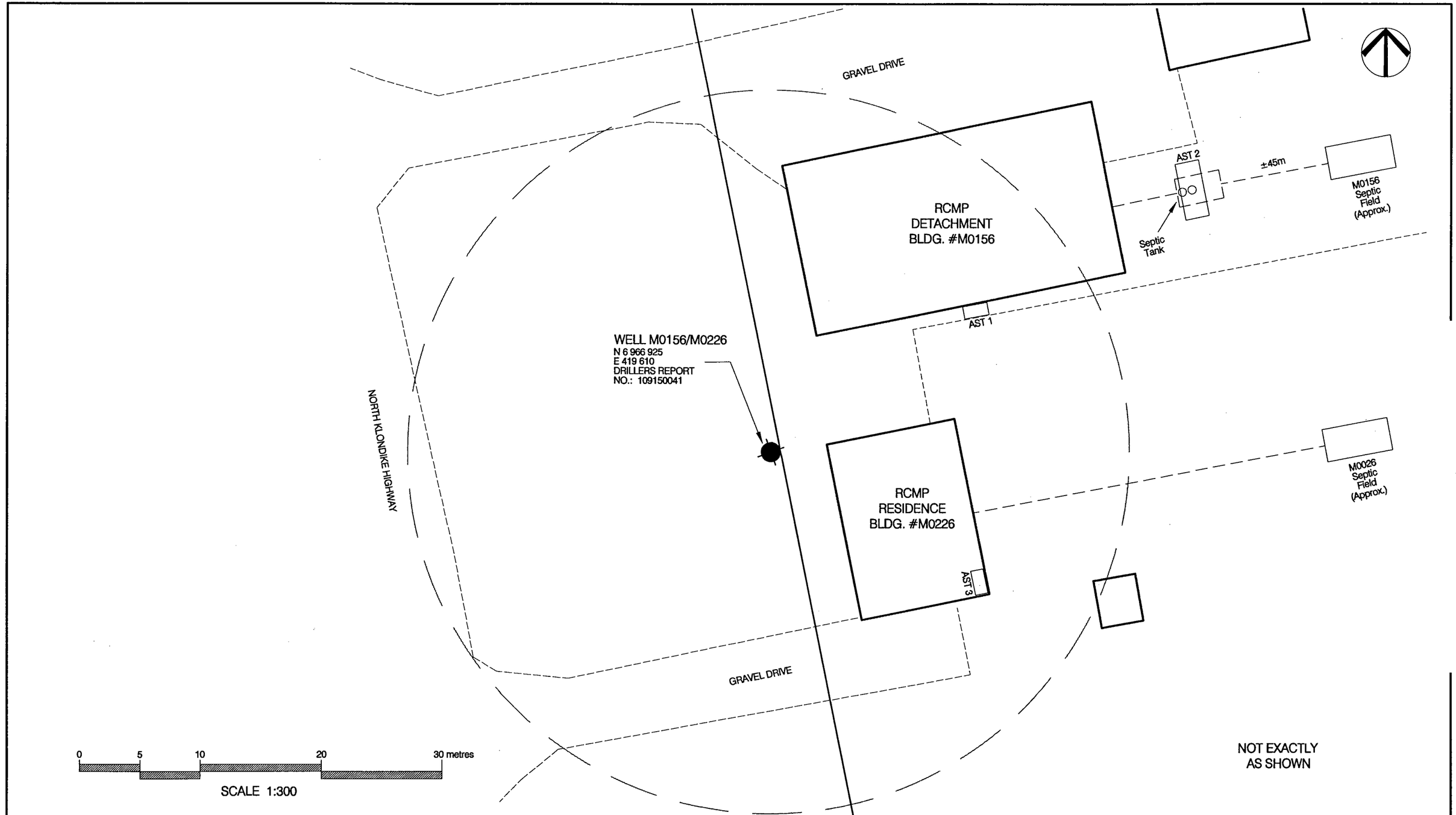


NOTES:

1. UTM COORDINATES OBTAINED WITH A HAND HELD GPS USING NAD83 SYSTEM AND ARE CONSIDERED TO BE ACCURATE TO 10.0 m, APPROXIMATELY.

