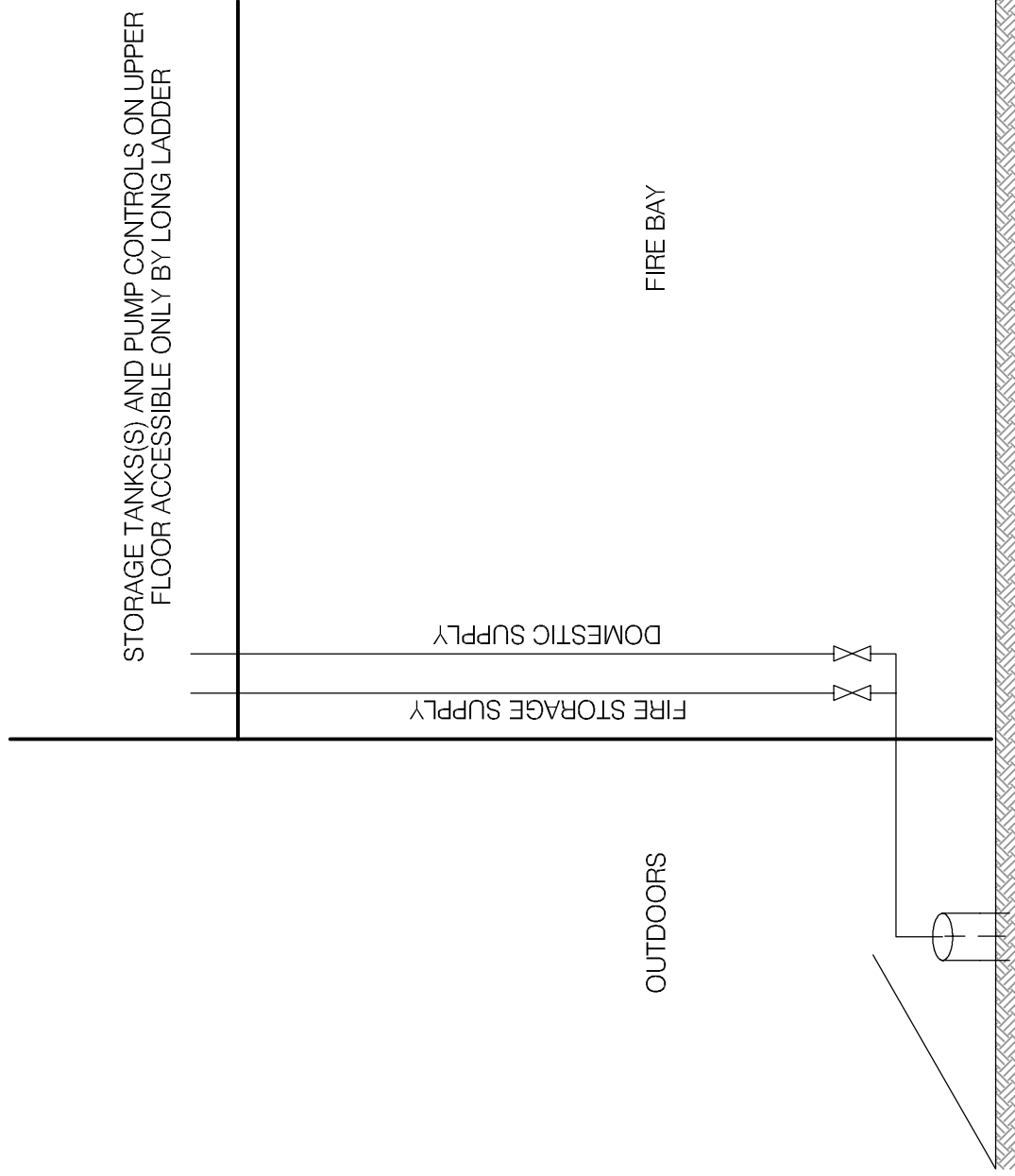


STORAGE TANK(S) AND PUMP CONTROLS ON UPPER FLOOR ACCESSIBLE ONLY BY LONG LADDER

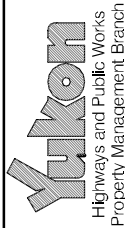


SCHMATIC PRODUCED BY BERT ALBISSER OF AQUA TECH SUPPLIES AND SERVICES LTD.



