

17.0 BUILDING 2575: DAWSON CITY WILDLIFE OFFICE

17.1 Description of Existing Water Supply System

The Dawson City Wildlife Office (Building 2575) is currently supplied by water delivery from a Town of Dawson City municipal water supply that is chlorinated at the source. Field chemistry done at the time of the water system assessment indicated that the residual chlorine concentration was 0.19 mg/L, which is just lower than the minimum required concentration of 0.2 mg/L (but within the range of error of the field equipment).

An approximately 9.4 m deep abandoned well is located in a pit north of the building. There is no well cap on the abandoned well and the well has poor wellhead protection. Anecdotal information indicates that the water from this well was of very poor aesthetic water quality. A site plan is provided as Figure 2575-A in Appendix A17. The coordinates of the abandoned well, as measured by a handheld GPS device, were recorded as:

- UTM ZONE 7
- Northing: 7102116
- Easting: 580298

17.2 Description of Existing Wastewater Systems

Wastewater from this building is discharged to a sewage holding tank that is pumped out regularly by a sewage education truck. The holding tank is located on the west side of the building approximately 15 m from the abandoned well. Figure 2575-A in Appendix A17 indicates the location of the sewage education tank.

17.3 Water Quality Results

17.3.1 Water Quality Results from Previous Sampling

Bacteriological

Eight samples were collected from the Dawson City Wildlife Office water system between October 2004 and June 2005 and were tested for total coliform and *E. Coli* by Yukon Environmental Health Services using the presence/absence test method. Results are tabulated in Table 2575-1 in Appendix A17. Coliform bacteria and

E. coli were reported as absent in each of the eight samples for which results are provided.

Potability

Water samples were collected from the Dawson City Wildlife Office water system on June 8, 2005. The samples were submitted to ALS Environmental in Vancouver BC for potability analyses. The results of these analyses are summarized in Table 2575-2 in Appendix A17. EBA reviewed the analytical results for comparison with the Canadian Drinking Water Quality Guidelines (CDWQG) to observe general water quality, identify and recommend additional sampling and analytical and to identify potential indicators of contamination. Details are as follows:

- The water quality results indicate that all health based and aesthetic objectives were met for the parameters analyzed on the date sampled;
- The water quality results indicate that the groundwater from which this system receives its delivered water supply is calcium bi-carbonate type with a pH of approximately 7.9; and,
- The hardness (as CaCO_3) was 145 mg/L, and is considered hard.

17.3.2 Identification of Additional Analytical Testing Required

As this system is supplied by bulk water delivery that is treated at the source, and previous sampling indicated that there were no exceedences of CDWQG aesthetic objectives (AO) or health based guidelines, no additional analytical testing was identified.

17.3.3 Indicators of Potential Contamination

Chloride, nitrate and nitrite concentrations can indicate impacts from surface water sources or septic waste. Chloride concentrations were low and are within the normal background ranges for groundwater in the area. Nitrate and nitrite concentrations for the sample collected from this water system are also low and within the normal background range for the Dawson area.

17.4 Conceptual Hydrogeology

The abandoned well located at this site is completed at a depth of 9.4 m, with a static water level of 7.18 m below ground. No well logs were available for the Callison Industrial area, however, based on available well logs for other water wells completed in the Klondike River Valley, and the depth of the well, it is considered very likely that the aquifer in which this well is completed is very vulnerable to potential biological and chemical contamination.

The Town of Dawson City obtains water from pumping wells completed within an unconfined sand and gravel aquifer underlain by bedrock. Most wells in this aquifer are completed at depths ranging between 7.6 m to 20.4 m, with static water levels ranging from 4 m to 5 m below ground. This aquifer consists of floodplain sands and gravels deposited by the Yukon and Klondike Rivers, water levels and groundwater flow directions within the aquifer are closely connected to water levels in both the Rivers. Discontinuous lenses of permafrost have also been encountered in the area. The relatively shallow depth of the aquifer combined with the absence of confining material leaves this aquifer vulnerable to surficial sources of contamination. Well tests completed by Stanley and Associates in 1992 show that the relationship between the Yukon River and the aquifer is virtually 1:1. This implies that ambient groundwater flow direction within the aquifer is most likely north to northeasterly.

