



**Suite 400,  
365 Bay Street,  
Toronto, Ontario, M5H 2V1**

## **Addendum to the Spill Contingency Plan**

May 2014

### **1) Corporate Contact Information**

Corporate Address:

Hornby Bay Mineral Exploration Ltd.  
c/o Irwin Lowy LLP  
365 Bay Street, Suite 400  
Toronto ON M5H 2V1

Telephone: 416-361-2516  
Fax: 416-361-2519  
Email: [info@hornbybay.com](mailto:info@hornbybay.com)

Company Officers:

Mr. James M. Brady – Interim President and CEO  
Ms. Rebecca Hudson – CFO  
Mr. Christopher Irwin – Corporate Secretary

### **2) Communication Equipment at Camp Site**

Most of the communication equipment at the camp site is rented at the beginning of seasonal field operations. The Company uses the following equipment:

- High-Frequency (HF) Two-way Radio Base Unit (rented) - located in the Camp Manager Office
- Two-way Handheld Radio Units (the Company owns six units and rents a number of extra units, depending on the number of personnel that work in the field)



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- Satellite Phone Base Unit (rented) – located in the Camp Manager Office
- Hand-held Satellite Phone Units (typically, 3-4 units are acquired; 1 unit for use in the Technical Office; 1 unit for use at the drill site; 1-2 units for personnel teams deployed in the field)
- Satellite Internet (dishes and receivers are owned by the Company)

### **3) Locations, Types, Quantities of Fuel to be stored, and Fuel Handling Procedures**

The main fuel storage area is located immediately east of the Mouse Lake camp in a flat, elevated area in excess of 100 meters from the high water mark (NAD 83 coordinates: lat. 67°05'57.30" long. 115°44'13.75"). Fuel Types: Jet B for the helicopter, gasoline, and P-50 for the diamond drill/ camp heating are stored in 205 liter drums that are placed within large plastic berms. Currently, the camp fuel cache holds 240 drums of Jet B, 3 drums of gasoline, and 23 drums of P-50.

In addition, in the camp there are four 250-gallon tanks for camp heating fuel (P-50) located in the vicinity of the following structures: camp manager office, technical office; camp dry, drillers' tent.

Temporary small fuel caches are set up in the field at the drill site and for helicopter refueling. These caches typically have several tens of drums containing Jet B and P-50. Currently there are three caches (NAD 83 coordinates: Lac Rouviere cache - lat. 67°13'35.02", long 117°28'03.93"; Bluto Lake cache – lat. 66°42'04.81", long. 115°45'37.89"; Mining Lease 5025 cache - lat. 67°01'10.18", long. 115°54'19.30"). The temporary caches are removed when the drill machine is relocated to a new site or when the helicopter flight path is changed.

Each drum is inspected immediately upon delivery to the cache site to ensure that there has been no damage during transport. Fuel from any suspect drum is immediately pumped to a spare, empty drum. Drip pans are used for any fuel transfer or for equipment refueling.

### **4) Response Plan to Calcium Chloride Spills**

Calcium chloride spills can occur in relation to the use of this substance at the drill site, for drilling operations.



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In the case of a solid spill of Calcium Chloride:

- Collect the spilled material into dry containers that can be sealed.
- If possible, use the uncontaminated collected material in the drill operations.
- For collected material that cannot be used in the drill operations, label, seal, transfer and store containers in designated area
- Ship out sealed containers with spilled material to appropriate registered waste management and disposal facility.
- Document and inform federal and Nunavut regulatory agencies about the disposal procedure.

In the case of a liquid spill containing Calcium Chloride (e.g., spill of drill waste)

- Build a containment berm using soil material or snow to contain the spill and ensure that the spilled material does not enter any water body.
- Use absorbent pads to remove the liquid phase of the spill.
- Collect drill sludge and transfer to the drill sump.
- Collect contaminated snow and transfer to the drill sump.
- If contaminated soil, gravel, or vegetation have to be removed from the site, the regulatory agencies must be contacted for approval before commencing with the removal.
- Collect impacted materials such as contaminated soil, gravel, vegetation, and used absorbent supplies into containers, for proper disposal.
- Label, seal, transfer and store containers in designated area.
- Ship out sealed containers with spilled material to appropriate registered waste management and disposal facility.
- Document and inform federal and Nunavut regulatory agencies about the disposal procedure.