30 m RADIUS FROM WATER WELL FOR CONSIDERATION OF PROXIMITY TO POTENTIAL CONTAMINANT SOURCES.

No.	DESCRIPTION	DATE	APPROVED
0	ISSUED FOR CLIENT REVIEW	DD/MM/YY	XXX

REVISION

EBA Engineering Consultants Ltd.

DESIGNED BY:	R. MARTIN
DRAWN BY:	J. BUYCK
DATE:	SEPT. 2005
SCALE:	AS SHOWN
PROJECT No.:	1260002.004
ACAD FILENAME:	004-NORTHERN REGION

CLIENT:

Yukon
Highways and Public Works
Property Management Branch

SMALL PUBLIC WATER SYSTEMS ASSESSMENT
NORTHERN REGION

GOVERNMENT OF YUKON
HIGHWAYS & PUBLIC WORKS

PELLY RCMP
BUILDING # M0156/M0226
SITE LOCATION DIAGRAM
WELL ID: M0156/M0226

REVISION ISSUE: 0

FIGURE No.: FIGURE 0156 /0226-A

LEGEND


PUMP


PRESSURE GAUGE


GATE VALVE

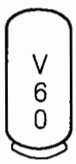

CHECK VALVE


SOLENOID

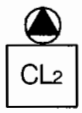
#2 COMPONENT ID. No.
(SEE TABLE ON FOLLOWING PAGE)


FLOW METER

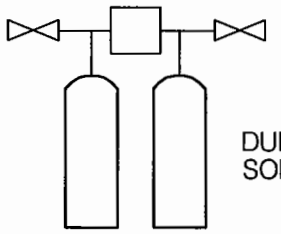
WATER FILTER
(CARTRIDGE TYPE)



