Spill Response Plan
(SRP)

for Spills of
Fuel or Other Hazardous Materials
During Operations at
Ikhil UGFI et al 02/J-35 Gas Well Offset Program
Ikhil, NWT

Prepared for:

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1. Introduction

Figures 1, 2 and 3 in Appendix A attached show the proposed location for the new infill well. Freeze-up in the area begins to take place in October. The entire drilling program will be conducted on frozen soils between mid-December and mid-March. Permafrost extends to a depth of approximately 300 metres. The drilling location is relatively flat with an elevation of approximately 150 metres above sea level. As a result, any spill onto the frozen soil would likely have limited opportunity to spread, especially if it was cleaned up quickly.

Diesel fuel, lubricants, glycol, methanol and drilling mud are the types of possible contaminants that will be stored and transferred on-site during the proposed operations.

The on-site UGFI Project Manager or his designated representative is accountable for all on-site operations and ensuring all work is done in a safe and responsible manner. Regular inspections of refueling and transfer operations and equipment will ensure safe working procedures.

UGFI, as operator of the project, is obligated to protect the safety of personnel and the environment from the effects of any spill of fuel or other hazardous material. To meet these obligations, UGFI commits to:

1. Comply with all relevant NEB, Federal and GNWT regulations and to do everything practicable to prevent the occurrence of any accidental spills at, or enroute to, its worksites. All possible contaminants will be safely stored in approved storage tanks or containers. All storage tanks and containers will have been inspected by the Project Manager prior to use.
2. Ensure that its worksites have trained personnel and adequate resources to appropriately respond to any spill that can reasonably be expected to occur. All on-site personnel will review and be familiar with this document.
3. Ensure that all hazardous materials in transport or in storage are accompanied by their respective Material Safety Data Sheets (these include information on their chemical composition, handling instructions, as well as material-specific spill clean-up instructions).
4. In the event of the occurrence of any spill, ensure that all necessary remedial actions are taken to guard the safety of all personnel and minimize the risk of damage to the environment.
5. Report all spills of oil, fuel or other deleterious materials promptly and accurately to the GNWT 24-hour Spill Report Line in accordance with the NWT Spill Contingency Planning and Reporting Regulations (R-068-93). Other stakeholder parties, including the National Energy Board, the GNWT Water Board and Aboriginal Affairs and Northern Development Canada will be informed in accordance with the Spill Reporting procedures contained in this document.

2. Reducing Risk of Spills

Risk of spills of hazardous materials at the Ikhil site will be minimized by implementation of the following controls:

1. Appropriate containers and equipment will be used for storing and handling any hazardous materials that are used. All fuel tanks will comply with CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations, as applicable.
2. Appropriate procedures will be employed for handling hazardous materials in accordance with their respective MSDS.
3. All fuel or hazardous substance transfer operations will be attended by trained personnel at all times. Secondary containment or a surface liner (of adequate size and volume) will be placed under all containers or vehicle fuel tank inlet and outlet points, hose connections and hose ends during transfer operations.
4. Equipment will be well maintained and free of external fluid leaks, grease and oil.
5. Equipment will be refuelled and serviced at designated areas only and using approved conventional fuel transfer equipment.
6. Drip pans, absorbent materials and other means of spill containment will be kept on-site and with each vehicle. Additionally, spill kits will be available at the designated refuelling areas. Drip trays will be used under all vehicles and heavy equipment when parked.
7. Personnel handling hazardous materials will be appropriately trained and supervised. ILA provided Environmental Monitors will report on any concerns or inappropriate practices.

3. Storage Facilities

Fuel

Bulk fuel stored at the Ikhil site will consist of 50,000 litres of diesel stored in one double walled tank, which will be enclosed by a berm capable of containing 110% of the tank volume in the event of a leak.

The drilling rig and camp will have a number of fuel day tanks, as follows:

- main fuel storage of 8,750 litres
- two boiler fuel tanks of 6,800 litres each
- two camp generators of 25,000 litres each

The tanks are all CAODC registered and approved fuel transport and storage tanks.

In the event of a spill during a fuel transfer, contaminated snow and soil will be shovelled into one of the empty drums available for this purpose. Any contaminated sorbents or soils will be taken to the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia for disposal.

Lubricants and Hydraulic Oils

A total of ten 45 Imp. gal. barrels of lubricating and hydraulic oils will be stored on site. All barrels will be inspected prior to unloading at the site in order to ensure that they are in good condition. In addition, the barrels and the barrel storage area will be inspected for leaks daily. All barrels containing lubricants or hydraulic fluid will be located at least 100 m away from the nearest water body and be bermed. In the event of a leak, the leaking barrel will be pumped into a secondary container and any contaminated sorbents or soils will be taken to the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia for disposal.