17.5 Potential Contaminant Sources

An investigation of potential contaminant sources around the source water supply wells from which water is obtained for bulk water delivery to this site was outside the scope of investigation for this report.

Potential contaminant sources observed during the site investigation surrounding the abandoned well, however, are compiled in field notes in Appendix A17.

Potential contaminant sources within 30 m of the wellhead are:

- A septic holding tank at 15 m; and
- An above ground fuel storage tank (AST) at 9 m.

There are several bulk fuel facilities and industrial operations with 200 m and likely upgradient of the abandoned well.

17.5.1 Spills Records and Contaminated Sites Search Results

Environment Canada has reported several spill events in the Callison Subdivision area that resulted in discharges of hydrocarbon products and industrial chemicals. Spill reports are included in Appendix A17. Given the coarse nature of the soils in the area, and shallow depth to groundwater, these spills may already have impacted on, or may in the future, pose a risk to the quality of groundwater in the abandoned well.

17.6 Identified Water System Deficiencies and Associated Risk

17.6.1 High and Medium Risk Deficiencies

Observed high and medium risk deficiencies are summarized below:

- There is no access port in the water storage tank to make it available for cleaning.
- There is no cap on the fill pipe and no vermin screen on the vent/overflow and insects and vermin could potentially enter the water system.

17.6.2 Low Risk Deficiencies

- The fill pipe and vent are constructed of ABS piping, and are not suitable for drinking water; and,
- The abandoned well has not been properly decommissioned and could potentially provide a conduit for deleterious substances to enter and pose a risk to the aquifer.

17.7 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).

We understand that the City of Dawson is planning to expand the piped drinking water system to include the Callison subdivision. Given the nature of the land use in this area, and the vulnerability of the aquifer that the abandoned well is completed within, it is recommended that the well not be used for a drinking water supply. A preferred option would be to upgrade and maintain the existing water delivery equipment and utilize bulk water delivery until a piped community water system is available.

17.7.1 Priority 1

Recommended upgrades to remedy observed deficiencies that are potentially high or immediate health risks are detailed below:

- Retrofit the water holding tank to make it accessible for routine inspection and cleaning. This may involve reducing the overall height of the tank, or, installing a side access port to facilitate access to the tank;
- Install a cap on the fill pipe and a vermin proof screen on overflow/vent;
- Monitor Free Available Chlorine Concentrations to ensure that they are at least 0.2 mg/L at the point of use; and,
- Institute a routine tank-cleaning program.

17.7.2 Priority 2

No Priority 2 upgrades were identified because all observed medium and high health risks would be mitigated by Priority 1 upgrades.

17.7.3 Priority 3

Recommended upgrades to remediate remaining deficiencies that are considered to be low health risks are:

- Replace ABS piping with PVC.

- Properly decommission abandoned well to prevent contamination of shallow aquifer.

17.8 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.

17.8.1 Priority 1

Class D estimated costs for Priority 1 recommended upgrades are detailed below:

- It is anticipated that the water tank could be altered to install a cleaning access port for approximately **\$1,000**.
- A cap and vermin proof screen could be supplied and installed for approximately **\$50**.
- The routine monitoring and cleaning should fall under an operation and maintenance budget.