## **5) Response Plan to Radioactive Material Spills**

Radioactive material spills can occur in the case of accidental discharges of drill waste at drill holes that encountered uranium mineralization. In the event of such an occurrence, the following plan will be followed:

- Build a containment berm using soil material or snow to contain the spill and ensure that the spilled material does not enter any water body.



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- Use absorbent pads to remove the liquid phase of the spill.
- Collect drill sludge and transfer to the drill sump. At the end of the drilling operation, all drill mud solids or cuttings with a uranium concentration greater than 0.05% will be collected and disposed of down the drill hole, which will subsequently be sealed by grouting the upper 30 meters of bedrock.
- If, based on the radiation level, contaminated soil, gravel, or vegetation have to be removed from the site, the regulatory agencies must be contacted for approval before commencing with the removal.
- Collect all impacted materials such as contaminated snow, soil and clean-up supplies into containers, for proper disposal.
- Label, seal, transfer and store containers in designated area.
- Ship out sealed containers with spilled material to appropriate registered radioactive waste management and disposal facility. The shipping of containers with radioactive materials will be conducted in accordance with the Transportation of Dangerous Goods Act and Regulations.
- Document and inform federal and Nunavut regulatory agencies about the disposal procedure.
- Upon completion of the clean-up measures listed above, the radiation level at the spill site will be measured in order to provide data for assessing the mitigation measures. The radiation levels must be reduced to less than 1.0  $\mu\text{Sv}$  measured at 1 metre from the ground surface.
- Subsequent radiation level measurements will be made if the site is designated for continued monitoring by the Inspector.

#### **6) Attached Documents (total 14 pages)**

The following documents are attached to this Addendum:

- Cyr Drilling International Ltd.'s Closed Loop Drilling Procedure – Safe Work Procedure (5 pages); Filtration System and Diagram (2 pages)  
These documents describe the Drilling Company's closed loop system and the procedures for handling the removal of drill cuttings from the drilling fluid and their subsequent containment. The Closed Loop Drilling Procedure minimizes significantly the likelihood of a spill of drill waste.



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- Material Safety Data Sheets for W-OB Polymer (4 pages) and DR-133 Polymer (3 pages).  
The Drilling Company that Hornby Bay Mineral Exploration contracts for drilling operations (Cyr Drilling International Ltd.) has changed the supplier of drilling fluid products and will be using W-OB Polymer and DR-133 Polymer, for which MSDS sheets are attached to this Addendum, instead of Poly Drill O.B.X. and Poly-Drill 133-X, for which MSDS sheets were provided in the Appendix to the Spill Contingency Plan issued in January 2014.



| Document     | Version | Creation Date | Last Revision |
|--------------|---------|---------------|---------------|
| CLD.SFTY.SWP | 1       | 04-30-14      | New           |

## CLOSED LOOP DRILLING

### Safe Work Procedure

|                        |                      |
|------------------------|----------------------|
| SWP Title              | Closed Loop Drilling |
| SWP Reference #        | CLD.SFTY.SWP         |
| Original Date of Issue | 04-28-2014           |
| Revision Date          | NEW                  |
| Revised By             | N/A                  |
| Approved By            | Cyr Safety Manager   |

#### 1. Purpose

The Closed Loop Core Drilling Safe Work Procedure (SWP) was developed to meet the need to reduce the footprint left by drilling operations in environmentally sensitive areas and ensure employees execute this task while using proper personal protective equipment, guarding, education, training and instruction.

#### 2. Responsibilities

The Safety Manager is responsible to:

1. Ensure the drill foreman provides supervision and instruction for employees working with core barrels and required to recover core samples.
2. Ensure that all workers that are working with and around core barrels have the appropriate instruction and training.

The Drill Foreman is responsible to:

1. Follow the PPE requirements when handling a core barrel and recovering core samples,
2. Ensure all workers have the appropriate PPE to handle a core barrel and recover core samples,
3. Ensure all workers understand the safe operation and maintenance of the core barrel,
4. Review and assess worker's ability in the handling of a core barrel and recovery of core samples,

The Workers are responsible to:

1. Follow the PPE requirements when handling a core barrel and recovering core samples,
2. Understand and receive training for the safe operation, handling and maintenance of the core barrel and recovering core samples.