Methanol

A total of three 45 Imp. gal. barrels of methanol will be kept at the site. All barrels will be inspected prior to unloading at the site in order to ensure that they are in good condition. In addition, the barrels and the barrel storage area will be inspected for leaks daily. All barrels of methanol will be located at least 100 m away from the nearest water body and be bermed. In the event of a leak, the leaking barrel will be pumped into a secondary container and any contaminated soil or sorbents will be burned off-site after obtaining proper authorization or taken to the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia for disposal.

Ethylene Glycol

A one m3 (1000 litre) tote of ethylene glycol will be kept at the drilling site, will be inspected for leaks daily. The ethylene glycol tote will be located at least 100 m away from the nearest water body and be bermed. In the event of a leak, the leaking container will be pumped into the spill tank and hauled away for recycling. Any contaminated sorbents or soils will be taken to the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia for disposal.

Food Grade Polypropylene

A total of 3000 litres of food grade polypropylene will be kept on site in three one m3 totes. The totes will be located at least 100 m away from the nearest water body and be bermed. In the event of a leak, the leaking container will be pumped into the spill tank and hauled away for recycling. Any contaminated sorbents or soils will be taken to the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia for disposal.

Drilling Mud Additives

In addition to the liquids listed above, the drilling program will make use of a number of drilling mud additives that are pre-approved and considered non-toxic in the concentrations being used. The additives will be kept in a dry state and will be stored in C-can containers at the site prior to use. Any spills of these powdered materials would be cleaned up by shovels and deposited into

containers for offsite disposal at the Swan Hills Treatment Center in Alberta or to Fort Nelson in British Columbia.

4. On-site Spill Containment and Clean-up Equipment

Given the location of the site, and the operating season, any foreseeable spill at site would take place on snow covered and frozen soil. Clean-up operations would be conducted as described under Responsibilities of the Spill Response Team, using the equipment and supplies available at the well site and camp site, including:

- One 3" fuel transfer pump with hoses and couplings.
- Sufficient plastic sheeting to line a trench or dike.
- Four non-sparking scoop shovels.
- Ten empty drums with the lids removed.
- Sorbent material.

In the event of any large spill, the following heavy equipment will be available at all times to contain the spill and clean up any contaminated soil:

- One vacuum truck
- One loader
- One caterpillar

In addition, Inuvik Gas Ltd. is a member of the Mackenzie Delta Spill Response Corp. (MDSRC) and will make advance arrangements for the Program to have access to the spill response and clean-up equipment in inventory in Inuvik owned by the MDSRC. OSCAR units maintained by the MDSRC can be deployed from Inuvik to the location of the spill.

Each vehicle, which will be transporting fuel or hazardous liquids to the site, at any time during the mobilization, drilling, or demobilization programs, will be equipped with:

- A non-sparking scoop shovel.
- An empty drum with lid removed.
- Sorbent material.
- Appropriate communications equipment to request assistance if required.

5. Personnel Training

The Drilling Supervisor and the Rig Manager, who are at the site at all times, hold the following safety, environment and spill response training and certification:

- 2nd Line Well Control
- Environmental Issues
- H2S Alive
- Hydrocarbon Gas Hazards and Detection
- Rig Rescue

- Loss Control Leadership
- Spill Responder
- Transportation of Dangerous Goods (TDG)
- Workplace Hazardous Materials Information Systems (WHMIS)

Training for the spill response team will be given on site by the Drilling Supervisor or his designate and will include all of the topics listed above. The Drilling Supervisor will ensure that the spill response team has conducted sufficient drills in order to ensure that they are capable of managing spills effectively. The Drilling Manager will document all training and drills that take place.

The Drilling Supervisor will ensure that all other personnel on site have the necessary training to fulfill the responsibilities of the first person on the scene.

6. Spill Response and Procedures

Responsibilities of the First Person at the Scene

If a fuel spill is initiated or detected, the following measures will be taken by the first person at the site:

- Take immediate steps to stop, or at least reduce, the flow.
- Activate the appropriate emergency systems.
- Eliminate all ignition sources.
- Isolate the area and establish a control perimeter if the spill is over $2m^3$ or is outside the containment area.
- Contain and control the spill as close to the source as is safe and practical. If the spill cannot be contained with the equipment on site, mobilize additional equipment and/or personnel from MDSRC.
- Notify the Drilling Supervisor who will immediately notify the Project Manager.