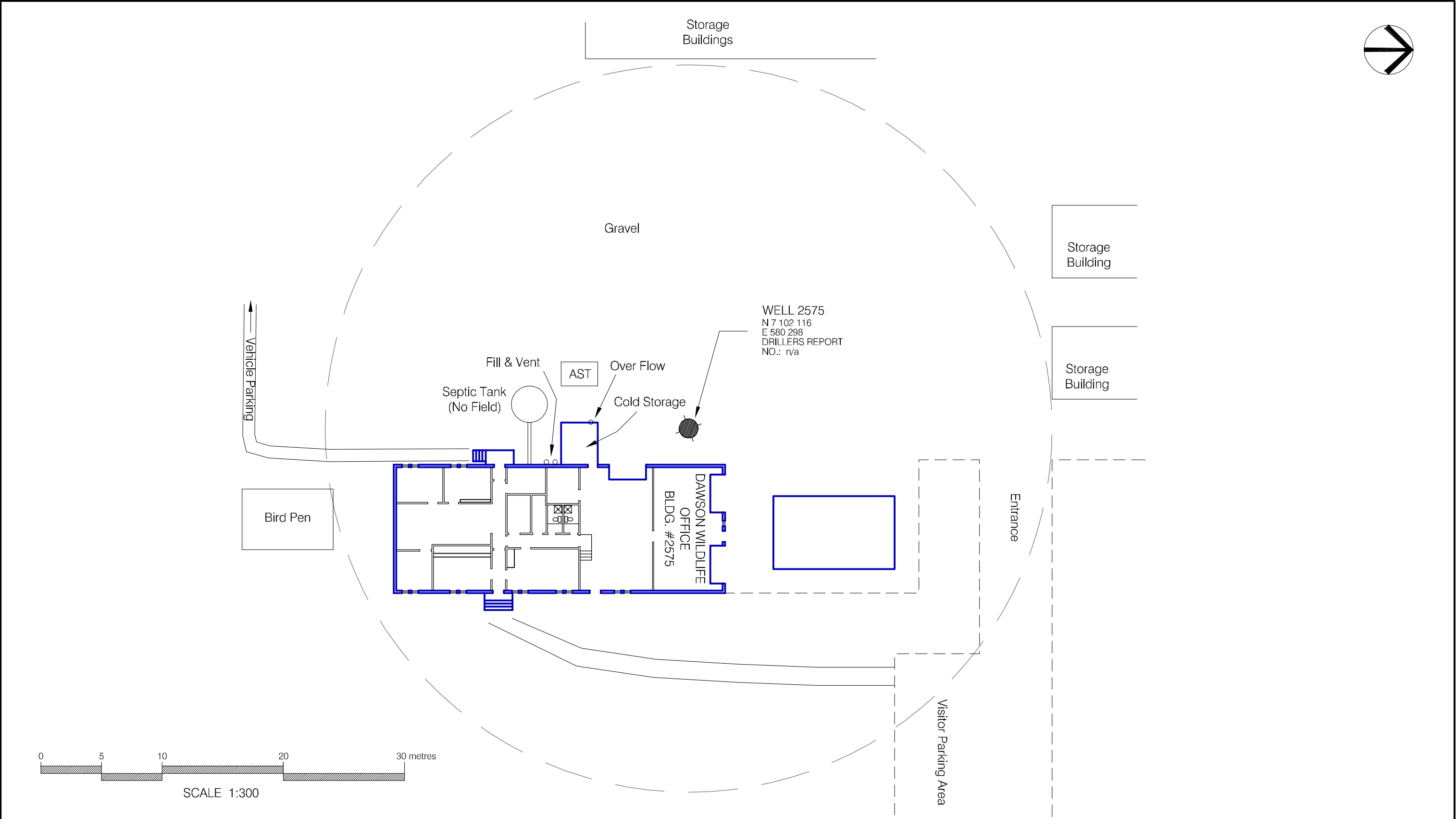
17.8.2 Priority 2

There are no Priority 2 upgrades recommended at this time.

17.8.3 Priority 3


Class D estimated costs for Priority 3 recommended upgrades are detailed below:

- Decommissioning of the existing well would likely cost in the order of **\$500**.
- Replacing the ABS piping with PVC piping would cost approximately **\$200**.