EBA Engineering Consultants Ltd.

CLIENT



PROJECT SMALL PUBLIC WATER SYSTEMS ASSESSMENT
NORTHERN REGION

TITLE WATER SYSTEM DISTRIBUTION/TREATMENT
SCHEMATIC SYSTEM ID.: 5678
PELLY CROSSING FIRE HALL

DATE SEPT., 2005

DWN.

JSB

CHKD.

RMM

FILE NO.

1260002.004

DWG.:

FIGURE 5678-B

Northern Region - Pelly Crossing Firehall
Building # 5678

Photo 102-0205
102-0206

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	Sub Pump	GRUNDFOS	16507-8			4" - 3/4 HP
2	Pressure Tank	NOT ACCESSIBLE				
3	Water Storage Tank	NOT ACCESSIBLE				
4	Pump Controls	NOT ACCESSIBLE				
5						
6						
7						
8						
9						
10						

TABLE 5678 - 1: SUMMARY OF BACTERIOLOGICAL RESULTS

Building #	Building Name	Number of Sampling Events	Time Period over which Sampling was Done	Any Positive Total Coliform Results? (yes or no)	Fraction of Positive Total Coliform Results vs. Total Sampling Events	Any positive E.Coli results? (yes or no)	Most Recent Sampling Event Available for EBA Review	Is Most Recent Result Positive?
5678	Pelly Crossing Fire Hall	9	Oct-04 to Jun-05	yes	1/9	no	9-Jun-05	no



Table 5678 - 2: Water Quality Results

SOURCE:		Building 5678 - Fire Hall			GCDWQ Criteria		
Location/ Resident Address		Pelly Crossing					
Treatment		None					
Disinfection		None					
Source of Water		On-site well					
Purpose of Sampling		Base Line	Base Line	Additional Sampling			
Sample Location					Lower	Upper Limit	
Date Sampled		29-Sep-04	8-Jun-05	23-Aug-05	AO	MAC	AO
Physical Tests (ALS)							
Colour (CU)		9	<5.0				15
Conductivity (uS/cm)			414				
Total Dissolved Solids		222	235				500
Hardness CaCO3		209	189		AO >200 = poor, > 500 unacceptable ^A		
pH		8.11	8.2		6.5		8.5
Turbidity (NTU)		3.1	1.39	4.94		1	5
UV Absorbance				0.018			
% UV Transmittance				96.2			
Dissolved Anions (ALS)							
Alkalinity-Total CaCO3		175	155				
Chloride Cl		1.5	<0.50				250
Fluoride F		0.08	0.098			1.5	
Silicate SiO4							
Sulphate SO4		38.1	54.9				500
Nitrate Nitrogen N		0.5	<0.10			10	
Nitrite Nitrogen N		<0.05	<0.10			1	
Ammonia Nitrogen N							
Total Phosphate PO4							
Total Metals (ALS)							
Aluminum T-Al		<0.005	0.016			0.1	
Antimony T-Sb		<0.0002	<0.00050			0.006	
Arsenic T-As		0.0006	0.00036			0.025	
Barium T-Ba		0.081	0.078			1	
Boron T-B		0.003	<0.10			5	
Cadmium T-Cd		<0.00001	<0.00020			0.005	
Calcium T-Ca			53.6				
Chromium T-Cr		0.001	<0.0020			0.05	
Copper T-Cu		0.011	0.0235			1	
Iron T-Fe		0.3	1.23	1.51			0.3
Lead T-Pb		0.0002	<0.0010			0.01	
Magnesium T-Mg			13.5				
Manganese T-Mn		0.033	0.0353				0.05
Mercury T-Hg			<0.00020			0.001	
Potassium T-K			1.59				
Selenium T-Se			0.0033			0.01	
Sodium T-Na		3.1	3.4				200
Uranium T-U		0.0008	0.00089			0.02	
Vanadium T-V							
Zinc T-Zn		0.004	<0.050				5
Dissolved Metals							
Iron D-Fe				<0.030			0.3
Organic Parameters							
Tannin and Lignin				0.14			
Total Organic Carbon C				1.33			
Field Chemistry (EBA)							
pH				8.17	6.5		8.5
IDS (ppm)				178			500
EC (uS/cm)				362			
Temperature (°C)				8.4			
Free Available Chlorine							