Responsibilities of the Drilling Supervisor

1. Ensure that all personnel at the site are appropriately trained regarding the importance of spills and their prevention and management.
2. Establish a spill response team and provide the appropriate on-site training and drills to enable the team to effectively control and clean up any spills that can be reasonably expected.
3. Ensure that any contractors at the site are suitably trained, and equipped with adequate spill response materials.
4. Include the topics of spill prevention and response in regular safety meetings and in site inspections. Keep accurate records of these activities.
5. Ensure that all fuel storage and fuel transfer activities take place at least 100 metres from water bodies and on relatively flat land. Fuel and other hazardous materials may not be stored on ice covered water bodies.
6. Ensure that all tanks holding fuel and other hazardous liquids are either double walled or surrounded by an appropriate protective berm.

7. Ensure that the work site is equipped with all of the required spill clean-up materials.
8. Ensure that an appropriately trained spill response team is available at the site at all times.
9. Report all spills, regardless of size, to the Project Manager.
10. Coordinate the spill control and clean-up operations as agreed with the Project Manager.
11. Ensure that transportation of contaminated materials meets TDG requirements.
12. Conduct a thorough spill incident investigation as soon as it is practicable. Ensure that the investigation identifies root causes and makes recommendations for reducing the risk and impact of future incidents.
13. Report the results of the incident investigation to the Project Manager and develop plans with him for improvements to training, procedures and equipment as well as for environmental recovery efforts.
14. Implement the improvements as agreed with the Project Manager.
15. Implement any recovery efforts and report on their effectiveness.

Responsibilities of the Spill Response Team

The Spill Response Team will be trained in spill management and will have access to the spill response equipment at the operating site. The Drilling Supervisor will deploy the Spill Response Team. On arrival at the spill scene, the team will:

1. Make an initial assessment of the site.
2. Secure the site to ensure the safety of all personnel.
3. Ensure any ignition sources are isolated or removed.
4. If the spill is ongoing, take the appropriate measures to stop the spill at the source.
5. If required, construct dikes or trenches in order to minimize spread of the spill. Take extra care to guard against contamination of any water bodies.
6. Recover as much of any spilled liquids as possible by pumping or scooping into empty drums or tanks for transportation to an approved disposal site.
7. Use sorbents to clean up any remaining liquids.
8. Recover the sorbents and place into steel drums for disposal at an approved site.
9. Recover any contaminated snow and place into steel barrels for disposal at an approved site.

Responsibilities of the Project Manager

The Project Manager has the responsibility to report spills of oil, fuel, and other deleterious materials to the 24 Hour Spill Report Line at **(867) 920-8130**. Where there is a reasonable likelihood of a spill in an amount equal to or greater than the amount set out in the NWT Spill Contingency Planning and Reporting Regulations (R-068-93), Schedule B (attached) the spill shall be immediately reported, giving as much of the following information as possible or is relevant:

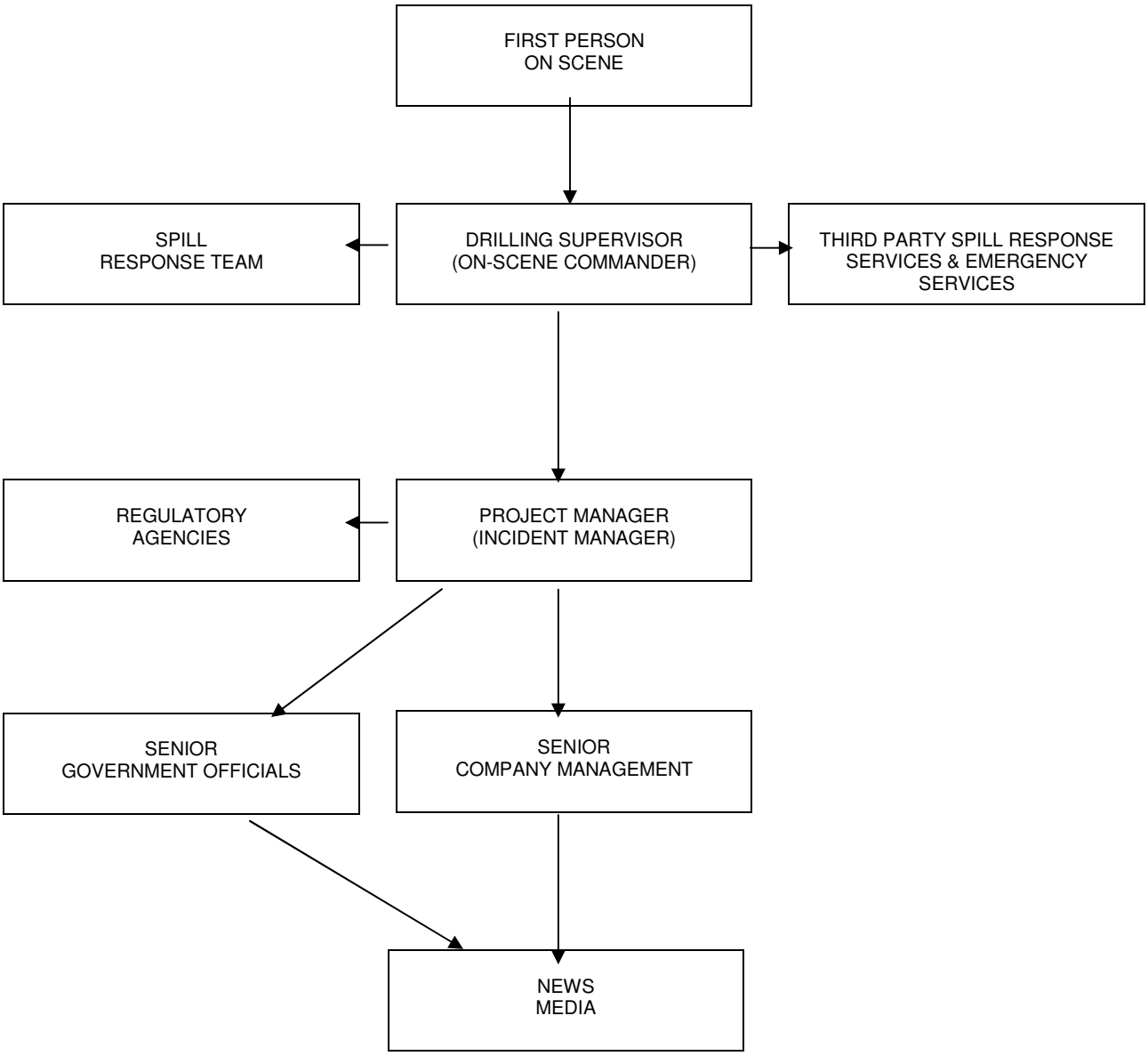
- date and time of spill
- precise location of spill
- status of spill – stopped or contained
- direction spill is moving
- name and telephone number of Person in Charge (PIC).
- type of contaminant and the quantity spilled
- cause of the spill
- actions taken/ to be taken to contain, recover, clean-up and dispose of contaminant
- name and phone number of person reporting the spill

No person shall delay reporting a spill because of lack of knowledge of any the factors listed above.

In addition, the Project Manager has the following responsibilities;

1. Ensure that the Drilling Supervisor is suitably qualified and that he has the appropriate resources to minimize the risk of spills and to appropriately respond to any that might occur.
2. Ensure that the Drilling Supervisor establishes and trains a Spill Response Team and that he conducts sufficient drills to ensure that the team is capable of managing spills effectively.
3. Ensure that all contractors hired for the project are reliable and experienced in spill prevention and control measures.
4. Review with the Drilling Supervisor, all of the spill prevention and response measures that will be in place at the work site.
5. Ensure that inspections and safety meetings take place regularly at the worksite and that they include spill prevention and response measures.
6. Provide any assistance required by the Drilling Supervisor for spill response.
7. Provide any assistance required by the Drilling Supervisor for spill incident investigation and reporting.
8. Immediately file an initial report with regulators.
9. Review the spill incident investigation report and make resources available to minimize recurrences.
10. Provide the formal spill report to regulators. Discuss each event with them to determine the remedial measures to be put into place.
11. Assist the Drilling Supervisor with the implementation of any improvements that will reduce the risk and consequences of any future spills.
12. Provide reports on the environmental recovery efforts to the regulators and develop recommendations for improvement.

Spill Response and Reporting Flow Chart



Contacts for Reporting and Managing Spills

The Drilling Supervisor, or his designate, will prepare and maintain a current site-specific emergency telephone list. The list will be posted in an area known to all on-site personnel.

