787		225 people	N	Y	

POTENTIAL STAGING AREAS

Name/Address Lat/Long	Landowner	Phone number	Size / Area	Description (Paved Gravel, Field, etc.)
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**** TO BE DETERMINED BY TACTICAL CONTROL POINT FORMS**

LOCAL LODGING

Name/Address Lat/Long	Phone Number	Distance From – Center (Miles/Kilometers)	Units (Total)	Food Service On-Site (Y/N)	Internet Access (Y/N)	Notes
R&R Inn Lakeview 49 th street	(780) 888-3629			N	Y	Conference Room
R & R Inn, 4744 Street, Hardisty AB	(780) 888-0004			N	Y	Conference Room
HARDISTY INN 5101-50 ST Hardisty, Alberta T0B 1V0	(780) 888-3610			N	Y	
Best Western 1209 27 St, Wainwright, AB T9W 0A2	(780) 845-9934			N	Y	
Ramada Wainwright 1510 27th Street, Wainwright, AB T9W 0A4 CA	(780) 842-5010			N	Y	
Ramada Camrose 4702 73rd Street Camrose, AB	(780) 672-5220			N	Y	
Super 8 Hardisty. 4745-49st Hardisty, AB T0B1V0	(780) 888-2550			N	Y	
Super 8 Camrose 4710 73rd Street Camrose, AB	(780) 672-7303			N	Y	

LOCAL CATERING SERVICES

Name/Address Lat/Long	Phone Number	Distance From – Center (Miles/Kilometers)	Delivery (Y/N)	Notes
The leaf, 5124 50 St Hardisty, AB T0B1V0 T0B1V0	(780) 888-2377		N	6am-11pm
Eng's Resturant and Lounge, 5044 - 50 Street Box 420 Hardisty, Alberta T0B 1V0	(780) 888-3577		N	
Lakeview Golf Course Restaurant, Box 400 Hardisty, Alberta T0B 1V0	(780) 888-2288		N	OPEN THROUGH WINTER FOR LUNCH
RK's Bar and Grill, 5114-50 Street Box 124 Hardisty, Alberta T0B 1V0	(780) 888-3626		N	
Just Like Mum's Catering Service, Box 105 Hardisty, Alberta T0B 1V0	(780) 888-6500		Y	

LOCAL RESPONSE CONTRACTORS

Name/Address Lat/Long	Phone Number	Distance From- Center (Miles/Kilometers)	Notes
Quantum Murray Emergency Response	(877) 378-7745		
WCSS Alberta Oil Co op Area U	1-866-541-8888		
Tervita Corporation	1-800-32-SPILL (77455)		24hr North American Emergency Response Line
Recon Utility Search	780-888-2228	Hardisty AB	24 hour Hydro-Vac
Stantec Consulting			Environmental Sampling and consulting For Manitoba/Sask area contact Redacted 1b For work in Alberta contact Redacted 1b
Tetra Tech Consulting			Environmental Sampling and consulting Please contact Redacted 1b
Focus Wildlife	1-310-386-5965		
NewAlta	1-800-774-8466		24hr Emergency Response Line
HMAG (Hardisty mutual Aid Agreement)		Hardisty Terminals	24hr Assistance with Husky, Gibsons, Enbridge, Flint hills, Interpipe, Plains midstream

LOCAL CONTACTS

Name	Location	Phone Numbers
Town of Hardisty	4807 - 49 Street Box 10 Hardisty, Alberta T0B 1V0	(780) 888-3623
Flagstaff County	12435 TWP Road 442 P.O. Box 358 Sedgewick, AB T0B 4C0	(780) 384-4100
M.D of Provost	4504- 53 Ave, Provost, AB T0B3S0	(780) 753-2434
Regional Emergency Services Coordinator Redacted 1b	12435 Township Road 442 P.O. Box 358	Redacted 1b
Killam RCMP Detachment	4915 49th Avenue Killam Alberta, T0B 2L0	(780) 385-3502
RCMP Detachment Office wainwright	826 3 Ave, Wainwright, AB T9W 1R3	(780) 842-4463
Hardisty Fire Department	4807 49 St, Hardisty, AB	911

CONTROL POINTS ASSOCIATED WITH THIS PLAN

This Geographic Response Plan does not include any Control points as it is facility based with no drainage pathways to a moving waterbody.