**CLOSED LOOP DRILLING**

### 3. Personal Protective Equipment Requirements

All Cyr Drilling employees are required to have the following Personal Protective Equipment whenever they are at the drill and specifically when casing and drilling operations are occurring. Workers are reminded that loose fitting clothing and jewelry is prohibited at the drill and long hair must be tied back.

1. Hard Hat
2. Hearing Protection
3. Leather or similar material work gloves
4. Steel toe boots
5. Approved eye protection
6. Reflective work coveralls

### 4. Set Up the Filter Box

1. Inspect the Filter Box and ensuring that it is in good operating condition free from damage and other defects.
2. Ensure the ground that the Filter Box is being set up on is level. If the foundation is not level the Filter Box cannot function properly.
3. Ensure the bottom discharge valve is readily accessible and at a height that will allow for the safe removal of the collected cuttings.

### 5. Set Up the Diverter Tee and Holding Bucket

1. Screw a Diverter Tee onto the box end of the casing at the drill hole.
2. Set up a holding bucket up at the bottom or adjacent to the hole. This bucket will catch the drill fluid returned from the hole.
3. Locate a hose and inspect it for any damage or defects. Do not use the hose if it is not in proper working condition.
4. String the hose from the diverter tee to the holding bucket. Ensure any extra length of hosing is maintained neatly to reduce the risk of tripping hazards.

### 6. Set Up the Pump and String the Lines

1. Locate and inspect a positive displacement pump. Ensure it is in good working condition free from defects and damage.
2. Locate and inspect the feed and return hoses to be used. Ensure the hoses are an adequate length to meet the distance between the Filter Box and the drill.
3. All hosing must be inspected to confirm it is free from defects and damage before it can be used. Do not use damaged hosing.
4. String one of the lines from the positive displacement pump to the Filter Box and connect it to the 1" BSP female inlet thread opening located at the top of the unit.

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5. String the other line to the 3" BSP female outlet thread at the top of the Filter Box and run the line back to the mixing tank inside the drill shack.

## 7. Set Up the Vibrator

1. Inspect the vibrator and ensure it is free from defects and damage and in proper working condition.
2. Attach the vibrator onto then top of the Filter Box.
3. Connect the line for power to the vibrator (110v).

## 8. Mix the Drilling Fluids

The geological properties of the area where drilling is occurring will determine what weights and viscosities the drill fluids will be made up of. Always refer to the site specific drill plan for the specific viscosities and weights when mixing chemicals to make drill fluid. Generally a drill program will require you to mix various quantities of the following chemicals to make up the fluids:

- Water
- Calcium Chloride
- Polymer Solution
- Flocculent

When handling chemicals always wear the proper personal protective equipment and refer to the product's Material Safety Data Sheet for handling and emergency procedures.

## 9. Core Run

1. Start the Vibrator on the Filter Box
2. Start the positive displacement pump in the return fluid holding bucket.
3. Commence drilling (refer to Cyr Drilling Casing/Drilling SWP).

## 10. Empty Cuttings from Filter Box

After a maximum of two core runs the cuttings from the drilling process must be emptied from the Filter Box.

1. Locate a polyethylene bag or suitable bucket to drain the cuttings into.
2. Inspect the bag or bucket making sure it is free from rips, tears and holes.
3. After the core run is completed turn the vibrator and the positive displacement pump off.
4. Take the opening of the endless bag and place it over the 3" valve located at the base of the unit. If you are using a bucket place the bucket directly beneath the valve.
5. Open the valve.
6. A thick heavy slurry should empty out of the Filter Box.

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7. Continue to empty the heavy slurry until you see clear drill fluid start to exit from the Filter Box.
8. When you see the clear drill fluid being drained from the Filter Box shut the valve immediately.
9. The waste cuttings are to be placed in a container which is approved by the client's environmental and radiation protection procedures.

## 11.Add More Drilling Fluids

When a new rod is added more fluid must also be added to the mixing tank to ensure there is an adequate amount of fluid available for the new depth being displaced.

The drilling fluid will be made to match a specific viscosity and weight which is dependent on the geological properties of the area to be drilled. Always refer to the site specific drill plan for the specific viscosities and weights when mixing chemicals to make drill fluid.

