

4.0 BUILDINGS M0026, M0227: PELLY CROSSING RCMP RESIDENCES

4.1 Description of Existing Water Supply System

Water systems for Building M0026 and Building M0227, Pelly Crossing RCMP Residences are supplied by a central well located in a pit below grade approximately 4 m east of residence M0026. A site plan is provided as Figure M0026-A in Appendix A4. The coordinates of the wellhead, as measured by a handheld GPS device, were recorded as:

- UTM ZONE 8
- Northing: 6966865
- Easting: 419665

Water from the well is split at the wellhead and provided to each residence through underground freeze-protected piping. There is a water softener in residence M0026, however, it was not functioning at the time of the water system assessment. Schematics detailing the water supply systems are provided as Figures M0026-B and M0227-B in Appendix A4.

4.2 Description of Existing Wastewater Systems

Each residence is served by in-ground septic disposal systems. As shown on Figure M0026-A, the septic system for residence M0227 is located greater than 30 m east of the building and likely crossgradient from the well. The septic system for residence M0026 is located on the west side of the building and septic effluent discharge likely begins approximately 25 m away and crossgradient from the well.

4.3 Water Quality Results

4.3.1 Water Quality Results from Previous Sampling

Bacteriological

A total of 18 samples were collected from each of the two residences served by well M0026/M0227 between October 2004 and June 2005 and were tested for total coliform and *E. coli* by Yukon Environmental Health Services. Results are tabulated in Table M0026/M0227-1 in Appendix A4. Coliform bacteria and *E. coli* were reported as absent in each of the nine samples for which results are provided for the M0026 residence. One of the nine samples collected from the M0227 residence tested positive for total coliform, however, the most recent sampling event was negative.

Potability

YTG representatives collected water samples from both residences on September 29, 2004 and June 8, 2005. The samples were submitted to Northwest Labs in Surrey BC, and ALS Environmental in Vancouver BC for potability analyses. The results of these analyses are summarized in Table M0026/M0227-2 in Appendix A4. EBA reviewed the analytical results for comparison with the Canadian Drinking Water Quality Guidelines (CDWQG) to observe general water quality, to identify and recommend additional sampling and analytical and to identify potential indicators of contamination. Details are summarized below:

- The water quality results indicated that all health based and aesthetic objectives for both residences were met for the parameters analyzed;
- The water quality results indicated that the groundwater is calcium-bicarbonate type with a pH of 8; and,
- The hardness (as CaCO₃) of the water from this system was 205 mg/L, and is considered very hard.

4.3.2 Identification of Additional Analytical Testing Required

Additional analytical for the Pelly Crossing RCMP Residences M0026 and M0227 completed during the water system assessments is detailed below:

- UV absorbance and UV transmissivity, as well as tannin and lignin, to determine potential for UV treatment as a disinfection option for this water system;
- Total organic carbon (TOC); and
- Field measurements of total dissolved solids, conductivity, pH, and temperature.

These parameters are useful in disinfection system selection.

Additional Analytical Results

A water sample was obtained by EBA during the assessment on August 23, 2005, and was submitted to ALS Environmental in Vancouver for analysis of selected parameters. These results are summarized in Table 3440-2 in Appendix A4 and the laboratory reports are included in Appendix B.

4.3.3 Indicators of Potential Contamination

Chloride, nitrate and nitrite concentrations can indicate impacts from surface water sources or septic waste. Chloride concentrations were low and within the normal background ranges for groundwater in the area. Nitrate and nitrite concentrations were also low and within the normal background range. These water quality results indicate that the groundwater sample obtained from M0026/M0227 was not under the influence of anthropogenic sources of nutrients or anions that may be derived from septic wastes.

4.4 Conceptual Hydrogeology

The well log for this well indicates that it is approximately 17.5 m deep with the screen interval beginning at 16.5 m below grade. The expected direction of groundwater flow is north to northwesterly towards the Pelly River (EBA 2004). Most wells in the Pelly Crossing Main village area are completed at depths of between 10 m to 18 m below ground within an unconfined sand and gravel aquifer consisting of floodplain alluvial sand and gravel deposits. The relatively shallow depth of the aquifer combined with the absence of confining material leaves this aquifer vulnerable to surficial sources of contamination.

