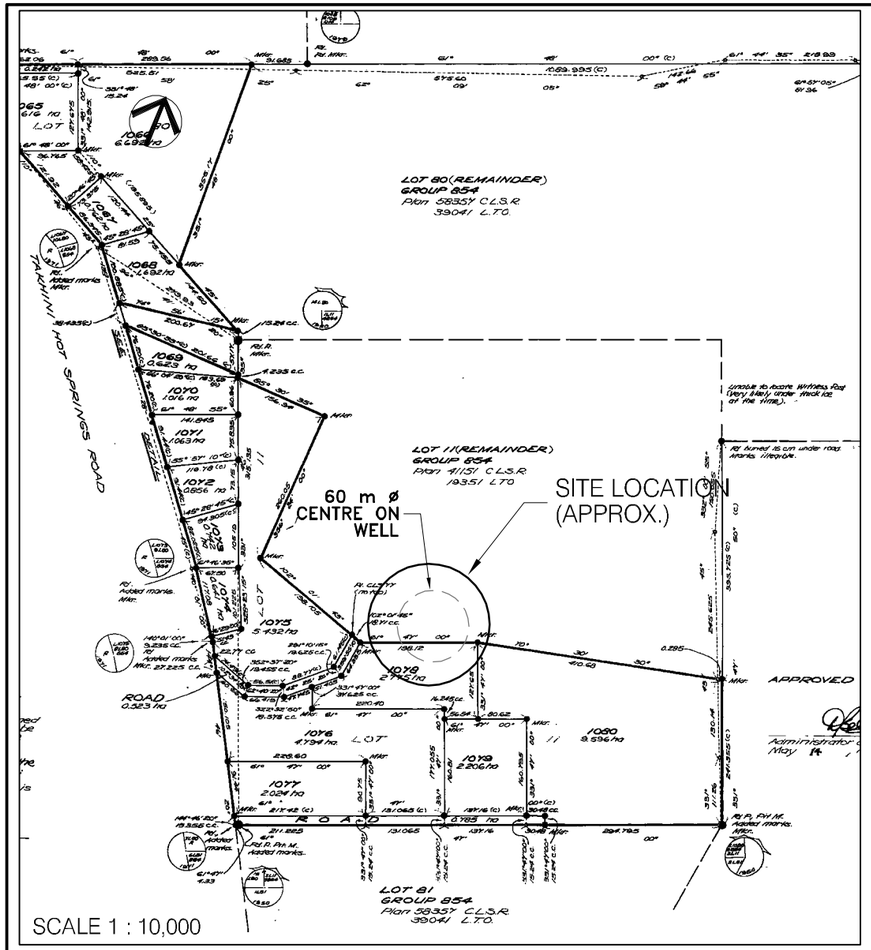
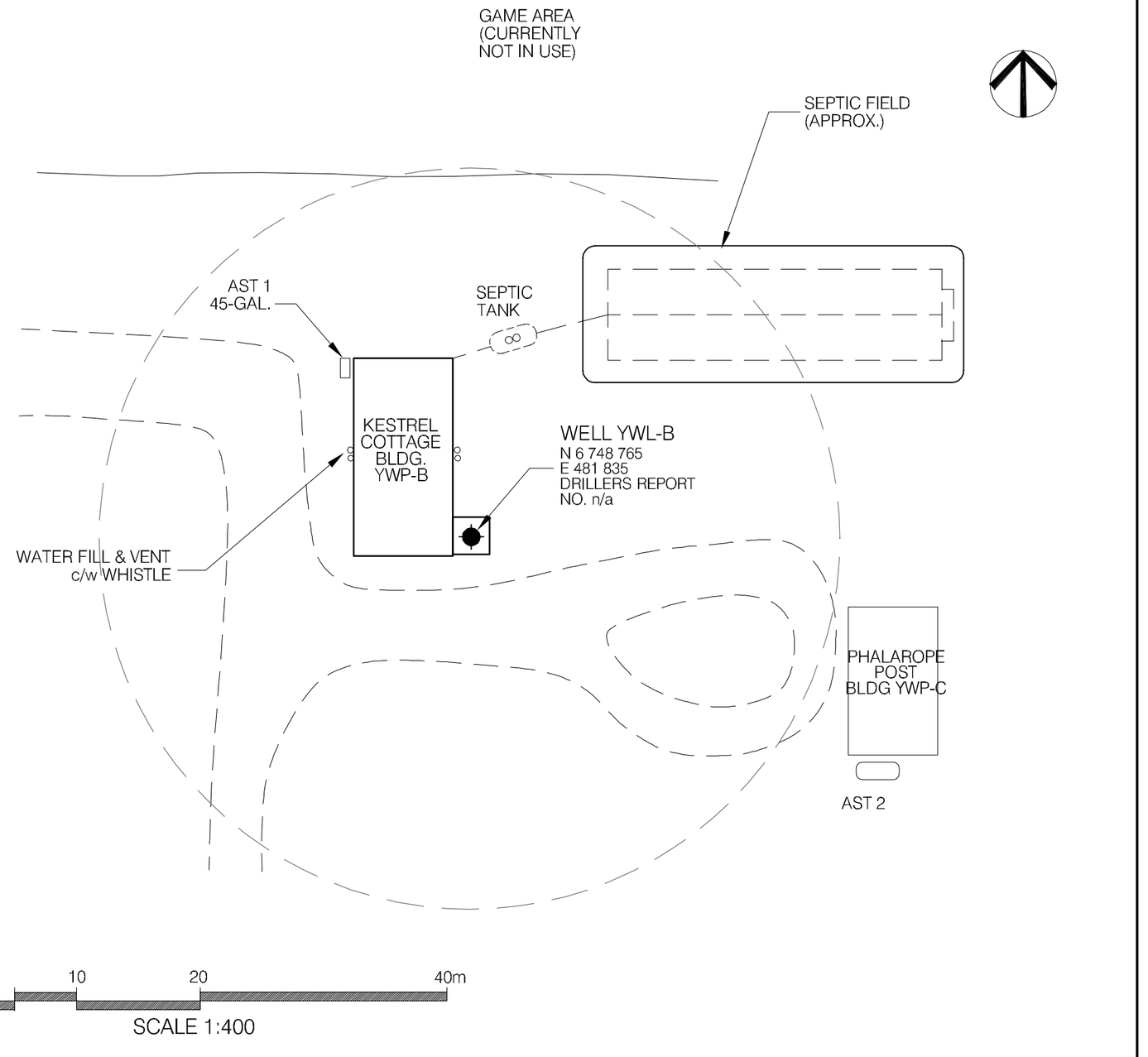




NOTES:

1. UTM COORDINATES OBTAINED WITH A HAND HELD GPS USING NAD83 SYSTEM AND ARE CONSIDERED TO BE ACCURATE TO 10.0 m, APPROXIMATELY.
2. LOCATION OF BUILDING ON PROPERTY IS APPROXIMATE ONLY.

