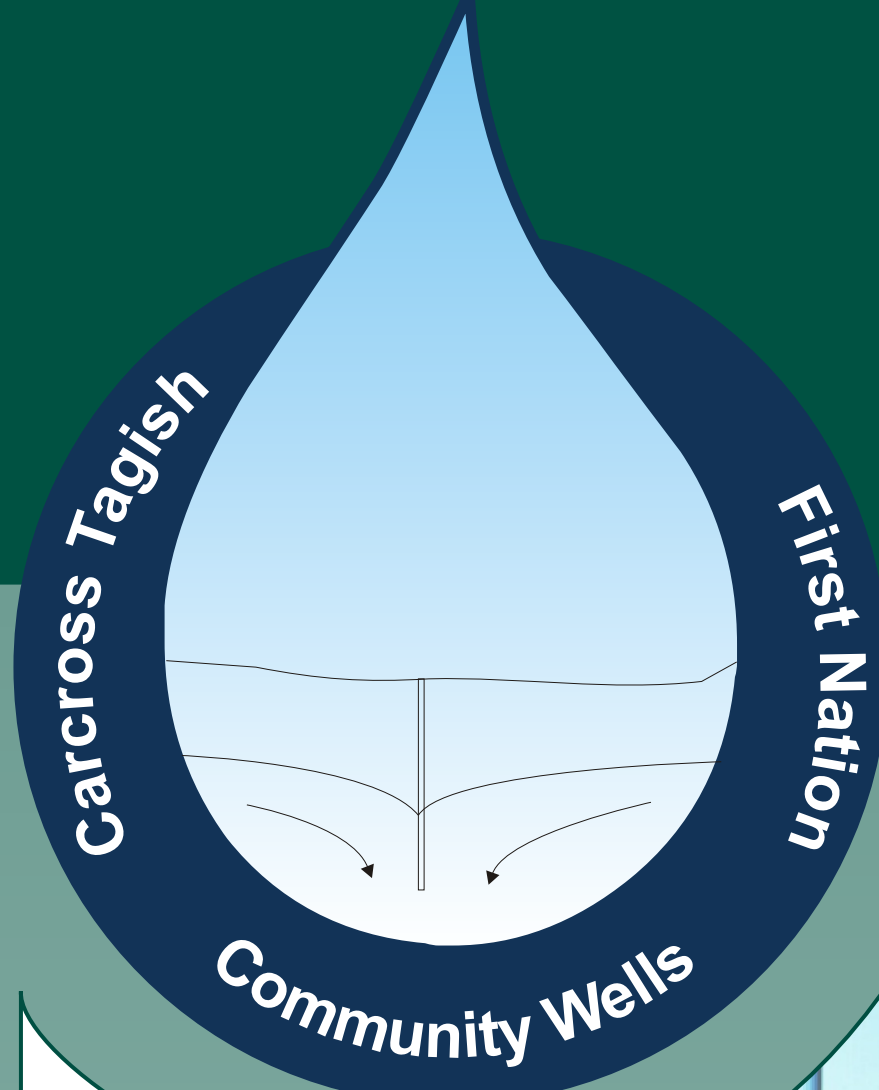


Source Water Protection Plan

Carcross Tagish First Nation, Community Wells, Tagish, Yukon



Our Water Supply...

... Comes From Groundwater...

Our groundwater flows from the mountains to the south east, and discharges to the Six Mile River and Marsh Lake. Groundwater is recharged from rain and snowmelt that seeps down into the soils.

... Up Through Wells...

Two community wells located near the water truck garage provide the water for our potable water systems.