4.5 Potential Contaminant Sources

Details and photographs of potential contaminant sources observed during the site investigation are compiled in Appendix A4.

Potential contaminant sources within 30 m of the wellhead are:

- On-site sewage disposal system (septic field) for the M0026 residence at 25 m;
- On-site sewage disposal system (septic field) for a neighboring house at 27 m;
- A possible former septic tank at 28 m; and
- Indoor heating oil fuel storage tanks within 30 m.

4.5.1 Spills Records and Contaminated Sites Search Results

It was reported by Environment Canada that a spill occurred in 1986, approximately 700 m upgradient from the well location due to an overturned residential fuel tank owned by the Selkirk First Nation. Removal of contaminated soil was recommended, however it is unknown if this remedial work was completed. It is unlikely that this spill would impact on the water quality of the well due to its distance upgradient from the well.

Another reported fuel spill of an unknown quantity occurred approximately 200 m east of the school location in 1998 due to an open valve on the heating fuel tank at the Eliza Van Bibber School. Removal of contaminated soil was recommended by Environment Canada, however it is unknown if this was completed. Since the spill location is cross-gradient from the well, and may have been cleaned up, it is unlikely that this would impact the water quality at this well.

4.6 Identified Water System Deficiencies and Associated Risk

4.6.1 High and Medium Risk Deficiencies

High and Medium Risk deficiencies associated with the M0026/M0227 water system that were identified during the assessment are summarized below:

- Poor surface completion of the wellhead (located in a pit below grade);
- There is no surface sanitary seal (grout or bentonite seal as required by the Canadian Groundwater Association's Guidelines for Water Well Construction);
- The wellhead enclosure is subject to flooding (there was sediment covering the wellhead at time of water system assessment);
- The well is within 30 m of potential contaminant sources including on-site sewage disposal systems (septic fields);
- The well is completed within a relatively shallow, unconfined aquifer in a relatively densely developed area;
- By definition of the Draft Yukon GUDI Assessment Guideline, the well is potentially under the direct influence of surface water because it is a vulnerable type (unconfined aquifer) and does not meet the requirements of the Guidelines for Water Well Construction; and,
- There is no treatment or disinfection system.

4.6.2 Low Risk Deficiencies

- The well is located within 30 m of indoor fuel storage tanks. However, since residence M0026 has a concrete floor, and residence M0227 has secondary containment trays, the risk is considered to be very low. Most risk would be associated with potential leaks during filling;
- One of seventeen samples taken for bacteriological analysis from this system tested positive for total coliform bacteria; and,
- The water softener at M0026 was not functioning at the time of the field inspection.

4.7 Mitigative Options for Deficiencies

Mitigative options were developed to address the deficiencies identified in the previous section. Deficiencies are categorized by recommended level of priority (with Priority 1 being most critical).

Recommendations are made in consideration of the fact that a piped distribution system with water sourced from a community well located in Willow Creek area of Pelly Crossing will likely be installed by the Selkirk First Nation in 2006 or 2007. In the interim, however, some water system upgrades are recommended to mitigate risk, and are detailed in the following sections.

4.7.1 Priority 1

The following recommendations are provided in order to mitigate deficiencies that are of immediate concern for the RCMP residences. Priority 1 remedial recommendations include:

- The casing should be extended to at least 500 mm above the base of the well pit, and a localized near surface bentonite seal installed immediately around the wellhead.
- The well and water system should be super-chlorinated (disinfected with a high concentration of chlorine solution).
- Disinfection treatment consisting of filtration to 1 micron (absolute), and a UV system that is NSF/ANSI-certified (or equivalent) should be installed at each residence. Pretreatment consisting of a water softener would likely decrease the maintenance requirements for UV performance; however, it is not considered imperative, for a Priority 1 mitigation. These are conceptual design recommendations based on the information available for planning and budgeting purposes. Engineering input will be required for final system specifications.