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:	JUNE 2005
SCALE:	AS SHOWN
PROJECT No.:	1260002.001
ACAD FILENAME:	001-WHITEHORSE REGION

CLIENT: Yukon
Highways and Public Works
Property Management Branch

SMALL PUBLIC WATER SYSTEMS ASSESSMENT
WHITEHORSE REGION

GOVERNMENT OF YUKON
HIGHWAYS & PUBLIC WORKS

YUKON WILDLIFE PRESERVE
BUILDING YWP-B
SITE LOCATION DIAGRAM
WELL ID: YWP-B

REVISION ISSUE: 0

DRAWING No.: FIGURE YWP-B

Z:\0201\Drawings\1260002 Water Assessment YTG\001 - Whitehorse Region\game reserve\1260002 Figure GPB.dwg, 6/15/2005 1:48:48 PM, Adobe PDF

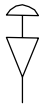
LEGEND


PUMP

PRESSURE GAUGE


GATE VALVE


CHECK VALVE

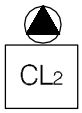

SOLENOID

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

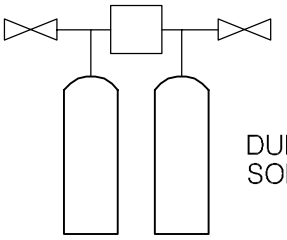
FLOW METER

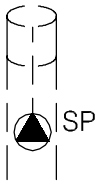
WATER FILTER
(CARTRIDGE TYPE)

PRESSURE TANK

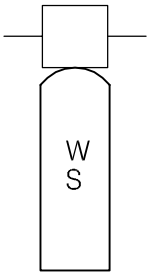


CHLORINE RESERVOIR AND
INJECTION PUMP


DUPLEX WATER
SOFTENER



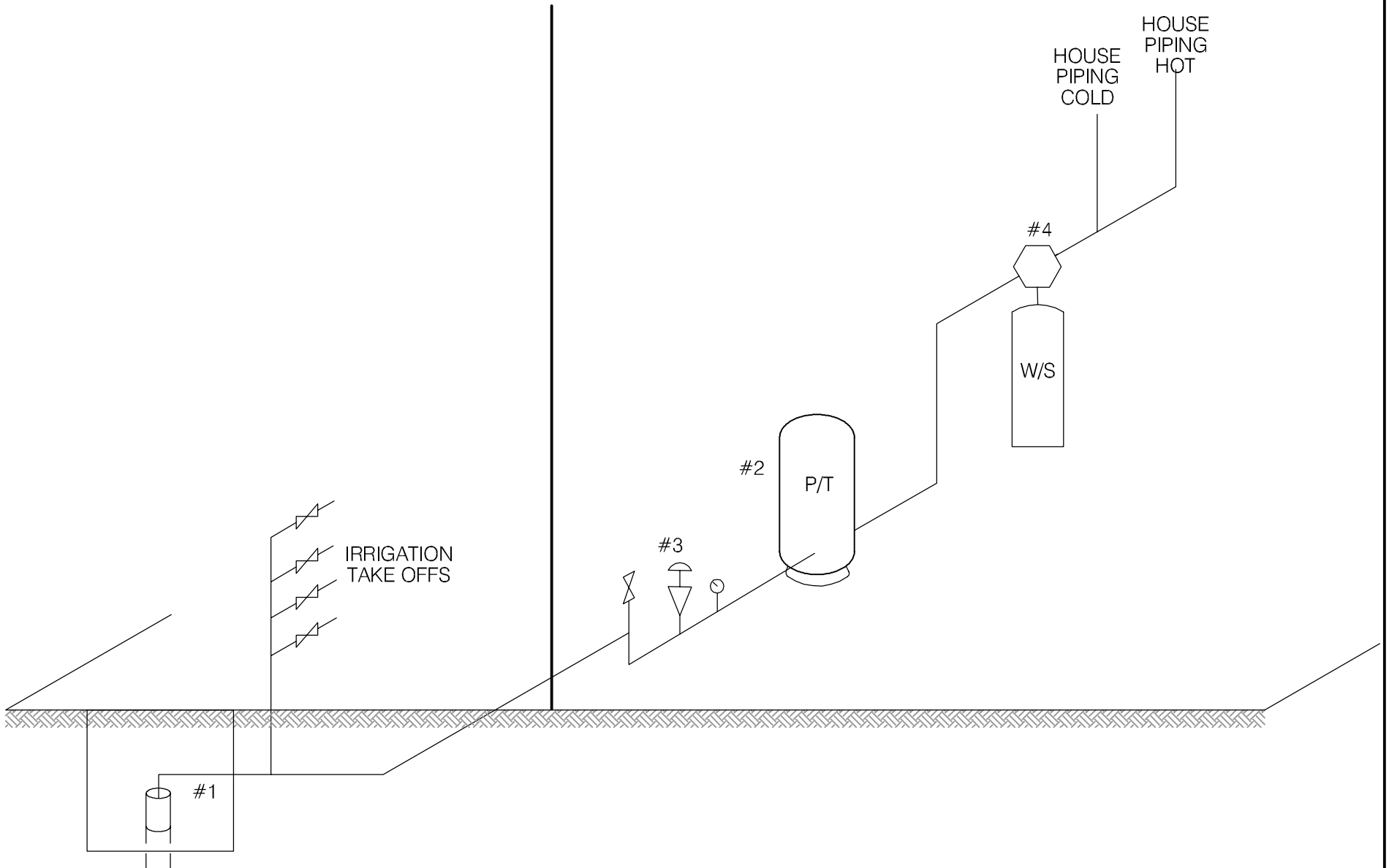
WELL WITH
SUBMERSIBLE PUMP



ACTIVATED
CARBON

EBA Engineering Consultants Ltd.			PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT WHITEHORSE 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

Z:\0201Drawings\1260002 Water Assessment YTG\001 - Whitehorse Region\1260002003 Whitehorse Schematic_LEGEND.dwg, 4/11/2006 10:28:07 AM, Adobe PDF, jbuyck



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

EBA Engineering Consultants Ltd.