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

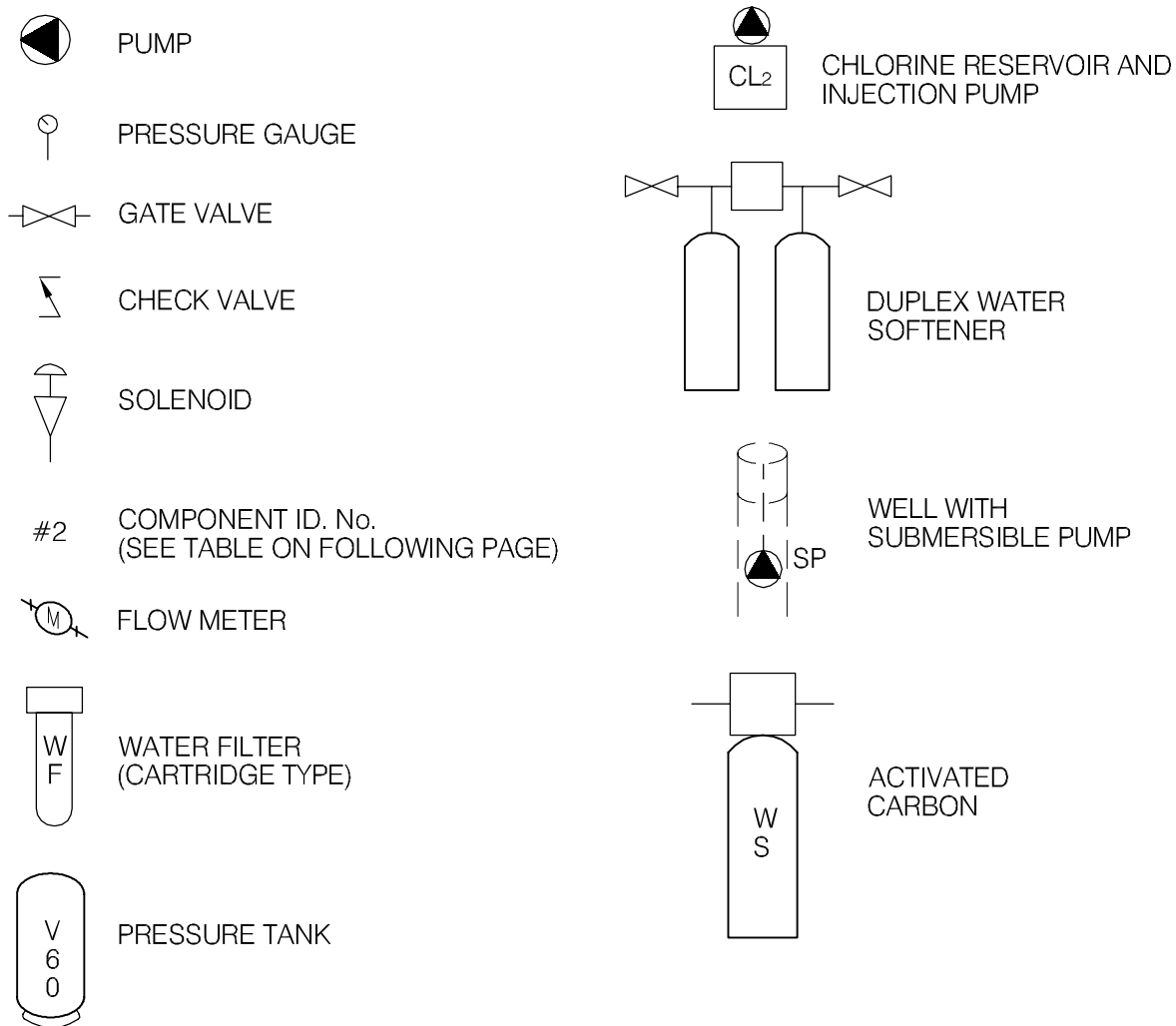
SMALL PUBLIC WATER SYSTEMS ASSESSMENT
NORTHERN REGION

GOVERNMENT OF YUKON
HIGHWAYS & PUBLIC WORKS

DAWSON WILDLIFE OFFICE
BUILDING # 2575
SITE LOCATION DIAGRAM
WELL ID: 2575

REVISION	ISSUE
	0
FIGURE No.	
FIGURE 2575-A	

LEGEND



EBA Engineering Consultants Ltd.