## 12.Distribution

1. Cyr Drilling International Ltd. Head Office
2. Safety Manager
3. Drill Foreman
4. Drill Helper

## 13.Emergency Spill Clean Up

In the event of an accidental release of hazardous substances you should:

1. Sound the alarm or warn others by another reasonable method.
2. Notify the Drill Foreman Immediately.
3. Stop or reduce the discharge, if safe to do so.
4. Deploy booms, sorbents and other equipment and materials as required to construct snow or earthen barriers or a ditch to contain a spill on land. Deploy solid flotation boom for spills of non-volatile products on water.
5. If possible, prevent access of spilled material to water.
6. Deploy additional spill response equipment as directed by the Drill Foreman.
7. Continue cleanup as directed by the Drill Foreman or until relieved.
8. Store the spilt substance and contaminated materials in client approved, labeled containers outside, away from flammable items.
9. Restore damaged environment and property as directed.
10. Report the Spill to the Drill Foreman and Cyr Drilling Safety Manager as per Cyr Drilling spill reporting procedures.

The feasibility of containing and recovering a spill will largely be determined by its location and the rate of the release, spreading, transport and evaporation. You should compare these rates with the total

**CLOSED LOOP DRILLING**

time needed to deploy response equipment in order to evaluate whether or not containment or sorbent and skimming operations can be effectively implemented.

Cyr Drilling pre-assembled spill cleanup must be present at every drill. The spill cleanup kits expedite response and reduce the total deployment time needed. Refer to Cyr Drilling's Spill Response Plan for more information.

## 14. References

1. Job Safety Analysis Form – Casing
2. Job Safety Analysis Form – Drilling
3. Cyr Drilling Spill Prevention and Response Plan

## 15. Filter Box Trouble Shootings Guide

| Problem                            | Possible Cause  | Solution   |
|------------------------------------|---|--|
| Solids not separating efficiently. | <ol style="list-style-type: none"><li>1. Pump flow rate is too high.</li><li>2. Mud viscosity is too high.</li><li>3. Incompatible fluid type.</li></ol>                  | <ul style="list-style-type: none"><li>• Reduce pump flow rate to &lt;50 litres per min. (12 gallons per min.).</li><li>• Add water to reduce below 35 sec/qt.</li><li>• Check vibrator operation.</li><li>• Switch to a suitable fluid type.</li></ul> |
| System blocked with cuttings.      | <ol style="list-style-type: none"><li>1. Vibrator not operating.</li><li>2. Bentonite based fluid.</li><li>3. System not adequately cleaned after its last use.</li></ol> | <ul style="list-style-type: none"><li>• Check vibrator operation.</li><li>• Flush system with clean water.</li><li>• Switch to a suitable fluid type.</li></ul>  |