PROJECT: SMALL PUBLIC WATER SYSTEMS ASSESSMENT
WHITEHORSE REGION

CLIENT: Yukon Highways and Public Works Property Management Branch

TITLE: WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: YWP A
YUKON WILDLIFE PRESERVE - MAIN WELL

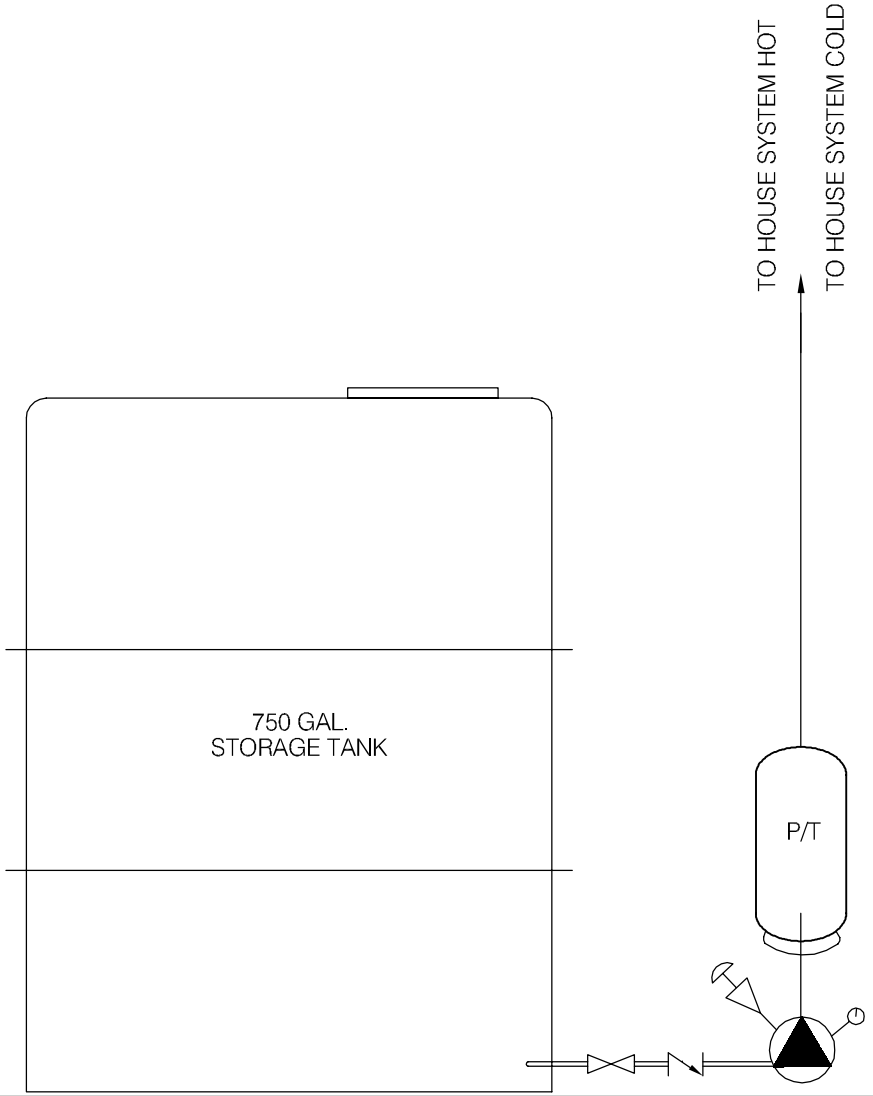
DATE	DWN.	CHKD.	FILE NO.	DWG.:
APRIL 2006	JSB	RMM	1260002.001	FIGURE YWP-A

Z:\0201Drawings\1260002 Water Assessment YTG\001 - Whitehorse Region\game reserve\1260002 YWP A Schematic.dwg, 4/6/2006 9:58:00 AM, Adobe PDF, jbuyck

Whitehorse Region – ~~Carmacks Grader Station~~ ~~Building # 0512~~ WILDLIFE PRESERVE MAIN WELL

DISTRIBUTION & TREATMENT SYSTEM DATA YWP A

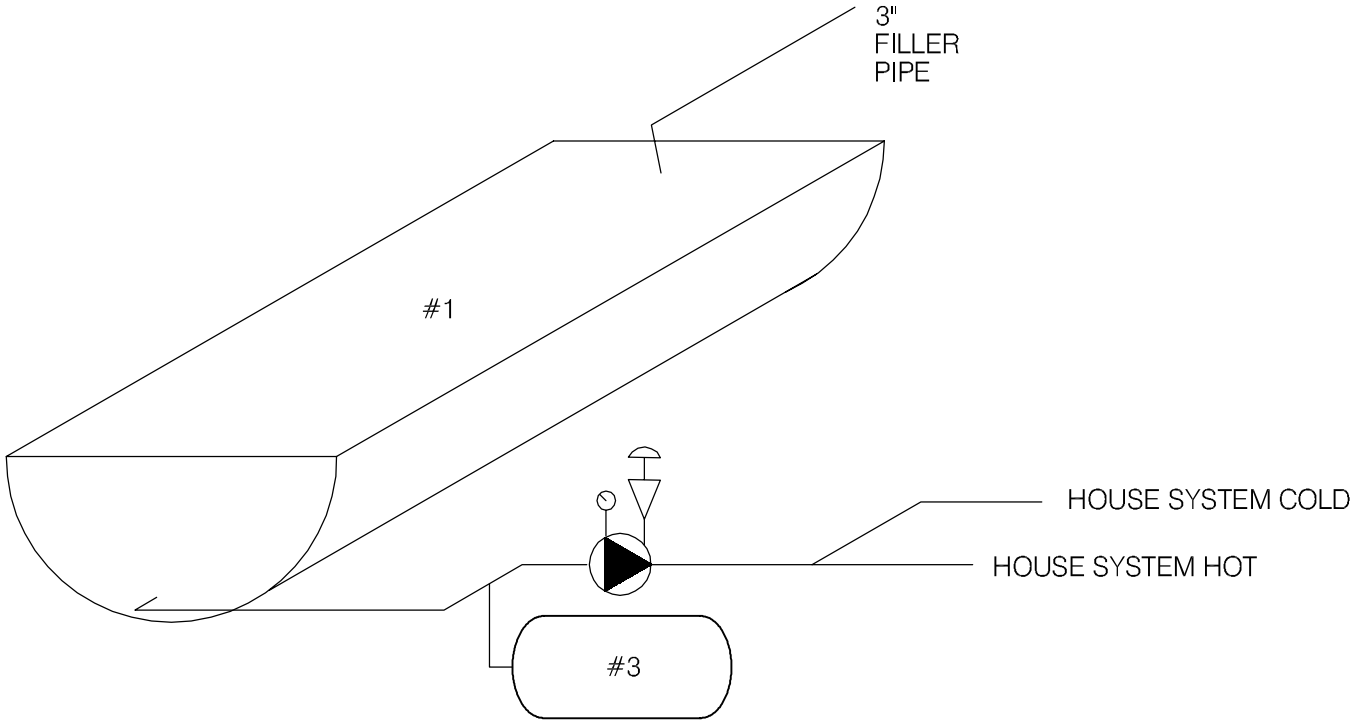
Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	4" SUBMERSIBLE					4" – 5 HP.
2	PRESSURE TANK	CHALLENGER	PC 366			
3	PRESSURE SWITCH	SQ D	FSG-2			2 HP 1/4" FIPT
4	IRON SOFTENER	ELITE	7836-1	EIS-45M	I 22842C	45000 GRAIN
5	PRESSURE GAUGE	MARSH	0-100 PSI			1/4" FIPT
6						
7						
8						
9						
10						