CLIENT

Yukon
Highways and Public Works
Property Management Branch

PROJECT

SMALL PUBLIC WATER SYSTEMS ASSESSMENT
WESTERN REGION

TITLE

SCHEMATIC SYSTEM
LEGEND

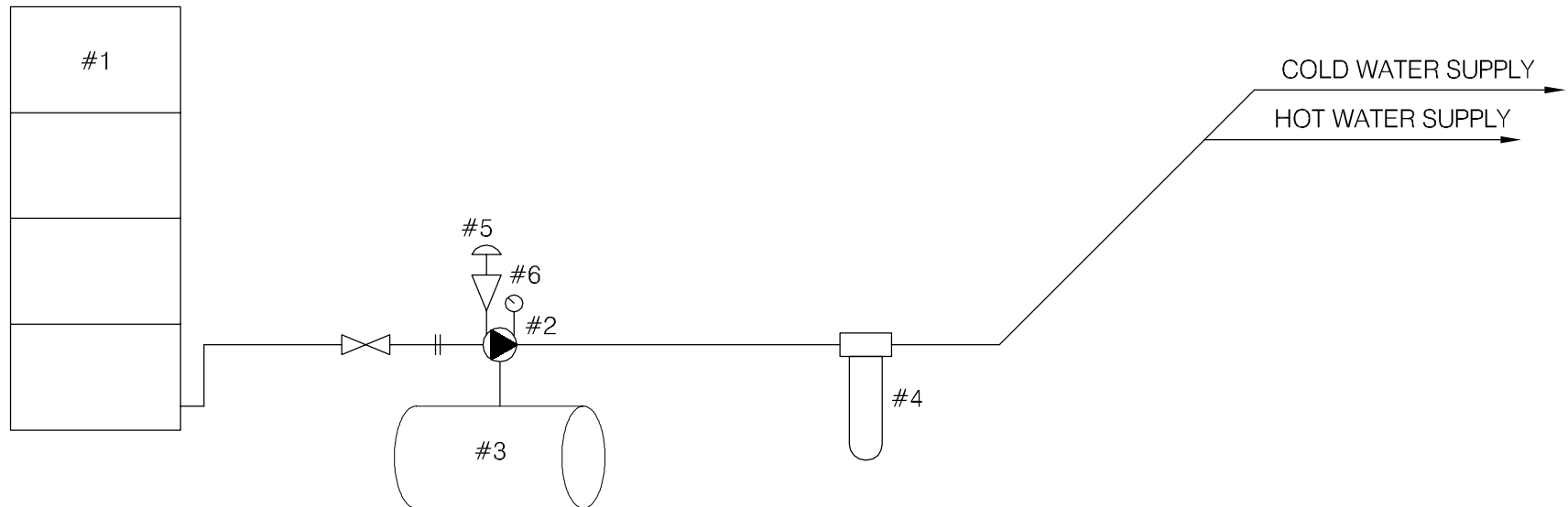
DATE APRIL 2006

DWN. JSB



CHKD. RMM

FILE NO. 1260002

DRWG. LEGEND



DRAWING IS BASED UPON SCHEMATIC PROVIDED BY BERT ALBISSER OF AQUA TECH SUPPLIES AND SERVICES LTD.

 <div>EBA Engineering Consultants Ltd.</div>			PROJECT SMALL PUBLIC WATER SYSTEMS ASSESSMENT NORTHERN REGION		
CLIENT  <div>Yukon Highways and Public Works Property Management Branch</div>			TITLE WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: 2575 WILDLIFE OFFICE - DAWSON, YT.		
DATE SEPT. 2005	DWN. JSB	CHKD. RMM	FILE NO. 1260002.004	DWG.: FIGURE 2575-B	