4.7.2 Priority 2

The recommended solution to mitigate long-term risk (Priority 2) to the RCMP residences would be to connect these residences to the proposed piped distribution system as soon as this system is available. The community well that will be the source of water for the piped distribution system is constructed in accordance with applicable guidelines offers better wellhead protection and is completed within a deeper aquifer that is less vulnerable to surficial source of contamination. Furthermore, the community well and piped distribution system will be operated and maintained by others as a Public Drinking Water Supply with chlorine disinfection and routine monitoring and sampling as required by regulation.

We understand that there would be a monthly service fee charged by the Selkirk First Nation for providing, operating and maintaining the piped water supply.

4.7.3 Priority 3

It is recommended that once the residences are connected to the community water system, the abandoned well be properly decommissioned shortly following connection of residences to community water supply system.

4.8 Cost Estimates for Mitigative Options

Engineering costs for mitigative options are estimated to be 20% of construction costs, and would include inspection and completion reporting. The costs for materials and labour (not including engineering) are provided in the sections below. An additional contingency allowance of 20% is suggested for budgetary purposes.

4.8.1 Priority 1

The estimated costs for the recommended Priority 2 upgrades are detailed below:

- It would cost approximately **\$800** for materials and labour to complete the recommended interim wellhead upgrades, and well and water system superchlorination.
- Disinfection treatment (filtration and UV) would cost approximately **\$3,000** per residence including materials and labour.

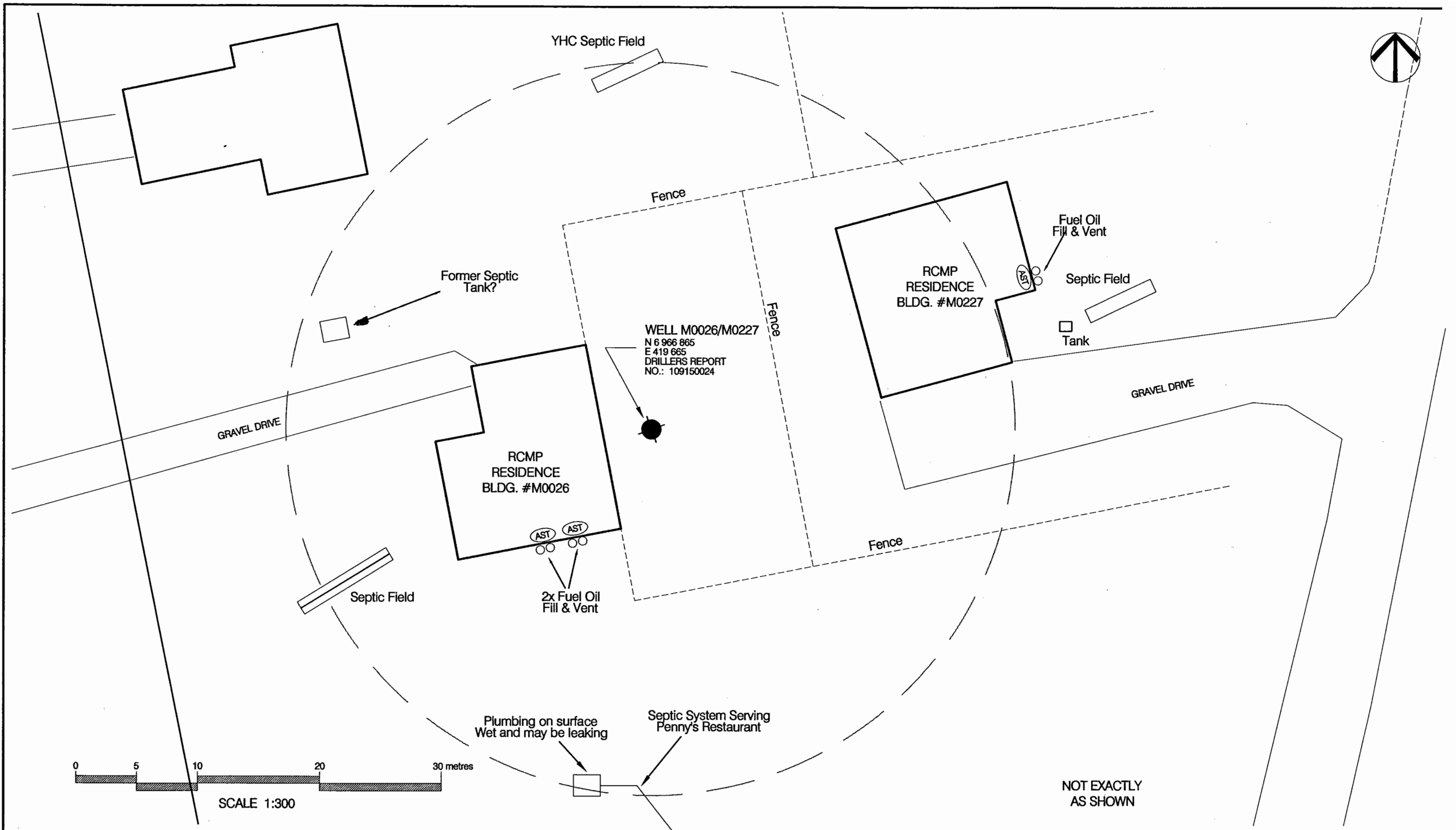
Therefore, it would likely cost approximately **\$3,400** per building (wellhead upgrade cost split between residences), and a total of **\$6,800** to complete the recommended Priority 1 upgrades for both residences.