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

EBA Engineering Consultants Ltd.			PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT WHITEHORSE REGION	
CLIENT Yukon Highways and Public Works Property Management Branch			TITLE	WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: YWP B YUKON WILDLIFE PRESERVE - STAFF HOUSE	
DATE APRIL 2006	DWN. JSB	CHKD. RMM	FILE NO. 1260002.001		DWG.: FIGURE YWP-B

Z:\0201Drawings\1260002 Water Assessment YTG\001 - Whitehorse Region\game reserve\1260002 YWP B Schematic.dwg, 4/6/2006 9:58:42 AM, Adobe PDF, jbuyck



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

EBA Engineering Consultants Ltd.			PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT WHITEHORSE REGION	
CLIENT Yukon Highways and Public Works Property Management Branch			TITLE	WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: YWP-D PTARMIGAN TOWERS RESIDENCE	
DATE APRIL 2006	DWN. JSB	CHKD. RMM	FILE NO. 1260002.001		DWG.: FIGURE YWP-E

Z:\0201Drawings\1260002 Water Assessment YTG\001 - Whitehorse Region\game reserve\1260002 YWP D Tarmigan Towers Schematic.dwg, 4/11/2006 2:11:02 PM, Adobe PDF, jbuyck

TABLE YWP - 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?
YWP-A	Yukon Wildlife Preserve Main Office	0	Jun-05 to Feb-06	yes	2/13	yes	28-Feb-06	no
YWP-B	Yukon Wildlife Preserve Kestrel Cottage	1	May-04	no	0/1	no	31-May-04	no

Table YWP-2: Water Quality Results

SOURCE:	Building YWP-A Yukon Wildlife Preserve Main Office		Building YWP-B Yukon Wildlife Preserve Staff Building		GCDWQ Criteria		
Location/ Resident	Takhini Hot Springs Road		Takhini Hot Springs Road				
Address							
Treatment	No, Water Softener Only		No				
Source of Water	On-Site Well		Delivery				
Purpose of Sampling	Additional Sampling	Baseline	Baseline **(City of Whitehorse)**	Additional Sampling			
Sample Location	Raw Water Tap from Kitchen		City of Whitehorse Waterhouse 3	Kitchen Tap			
Date Sampled	19-May-05	26-Jun-05	1-Dec-04	19-May-05	**Lower Limit**	**Upper Limit**	
Physical Tests *(ALS)*					**AO**	**MAC**	**AO**
Colour (CU)	<5.0	<5	<5				15
Conductivity (uS/cm)	1270	1220	252				
Total Dissolved Solids	**904**	**950**	160				500
Hardness CaCO3	**688**	**658**	116		AO >200 = poor, > 500 unacceptable[A]		
pH	8.18	7.96	7.86		6.5		8.5
Turbidity (NTU)	0.69	0.14	<0.1			1	5
UV Absorbance	0.022						
Dissolved Anions *(ALS)*							
Alkalinity-Total CaCO3	286	292					
Chloride Cl	26.5	23.6					250
Fluoride F	0.185	0.12				1.5	
Sulphate SO4	35.9	394					500
Nitrate Nitrogen N	2.61	0.58				10	
Nitrite Nitrogen N	<0.10	0.50				1	
Ammonia Nitrogen N	-						
Total Metals *(ALS)*							
Aluminum T-Al	<0.020	<0.020					
Antimony T-Sb	<0.0010	<0.0010				0.006	
Arsenic T-As	0.00044	0.00048				0.025	
Barium T-Ba	<0.040	<0.040				1	
Boron T-B	<0.20	<0.20				5	
Cadmium T-Cd	<0.00040	<0.00040				0.005	
Calcium T-Ca	162	155					
Chromium T-Cr	<0.0040	<0.0040				0.05	
Copper T-Cu	0.0024	0.0032				1	
Iron T-Fe	<0.030	<0.030					0.3
Lead T-Pb	<0.0020	<0.0020				0.01	
Magnesium T-Mg	68.9	65.6					
Manganese T-Mn	<0.0040	0.0193					0.05
Mercury T-Hg	<0.00020	<0.00020				0.001	
Potassium T-K	2.83	2.51					
Selenium T-Se	<0.0020	<0.0020				0.01	
Sodium T-Na	51.5	39.8					200
Uranium T-U	0.00946	0.00854				0.02	
Zinc T-Zn	<0.10	<0.10					5
Trihalomethanes							
Bromodichloromethane							
Bromoform							
Chloroform							
Dibromochloromethane							
Total Trihalomethanes						0.1	
Haloacetic Acids							
Bromoacetic Acid							
Bromochloroacetic Acid							
Chloroacetic Acid							
Dibromoacetic Acid							
Dichloroacetic Acid							
Trichloroacetic Acid (TCA)							
Field Chemistry (EBA)							
pH	7.43				6.5		8.5
TDS	579						500
EC (uS/cm)	1134						
Temperature	9.2						
Free Available Chlorine							

Notes:

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

highlighting.

Shading indicates exceedence of Proposed MAC guideline (arsenic).

Bold Underline with Yellow shading indicates exceedence of CDWQG MAC

Results are expressed as milligrams per litre except for pH and Colour (CU), Conductivity (umhos/cm),Temperature (^{o}C) and Turbidity (NTU)

< = Less than the detection limit indicated.