Northern Region – Dawson City Wildlife Office
Building # 2575

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	WATER STORAGE	N/A	FG VERTICAL			48" x 8' 600 GALLON
2	JET PUMP	MONARCH	MJC-50		4601	1/2 HP.
3	PRESSURE TANK	JET-RITE	JR44HS			8.5 GALLON
4	INLINE FILTER	RAINFRESH	10"			3/4" x 10"
5	PRESSURE SWITCH	SONAGE D	FSG-2			2HP - 1/4" FIP
6	PRESSURE GAUGE	MARSH	0-100 PSI			2" - 1/4" FIP
7						
8						
9						
10						

TABLE 2575 - 1: SUMMARY OF BACTERIOLOGICAL RESULTS

		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?
Building #	Building Name							
2575	Dawson City Wildlife Office	8	Oct-04 to Jun-05	no	0/8	no	9-Jun-05	no



Table 2575 - 2: Water Quality Results

SOURCE:		Building 2575 - Dawson City Wildlife Office		GCDWQ Criteria		
Location/ Resident		Dawson City				
Address						
Treatment		N/A				
Disinfection		N/A				
Source of Water		Water Delivery				
Purpose of Sampling		Base Line	Additional Sampling			
Sample Location						
Date Sampled		8-Jun-05	N/A	Lower	Upper Limit	
Physical Tests (ALS)				AO	MAC	AO
Colour (CU)		<5.0				15
Conductivity (uS/cm)		297				
Total Dissolved Solids		178				500
Hardness CaCO3		145		AO >200 = poor, > 500 unacceptable ^A		
pH		7.9		6.5		8.5
Turbidity (NTU)		0.65			1	5
UV Absorbance						
% UV Transmittance						
Dissolved Anions (ALS)						
Alkalinity-Total CaCO3		105				
Chloride Cl		2.56				250
Fluoride F		0.085			1.5	
Silicate SiO4						
Sulphate SO4		53.7				500
Nitrate Nitrogen N		0.25			10	
Nitrite Nitrogen N		<0.10			3.4	
Ammonia Nitrogen N						
Total Phosphate PO4						
Total Metals (ALS)						
Aluminum T-Al		<0.010			0.1	
Antimony T-Sb		<0.00050			0.006	
Arsenic T-As		0.00013			0.025	
Barium T-Ba		0.079			1	
Boron T-B		<0.10			5	
Cadmium T-Cd		<0.00020			0.005	
Calcium T-Ca		39.7				
Chromium T-Cr		<0.0020			0.05	
Copper T-Cu		0.637			1	
Iron T-Fe		0.047				0.3
Lead T-Pb		0.0023			0.01	
Magnesium T-Mg		11				
Manganese T-Mn		0.0212				0.05
Mercury T-Hg		<0.00020			0.001	
Potassium T-K		0.73				
Selenium T-Se		<0.0010			0.01	
Sodium T-Na		2.2				200
Uranium T-U		0.0007			0.02	
Vanadium T-V						
Zinc T-Zn		<0.050				5
Field Chemistry (EBA)						
pH			7.88	6.5		8.5
TDS (ppm)			146			500
EC (uS/cm)			295			
Temperature (°C)			16.4			
Free Available Chlorine			0.19			

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 Engineering Consultants Ltd.

Creating and Delivering Better Solutions

SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: Ryan Martin, Luke Lebel

Date August 19, 2005

WELL ID #	Owner	Location Description
2575	YTG	Dawson City wildlife office

1. Well Location and Potential Contaminant Sources

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

Dawson City

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

Calison Subdivision

c. GPS location: N 7102116 E 580298 elev 344m ± 9m

d. Is there electric power? ☐ Yes ☒ No

e. Is there outside water access? ☒ Yes ☐ No
From delivery water supply, not from well

f. Does the well system have:

☐ 15 or more service connections to a piped distribution system? If so how many _____
well is abandoned, no longer in use. System is on water delivery

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

g. Nearest building, specify wildlife office

h. Distance from well to building ~3m

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

j. Distance from well to nearest point of known field: Septic holding tank at ~15m

k. Well location relative to field: ☐ upslope ☐ downslope ☒ lateral

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

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 *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
Unlocked enclosure