Notes:

A. Guidelines indicated for hardness are not CDWQG, rather they are general aesthetic guidelines - exceedences are indicated in yellow highlighting.

italics and underline indicates exceedence of proposed MAC (ie. arsenic)

Bold with Yellow highlighting indicates exceedence of CDWQG Aesthetic Objective (AO)

Bold Underline with Yellow highlighting indicates exceedence of CDWQG MAC

Results are expressed as milligrams per litre except for pH and Colour (CU)

Conductivity (umhos/cm), Temperature (°C) and Turbidity (NTU)

< = Less than the detection limit indicated.

AO = Aesthetic Objective

MAC = Maximum Acceptable Concentration (Health Based)



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SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: KSI/RMM

Date August 23/2005

WELL ID #	Owner	Location Description
5678	YTG	Pelly Crossing Firehall

1. Well Location and Potential Contaminant Sources

a. General location of well: (Community, Subdivision, etc.)

Pelly Crossing 462 Klondike Highway

b. Specific location: (Road or street, Building number, name of owner and/, legal description,

Pelly Crossing: Firehall

c. GPS location: DB E 420103 N 6967043 elev. 481m ±10m

d. Is there electric power? Yes No

* e. Is there outside water access? Yes No

f. Does the well system have:

15 or more service connections to a piped distribution system? If so how many No

5 or more delivery sites on a trucked distribution system? If so how many No

g. Nearest building, specify firehall

h. Distance from well to building 2.5m

i. If there is an effluent disposal field, is its location known? Yes No

j. Distance from well to nearest point of known field: _____

k. Well location relative to field: upslope downslope lateral

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l. Is there any part of a sewage disposal system(s) or other potential sources of pollution that may pose a health and safety risk within 30 m? Yes No

m. Is the well located within 300 m from a sewage lagoon or pit? Yes No

n. Is the well located within 120 m from a solid waste site or dump, cemetery? Yes No

o. Is the infrastructure protecting the wellhead, pumphouse, storage tank and/or water treatment plant designed and secured to prevent:

Unauthorized access by humans? Yes No

Entrance by animals? Yes No

significant mouse feces in well enclosure.

p. Is well site subject to flooding? Yes No

q. Is the well site well drained? Yes No

graded away from well head.

r. Is there a buried fuel tank on the property? Yes No

unk.

If yes, is it in use abandoned

Is the location known? Yes No

Distance from the well to known buried tank _____

s. Are there any other known contaminant sources on the property?

Yes No Describe _____

If yes, specify the source: dump sewage lagoon cemetery other

Potential Source 1: AST 1; Distance from well to Potential Source 1: 14m

Potential Source 2: _____; Distance from well to Potential Source 2: _____

Potential Source 3: _____; Distance from well to Potential Source 3: _____

Potential Source 4: _____; Distance from well to Potential Source 4: _____

t. Are there other wells on this property? Yes No

How many? _____ in use abandoned require proper sealing

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2. Well and Wellhead information:

- a. When was well installed? Year 1988 Month Sept 11
- b. Type: drilled dug sand point other _____
- c. Is there a drillers log for the well: Yes No MSD
- d. Is there a surface seal to 6 m Yes No unknown unlikely
- e. Surface casing: Yes Diameter _____ No
- f. Well casing: Diameter 6" (152mm) Material: steel plastic concrete
- g. Depth of well: 45' measured (if possible) reported from log
- h. Static water level below ground: 34'
 measured (if possible) reported from log flowing
- i. (If granular) Is the well completed: open end casing with a well screen
 with slotted pipe unknown other 15 slot
- j. (If bedrock) Does the well have a liner? yes No steel plastic
- k. If there is a well screen: length 4' slot size(s) 15'
Location of screen: from 41 to 45' from log reported
- l. Is there a sump below the screen? Yes No
- m. Is the well head: in pumphouse in pit pitless adaptor in a building
 in a wooden enclosure other, describe PWF pit enclosure.
- n. If the well head is located in a wooden enclosure,

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i. Is the well head below grade? describe in detail Yes - 0.92 m - by

ii. Are there signs of ponding on the enclosure(e.g. water stains, etc.)? Yes No

iii. Is the wellhead enclosed by fiberglass insulations? Yes No

iv. Any evidence of rodents? Specify Yes - significant amounts of mouse feces

v. Does the well casing have a proper seal cap? Yes No

If no, describe condition split gasket cap

3. Water Supplying This Well:

a. By definition is the water from a surface water source or under the direct influence of surface water?

no surface seal + distance to Pelly River. (Yes No farther investigation required.

If yes is there treatment or disinfection Yes No

Explain (filtration, disinfection etc...) _____

4. Aquifer Supplying This Well:

a. The aquifer is: bedrock granular sediment unknown

b. Does water level and/or well capacity show seasonal fluctuation? Yes No

5. Pump Installation:

a. Is the well equipped with a pump? yes No

b. Type of pump: hand electric submersible jet

shallow well centrifugal other, _____

c. Description: Manufacturer _____ Model _____
horsepower _____ capacity _____ voltage _____

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d. Date installed: _____ By: _____

e. For submersible pump, depth of setting below surface _____

f. Drop pipe for submersible pump: steel plastic

g. Pump delivers water to: pressure tank elevated tank other

h. Are there automatic pump controls: Yes No

i. Is there provision for taking water samples before water reaches storage? Yes No

j. Is there a water meter on the system? Yes No

k. Is the pump and piping protected from freezing? Yes No

If yes, describe: _____

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

b. Recommendations: _____

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PART B: EBA Site Inspection

Inspector: BERT ALBISER

Date AUG. 23/05

WELL ID #	Owner	Location Description
5678	YTG	FIRE HALL, PULLY CROSSING

6. Water Treatment

a. Is well water treated? Yes No; Type of treatment:

chlorination iron and or manganese removal other _____

b. Is water entering plumbing or piped distribution system treated with chlorine or another treatment that is as effective as chlorine used to achieve disinfection throughout the system?

Yes No If so how _____

c. If treated with chlorine, is the free residual chlorine concentration less than 0.2 mg/L

Yes No _____ reading.

Tested at _____ (location)

d. Is testing for chlorine residual concentration done at the tap (eg. Kitchen faucet) or from representative points in a piped distribution system, including a point from tap at the end line

Yes No If yes how often? _____

e. If the drinking water is being transported by water delivery truck does it have a minimum chlorine free residual of 0.4 mg/L at the time of fill. Yes No

7. Water Quality (observations):

a. Does the water stain plumbing? yes No slight severe

Type of stain: brown red black

b. Does the water contain sediment? Yes No occasional constant

c. Is there an unpleasant odour? Yes No H₂S Other _____

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- d. Is there an unpleasant taste? Yes No brackish Other _____
- e. Is there a history of bad bacterial analyses? [?] Yes No
- f. Is there a chemical analysis? Yes No adequate incomplete
- g. Is there analysis of trihalomethanes (THMs) where the water source is a surface water supply or a well under the direct influence of surface water? Yes No
- h. Is the drinking water tested daily with an accurate reading chlorine test kit capable of reading in the range 0 to 3.5 mg/L of free chlorine residual in increments of 0.1mg/L? Yes No unknown
- i. If yes is the test performed in accordance with manufactures directions? Yes No unknown
- j. Is a record of the date, time, name of person performing the test and results of the drinking water sample kept? Yes No

TANK AND PIPING DETAILS

Tank Room

Is there a water tank? Yes No Details:

Where is it located?