AO = Aesthetic Objective

MAC = Maximum Acceptable Concentration (Health Based)

Table YWP-3: Summary of Well Assessment Results
SMALL PUBLIC DRINKING WATER SYSTEMS

Well Identification and Location					
Building #	**Building Name**	**Location**	**Northing (+/- 10 m)**	**Easting (+/- 10 m)**	**Grade Elevation (+/- 10 m)**
?	**Yukon Wildlife Preverve Main Office**	**Takhini Hotsprings Road**	6749184	481827	747
?	**Yukon Wildlife Preverve Kestrel Cottage**	**Takhini Hotsprings Road**	6748465	481835	721

Well Details							
Well Casing Diameter (mm)	**Year Well Installed**	**Well Log?**	**Well Depth (m bg)**	**Reported Low Permeabilty Protective Layer?**	**Pump Setting (m bg)**	**Well Capacity - Tested, or Reported by User**	**Static Water Level Below Ground (m-btwc)**
150	?	Yes	102.8	Bedrock - 4m to 103m	?	?	?
150	Early 1970's	No	55.8	?	53.910	?	41.725

Well Construction Details				
Wellhead Above ground (m)	**Well Cap**	**Well Screen**	**Surface Seal**	**Apron Grading**
1.4m below grade	Split Cap Gasket	Open Hole Screen from 4.3m to 102.8m	No	No, but slopes away from pit
Approximately at grade (within 0.2m)	Split Cap Gasket	?	No	Inside building

Table YWPA-4: Potential Contaminant Sources
Building YWPA – Yukon Wildlife Preserve Main Office

Potential Contaminant Source	Potential Contaminants	Distance from Water Source	Northing	Easting
Dump or Landfill	***Organic*** and inorganic chemicals.	>120 m		
Cemetery	***Biological***[1]**,** inorganic[2] and organic parameters.	>120 m		
Sewage lagoon	***Biological,*** inorganic and organic parameters.	>300 m		
Animal Pens	***Biological*** parameters	**12 m and 25 m**		
Sewage lines, tanks and lift stations	***Biological,*** inorganic and organic parameters.	**Approx. 15 m**		
Septic fields	***Biological and Inorganic*** parameters.	Approx 40 m	6743231	481831
Gas stations	***Organic and Inorganic*** parameters.	8 km		
Undergrounds Fuel Storage Tanks (USTs)	***Organic*** parameters.	>>30 m		
Above ground storage tanks (ASTs)	***Organic*** *parameters.*	**6 m**	6749183	481834
Naturally occurring sources of contamination	***Radionuclides, Bacteria and Viruses from surfacewater sources.***	>150 m		

Notes: ***Bold highlighting of distances indicates non-compliance with proposed guidelines***

1- Biological parameters include: bacteria, viruses, protozoa (parasitic organisms), helminthes (intestinal worms), and bio aerosols (inhalable moulds and fungi).

2 – Inorganic contaminants could include arsenic in embalming chemicals (prior to early 1900's), and heavy metals in caskets.

Required Setbcak Distances Draft Guidelines for Part III – Small Public Drinking Water Systems:

300 m (1,000 ft) from a sewage lagoon or pit and manure heaps
120 m (400 ft) from a solid waste dump or a cemetery
30 m (100 ft) from any other potential source of contamination

Table YWPB-4: Potential Contaminant Sources
Building YWPB –Yukon Wildlife Preserve Kestrel Cottage

Potential Contaminant Source	Potential Contaminants	Distance from Water Source	Northing	Easting
Dump or Landfill	***Organic*** and inorganic chemicals.	>120 m		
Cemetery	***Biological***[1]**,** inorganic[2] and organic parameters.	>120 m		
Sewage lagoon	***Biological,*** inorganic and organic parameters.	>300 m		
Animal Pens	***Biological*** parameters	50 m		
Sewage lines, tanks and lift stations	***Biological,*** inorganic and organic parameters.	**Approx. 14 m**		
Septic fields	***Biological and Inorganic*** parameters.	**15 m**	6748482	481837
Gas stations	***Organic and Inorganic*** parameters.	8 km		
Undergrounds Fuel Storage Tanks (USTs)	***Organic*** parameters.	>>30 m		
Above ground storage tanks (ASTs)	***Organic*** *parameters.*	**16 m and 30 m**		
Naturally occurring sources of contamination	***Radionuclides, Bacteria and Viruses from surfacewater sources.***	>150 m		

Notes: ***Bold highlighting of distances indicates non-compliance with proposed guidelines***

1- Biological parameters include: bacteria, viruses, protozoa (parasitic organisms), helminthes (intestinal worms), and bio aerosols (inhalable moulds and fungi).

2 – Inorganic contaminants could include arsenic in embalming chemicals (prior to early 1900's), and heavy metals in caskets.

Required Setback Distances Draft Guidelines for Part III – Small Public Drinking Water Systems:

300 m (1,000 ft) from a sewage lagoon or pit and manure heaps
120 m (400 ft) from a solid waste dump or a cemetery
30 m (100 ft) from any other potential source of contamination

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 May 19, 2005

WELL ID #	Owner	Location Description
	YTG	Yukon Wildlife Preserve Well A

1. Well Location and Potential Contaminant Sources

a. General location of well: (Community, Subdivision, etc.)
Takhini Hot Springs Road

b. Specific location: (Road or street, Building number, name of owner and/, legal description,
Yukon Wildlife Preserve, km 8 Takhini Hot Springs Road

c. GPS location: 481827 Easting 6749184 Northing 747m elevation ± 8m

d Is there electric power? ☒ Yes ☐ No

e. Does the well system have:

☐ 15 or more service connections to a piped distribution system ? If so how many_____
Services main office, and a hydrant that can connect to animal water tanks
☐ 5 or more delivery sites on a trucked distribution system? If so how many_____

f. Nearest building, specify Game Farm Main office

g. Distance from well to building ~1m

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

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

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

k. 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 ~20m away, downslope, septic field begins >10m away, downslope

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

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

n. 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 unfastened wooden lid. Entrance by animals? ☐ Yes ☒ No Few traces of animals, access possible

o. Is well site subject to flooding? ☒ Yes ☐ No some evidence of dampness and water staining

p. Is the well site well drained? ☒ Yes ☐ No

q. 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 _____

r. 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: ~6m
Potential Source 2: Baby Muskox pen; Distance from well to Potential Source 2: ~12m
Potential Source 3: Muskox pen ; Distance from well to Potential Source 3: 25m
Potential Source 4: Wildlife compound; Distance from well to Potential Source 4: ~26m

s. Are there other wells on this property? ☒ Yes ☐ No

How many? WB ☐ in use ☒ abandoned ☐ require proper sealing

2. Well and Wellhead information:

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: _____ ☐ measured (if possible) ☐ reported ☐ from log

h. Static water level below ground: _____

☐ 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
wood-enclosed (non-pwf) pit w/ styrofoam insulated walls