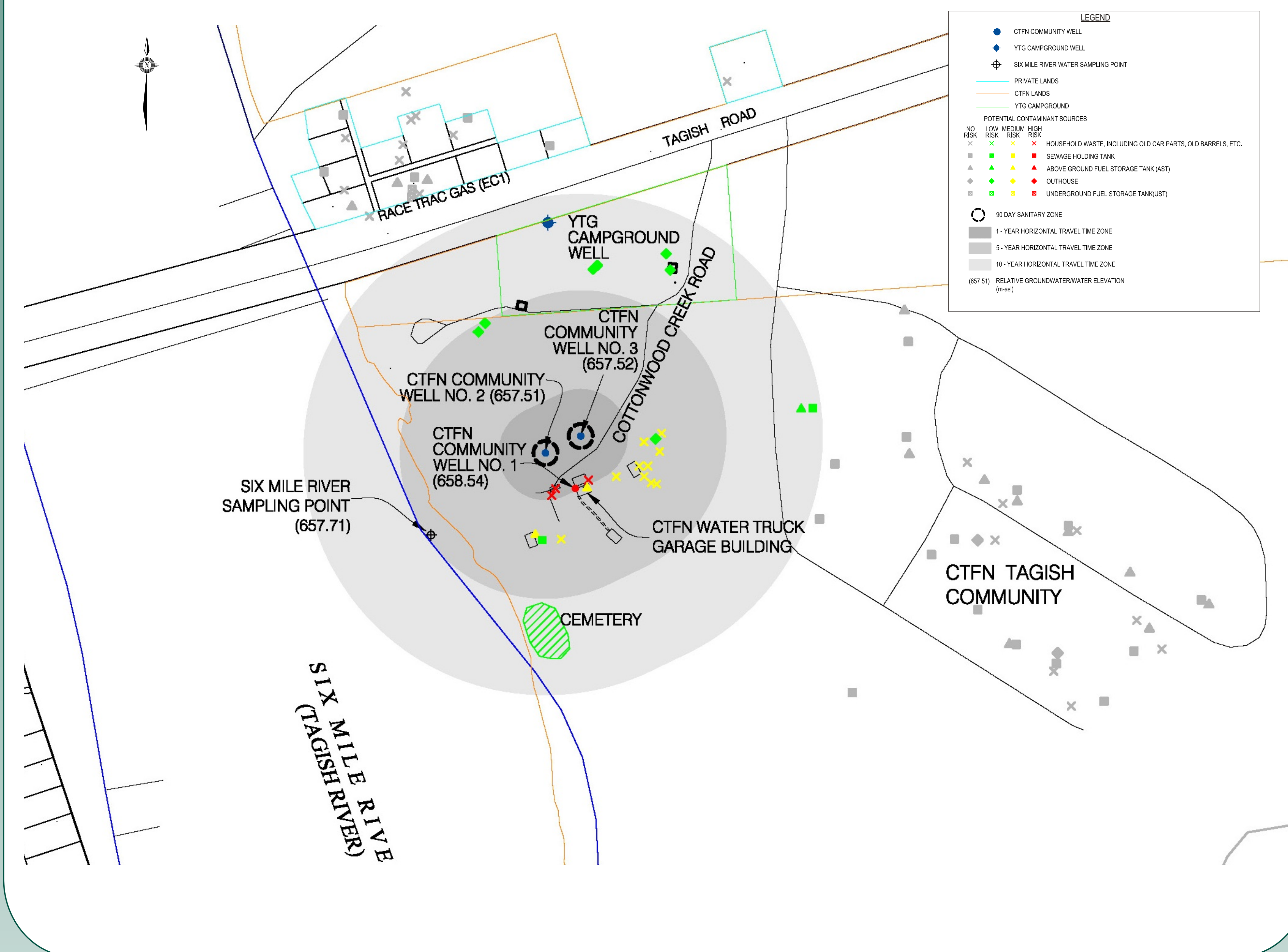
... Is Treated...

The water from the community wells is treated to remove manganese, and then it has chlorine added to disinfect the water by destroying any bacteria or viruses that may be in the water, or may get into the water during delivery.

... And Delivered to Our Homes...

Treated drinking water from the community wells is then delivered to homes in Tagish and Squanga Lake areas by a water delivery truck.