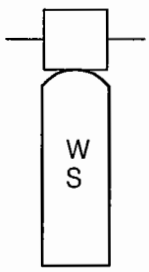
PRESSURE TANK



CHLORINE RESERVOIR AND
INJECTION PUMP

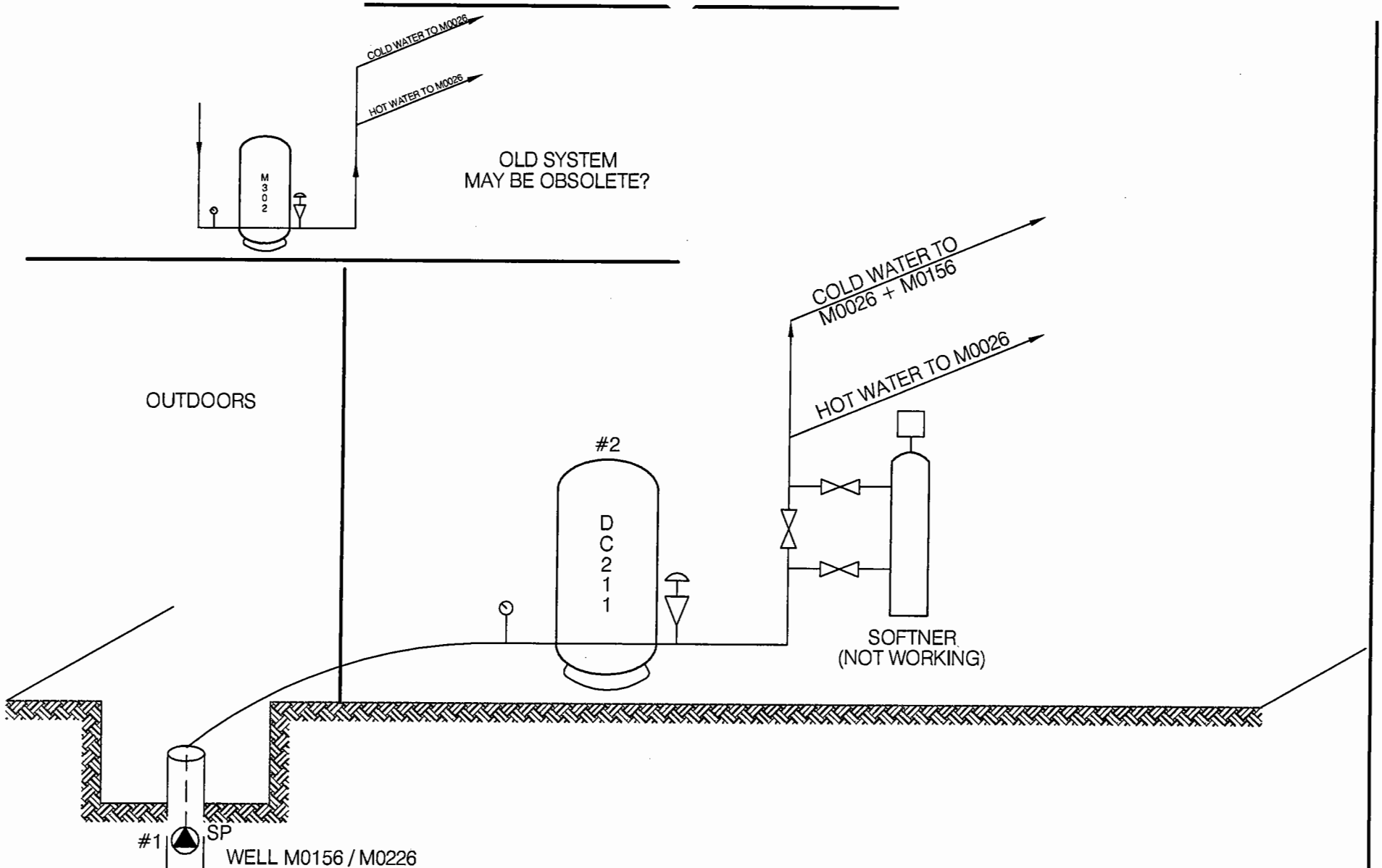

DUPLEX WATER
SOFTENER

WELL WITH
SUBMERSIBLE PUMP



ACTIVATED
CARBON

EBA Engineering Consultants Ltd.			PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT WESTERN REGION	
CLIENT Yukon Highways and Public Works Property Management Branch			TITLE	SCHEMATIC SYSTEM LEGEND	
DATE APRIL 2006	DWN. JSB	CHKD. RMM	FILE NO. 1260002		DRWG. LEGEND



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

EBA Engineering Consultants Ltd.				PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT NORTHERN REGION
CLIENT Yukon Highways and Public Works Property Management Branch				TITLE	WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: M0156/M0226 RCMP - PELLY CROSSING, YT.
DATE SEPT. 2005	DWN. JSB	CHKD. RMM		FILE NO. 1260002.004	DWG.: FIGURE M0156/M0226-B

Northern Region – Pelly Crossing R.C.M.P. Housing
Building # ~~MO026~~ M0226

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1 (#1)	SUB. PUMP	N/A				
2	PRESSURE TANK	MONARCH	M302			
3	PRESSURE SWITCH	SQUARE D	FSG-2			
4	PRESSURE GAUGE	MARSH	0-100 PSI			
5	WATER SOFTNER	POTWIN	P460-30MI			
6 (#2)	PRESSURE TANK	CHALLENGER	PC-211			
7	PRESSURE SWITCH					
8						
9						
10						

Northern Region – Pelly Crossing R.C.M.P. Detachment
Building # MO156

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	NO EQUIPMENT					
2	PIPING ONLY					
3						
4						
5						
6						
7						
8						
9						
10						