☒ in a wooden enclosure other, describe _____

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

i. Is the well head below grade? describe in detail Yes, 1.4m below grade

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

iii. Is the wellhead enclosed by fiberglass insulations? ☐ Yes ☒ No
There is styrofoam insulation in enclosure walls and lid. No insulation directly inside enclosure

iv. Any evidence of rodents? Specify No evidence, access is likely

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

If no, describe condition Only

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 ☐ Yes ☒ No

Explain (filtration, disinfection etc...) Water Softener only

---

4. Aquifer Supplying This Well:

a. The aquifer is: ☐ bedrock ☐ granular sediment ☐ unknown

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

5. Pump Installation:

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

b. Type of pump: ☐ hand ☐ electric submersible ☐ jet

☐ shallow well centrifugal ☐ other, _____

c. Description: Manufacturer _____ Model _____

horsepower _____ capacity _____ voltage _____

d. Date installed: _____ By: _____

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

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

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

h. Are there automatic pump controls: ☒ Yes ☐ No

i. Is there provision for taking water samples before water reaches storage? ☒ Yes ☐ No
hydrant for hoses to animal tanks

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

k. Is the pump and piping protected from freezing? ☐ Yes ☐ No
Heater in enclosure. No Heat trace. No insulation in pit. Pit walls and lid have styrofoam insulation
If yes, describe: _____

l. Comments on pump installation: _____

_____

6. Conclusions

a. Comments on overall installation:

_____

_____

_____

_____

_____

_____

_____

b.Recommendations: _____

_____

_____

_____

_____

_____

_____

_____

PART B: EBA Site Inspection

Inspector: BERT ALBISSER Date MAY 20/05

WELL ID #	Owner	Location Description
W.L.P. MAIN WELL	YTG	YUKON WILDLIFE PRESERVE

6. Water Treatment

a. Is well water treated? ☑ Yes ☐ No; Type of treatment: IRON SOFTENER

☐ 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 _____

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 PC-360

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: YES.

Overall Tank NO TANK

What are the tank size and dimensions?

_____

What material is the tank constructed of? _____

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

Comments: _____

Tank Inlet, Outlet and Lid

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

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

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

Is the water tank drain accessible? YES NO

WATER TANK AND WATER QUALITY CONDITION

Are there signs of staining or biofouling? YES NO
Comments: _____

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

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

Have there been any bacteriological analyses conducted previously? YES NO

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

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

8. Conclusions

a. Comments on overall installation:

SYSTEM NEEDS TO BE COMPLETELY RE-PIPED FROM WELL TO HOUSE TIE IN. SOFTNER IS ONLY SIZED FOR 4 PEOPLE MAXIMUM. A LARGER SOFTNER WILL HAVE TO BE INSTALLED TO GET UNINTERRUPTED SOFT WATER SUPPLY.

b. Recommendations:

INSTALL SURFACE SEAL ON WELL, EXTEND CASING ACCORDINGLY. RE-PIPE THE COMPLETE SYSTEM. INSTALL SUITABLE DUPLEX WATER CONDITIONER OF APPROPRIATE SIZE FOR NEW DEMAND. INSTALL UV SYSTEM AFTER SOFTNER FOLLOWED BY AUXILIARY CHLORINATION SYSTEM FOR PROTECTION OF THE PIPING SYSTEM. INSTALL BACKFLOW PREVENTION OF APPROPRIATE SIZE.

Driller's Report 204140152

Takhini Hotsprings Rd.

Location: Yukon Game Farm Well Lot 1353, Yukon Game Farm [redacted]

NAD 83 **Zone** 8 **Easting** 482482 **Northing** 6749732 **Elevation ASL** 2414.7 ft.

Location Accuracy: **Horizontal** 100-300 (topo) **Vertical** 30.5 metres (100ft)

Purpose of well: Domestic - household needs

Permafrost encountered? No

LOG OF OVERBURDEN AND BEDROCK MATERIALS

Layer	From	To		General Colour	Most Common Material	Secondary Material	General Description
1	0	4	ft.		SAND with Silt and Gravel		
2	4	5	ft.		BEDROCK		
3	5	12	ft.		SAND with Gravel		
4	12	335	ft.		BEDROCK		

WELL CONSTRUCTION

Well No. 2041401521 **Completion date** **Drilling method** **Well type**

Casing: **OS Diameter** 6 in. **Material** **Wall thickness** in. **Depth to** ft.

Comments

Surface/Env'l seal: **Material** **Diameter** in. **Depth from** **to** ft. **Volume** cu. ft.

Gravel Pack ? ☐ **Material** **Diameter** in. **Depth from** **to**

Well Screen Information

OS Diameter	Material	Screen Type	Comments
	Open Hole	Open Hole	Open Hole

Screen Sections

Section	From	to		Slot size/ perforation diameter
1	14	335	ft.	

WELL DEVELOPMENT AND STATUS

Well ID	Developed by	Wellhead completion	Adapter depth	Static water level	Yield Estimate	Estimate method
2041401521			ft.	ft.	gpm	

Final Status New, in use for intended purpose

No

B·ID 204140152

Field Report

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

Started....MAY. 16.....19.83

Completed...MAY. 25.....19.83

NAME AND ADDRESS OF CLIENT	DESCRIPTION OF WORK	LOCATION OF WORK
DANNY NOLNAN	W/W	HOT SPRINGS Rd.

FORMATION LOG FROM	TO	FORMATION	DESCRIPTION OF WORK	TIME DATE	FROM	TO	HOURS
			MOVE LOAD AT SHOP	MAY 16	9:00	10:00	
			TRAVEL TO SITE	"	10:15	10:45	
			SET UP WELD ON SHOE	"	10:45	12:00	
			UNLOAD FLAT DECK				
0'	4'	Silty	SAND & GRAVEL	"	12:00	1:00	
4'	5'	B.R.					
5'	12'	SAND &	Gravel				
12'	165'	B.R.		"	1:00	5:00	4 HRS.
			TRAVEL	MAY 19	9:00	9:30	
165'	250'	BR	2 G.P.M. AT 224	"	9:30	5:00	
			TRAVEL	"	5:00	5:30	
			TRAVEL	MAY 20	9:00	9:30	
250'	295'	BR	~~Pullout Bit~~	"	8:30	4:30	
			Pullout- Bit		4:30	5:00	3.5
			TRAVEL	MAY 20	5:00	5:30	

Record of Casing & Pipe Size	Type	Size	Type
Feet	Inch	Feet	Inch

Remarks:

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

SIGNATURES

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

TITLE.....Rick..... TITLE.....