Comments: _____

Is the room in which the water tank is located heated to maintain an optimum temperature of 4°C for stored water?

YES NO

Comments: _____

Are there windows in the add-on that may allow direct sunlight onto the water holding tank? YES

NO

Comments: _____

Are there other heat sources near the tank? YES NO

Comments: _____

Is there waterproof flooring with a sealed base to contain spills? YES NO

Comments: _____

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Overall Tank

What are the tank size and dimensions?

What material is the tank constructed of? _____

Is tank and associated piping constructed of safe materials (i.e. CSA approved and material that does not affect the taste of the water)? YES NO

Comments: _____

Tank Inlet, Outlet and Lid

Is there adequate access on the tank for cleaning (i.e. min 15" access lid)? YES NO

Does the lid have a tight seal and is it watertight when closed? YES NO

Does the tank have an overflow or high level whistle? YES NO

Is the water tank drain accessible? YES NO

WATER TANK AND WATER QUALITY CONDITION

Are there signs of staining or biofouling? YES NO

Comments: _____

Is there any sediment or scum in bottom of tank? YES NO

Comments: _____

Is there any odour associated with the water or tank? YES NO

Have there been any bacteriological analyses conducted previously? YES NO

Does the tank appear that it has been cleaned recently? YES NO

Are the tanks easily assessed for the purpose of cleaning and disinfection? YES NO

8. Conclusions

a. Comments on overall installation:

THIS INSTALLATION IS NOT ACCEPTABLE. ACCESS TO THE WATER STORAGE TANKS & CONTROLS IS FOR EXPERIENCED CLIMBERS ONLY. THE PRESSURE TANK IS WATERLOGGED, WHICH CAUSES THE WELL PUMP TO RAPID CYCLE.

b. Recommendations:

INSTALL PROPER ACCESS TO THE WATER STORAGE AREA.
INSTALL WATER TREATMENT AS REQUIRED FOR UV SYSTEM (NSF 55 CERTIFIED)
INSTALL UV SYSTEM.



Environment
Canada

Environnement
Canada

Enforcement and Emergencies Section

91782 Alaska Highway, Whitehorse, YT Y1A 5B7

PH: 867.667.3400 FAX: 867.667.7962

Spill Report Information

Spill #	9840
Jurisdiction	Yukon
Community	Pelly Crossing
Address	
Highway	
Milepost	
Feature	Pelly Crossing
Location and Cause	Pelly Crossing School - valve opened intentionally on heating fuel tank - tank drained
Latitude	62.8181
Longitude	-136.5665
Incident Date	9/11/1998
Lead Agency	Yukon Government - Renewable Resources
Other Agency	
Company(s)	
Amount	
Units	
Quantity	Unknown
Release Description	
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Fumace Oil
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	spill to ground - near community well - soil excavated - EC suggested taking contaminated soil to dump and spreading out on tarps - no further information on file



Spill Report Information

Spill #	8621
Jurisdiction	Yukon
Community	Pelly Crossing
Address	
Highway	
Milepost	
Feature	Pelly Crossing
Location and Cause	overturned home heating fuel storage tank - garbage truck backed into supporting stand
Latitude	62.819543
Longitude	-136.569408
Incident Date	12/31/1986 2:00:00 PM
Lead Agency	Environment Canada - Environmental Protection Service
Other Agency	RCMP
Company(s)	Selkirk Indian Band
Amount	1890
Units	Litres
Quantity	Estimate
Release Description	Spilled
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Furnace Oil
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	fuel spilled onto frozen ground and snow/ice cover - fuel was flushed with water and dispersed over a wider area - band advised to remove cont snow



Photo 405: 5678 Pelly Crossing Fire hall. (looking west)



Photo 402: 5678 Well enclosure and wellhead.



Photo 403: 5678 On site AST on west side of building.



Photo 406: 5678 Septic system.