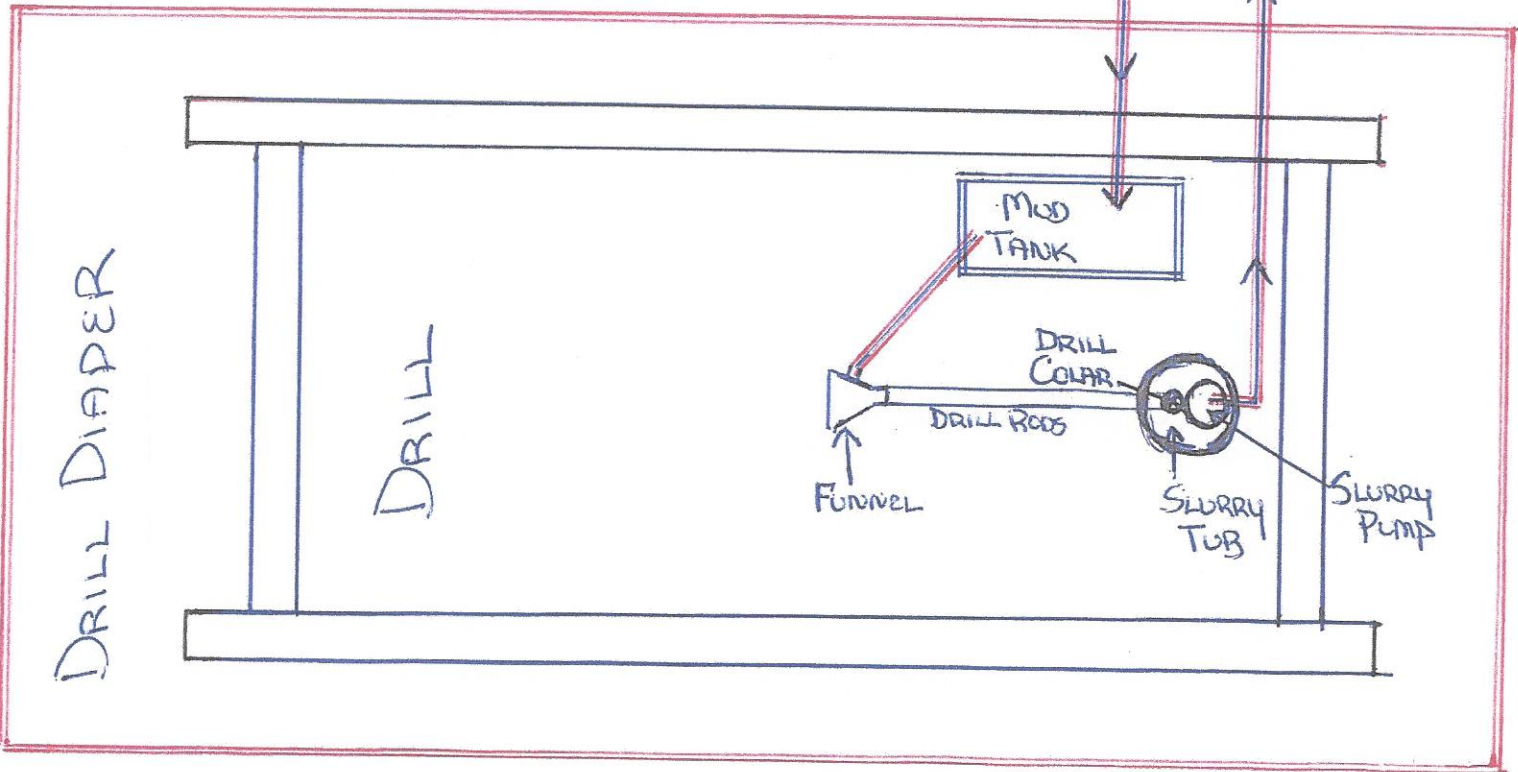
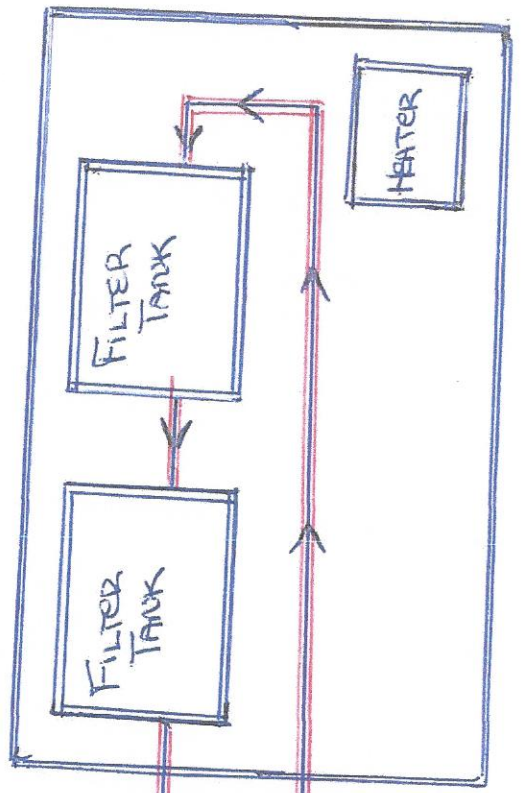
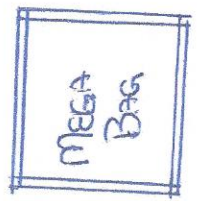
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November 2011