Entrance by animals? ☐ Yes ☒ No
Access possible. No cap. Evidence of mouse droppings and feathers

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

If yes, is it ☐ in use ☐ abandoned *unlikely*

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; Distance from well to Potential Source 1: ~9m

Potential Source 2: Dredge pond; Distance from well to Potential Source 2: ~65m

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

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

2. Well and Wellhead information:

- a. When was well installed? Year unknown 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: 9.375m b.c ^{could be pump} ☐ measured (if possible) ☐ reported ☐ from log
- h. Static water level below ground: 7.180m b.c
☒ 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 unknown
- m. Is the well head: ☐ in pumphouse ☒ in pit ☐ pitless adaptor ☐ in a building
☒ in a wooden enclosure other, describe _____
- n. If the well head is located in a wooden enclosure,

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

- i. Is the well head below grade? describe in detail No, ~0.7m 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
- iv. Any evidence of rodents? Specify Mouse droppings and feathers present
- v. Does the well casing have a proper seal cap? ☐ Yes ☒ No

If no, describe condition None present

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 n/a

Explain (filtration, disinfection etc...) water from delivery is likely chlorinated at source

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 n/a

5. Pump Installation:

- a. Is the well equipped with a pump? ☒ yes ☐ No
possibly
- b. Type of pump: ☐ hand ☒ electric submersible ☐ jet

☐ shallow well centrifugal ☐ other, _____
- c. Description: Manufacturer _____ Model _____
horsepower _____ capacity _____ voltage _____

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

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
none - not hooked up

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:

This system is currently on water delivery. There is an abandoned well on the property that is not properly sealed

b. Recommendations: _____

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

PART B: EBA Site Inspection

Inspector: BERT ALBISSEL

Date AUG 19 / 05

WELL ID #	Owner	Location Description
<u>2575</u>	<u>YTG</u>	<u>DAWSON CITY WILDLIFE SHOD</u> <u>CALLISON SUB DIVISION</u>

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 _____

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

- 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: FIBRE GLASS SECTIONAL

Where is it located?

Comments: FURNACE ROOM

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: _____

Overall Tank

What are the tank size and dimensions?

4' x 8' HIGH ROUND SECTIONAL

What material is the tank constructed of? FIBRE GLASS

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: CLOSED TANK, NO ACCESS

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:

THE INSTALLATION MEETS ALL REQUIREMENT WITH
THE EXCEPTION OF ACCESS TO THE TANK
FOR INSPECTION & CLEANING.

b. Recommendations:

INSTITUTE REGULAR SCHEDULED FREE CHLORINE
TESTING & REPORTING. ASSURE TRUCK DELIVERY
RESIDUAL IS 0.5 PPM FREE CHLORINE.
INSTALL ACCESS TO TANK FOR INSPECTION
& CLEANING. SOURCE FOR WATER DELIVERY
SHOULD BE CITY OF DAWSON WATER 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 #	9122
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Bulk Plant - heavy equip lost control and collided with tanker - pushed it over 1.5m bank - ruptured
Latitude	64.034444444444
Longitude	-139.36472222222
Incident Date	9/1/1991 2:00:00 PM
Lead Agency	Yukon Government - Public Safety
Other Agency	
Company(s)	Tesoro Canada
Amount	6800
Units	Litres
Quantity	Estimate
Release Description	Spilled
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Diesel
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	accident not Tesoro's fault - most fuel recovered or pumped off - contaminated soil piled in yard - no immediate threat to environment or public safety



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 #	9228
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - Klondike Transport property - 500 ga storage tank being removed - tipped over and spilled residual oil
Latitude	64.034444444444
Longitude	-139.36472222222
Incident Date	7/23/1992
Lead Agency	Environment Canada - Environmental Protection Service
Other Agency	
Company(s)	Petro Canada (McKenzie)
Amount	100
Units	Litres
Quantity	Estimate
Release Description	Spilled
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Diesel
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	material to be removed to a suitable location for spreading