Willow Printers

Field Report

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

Started....MAY 18....1983

Completed....MAY 25....1983

NAME AND ADDRESS OF CLIENT	DESCRIPTION OF WORK	LOCATION OF WORK
DANNY NOLNAN	W/W	HOT SPRINGS Rd.

FORMATION LOG FROM	TO	FORMATION	DESCRIPTION OF WORK	DATE	TIME FROM	TO	HOURS
			MOVE TRAVEL	MAY 24	8:00	8:30	
			RUN IN HOLE	"	8:30	9:45	
295'	327'	BR		"	9:45	5:00	9.5
			TRAVEL	"	5:00	5:30	
			TRAVEL	MAY 25	8:00	8:30	
			Pullout - CLEAN HAMMAR - RUN IN	"	8:30	10:30	
327	335'	BR		"	10:30	1:30	
			DEVELOPE	"	1:30	4:30	
			Pullout - LOAD	"	4:30	6:00	9.5

Rcrd. of Casing & Pipe

Size	Type	Size	Type
Feet	Inch	Feet	Inch

Remarks:

14' - 280 w 6" casing + Drive shoe

Developed to 11 G.P.M

Pump Testing @ 30 G.P.M. with Draw Down to 127'

Static Level	88'	Total Rig Time	hrs.
Ground Level		Total Standby	hrs.
Top Of Casing		Drilling Mud	sacks

SIGNATURES

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

TITLE....Rick.... TITLE....

Willow Printers

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 May 19, 2005

WELL ID #	Owner	Location Description
	YTG	Yukon Wildlife Preserve well B Kestrel cottage

1. Well Location and Potential Contaminant Sources

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

b. Specific location: (Road or street, Building number, name of owner and/, legal description,
Staff House, Yukon Wildlife Preserve, Takhini Hotsprings Road

c. GPS location: 8 1835 E 6748465 N 721 meters ± 14m

d Is there electric power? ☐ Yes ☒ No

e. Does the well system have:

☐ 15 or more service connections to a piped distribution system ? If so how many____
The well has been abandoned due to water quality
☐ 5 or more delivery sites on a trucked distribution system? If so how many____

f. Nearest building, specify Located inside the Yukon Wildlife Preserve staff building

g. Distance from well to building ____

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

i. Distance from well to nearest point of known field: ~15m

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

k. 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 and field ~16m away. Field does not work, must be pumped out regularly.

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

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

n. 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
well is located inside a locked building. evidence of rodents and insects in well room

o. Is well site subject to flooding? ☒ Yes ☐ No
Some evidence of water staining

p. Is the well site well drained? ☒ Yes ☐ No

q. 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 _____

r. 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: ~16m
Potential Source 2: AST 2 ; Distance from well to Potential Source 2: > 30m
Potential Source 3: _____ ; Distance from well to Potential Source 3: _____
Potential Source 4: _____ ; Distance from well to Potential Source 4: _____

s. Are there other wells on this property? ☐ Yes ☐ No

How many? _____ ☐ in use ☐ abandoned ☐ require proper sealing

2. Well and Wellhead information: early 1970's

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: ? 55.8 m ☒ measured (if possible) ☐ reported ☐ from log

h. Static water level below ground: 41.725 - MAY 19, 2005

☒ 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
En room off from main building

☐ in a wooden enclosure other, describe Add-on.

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

i. Is the well head below grade? describe in detail The well head is approximately at grade level

ii. Are there signs of ponding on the enclosure(e.g. water stains, etc.)? ☒ Yes ☐ No
There is some dampness, heavy rust on the well head

iii. Is the wellhead enclosed by fiberglass insulations? ☒ Yes ☐ No
In the walls of the enclosure

iv. Any evidence of rodents? Specify There is some evidence of mouse droppings

v. Does the well casing have a proper seal cap? ☒ Yes ☐ No
Split cap seal, but heavily rusted
If no, describe condition _____

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 ☐ Yes ☒ No

Explain (filtration, disinfection etc…) well abandoned

---

4. Aquifer Supplying This Well:

a. The aquifer is: ☐ bedrock ☒ granular sediment ☐ unknown

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

5. Pump Installation:

41.725

a. Is the well equipped with a pump? ☒ yes ☐ No
↳ NOT CURRENTLY USED - ELECTRICAL DISCONNECTED

b. Type of pump: ☐ hand ☒ electric submersible ☐ jet

☐ shallow well centrifugal ☐ other, _____

c. Description: Manufacturer _____ Model _____

horsepower _____ capacity _____ voltage _____

d. Date installed: _____ By: _____

e. For submersible pump, depth of setting below surface 53.910 m

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

g. Pump delivers water to: ☐ pressure tank ☐ elevated tank ☐ other N/A - nowhere

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: inside a building/add-on, but still reported to have frozen. No heat when door is closed

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

b. Recommendations: _____

PART B: EBA Site Inspection

Inspector: BERT ALBISSER Date MAY 20/05

WELL ID #	Owner	Location Description
WLP STAFF HOUSE (KESTREL COTTAGE)	YTG	WILD LIFE PRESERVE

6. Water Treatment WELL NOT FUNCTIONAL

a. Is well water treated? ☐ Yes ☑ No; Type of treatment:
STORAGE TANK (DELIVERED WATER)
☑ 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 .38 MG/L reading.

Tested at KITCHEN 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 ☑ H_2S ☐ Other _____

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: 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: _____

Overall Tank

What are the tank size and dimensions?

5' Ø x 6' H.

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 HEIGHT DOES NOT ALLOW CLEANING

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: SOME SEDIMENT

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

Have there been any bacteriological analyses conducted previously? YES (NO)

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

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

8. Conclusions

a. Comments on overall installation:

THIS SYSTEM NEEDS TO BE REPLACED. WELL S/B REDEVELOPED.

b. Recommendations:

REDEVELOP WATER WELL. BUILD NEW ENCLOSURE FOR PUMP SYSTEM. INSTALL APPROPRIATE TREATMENT. DISINFECT THE COMPLETE HOUSE SYSTEM & INSTALL UV IF POSSIBLE.

DISTRIBUTION & SYSTEM DATE

1. PUMP SYSTEM - MONARCH MJS-33/JR 44H JET PUMP SYSTEM.

2. WATER STORAGE TANK - 750 GALLON - VERTICAL, SECTIONAL FIBRE GLASS TANK.

PART B: EBA Site Inspection

Inspector: BERT ALBISSER Date MAY 20/05

WELL ID #	Owner	Location Description
WLP-UNIT 1D	YTG	WLP – PTARMIGAN TOWER

6. **Water Treatment** DELIVERED WATER

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 _____

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: SHOP AREA.