### Filtration System

- Drill will be set up on a diaper that will catch any spillage. Spillage will flow to slurry tub.
- The Slurry tub will be set up around the casing to catch all the return coming out of the casing.
- Inside the Slurry tub will be an electronic slurry pump that will pump the drill fluid return to the first Filter Tank.
- This drill fluid return goes through the filters in the first tank, where the majority of the cuttings will drop out and then overflows into the second filter tank, where it goes through the same procedure, and this filters out the majority of the cuttings that didn't drop out of the first filter tank.
- Also to help drop the cuttings in the filter tanks there are electric vibrators installed in the filter tanks.
- The cuttings that filter out settle and build up in the bottom of the filter tanks. These cuttings will be emptied through a valve on the bottom of the settling tank and dumped into a mega bag that will have to be hauled away to a proper disposal site.
- During regular drilling, we estimate filling approx 3 of these mega bags per day.
- The water that comes out of the 2<sup>nd</sup> settling tank will be mostly free of cuttings, so will flow directly into the mixing tank where polymers will be added and mixed in and now this fluid will be ready to pump down the drill hole and re-used for drilling.
- Also, when the core tube is being pulled out of the hole there will be a funnel attached to the top of the rod string so that the core tube is coming out and pushing the drilling fluid out. It will be funneled straight into the mixing tank for re-use.
- During this process some of the water will be used up so we will have to restock the water in the system occasionally.
- Estimating that the 1500 gallon water holding tank will have to be refilled at least once a day.

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## SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: **Diversity Technologies Corp.** DATE: **January 16, 2013**  
**8750 – 53<sup>rd</sup> Ave.** PHONE: **780-440-4923**  
**Edmonton, AB T6E 5G2** FAX: **780-469-1899**

PRODUCT NAME: **W-OB POLYMER**

PRODUCT USE: **Drilling mud additive**  
 CHEMICAL FAMILY: **Polysaccharide suspension** CAS #: **Mixture**

## WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: **D2B**  
 WORKPLACE HAZARD: **Skin and eye irritant**

## TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: **Not regulated**  
 TDG CLASSIFICATION: **Not applicable**  
 UN NUMBER (PIN): **Not applicable**  
 PACKING GROUP: **Not applicable**

## SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT                   | % (v/v) | CAS NUMBER | LD <sub>50</sub> Oral-Rat | LC <sub>50</sub> Inhal-Rat | ACGIH-TLV     |
|------------------------------|---------|------------|---------------------------|----------------------------|---------------|
| Secondary alcohol ethoxylate | 1-5     | 84133-50-6 | Not available             | Not available              | Not available |

## SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: **[XX] EYE CONTACT [XX] SKIN [XX] INHALATION [XX] INGESTION**  
 EYE CONTACT: **Irritant. Can cause redness, tearing and inflammation.**  
 SKIN CONTACT: **Irritant. Can cause redness, irritation and inflammation.**  
 INGESTION: **Low oral toxicity. May cause nausea, abdominal cramps and diarrhea.**  
 INHALATION: **High concentrations of vapour and mist can cause irritation of the nose and throat**  
 CARCINOGENICITY: **No information available.**  
 TERATOGENICITY: **No information available.**  
 REPRODUCTIVE TOXICITY: **No information available.**  
 MUTAGENICITY: **No information available.**  
 SYNERGISTIC PRODUCTS: **No information available.**

**SECTION IV: FIRST AID MEASURES**

|               |  |
|---------------|--|
| SKIN CONTACT: | Remove contaminated clothing. Immediately wash exposed area with water and soap for 5 minutes. If irritation persists, obtain medical attention.   |
| EYE CONTACT:  | Immediately flush with gently flowing warm water for 15 minutes, or until irritation ceases. When flushing period is completed, obtain medical attention.  |
| INGESTION:    | Rinse mouth and give 1 - 2 glasses of water to dilute. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs keep head below hips to prevent aspiration. Even small amounts of liquid drawn into the lungs from swallowing or vomiting may cause severe health effects. Obtain medical attention. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing. |
| INHALATION:   | Move patient to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties or distress continues obtain medical attention.   |

**SECTION V: PHYSICAL DATA**

|                             |  |                    |
|-----------------------------|--|--------------------|
| APPEARANCE AND ODOUR:       | Opaque dark yellow to beige liquid; little odour |                    |
| SPECIFIC GRAVITY:           | 1.08   |                    |
| BOILING POINT (°C):         | Not determined                                   |                    |
| MELTING POINT (°C):         | Not determined                                   |                    |
| SOLUBILITY IN WATER:        | Dispersible                                      | pH: Not determined |
| PERCENT VOLATILE BY VOLUME: | Not determined                                   |                    |
| EVAPORATION RATE:           | Not determined                                   |                    |
| VAPOUR PRESSURE (mmHg):     | Not determined                                   |                    |
| VAPOUR DENSITY (air = 1):   | Not determined                                   |                    |
| BULK DENSITY:               | Not applicable                                   |                    |

