

APPENDIX B

SPILL CLEAN UP PROCEDURE

CGGVeritas is committed to protecting the environment in which it conducts its operations. It attempts to prevent leaks and spills through the strict use of secondary containment, drip pads/pans and daily equipment inspections. In an event the engineering controls in place fail, the following procedure shall be followed:

Immediate Actions

1. Stop source of leak immediately.
2. Call for immediate help if needed.
3. Use absorbent pads to contain leak.
4. Get extra help to clean up spill immediately.
5. Contact HSE Advisor for appropriate reporting of spill.
6. Fill out spill report form and turn in by the end of your work shift.

Response – Small Spills: If the volume of the contaminated snow is not substantial:

Collection

- Shovel up the contaminated snow into plastic oily waste bag, pick up only contaminated snow. Place oily waste bag inside burlap bag. This is a precautionary measure in case the plastic bag breaks.
- Place contaminated absorbent material in oily waste bags, label, and place in designated areas as outlined in the Waste Management Matrix.
- Clearly, mark the contents of the bags with a felt marker to ensure proper disposal.

Storage

- Ensure the top of the bags are tied shut and place them in the hopper at camp.

Disposal

- Place snow contaminated with diesel, lube oils, ATF and Grease, into one group for disposal using a “Water Scrubber”. (See next page for Water Scrubber operating procedures)
- Place snow contaminated with antifreeze and Heet into another group for disposal using a “Smart Ash” incinerator.

APPENDIX C

WATER SCRUBBER OPERATING PROCEDURE

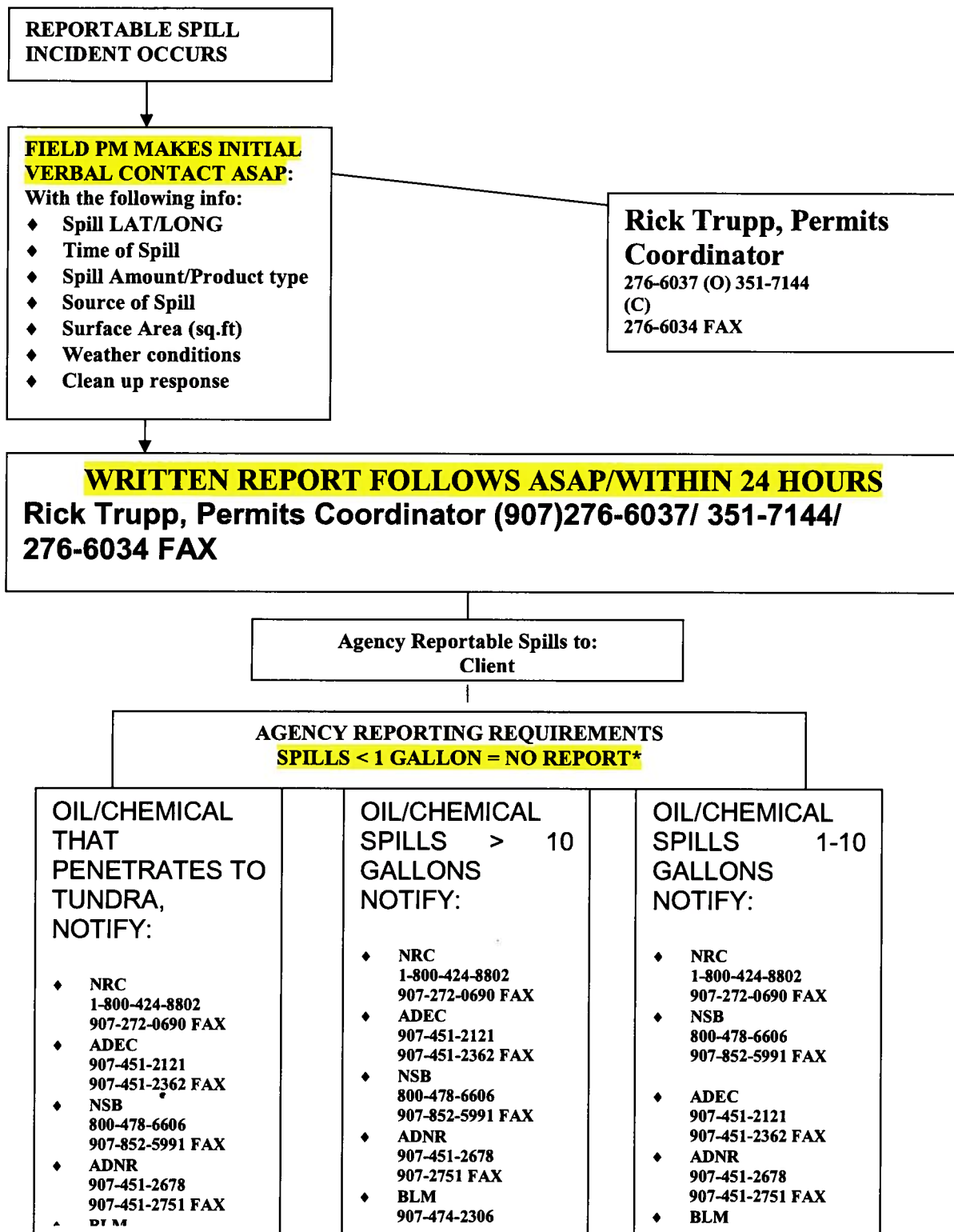
CGGV may be operating a Mobile Spill Response Unit – under our NPDES AKG- 33-0000 permit to discharge water (Discharge 007). CGGV will be using the Absorbent W Water Scrubbing System to dispose of contaminated snow from oil-based products while working on the project. This system for our purposes is designed to remove hydrocarbons from contaminated snow; contaminated snow picked up from minor spills to snow from field vehicles. The water scrubber extracts all oils from light fuels to heavy crude immediately. It contains a light, natural filter, Absorbent W, which can be disposed of by incineration, bio-remediation, bio-degradation or land-filling, in accordance with local, state and federal regulations. The Absorbent W (Water Scrubber) will be used in accordance with Alaska Regulations Section 18 AAC 75.075 (3)(d). The following summary of the regulation will apply to our operation: The operator shall inspect accumulated water before discharge to ensure that no sheen is present. The operator will keep a written log of drainage operations and location. The operator will conduct periodic water samples to ensure that the total concentration of hydrocarbons is below 15ppm. For safe and environmentally friendly operation the following procedures shall be followed:

- 1) Pour “Absorbent W” loose particulate in bottom of scrubber.
- 2) Fill remainder of scrubber with “Absorbent W” open mesh pillows to 6 inches of the top of the drum.
- 3) Place water diffuser on top of pillows.
- 4) Remove plug from discharge hole.
- 5) Pour or gravity feed oily water through diffuser (DO NOT PUMP as this will emulsify the oil). If you must pump the oily water to get it from your location to the scrubber it will be necessary to pump it to a holding tank and allow the oil to settle back out from the water. Then pour the settled solution of oily water through the scrubber.
- 6) Check water discharge and pillows periodically. When saturated, (dark gray color) change filter media.

NOTE: Time intervals between filter media changes will vary depending on the viscosity of the oil and PPM of the oily water. If detergents surfactants are present in the oily water these will nullify the ability of the filter medium in the scrubber to repel water.

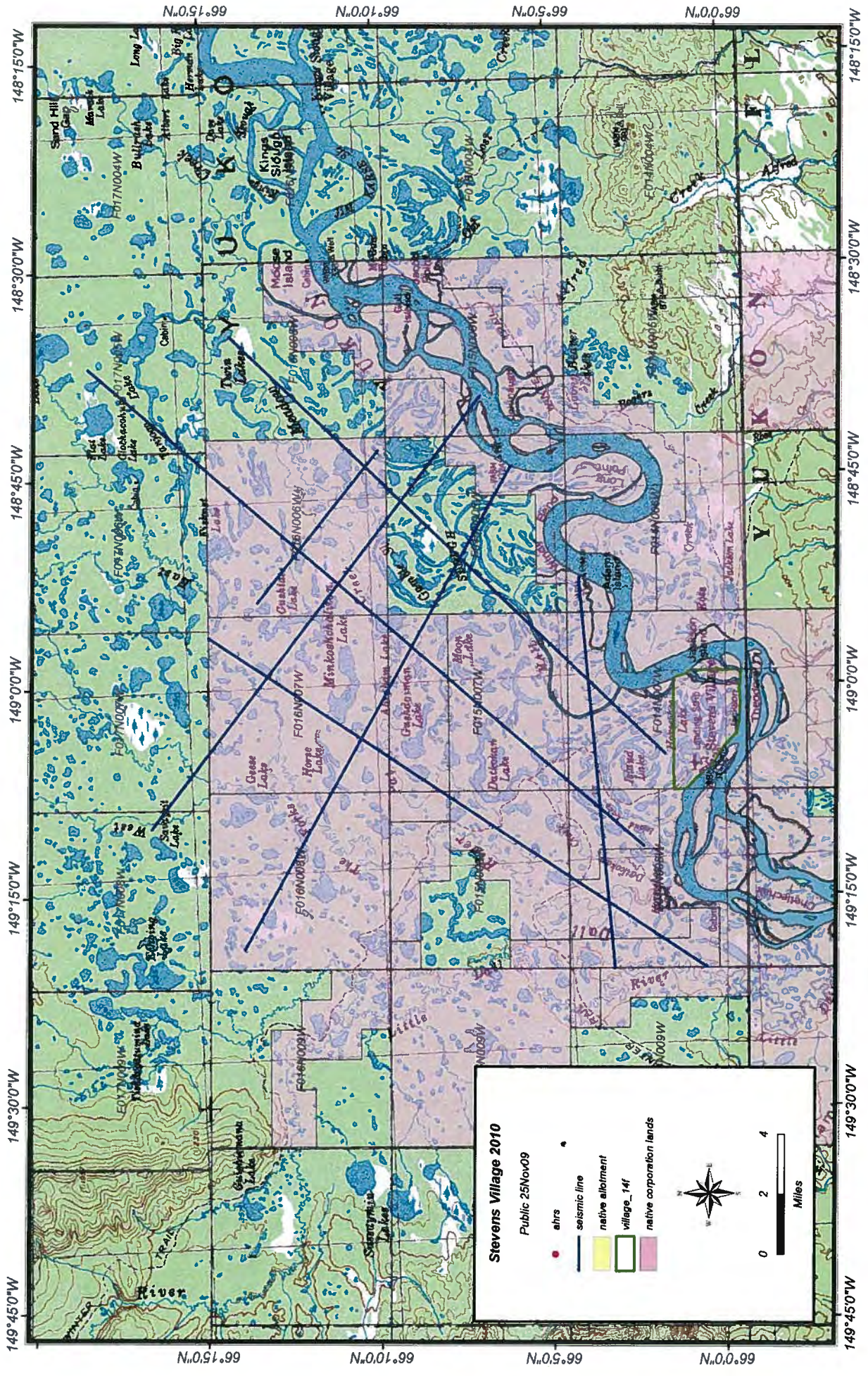
APPENDIX D

CGGVERITAS SPILL REPORTING FLOWCHART



APPENDIX E

PERMIT MAP – PUBLIC “2010 WINTER PROSPECTS MAP”



149°45'0"W 149°30'0"W 149°15'0"W 149°0'0"W 148°45'0"W 148°30'0"W 148°15'0"W

66°15'0"N 66°10'0"N 66°05'0"N 66°0'0"N

APPENDIX G

PROPOSED BEAR/BEAR DEN SIGHTING PROCEDURES

In the event that a Bear or Bear Den is sighted on the prospect, personnel will remove themselves from the immediate area. In order to conduct safe operations, the following procedure will be followed.

- 1) Always have the appropriate P.P.E. with you at all times.
- 2) Make sure that your radio is in good working conditions and that you do frequent check-ins when crews are working in prospective bear areas.