4.8.2 Priority 2


It would cost approximately **\$4,000** for materials and labour assuming a 30 m service connection (freeze-protected underground service piping) and some inside plumbing modifications. Since there is buried piping that exists between the two buildings already, consideration could be given to obtaining a service connection to one residence only and using the existing piping to supply the second residence.

4.8.3 Priority 3

The estimated cost to decommission the existing well once it is no longer needed, would be approximately **\$1000**. This would result in a cost of approximately **\$500** per residence.



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		
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

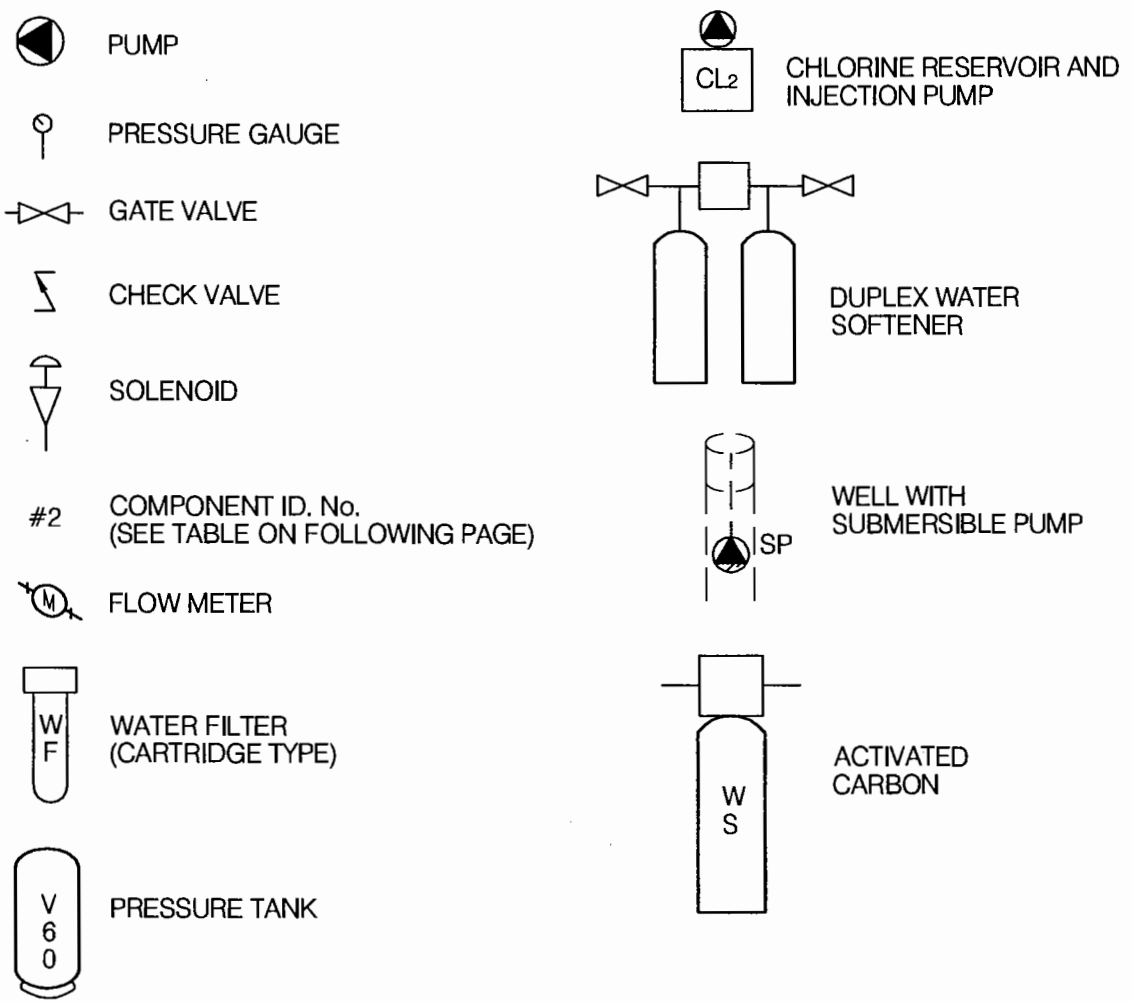
GOVERNMENT OF YUKON