**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

|                                     |  |
|-------------------------------------|--|
| FLASH POINT:                        | Not flammable  |
| FLAMMABLE LIMITS:                   | Not determined   |
| EXTINGUISHING MEDIA:                | CO <sub>2</sub> , water, mist, foam                                      |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self-contained breathing apparatus required for fire fighting personnel. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None known.  |

## SECTION VII: REACTIVITY DATA

|   |                                 |               |
|---|---------------------------------|---------------|
| STABILITY:                                | STABLE [XX]                     | UNSTABLE [ ]  |
| INCOMPATIBILITY<br>(CONDITIONS TO AVOID): | Strong oxidizers and acids.     |               |
| CONDITIONS OF REACTIVITY:                 | Not applicable.                 |               |
| HAZARDOUS DECOMPOSITION PRODUCTS:         | Oxides of carbon on combustion. |               |
| HAZARDOUS POLYMERIZATION:                 | WILL NOT OCCUR [XX]             | MAY OCCUR [ ] |

## SECTION VIII: PREVENTATIVE MEASURES

### SPECIAL PROTECTION INFORMATION

|                                       |   |
|---------------------------------------|---|
| RESPIRATORY PROTECTION:               | An approved respirator with organic vapour cartridge if TLV is exceeded.  |
| VENTILATION:                          | Use local exhaust ventilation, process enclosure or other engineering control to prevent exposure.  |
| PROTECTIVE GLOVES:                    | Rubber or viton gloves recommended.   |
| EYE PROTECTION:                       | Chemical goggles and/or face shield required. Do not wear contact lenses.   |
| OTHER PROTECTIVE EQUIPMENT (Specify): | <b>Wear coveralls when handling. If hazard assessment determines greater risk of contact then wear chemical resistant clothing.</b> Make eye bath and emergency shower available. |

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Avoid inhalation of vapours or mists. Wear suitable protection for eyes and skin when handling. Launder contaminated clothing before reuse. Avoid contact with incompatible materials. Store in cool, well-ventilated area away from sources of ignition. Keep container tightly closed when not in use. Store unused material in original container. Handle and store empty containers as if full.

### STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment including respiratory protection. Eliminate ignition sources. Ventilate area. Stop leak if possible to do so without risk. Soak up small spills with absorbent material. Contain large spills using absorbent materials. Collect spilled material and absorbents in approved containers for disposal. Prevent entry into bodies of water or sewer systems.

### **WASTE DISPOSAL METHOD**

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine at the time of disposal whether the product meets criteria for hazardous waste. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be disposed of, or recycled, according to local regulations.

### **SECTION IX: PREPARATION**

The information contains herein is given in good faith, but no warranty, expressed or implied, is made.

DATE ISSUED: January 16, 2013

SUPERSEDES: August 17, 2012

BY: Regulatory Affairs

PHONE: 780-440-4923

**SECTION I: IDENTIFICATION OF PRODUCT**

COMPANY: **Diversity Technologies Corp.** DATE: **November 4, 2011**  
**8750 – 53<sup>rd</sup> Ave.** PHONE: **780-440-4923**  
**Edmonton, AB T6E 5G2** FAX: **780-469-1899**

PRODUCT NAME: **DR-133 POLYMER**

PRODUCT USE: **Drilling mud additive.**

CHEMICAL FAMILY: Anionic polyacrylamides in oil-water emulsion CAS#: Mixture

**WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)**

WHMIS CLASSIFICATION: **D2B**  
WORKPLACE HAZARD: **Skin and eye irritant**

**TRANSPORTATION OF DANGEROUS GOODS (TDG)**

PROPER SHIPPING NAME: Not regulated under TDG  
TDG CLASSIFICATION: Not applicable  
UN NUMBER (PIN): Not applicable  
PACKING GROUP: Not applicable

**SECTION II: HAZARDOUS INGREDIENTS**

| INGREDIENT             | % (v/v) | CAS NUMBER       | LD <sub>50</sub> Oral-Rat | LC <sub>50</sub> Inhal-Rat | ACGIH-TLV       |
|------------------------|---------|------------------|---------------------------|----------------------------|-----------------|
| Alkylphenol ethoxylate | 3-7     | <b>9016-45-9</b> | 3000 mg/kg                | Not available              | Not established |

**SECTION III: HEALTH HAZARDS**

ROUTE OF ENTRY: [XX]EYE CONTACT [XX]SKIN [ ]INHALATION [XX]INGESTION  
EYE CONTACT: Severe irritant. Can cause redness, tissue destruction, and irritation.  
SKIN CONTACT: Irritant. Low acute dermal toxicity. Can cause redness, inflammation and irritation on prolonged contact.  
INGESTION: Low acute oral toxicity. May cause nausea, diarrhea and abdominal cramps.  
INHALATION: Not a likely source of exposure.  
CARCINOGENICITY: No information available.  
TERATOGENICITY: No information available.  
REPRODUCTIVE TOXICITY: No information available.  
MUTAGENICITY: No information available.  
SYNERGISTIC PRODUCTS: No information available.