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: Yes

Overall Tank

What are the tank size and dimensions?
6' ϕ Half Tank x 14' L (Approx 850 Gallons)

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: Tank is Sealed No Access.

Is there any sediment or scum in bottom of tank? YES NO
Comments: Not Available

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:

NOT A SUITABLE WATER SYSTEM.

b. Recommendations:

REPLACE THE COMPLETE SYSTEM, INCLUDING THE STORAGE TANK. THERE IS ADEQUATE ROOM FOR A NEW SYSTEM IN THE SHOP AREA.

204140200

Field Report

MIDNIGHT SUN DRILLING CO. LTD.
WHITEHORSE Y.T.
PH. 633-3070 TELEX 036-8496
P.O. BOX 4391
WHITEHORSE, YUKON

Started Mar. 8 1990

Completed Mar. 8 1990

NAME AND ADDRESS OF CLIENT	DESCRIPTION OF WORK	LOCATION OF WORK
Smiley Ford	3½ test	Hot springs Rd

FORMATION LOG			DESCRIPTION OF WORK	TIME			
FROM	TO	FORMATION		DATE	FROM	TO	HOURS
			MOVE				
			2 hrs move				
			2.5 hrs Drill				
			85'				

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

Remarks:

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

SIGNATURES

MIDNIGHT SUN Les Torgerson .... CLIENT ....

TITLE Len. Shaw .... TITLE ....

Willow Printers

Photo 0174: YWP-A Main Office (left), Well Head Enclosure (center) and Baby Muskox Pen (back right)

Photo 0173: YWP-A Well Head

Photo 0175: YWP-A Septic Field (front) and Muskox Pen (Back)

Photo 0178: YWP-A Well Head Enclosure (front), Main Office (left) and Above ground Fuel Storage Tank (right)

Photo 0176: YWP-A Muskox Pen (back)

Photo 0177: YWP-A Baby Muskox Pen (left), Animal Feed Storage Area (behind)

Photo 0004: YWP-A Presure Tank (left) and Water Softener (right)

Photo 0001: YWP-A Piping in Building from Wellhead

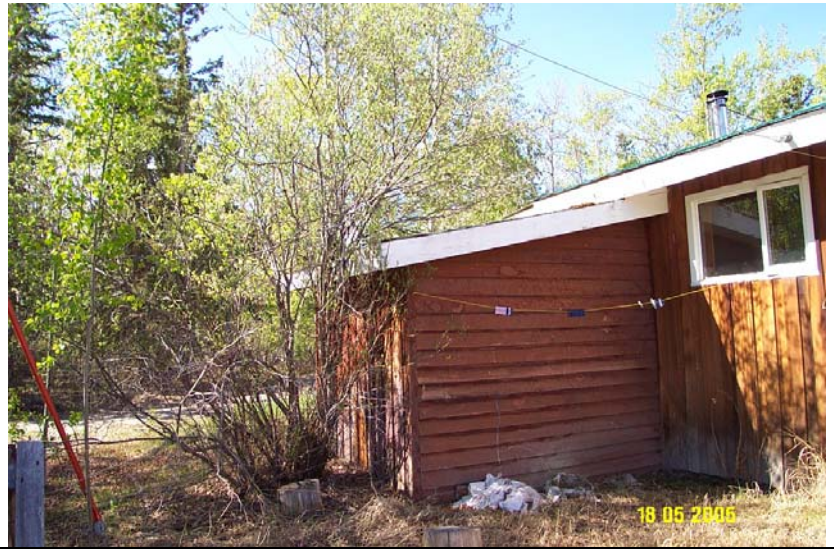


Photo 0183: YWP-B Preserve Staff Building and Well House Addition

Photo 0006: YWP-B Trucked Water Storage Tank

Photo 0182: YWP-B Above Ground Fuel Storage Tank

Photo 0184: YWP-B Trucked Water Intake

Photo 0182: YWP-D Piping

Photo 0006: YWP-D Water Storage Tank

Photo 0184: YWP-D Jet Pump and Pressure Tank

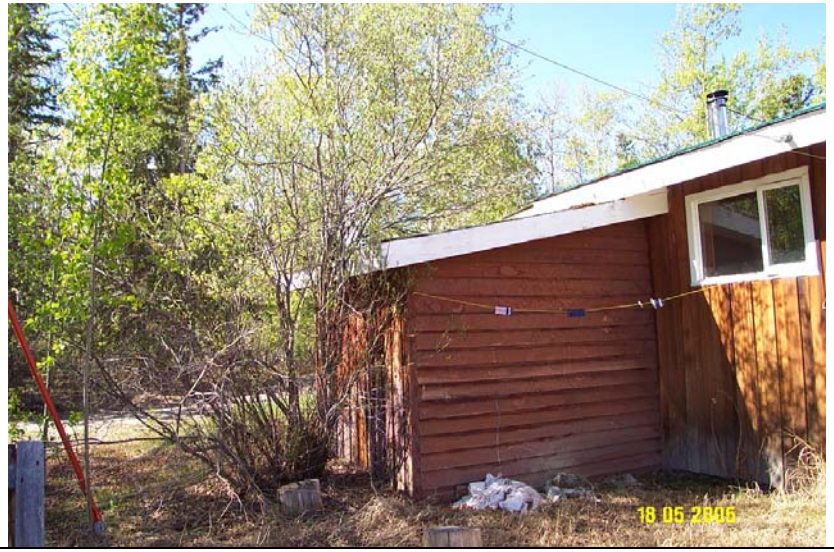


Photo 0183: YWP-B Preserve Staff Building and Well House Addition

Photo 0006: YWP-B Trucked Water Storage Tank

Photo 0182: YWP-B Above Ground Fuel Storage Tank

Photo 0184: YWP-B Trucked Water Intake

Photo 0174: YWP-A Main Office (left), Well Head Enclosure (center) and Baby Muskox Pen (back right)

Photo 0173: YWP-A Well Head

Photo 0175: YWP-A Septic Field (front) and Muskox Pen (Back)

Photo 0178: YWP-A Well Head Enclosure (front), Main Office (left) and Above ground Fuel Storage Tank (right)

Photo 0176: YWP-A Muskox Pen (back)

Photo 0177: YWP-A Baby Muskox Pen (left), Animal Feed Storage Area (behind)

Photo 0004: YWP-A Presure Tank (left) and Water Softener (right)

Photo 0001: YWP-A Piping in Building from Wellhead

Photo 0182: YWP-D Piping

Photo 0006: YWP-D Water Storage Tank

Photo 0184: YWP-D Jet Pump and Pressure Tank