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 #	9509
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision lot - line from truck pumping off fuel disconnected at camlock
Latitude	64.034444444444
Longitude	-139.36472222222
Incident Date	4/18/1995 2:30:00 AM
Lead Agency	
Other Agency	
Company(s)	White Pass
Amount	200
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	soaked up spill - removed contaminated material and burned at dumpsite



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 #	9714
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - 2nd approach from Whse - 1 block off highway on left - improper fuel storage and overfill of tanker truck
Latitude	64.0370706
Longitude	-139.35275575
Incident Date	4/21/1997
Lead Agency	Yukon Government - Renewable Resources
Other Agency	
Company(s)	North 60 Petroleum
Amount	
Units	
Quantity	Unknown
Release Description	
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Hydrocarbons
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	Fire Chief in Dawson also reported on overfill of trucks and that there were pools of fuel on ground - no one responding - EC contacted YG-RR - YG-RR to start investigation



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 #	9933
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - John Van Every's yard - release of bulk storage tank contents
Latitude	64.0347
Longitude	-139.3649
Incident Date	8/15/1999
Lead Agency	Yukon Government - Environmental Programs
Other Agency	Environment Canada - Environmental Protection Service
Company(s)	Northern Cross (Yukon) Ltd.
Amount	8500
Units	Litres
Quantity	Estimate
Release Description	
Additional Quantit	200 L anhydrous ammonia
Concentration	3
Concentration Unit	%
Phase	Liquid
Major Contaminant	Brackish Water
2nd Contaminant	Calcium Chloride
3rd Contaminant	Anhydrous Ammonia
4th Contaminant	
Outcome	contaminant was released by sub-contractor without permission of Northern Cross - hazards not known - 2Km to Klondike River - shallow ground water - YG-EP investigating



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 #	0144
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - no further information on exact location - leaking truck out of Inuvik
Latitude	64.0347
Longitude	-139.3649
Incident Date	8/26/2001
Lead Agency	Yukon Government - Environmental Programs
Other Agency	
Company(s)	
Amount	50
Units	Gallons (US, liquid)
Quantity	Estimate
Release Description	Leaked
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Waste Oil
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	cleaned-up by Kluane Frieght Lines - overseen by Fire Dept - product in secure barrell to be shipped - no further information on file



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 #	0211
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - parked tanker trailer (Earl MacKenzie's) - vandalism - no further details on exact location
Latitude	64.03653782
Longitude	-139.34772962
Incident Date	5/5/2002 8:44:00 PM
Lead Agency	Yukon Government - Renewable Resources
Other Agency	
Company(s)	Earl MacKenzie
Amount	2000
Units	Litres
Quantity	Estimate
Release Description	Spilled
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Diesel
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	fuel had not yet entered surface water - ran into ditch and through to culverts - YG-RR CO Tory Hunter responding - no further information on file



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 #	0335
Jurisdiction	Yukon
Community	Dawson City
Address	
Highway	
Milepost	
Feature	Dawson City
Location and Cause	Callison Subdivision - Yukon Energy Substation - mechanical failure
Latitude	64.03767917
Longitude	-139.35259699
Incident Date	10/21/2003 2:30:00 PM
Lead Agency	Municipality - identified in Community
Other Agency	
Company(s)	Yukon Energy
Amount	100
Units	Litres
Quantity	Estimate
Release Description	Spilled
Additional Quantitit	
Concentration	
Concentration Unit	
Phase	Liquid
Major Contaminant	Hydraulic Oil
2nd Contaminant	
3rd Contaminant	
4th Contaminant	
Outcome	less than 100 L but more than 50 L - spill contained inside building - floor surface metal - absorbent pads used to clean up spill - no further information on file



Photo 077: 2575 Environmental office facing south.



Photo 075: 2575 Wellhead enclosure.



Photo 223: 2575 Jet pump, pump controls and inline filter.



Photo 225: 2575 Water storage tank.