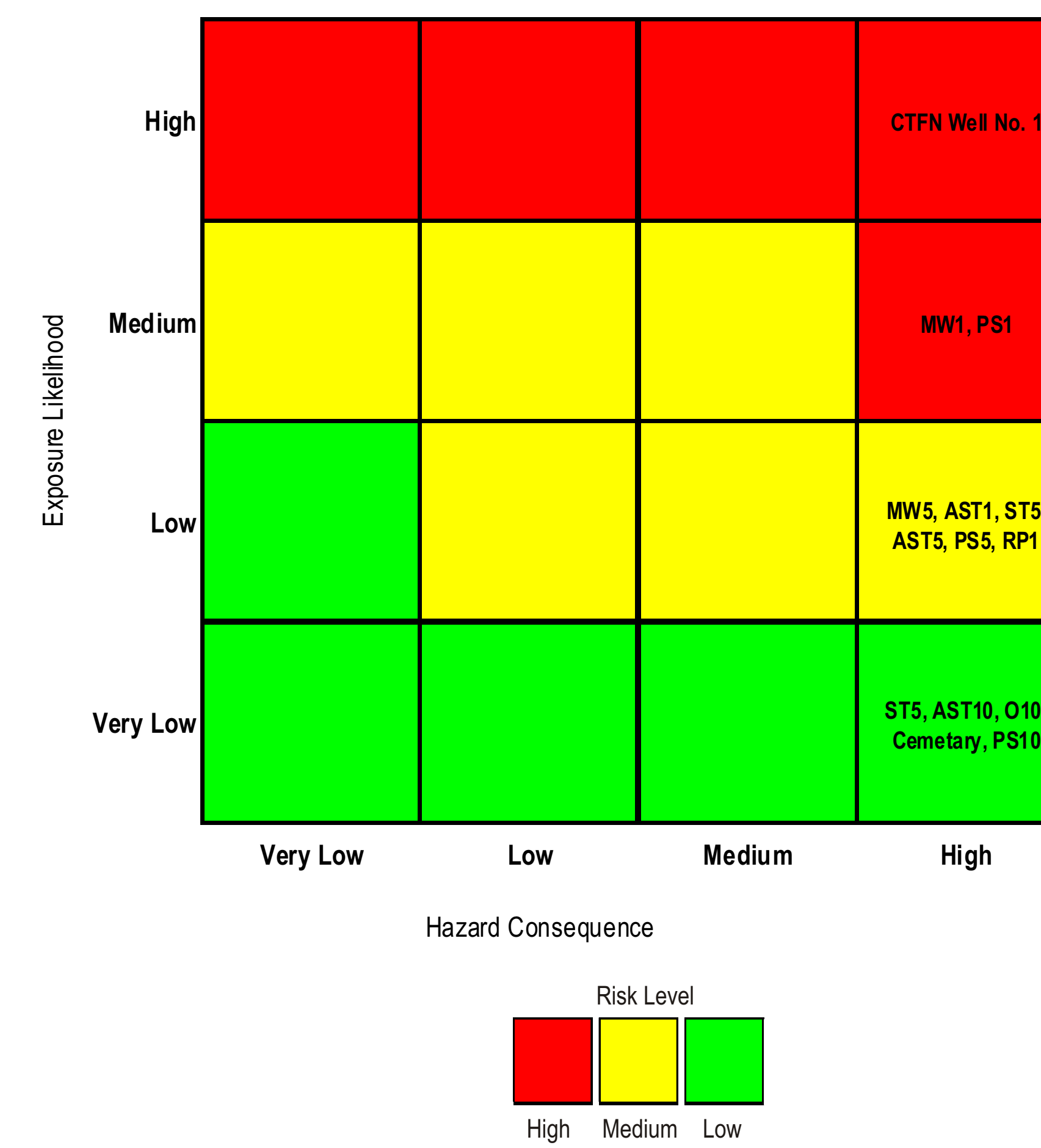
Carcross Tagish First Nation Community Well Capture Zones and Risk Map



... Our Groundwater Comes from...

A confined aquifer. This means that the soil in this area consists of sands and gravels under a thick layer of fine grained deposits like silt and clay. There is a small potential for surface sources of contamination to impact our community water supply. We can all do our part to help reduce this risk.

RISK MATRICES



AREAS OF POTENTIAL ENVIRONMENTAL CONCERN WITHIN CAPTURE ZONES

I.D.	Hazard Description	Exposure Likelihood	Hazard Consequence	Risk Rank
CTFN Wells No. 2 and No. 3				
CTFN Well No. 1	Existing CTFN Well No. 1	High	High	High
MW1	Miscellaneous waste within the 1 year travel time zone	Medium	High	High
AST1	Above ground storage tank within the 1 year travel time zone	Low	High	Medium
PS1	Potential Spill within the 1 year travel time zone	Medium	High	High
MW5	Miscellaneous waste within the 5 year travel time zone	Low	High	Medium
RP1	Rock Pit – wash bay sump; possible hydrocarbons and/or solvents	Low	High	Medium
ST5	Sewage Holding Tank/Septic Field within the 5 year travel time zone	Very Low	High	Low
AST5	Above ground storage tank within the 5 year travel time zone	Low	High	Medium
O5	Outhouse within the 5 year travel time zone	Very Low	High	Low
PS5	Potential Spill within the 5 year travel time zone	Low	High	Medium
AST10	Above ground storage tank within the 10 year travel time zone	Very Low	High	Low
O10	Outhouse within the 10 year travel time zone	Very Low	High	Low
Cemetery	Cemetery within the 10 year travel time zone	Very Low	High	Low
PS10	Potential Spill within the 10 year travel time zone	Very Low	High	Low

... We Can Reduce the Risk by...