TABLE M0156/M0226 - 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?
M0156	Pelly Crossing RCMP Detachment	8	Oct-04 to Jun-05	no	0/8	no	9-Jun-05	no
M0226	Pelly Crossing RCMP Residence	9	Oct-04 to Jun-05	no	0/9	no	9-Jun-05	no

eba

Table M0156/M0226 - 2: Water Quality Results

SOURCE:	Building M0156 - R.C.M.P. Detachment			Building M0226 - R.C.M.P. Residence			GCDWQ Criteria		
Location/ Resident	Pelly Crossing			Pelly Crossing					
Address									
Treatment	Water softener (not in use)			Water softener (not in use)					
Disinfection	None			None					
Source of Water	On-site well (shared with M0226)			On-site well (shared with M0156)					
Purpose of Sampling	Base Line	Base Line	Additional Sampling	Base Line	Base Line	Additional Sampling			
Sample Location									
Date Sampled	29-Sep-04	8-Jun-05	23-Aug-05	29-Sep-04	8-Jun-05	23-Aug-05	**Lower**	**Upper Limit**	
Physical Tests *(ALS)*							**AO**	**MAC**	**AO**
Colour (CU)	<5	<5.0		<5	<5.0				15
Conductivity (uS/cm)		596			583				
Total Dissolved Solids	229	340		234	323				500
Hardness CaCO3	219	256		216	261		AO >200 = poor, > 500 unacceptable[A]		
pH	8.04	8.12		8.02	8.1		6.5		8.5
Turbidity (NTU)	0.5	0.17		0.5	0.21			1	5
UV Absorbance			0.041						
% UV Transmittance			91.0						
Dissolved Anions *(ALS)*									
Alkalinity-Total CaCO3	196	214		207	219				
Chloride Cl	0.8	39.4	2.32	1.1	36.9				250
Fluoride F	0.09	0.102		0.09	0.103			1.5	
Silicate SiO4									
Sulphate SO4	26	28.2		25.3	28.1				500
Nitrate Nitrogen N	0.1	1.41	0.21	0.1	1.32			10	
Nitrite Nitrogen N	<0.05	<0.10	<0.0010	<0.05	<0.10			1	
Ammonia Nitrogen N			<0.020						
Total Phosphate PO4									
Total Metals *(ALS)*									
Aluminum T-Al	<0.005	<0.010		<0.005	<0.010			0.1	
Antimony T-Sb	<0.0002	<0.00050		<0.0002	<0.00050			0.006	
Arsenic T-As	<0.0002	<0.00010		<0.0002	<0.00010			0.025	
Barium T-Ba	0.082	0.099		0.088	0.1			1	
Boron T-B	0.003	<0.10		0.003	<0.10			5	
Cadmium T-Cd	0.00002	<0.00020		0.00003	<0.00020			0.005	
Calcium T-Ca		74.1			75.8				
Chromium T-Cr	0.0017	<0.0020		0.0012	<0.0020			0.05	
Copper T-Cu	2.37	0.522	0.197	0.154	0.123			1	
Iron T-Fe	0.02	0.046		0.04	0.037				0.3
Lead T-Pb	0.0008	<0.0010		0.0003	<0.0010			0.01	
Magnesium T-Mg		17.2			17.4				
Manganese T-Mn	<0.005	<0.0020		<0.005	<0.0020				0.05
Mercury T-Hg		<0.00020			<0.00020			0.001	
Potassium T-K		3.19			3.26				
Selenium T-Se		0.0012			<0.0010			0.01	
Sodium T-Na	4.8	10		4.8	9.7				200
Uranium T-U	0.0007	0.00079		0.0007	0.00084			0.02	
Vanadium T-V									
Zinc T-Zn	0.063	0.057		0.051	<0.050				5
Dissolved Metals									
Copper D-Cu			0.186						1.0
Organic Parameters									
Tannin and Lignin			0.18						
Total Organic Carbon C			2.76						
Field Chemistry (EBA)									
pH									
TDS (ppm)						8.04			
EC (uS/cm)						198			
Temperature (°C)						396			
Free Available Chlorine						16.7			

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)

eba

SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: KSJ/RMM Date August 23/05

WELL ID #	Owner	Location Description
M0156/M0226 corporals residence	YTG	Pelly Crossing - RCMP Detachment