- 3) If a Bear or suspected Bear Den is discovered in the field, the Observers will be notified immediately. As well, if an occupied bear den is located that was not previously identified by ADF&G, it must reported to the Division of Wildlife Conservation within 24 hours at 459-7283.
- 4) After a Bear or Bear Den is reported, a helicopter will be sent to do a recon of the area to determine the location of the Bear or Bear Den.
- 5) Crew Members and Bear Guards will remove themselves to a safe distance from the area of the sighting.
- 6) All personnel will listen to the instructions of the Bear Guard when dealing with the bear encounter.
- 7) No Crew Members will approach the Bear or possible Bear Den.
- 8) The Bear will not be harmed in any way unless it is for the protection of the Crew Members or the Bear Guard.
- 9) Crew Members will not return to the area until it has been deemed safe by the Observers and Bear Guards.
- 10) Layout Crews, Pickup Crews, Trouble Shooters and Shooters will follow this procedure.

APPENDIX H

STREAM AND RIVER CROSSING PROCEDURES

Stream and River crossings are a part of working in the remote areas of Alaska and are conducted in a safe and environmentally friendly method routinely on CGGVeritas operations from the North Slope to Kenai Peninsula. The same protocols and restrictions always apply.

Obviously there must be sufficient ice to support the vehicles crossing. Due to the amount of lakes and streams in the area, CGGVeritas will have an aggressive ice-checking program in place. Surveyors who are the first people in the area will check streams and lakes with 18 Volt Dewalt drills and 2" drill stems to ensure sufficient ice cover exists.