 HIGHWAYS & PUBLIC WORKS



PELLY RCMP
 BUILDING # M0227 & M0026
 SITE LOCATION DIAGRAM
 WELL ID: M0026/M0227

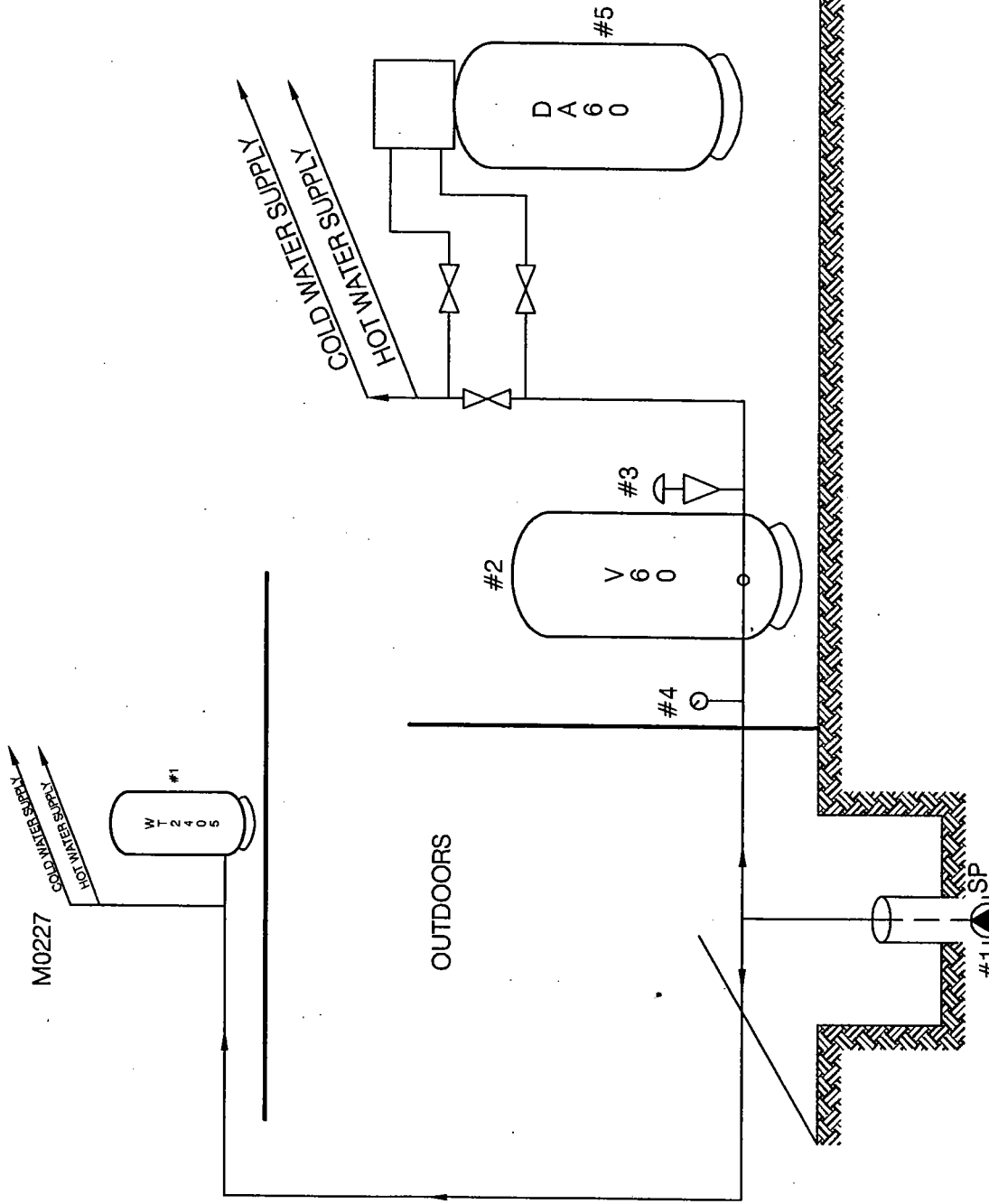
REVISION ISSUE
 0

FIGURE No.
 FIGURE M0026
 /M0227-A

LEGEND



 EBA Engineering Consultants Ltd.	PROJECT SMALL PUBLIC WATER SYSTEMS ASSESSMENT WESTERN REGION
CLIENT 	TITLE SCHEMATIC SYSTEM LEGEND
DATE APRIL 2006 DWN. JSB CHKD. RMM	FILE NO. 1260002 DRWG. LEGEND



SCHMATIC PRODUCED BY BERT ALBISER 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.: M0026
RCMP - PELLY CROSSING, YT.

DATE

SEPT. 2005

DWN.

JSB

CHKD.

RMM

FILE NO.

1260002.004

DWG.:

FIGURE M0026-B

Northern Region - Pelly Crossing R.C.M.P. Housing
 Building # ~~M0226~~ M002C

DISTRIBUTION & TREATMENT SYSTEM DATA

Photo 101-199

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	SUB PUMP	Goulds	10GS412		K022226	1/2 HP 4"
2	PRESSURE TANK	NO SMITH	V60		GB9309	
3	PRESSURE SWITCH	SQUARE D	FSG2			2HP 1/4" F.I.P.T
4	PRESSURE GAUGE	MARSH	0-100			2" 1/4" F.I.P.T
5	WATER SOFTENER	DURO	DA 60		8507	60K
6						
7						
8						
9						
10						

Northern Region – Pelly Crossing R.C.M.P. Housing
Building # MO227

DISTRIBUTION & TREATMENT SYSTEM DATA

PHOTO 101-200

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	PRESSURE TANK	WEL RITE	WR240S		10-30-93	
2						
3						
4						
5						
6						
7						
8						
9						
10						

TABLE M0026/M0227 - 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?
M0026	Pelly Crossing RCMP Residence	9	Oct-04 to Jun-05	no	0/9	no	9-Jun-05	no
M0227	Pelly Crossing RCMP Residence	8	Oct-04 to Jun-05	yes	1/8	no	9-Jun-05	no



