



SURFACE WATER DISCHARGE

THE PROBLEM

Every spring we must deal with the challenges associated with the collection of melting snow, spring rain fall and resulting accumulation of surface run-on/runoff waters.

THE SOLUTION

Summit has the regulatory expertise, trained and experienced professionals and required pumping equipment strategically located to compliantly and efficiently manage the discharge of unwanted surface water from your sites.

PROFESSIONAL EXPERTISE

Surface water discharge requirements are provincially regulated activities and Summit has summarized the testing requirements below. Collected surface water that exceeds these parameters must not be released into the environment. Waters suspected, known or exhibiting impact from spills, drill waste storage and other contamination can be sent to an approved facility for treatment and/or disposal or, if possible, treated on-site and released under applicable provincial criteria. On sites where known spills or releases have occurred, the collected surface water should be tested to demonstrate that the water has not been affected.

Summary of Surface Water Discharge Criteria	British Columbia	Alberta	Saskatchewan		
Provincial Regulation	Oil and Gas Waste Regulation, BC Reg 254/2005	AER Directive 055 and AER Directive 058	Directive S-01 Saskatchewan Upstream Petroleum Industry Storage Standards		
Written Landowner Consent	YES	YES	YES	YES	N/A
Documentation of Activities	YES	YES	YES	YES	YES
Summary of Sampling and Testing Requirements for Surface Water Discharge of Clean and Contaminated Fluids					
Parameters	Standard	Standard	Unrestricted	Irrigation	Controlled
pH	6.5 to 8.5	6 to 9	6 to 8	6 to 8	< 6 to > 8
Chloride (total)	≤ 500mg/L	≤ 500mg/L	≤ 500mg/L	≤ 1000mg/L	> 1000mg/L
Visible Hydrocarbon	no visible sheen	no visible sheen	no visible sheen	no visible sheen	visible sheen
Oil and Grease	N/A	N/A	non detect (<10mg/L)	non detect (<10mg/L)	(> 10mg/L)
Electrical Conductivity	≤ 2 ds/m	N/A	≤ 1 ds/m	≤ 2 ds/m	> 2 ds/m
TDS	N/A	N/A	≤ 700mg/L	≤ 1400mg/L	> 1400mg/L
MicrotoxEC50 (15)	≥ 75%	N/A	≥ 75%	≥ 75%	Not Required
Sum of Volatile and Extractable Petroleum Hydrocarbons	≤ 15mg/L	N/A	N/A	N/A	N/A

The above screening parameters are intended for sites exhibiting good surface water management practices.

Evolving, to exceed your expectations.

From insight to on-site.

EARLY SITE INSPECTIONS

Summit strongly recommends early site inspections to verify that existing berms on all open drilling waste sumps are sufficient to prevent surface water from commingling with drilling waste. This simple step could eliminate additional costs. For example, if commingling occurs in Alberta the AER Directive 50 pump-off criteria would become the presiding discharge criteria and would result in unnecessary additional disposal costs.



OUR SERVICES

- ENVIRONMENTAL PLANNING & PERMITTING
- REMEDIATION & RISK MANAGEMENT
- RECLAMATION & RESTORATION CONSULTING
- DRILLING WASTE MANAGEMENT & OPERATIONS
- PIPELINE, FACILITY AND WELLHEAD DECOMMISSIONING AND ABANDONMENT
- ICT, WATERJET AND CONVENTIONAL CUT AND CAPS
- HYDROGEOLOGY & WATER MANAGEMENT
- ENVIRONMENTAL INSPECTION & MONITORING
- SPILL RESPONSE & REMEDIATION



Summit's 24/7 Emergency Spill Line 1-866-836-6988

HEALTH, SAFETY & ENVIRONMENT

Summit is committed to protecting the health and safety of our employees, contractors and the public in the communities in which we work and live. Our **Work Smart, Work Safe** focus is integral to our day-to-day business practices.

Safety is a Summit core value that is integrated into our culture at every level. We not only practice and focus on safety daily in our operations; we strive to educate, continuously improve and evolve our policies and practices.

OUR LOCATIONS

Summit has offices and personnel strategically located in all key areas across Western Canada. Internationally, Summit has operations in Australia and in the United States. For the current listing of Summit's offices, areas of operations, and corporate information please go to www.summitearth.com.