The following protocol will be followed on all stream crossings:

- a. Crossings with any vehicles will be made from bank to bank in a direction that is substantially perpendicular to the direction of normal stream flow and shall be made only at locations with gradual sloping banks. There shall be no crossings at locations with sheer or cut banks.
- b. The bed or banks of any stream shall not be bored, excavated or altered as a result of this project. Drills will not operate within 100' of any streams other than to traverse the area when proper conditions allow.
- c. Equipment will not enter open water areas of any watercourses during these operations. Crossings will occur only while low water, frozen conditions are adequate to facilitate crossings and prevent equipment from becoming trapped or stranded. Ice checking equipment will be used to insure ice can support equipment crossing it.
- d. To avoid additional freeze-down of deep-water pools harboring over wintering fish, watercourses shall be crossed at shallow riffle areas from point bar to point bar. Compaction or removal of the insulating snow cover from deep-water pool areas of rivers will be avoided. Exceptions to this rule can be authorized by OHMP on a case-by-case basis if it is determined that the pool is deep enough to prevent complete freeze down.

When conditions do not allow us to cross a stream where the line intersects it, we will scout to either side to find a suitable location. On many of the streams in this area the existing winter trail system already crosses them. Every effort will be made to use existing crossing whenever possible.

Appendix I

OPERATIONAL MITIGATION MEASURES FOR WATER BODIES

Water Bodies

1. Equipment, other than vessels, must not enter open water areas of a watercourse during winter. All stream crossings shall be over ice of sufficient thickness to support the weight of the vehicles and equipment. Ice or snow bridges constructed at stream crossings must not contain extraneous material (i.e., soil, rock, wood, or vegetation) and must be removed or breached before spring breakup. (NO MECHANIZED EQUIPMENT EXCEPT SNOW MACHINES ON THIS PROGRAM)
2. Stream banks shall not be modified, altered, or disturbed to facilitate stream crossings without prior written approval from the Alaska Department of Fish and Game with notification to DNR, Division of Oil and Gas (907-269-8776 or fax 907-269-3484).
3. To the extent practical the crossing of major fishbearing water bodies by mechanized equipment will be minimized by using batch line installation techniques on each side of the fish bearing water body. The location of unplanned clearing in response to unforeseen field conditions must be identified on a line map in the completion report. (NO MECHANIZED EQUIPMENT EXCEPT SNOW MACHINES ON THIS PROGRAM)
4. To the extent feasible and prudent new access routes and seismic lines must cross **water bodies** perpendicular or near perpendicular to the watercourse to minimize crossing length and potential bank disturbance. Clearings at water body crossings should employ a jogged approach along both sides to obstruct line of sight from the crossing. (NO MULCHING/LINE CLEARING ON THIS PROGRAM)

Explosives

5. Explosives shall not be detonated within, beneath, or adjacent to marine, estuarine, or fresh waters that support fish and wildlife during periods when fish or marine mammals are present unless the detonation of the explosive produces an instantaneous pressure rise in the water body of no more than 2.7 psi or unless the water body, including its substrate, is frozen. Explosives must not produce a peak particle velocity greater than 0.5 inches per second in a spawning bed during the early stages of egg incubation.
 - a. For the shallow hole explosive technique the minimum offset from fish-bearing stream and lakes for explosive speeds up to 26,000 feet per second (such as Pentolite):

<u>Charge</u>	<u>Minimum Offset</u>
1 lb.	37 feet
2 lbs.	52 feet
5 lbs.	82 feet
10 lbs.	116 feet
25 lbs.	184 feet

50 lbs. 200 feet

- b. For quantities (lbs.) of charge between the categories, use the minimum offset for the next higher category. Exceptions to this setback, or new categories, may be approved by the DNR Division of Oil and Gas in consultation with ADFG.
- c. Minimum offsets for shallow-hole explosives are based upon the use of explosives with detonation delays of 8 milliseconds or greater occurring between each charge such that no explosion or combination of explosions will produce an instantaneous pressure in fish bearing waters which exceeds 2.5 psi.

Fuel and Hazardous Substances

- 6. Stationary fuel storage facilities must not be placed within the annual floodplain of a watercourse or closer than 100 ft. to a **waterbody**. There shall be no fueling, servicing or repair of vehicles or equipment, and no vehicles shall be left unattended within the floodplain or below the ordinary high water line of any river, lake or stream or closer than 100 ft. to a **waterbody**.
- 7. Hazardous materials, petroleum, or petroleum products shall be stored within a lined impermeable basin with a minimum storage capacity equivalent to 110% of the largest independent storage container plus 12 inches of freeboard.
- 8. Sorbent material in sufficient quantity to handle operation spills must be on hand at all times for use in the event of an oil or fuel spill.
- 9. All hazardous material containers and fuel drums must be marked with the contents, and permittee's or contractor's name.