Table M0026/M0227 - 2: Water Quality Results

SOURCE:	Building M0026 - R.C.M.P. Residence			Building M0227 - R.C.M.P. Residence		GCDWQ Criteria					
Location/ Resident Address	Pelly Crossing			Pelly Crossing							
Treatment	Water softener (not in use)			Water softener (not in use)							
Disinfection	None			None							
Source of Water	On-site well (shared with M0227)			On-site well (shared with M0026)							
Purpose of Sampling	Base Line	Base Line	Additional Sampling	Base Line	Base Line						
Sample Location											
Date Sampled	29-Sep-04	8-Jun-05	23-Aug-05	29-Sep-04	8-Jun-05				Lower	Upper Limit	
Physical Tests (ALS)									AO	MAC	AO
Colour (CU)	<5	<5.0		<5	<5.0						15
Conductivity (uS/cm)		436			437						
Total Dissolved Solids	233	235		233	238			500			
Hardness CaCO3	216	203		215	202	AO >200 = poor, > 500 unacceptable ^A					
pH	7.98	8.16		8	8.14	6.5		8.5			
Turbidity (NTU)	0.7	0.16		0.3	0.15		1	5			
UV Absorbance			0.0480								
% UV Transmittance			89.5								
Dissolved Anions (ALS)											
Alkalinity-Total CaCO3	200	208		199	205						
Chloride Cl	0.9	0.75		0.8	0.76			250			
Fluoride F	0.1	0.119		0.1	0.121		1.5				
Silicate SiO4											
Sulphate SO4	28.3	25.7		28.8	25.5			500			
Nitrate Nitrogen N	0.3	0.13		0.3	0.13		10				
Nitrite Nitrogen N	<0.05	<0.10		<0.05	<0.10		1				
Ammonia Nitrogen N											
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	0.0003	<0.00010		0.0002	<0.00010		0.025				
Barium T-Ba	0.087	0.075		0.088	0.076		1				
Boron T-B	0.003	<0.10		0.003	<0.10		5				
Cadmium T-Cd	0.00002	<0.00020		0.00002	<0.00020		0.005				
Calcium T-Ca		59.5			59.1						
Chromium T-Cr	0.0012	<0.0020		0.0012	<0.0020		0.05				
Copper T-Cu	0.684	0.142		0.388	0.378		1				
Iron T-Fe	<0.005	<0.030		0.03	0.031			0.3			
Lead T-Pb	0.0002	<0.0010		0.0006	<0.0010		0.01				
Magnesium T-Mg		13.2			13.1						
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		2.71			2.68						
Selenium T-Se		<0.0010			<0.0010		0.01				
Sodium T-Na	5.0	5.7		5	5.5			200			
Uranium T-U	0.0007	0.00071		0.0007	0.00073		0.02				
Vanadium T-V											
Zinc T-Zn	0.005	<0.050		0.016	<0.050			5			
Organic Parameters											
Tannin and Lignin			0.2								
Total Organic Carbon C			2.95								
Field Chemistry (EBA)											
pH			8.05			6.5		8.5			
TDS (ppm)			189					500			
EC (uS/cm)			375								
Temperature (°C)			9.6								
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)



SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: DBA Site Inspection

Inspector: KSJ / RMM

Date Aug 23 / 05

WELL ID #	Owner	Location Description
<u>M0026 / 227</u>	<u>VTG</u>	<u>RCMP Residence.</u>

1. Well Location and Potential Contaminant Sources

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

Pelly Crossing

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

RCMP Residence M0026 (w side of building @
rear of porch.

c. GPS location: 08 E 0419665 N 6966865 (Waypoint 036)

d. Is there electric power? Yes No

elev: 479

e. Is there outside water access? Yes No

f. Does the well system have:

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

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

g. Nearest building, specify RCMP Residence M0026

h. Distance from well to building < 1m

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

j. Distance from well to nearest point of known field: 25m (field)

k. Well location relative to field: upslope downslope lateral

-5 within 30m of well head.

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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

p. Is well site subject to flooding? Yes No *sediment build up in pit*

q. Is the well site well drained? Yes No

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

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: septic #1; Distance from well to Potential Source 1: 25m (M0026)

Potential Source 2: #2; Distance from well to Potential Source 2: 27m (N property) 4k.