1. Well Location and Potential Contaminant Sources

a. General location of well: (Community, Subdivision, etc.)
West of RCMP residence, south of detachment
0226 0156

b. Specific location: (Road or street, Building number, name of owner and/, legal description,
East of highway (North Klondike Highway)
Pelly Crossing

c. GPS location: N 08 6966925 E 0419610 elev. 474m

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 ____

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

g. Nearest building, specify RCMP residence

h. Distance from well to building 2.95m

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

2. Well and Wellhead information:

a. When was well installed? Year unk. 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 152mm (6") Material: ☒ steel ☐ plastic ☐ concrete

g. Depth of well: unk. ☐ measured (if possible) ☐ reported ☐ from log

h. Static water level below ground: unk.

☐ measured (if possible) ☐ reported ☐ from log ☐ flowing

i. (If granular) Is the well completed: ☐ open end casing ☐ with a well screen unk.

☐ with slotted pipe ☐ unknown other _____

j. (If bedrock) Does the well have a liner? ☐ yes ☐ No ☐ steel ☐ plastic N/A

k. If there is a well screen: length unk. slot size(s) _____
Location of screen: from _____ to _____ from log reported

l. Is there a sump below the screen? ☐ Yes ☐ No unk.

m. Is the well head: ☐ in pumphouse ☒ in pit ☐ pitless adaptor ☐ in a building

☐ in a wooden enclosure other, describe PWF

n. If the well head is located in a wooden enclosure,

d. Date installed: unk. By: unk.

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

f. Drop pipe for submersible pump: ☐ steel ☐ plastic unk.

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: see well schematic

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

b. Recommendations:

PART B: EBA Site Inspection

Inspector: BERT ALBISSER Date AUG. 23/05

WELL ID #	Owner	Location Description
M0226 +M0156	YTG.	PERRY 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 ☐ H_2S ☐ Other _____

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

MD226 / MU156.

MIDNIGHT SUN DRILLING CO. LTD.
WHITEHORSE Y.T.
PH. 633-3070
P.O. BOX 4391
WHITEHORSE, YUKON

Field Report (1091500 24)

Started Nov. 13 ..... 19 84

Completed Nov. 15 ..... 19 84

NAME AND ADDRESS OF CLIENT	DESCRIPTION OF WORK	LOCATION OF WORK
	W / W	Pelly R.C.M.P.

FORMATION LOG FROM	TO	FORMATION	DESCRIPTION OF WORK	TIME DATE	FROM	TO	HOURS
			MOVE				
			Loading	Nov 13	8:00	9:00	1
			Travel to Pelly	Nov 14	7:00	11:30	4.5
			move on set up	"	12:00	1:00	1
0'	41'	sand	G.R.	"	1:00	3:00	2
			Develop	"	3:00	4:00	1
			move off.	"	4:00	4:30	0.5
			Travel to Mayo.	"	6:00	7:00	1
			travel to Keno + back to pelly.	Nov. 15	9:00	1:00	4
			starting equipment	"	2:30	4:00	1.5
			travel to Whitehorse	"	4:00	8:30	4.5

Rcrd. of Casing & Pipe Size	Type	Size	Type
6			
Feet	Inch	Feet	Inch
38			

Remarks:
1 - drive shoe.
2' riser lead packer
20 slot screen Bottom 41'
10 GPM.

Static Level		Total Rig Time	hrs.
Ground Level		Total Standby	hrs.
Top Of Casing		Drilling Mud	sacks

SIGNATURES

MIDNIGHT SUN..... CLIENT.....

TITLE..... TITLE.....

Willow Printers

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 #	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 Quanitit	
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

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 Quanitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Furnace 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

Photo 381: M0156 Pelly Crossing RCMP detachment. (left) Residence M0226 on (right).

Photo 381: M0156/M0226 Well enclosure.

Photo 379: M0156/M0226 Well enclosure and wellhead.

Photo 199: M0156/M0226 Water System (pressure tank, pump controls, softener).