## SECTION IV: FIRST AID MEASURES

|               |   |
|---------------|---|
| SKIN CONTACT: | Remove contaminated clothing. Wash exposed area thoroughly with soap and water. If irritation develops or persists, obtain medical attention.   |
| EYE CONTACT:  | Flush with gently flowing warm water for 15 minutes or until irritation subsides. Obtain medical attention when flushing period is complete.  |
| INGESTION:    | Do not induce vomiting. Give 1-2 glasses of water. Obtain immediate medical attention. Do not give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing. |
| INHALATION:   | Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues obtain medical attention.  |

## SECTION V: PHYSICAL DATA

|                             |                                       |
|-----------------------------|---------------------------------------|
| APPEARANCE AND ODOUR:       | Milky viscous liquid; aliphatic odour |
| SPECIFIC GRAVITY:           | Not available                         |
| BOILING POINT (°C):         | Not available                         |
| MELTING POINT (°C):         | Not available                         |
| SOLUBILITY IN WATER:        | Forms gel pH: 7-9 (@ 0.6%)            |
| PERCENT VOLATILE BY VOLUME: | Not available                         |
| EVAPORATION RATE:           | Not available                         |
| VAPOUR PRESSURE (mmHg):     | Not available                         |
| VAPOUR DENSITY (air = 1):   | Not available                         |
| BULK DENSITY:               | Not applicable                        |

## SECTION VI: FIRE AND EXPLOSION HAZARD DATA

|                                     |   |
|-------------------------------------|---|
| FLASH POINT:                        | >100°C (TCC)  |
| FLAMMABLE LIMITS:                   | Not applicable  |
| EXTINGUISHING MEDIA:                | Carbon dioxide, dry chemical, foam, in preference to a water spray.   |
| SPECIAL FIRE FIGHTING PROCEDURES:   | Self contained breathing apparatus required for fire fighting personnel. Move containers from fire area, or cool with water spray, if possible. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Vapours may travel to ignition source and flash back.   |

## SECTION VII: REACTIVITY DATA

|  |   |              |
|--|---|--------------|
| STABILITY:                             | STABLE [XX]   | UNSTABLE [ ] |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Avoid contact with strong oxidizers and strong reducing agents. |              |
| CONDITIONS OF REACTIVITY:              | None known.   |              |

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen upon combustion  
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR [XX] MAY OCCUR [ ]

## **SECTION VIII: PREVENTATIVE MEASURES**

### **SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION: Use approved respirators with organic vapour cartridges if TLV is exceeded.  
VENTILATION: General mechanical is sufficient for normal conditions of use.  
PROTECTIVE GLOVES: Neoprene or viton recommended.  
EYE PROTECTION: Wear chemical goggles when handling.  
OTHER PROTECTIVE EQUIPMENT (Specify): As necessary to prevent contact. Ensure eyewash station and emergency shower are available.

### **PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid all contact with material. Remove contaminated clothing; launder or dry-clean before reuse. Cleanse skin thoroughly after contact, before breaks and meals and at end of work period. Product is readily removed from skin by washing thoroughly with soap and water. Store in a cool, dry location away from incompatibles. Store in original container. Empty packages contain residual hazardous material; handle and store as if full.

### **STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED**

Use appropriate safety equipment. Eliminate ignition sources. Stop leak if possible to do so without risk. Dike spill to prevent spread. Use vacuum to pick up large spills. Soak up residual and small spills with absorbent materials. Collect uncontaminated material for repackaging. Collect contaminated material and absorbents in appropriate container for disposal.

### **WASTE DISPOSAL METHOD**

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

## **SECTION IX: PREPARATION**

The information contains herein is given in good faith, but no warranty, expressed or implied, is made.

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