Pre-planning actions to reduce risks from the hazards identified within the capture zones for our community wells. The table below summarizes the potential actions to be considered in order to reduce and/or eliminate the risks.

RISK REDUCTION/ELIMINATION STRATEGIES TO BE CONSIDERED				
I.D.	Hazard Description	Current Risk Rank	Risk Reduction Option to Consider	Risk Elimination Option to Consider
CTFN Well No. 1	Existing CTFN Well No. 1	High	Ensure well head is not accessible and/or available for tampering	Decommission Well (recommended since no longer use)
HW1, HW5	Household waste within the 1 and 5 year travel time zones	High to Medium	Monitor car hulks, old barrels and battery storage for leaks or spills. Implement spill contingency plan.	Remove current wastes and do not allow wastes to build up in WSPP zones (recommended)
AST5, AST10	Above ground storage tank within the 1, 5 and 10 year travel time zones	Medium to Low	Secondary Containment, Flex Hose. Implement spill contingency plan. Ensure that fuel delivery personnel exercise extreme caution when refilling of ASTs. A CTFN representative should act as a spotter during filling of all ASTs.	Replace with propane systems.
RP1	Rock Pit	Medium	Oil Water Separator	Install Holding Tank
PS1, PS5, PS10	Potential Spill within the 1, 5 and 10 year travel time zones	High to Medium	Implement spill contingency plan.	N/A
ST5, ST10	Sewage Holding Tanks and On-site Sewage Disposal System within the 5 and 10 year travel time zones	Low	Educate and train owners how to properly maintain these systems. Implement a monitoring system to ensure proper operation and timely pump-out	Ensure that all septic tanks and fields are registered with environmental health and implement a yearly monitoring program to ensure proper system operation.
O5, O10	Pit Privies/ Outhouse within the 5 and 10 year travel time zones	Medium	Ensure that wastes are pumped out regularly and that surface drainage is routed away from outhouse pits.	Replace with pump out system
Cemetery	Cemetery within the 10 year travel time zone	Medium	do not allow new burials at existing cemetery location	N/A

... We Can Monitor the Risk by...

Risk monitoring will involve periodic review, auditing and updating of the Risk Database and Maps. Once the source water protection plan is in place, a yearly update of the risk database and maps should be completed to ensure the safety of our water supply

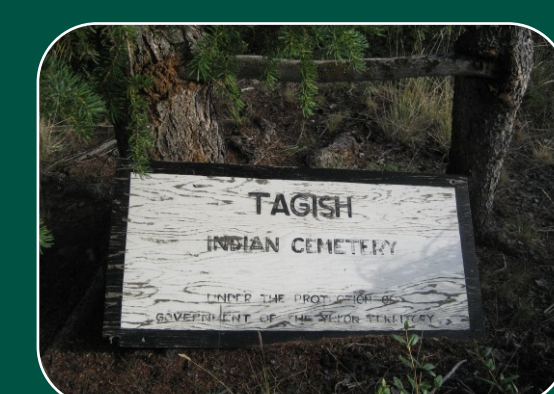
Our Groundwater Could Become Contaminated By...



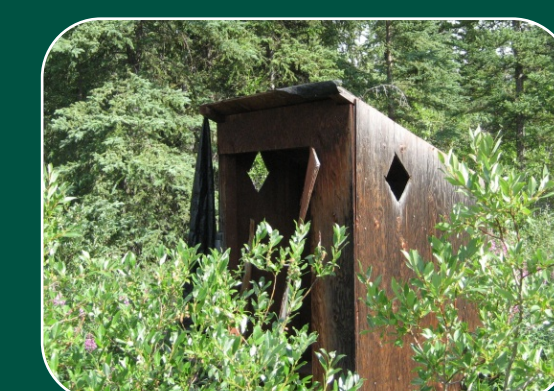
Household waste Including old Car Parts – Current and former dump areas including old car bodies can be potential sources of organic and inorganic contaminants.



Spills and Leaks - Spills or leaks from vehicles, highway accidents, above ground storage tanks (ASTs), underground storage tanks (USTs), are common sources of hydrocarbon contamination.



Cemeteries - Historical and current cemeteries potentially release a variety of pathogenic organisms. As well, arsenic was used as an historical embalming chemical until around 1910.



Septic Systems and Outhouses – Improperly constructed, maintained or failing septic systems or outhouses can potentially contaminate groundwater with bacteria, viruses, nitrates, phosphorous, hazardous materials or other household chemicals.



Future Development - New development within the capture zone may add additional potential sources of contamination.



Sumps and Rock Pits – water carrying hydrocarbons and solvents that enter the sump may contaminate the groundwater