Potential Source 3: neighbor #3; Distance from well to Potential Source 3: 30-60m M0227 (>30)

Potential Source 4: neighbor #4; Distance from well to Potential Source 4: 30-60m (Penny's ?)
neighbor #5 30-60m. (E. neighbor - can't confirm location)

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

How many? _____ in use abandoned require proper sealing

likely #6

~33m. (NE. neighbor)

*2x AST in M0227 w metal tray -
well on this property - 2x AST in M0026/11 concrete floor - 9m*

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2. Well and Wellhead information:

- a. When was well installed? Year unk. Month unk.
- 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 6" (152mm) 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
 with slotted pipe unknown other n/a
- j. (If bedrock) Does the well have a liner? yes No steel plastic
- 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
- m. Is the well head: in pumphouse in pit pitless adaptor in a building
 in a wooden enclosure other, describe 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 0.80m bs
- 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 No
- 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 water 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
most likely
- 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 Foulds Model 1065412
horsepower 1/2 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 2^x

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: heat trace n ground + insulation

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 ALBISSER

Date AUG 23/05

WELL ID #	Owner	Location Description
<u>MO 026</u>	<u>VTG</u>	<u>RCMP - KELLY CROSSING.</u>

+ MO 227

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: PRESSURE TANK

Where is it located?

Comments: BASEMENT

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

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8. Conclusions

a. Comments on overall installation:

THIS IS A GOOD QUALITY INSTALLATION IN
BOTH MATERIAL & WORKMANSHIP. THIS

b. Recommendations:

RETURN SOFTNER TO OPERATION, INSTALL
FILTRATION & UV (NSF 55) 10 GPM.

M0026 / M0227

(109150041)



FIELD REPORT

Started..Nov...7.....1978.

Completed..Nov...9.....1978

NAME AND ADDRESS OF CLIENT	DESCRIPTION OF WORK	LOCATION OF WORK
Van LINGBANE AND ASSOCIATES INC. R.C.M.P. 201A 303 SARVIS WAGANAN VT.	WATER WELL	Lot # 15 PRELIM CROSSING R.C.M.P. Lot

FORMATION LOG			DESCRIPTION OF WORK	TIME			
FROM	TO	FORMATION		DATE	FROM	TO	HOURS
0	5	BROWN F.V SAND	MOVE	Nov 7	8	12	4
5	7	SAND	WILL WATER TRUCK & SIFT UP		12 ³⁰	2 ⁰⁰	2
7	9	GR	DRILL 6 1/2 TO 115'		2 ³⁰	5	2.0
16	21	ROCKY GR FILL	CLEANED UP		5	5 ³⁰	1.5
21	39	GR					-9.17
39	41	SAND					DRILLING 5
41	45	GR					TRAVEL 4H
45	60	GR & SAND	J.M.I.T. STARTING UP	Nov 8	8	9	1
60	81	GLAY (BLUE)	DRILLED 6 1/2 TO 60'		9	10 ³⁰	1.5
			RAN TO 7 1/2 & RUN		10 ³⁰	2 ³⁰	4
			CHEVY TO 58'				
			SET SCREEN 25 SLOT		2 ³⁰	4 ⁰⁰	1.5
			DEVELOPING		11 ⁰⁰	6 ⁰⁰	2
							DRILLING 10H
			STARTING	Nov 9	8	8 ³⁰	.5
			AIR DEVELOPING		8 ³⁰	11 ³⁰	3.0

Rcd. of Casing & Pipe				Remarks:
Size	Type	Size	Type	
Feet	Inch	Feet	Inch	
21	1			SCREEN 25 SLOT
21	1			2' RISER LEAD PUCKER 1/2 BIT BOTTOM
15	10			BOTTOM 57 1/2" FROM GROUND
58	0			
-H	0			
54	0			
STATIC LEVEL				Total Rig Time hrs.
Ground level 24'				Total Standby hrs.
Top of casing 25'				Drilling Mud 7 sacks

SIGNATURES

MIDNIGHT SUN... J.M.I.T. FALL.....
TITLE... DRILLER.....

CLIENT.....
TITLE.....



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 Quantiti	
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



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 Quantit	
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 385: M0026 Wellhead.



Photo 386: M0026 Well enclosure.



Photo 390: M0227 Septic system.



Photo 200: M0227 Pressure tank.