



SCHEMATIC PRODUCED BY BERT ALBISSER OF AQUA TECH SUPPLIES & SERVICES LTD.

 EBA Engineering Consultants Ltd.	PROJECT ADDITIONAL ASSESSMENT EASTERN REGION			
CLIENT 	TITLE WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: 1131 CARCROSS SEARCH & RESCUE BUILDING			
DATE APRIL 2006	DWN. JSB	CHKD. RMM	FILE NO. 1260002.005	DWG.: FIGURE 1131-B

**Whitehorse Region – Carcross Search and Rescue
Building # 1131**

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	Polyethylene Storage Tank		270			Upright 270 Gallon
2	Jet Pump	R.G.Ray	SPLC-2H		C95G	½ HP – 115 V.
3	Pressure Tank	Con Air	SCA15H		1A95N	4.5 Gallon
4						
5						
6						
7						
8						
9						
10						

Table 1131-2: Water Quality Results

SOURCE:		Building 1131- Carcross Search and Rescue		
Location/ Resident	Carcross	GCDWQ Criteria		
Address				
Treatment	Filtration			
Disinfection	Chlorination			
Source of Water				
Purpose of Sampling	Additional Sampling			
Sample Location	10-Aug-05			
Date Sampled		Lower	Upper Limit	
Physical Tests (ALS)		AO	MAC	AO
Colour (CU)				15
Conductivity (uS/cm)				
Total Dissolved Solids				500
Hardness CaCO3		AO >200 = poor, > 500 unacceptable ^A		
pH		6.5		8.5
Turbidity (NTU)			1	5
UV Absorbance	0.270			
% UV Transmittance				
Organic Parameters				
Tannin and Lignin	<0.10			
Total Organic Carbon C	1.55			
Field Chemistry (EBA)				
pH	8.16	6.5		8.5
TDS (ppm)	41			500
EC (uS/cm)	80			
Temperature (°C)	21.0			
Free Available Chlorine	0.01			

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)



SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: Luke Lebel

Date August 10, 2005

WELL ID #	Owner	Location Description
1131	YTG	Carcross Search and Rescue Office

1. Well Location and Potential Contaminant Sources

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

Carcross

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

Carcross Road

c. GPS location: N 6670005 E 516351 elev. 663m ± 12m

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 _____

Search and Rescue Building

5 or more delivery sites on a trucked distribution system? If so how many _____

g. Nearest building, specify located in addition to Search and Rescue Building

h. Distance from well to building _____

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

j. Distance from well to nearest point of known field: ~12m

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

Septic tank + Effluent field

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

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

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 *located in locked building* Entrance by animals? Yes No *Access possible*

p. Is well site subject to flooding? Yes No

q. Is the well site well drained? Yes No

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

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: AST 2+3; Distance from well to Potential Source 3: ~87m

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: *Abandoned*

- a. When was well installed? Year _____ Month _____
- b. Type: drilled dug sand point other _____
- c. Is there a drillers log for the well: Yes No
- d. Is there a surface seal to 6 m Yes No unknown unlikely
- e. Surface casing: Yes Diameter _____ No
- f. Well casing: Diameter 15cm Material: steel plastic concrete
- g. Depth of well: 760m measured (if possible) reported from log
- h. Static water level below ground: 3.780 m bc
 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 _____
- j. (If bedrock) Does the well have a liner? yes No steel plastic
- k. If there is a well screen: length _____ slot size(s) _____
Location of screen: from _____ to _____ 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 addition to building
- 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 No, ~60cm above grade
- 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 likely in walls of enclosure
- iv. Any evidence of rodents? Specify Yes, mouse droppings
- 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?
 Yes No farther investigation required.
If yes is there treatment or disinfection Yes No well abandoned
Explain (filtration, disinfection etc...) _____

4. Aquifer Supplying This Well:

- a. The aquifer is: bedrock granular sediment unknown
likely
- b. Does water level and/or well capacity show seasonal fluctuation? Yes No w/c

5. Pump Installation:

- a. Is the well equipped with a pump? yes No
- b. Type of pump: hand electric submersible jet no longer in use, but still in place
 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 n/a

h. Are there automatic pump controls: Yes No n/a

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

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

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

If yes, describe: _____

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

There is a well at this site, but it is no longer in use.
This water system uses water from a delivered source.
The fill pipe and vent is ABS piping and there is no
vermin screen

b. Recommendations: _____

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PART B: EBA Site Inspection

Inspector: MARK ROBINSON AQUA TECH

Date AUG 10/05

WELL ID #	Owner	Location Description
1131		SEARCH AND RESCUE CROSS.

6. Water Treatment

a. Is well water treated? Yes

No; Type of treatment: NO TREATMENT ON SITE. TREATED BY DELIVERY

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 0.01 reading.

Tested at OFFICE SINK TAP (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: 8' X 10' ROOM WITH HOT WATER TANK, JET PUMP, ELECTRICAL PANEL, SHELVES

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: INSULATED STORAGE ROOM, HEATED WHEN DOOR IS LEFT OPEN

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

NO

Comments: 5' X 3' WINDOW RIGHT BESIDE TOP 2' OF UPRIGHT POLY TANK.

Are there other heat sources near the tank? YES NO

Comments: TOYO STOVE. ROOM BESIDE STORAGE ROOM.

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

Comments: CONCRETE FLOOR, 2" BELOW ROOM NEXT TO IT.

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Overall Tank

What are the tank size and dimensions?

270 IMP. GALS / 1227 LITRES 7' HIGH 3' ROUND 15" LID ON TOP

What material is the tank constructed of?

Poly

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: 1/2" PVC + 1" POLY TUBING FOR SUCTION TO JET PUMP

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 OVERFLOW PRUSED OFF.

Is the water tank drain accessible? YES NO BUT 2" OFF BOTTOM

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: COULD NOT SEE INTO TANK.

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

ONLY 10" BETWEEN TOP OF TANK (LID) AND CEILING.

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8. Conclusions

a. Comments on overall installation:

STATION IS ON WATER DELIVERY INTO A 270 IMP. GAL UPRIGHT POLY TANK.
THE WATER IS DRAFTED FROM THE TANK WITH A 1/2 HP., 115V JET PUMP WITH
1" POLY TUBING FOR SUCTION AND 1" POLY TUBING (DISCHARGE) TIED INTO POLY B
MANIFOLD.

b. Recommendations:



Photo 141: 1131 Water storage tank.



Photo 027: 1131 Abandoned well.



Photo 029: 1131 Carcross search and rescue building (former grader station).



Photo 028: 1131 Abandoned wellhead enclosure.