Canadian Petroleum Engineering

Contact	Name	Office	Home/Cell
Project Manager	Ed Fercho	403 781-6381	H - 403 873-1480
			Cell 403 860-6318
Assistant Project Mgr.	Lorne Hammer	403 781-6378	H - 403 242-3487
			Cell 403 813-0718

AltaGas Utility Group

Contact	Name	Office	Home/Cell
Client Contact	Colin Nikiforuk	403 806-3317	Cell 403 816-5929
			H- 403 241-6059

Emergency Services

Organization	Phone
Ambulance – Inuvik	(867) 777-4444
Hospital – Inuvik	(867) 777-8000
Hospital (Emergency) Inuvik	(867) 777-8161
Fire – Inuvik	(867) 777-2222
RCMP – Inuvik	(867) 777-1111
Canadian Helicopters – Inuvik	(867) 777-2424
NWT Emergency Spill Line – Yellowknife	(867) 920-8130
Emergency Measures Organization – GNWT	(867) 873-7554
Dangerous Goods Transport	TBD

Spill Reporting

Agency	Name	Title	Office	Cell	Email
NWT			867-920-8130 – 24 hr. spill report line		spills@gov.nt.ca
NEB	John Korec	Conservation Officer	403-292-6614	403-818-2403 or 403-807-9473	john.korec@neb-one.gc.ca
AANDC	Conrad Baetz	Mgr. Northern Mackenzie District	867-777-8901	867-777-1441	

Regulatory Agencies

NEB	Env. Asses. (Spills)	**John Korec**	Work: (403) 292-6614	(403) 818-2403	john.korec@neb-one.gc.ca
AANAC	District Manager	**Conrad Baetz**	(867) 777-8901	867-777-1441	conrad.baetz@aandc-aadnc.gc.ca

Other Stakeholders

Organization	Contact	Office
Inuvik HTC	Douglas Esagok	(867) 777-3314
	Douglas Esagok (Cell)	(867) 678-5511
Inuvialuit Land Administration	Deon Bridge	(867) 977-7104
	Deon Bridge (Cell)	(867) 678-5071
Inuvialuit Game Council	Frank Pokiak	(867) 777-2828
Env. Impact Screening Committee	John Ondrack	(867) 777-2828

Information Gathering and Reporting

On-site information gathering during and after a spill is the responsibility of the Drilling Supervisor. All details from any spill must be compiled as soon as possible to ensure proper documentation of events leading up to, during, and following the spill. The accuracy of the information is critical to the planning of support services and accurate preparation of any government, insurance, police and company reports, which may be required after the spill is cleaned up.

Information on the following will be gathered:

- Location of the spill.
- Time and date when the spill occurred.
- Extent of damage (serious injury, loss of equipment, shut-down of operations, evacuation, etc.).
- Sequence of events leading up to the spill.
- Key personnel and witnesses.
- Environmental conditions at the time of the spill.
- Corrective efforts such as notification of emergency services and authorities.
- Recommendations and actions taken to prevent the recurrence of the spill.

A Spill Report containing the above information will be prepared by the Drilling Supervisor and forwarded to the Project Manager.

SCHEDULE B

(as per NWT Spill Contingency Planning and Reporting Regulations (R-068-93)

ITEM No.	TDGA Class	Description of Contaminant	Amount Spilled
1	1	Explosives	Any Amount
2.	2.1	Compressed gas (flammable)	Any Amount of gas from containers w/ a capacity greater than 100 l.
3.	2.2	Compressed gas (non-corrosive/ non flammable)	Any Amount of gas from containers w/ a capacity greater than 100 l.
4.	2.3	Compressed gas (toxic)	Any Amount
5.	2.4	Compressed gas (corrosive)	Any Amount
6.	3.1, 3.2, 3.3	Flammable liquid	100 l.
7.	4.1	Flammable solid	25 kg
8.	4.2	Spontaneously combustible solids	25 kg
9.	4.3	Water reactant solids	25 kg
10.	5.1	Oxidizing substances	50 l. or 50 kg
11.	5.2	Organic Peroxides	1l. or 1 kg
12.	6.1	Poisonous substances	5 l. or 5 kg
13.	6.2	Infectious substances	Any Amount
14.	7	Radioactive	Any Amount
15.	8	Corrosive substances	5 l. or 5 kg
16.	9.1	Miscellaneous products or substances, excluding PCB mixtures	50 l. or 50 kg
17.	9.2	Environmentally hazardous	1 l. or 1 kg
18.	9.3	Dangerous wastes	5 l. or 5 kg
19.	9.1	PCB mixtures of 5 or more PPM	0.5 l. or 0.5 kg
20.	None	Other Contaminants	100 l. 0r 100 kg