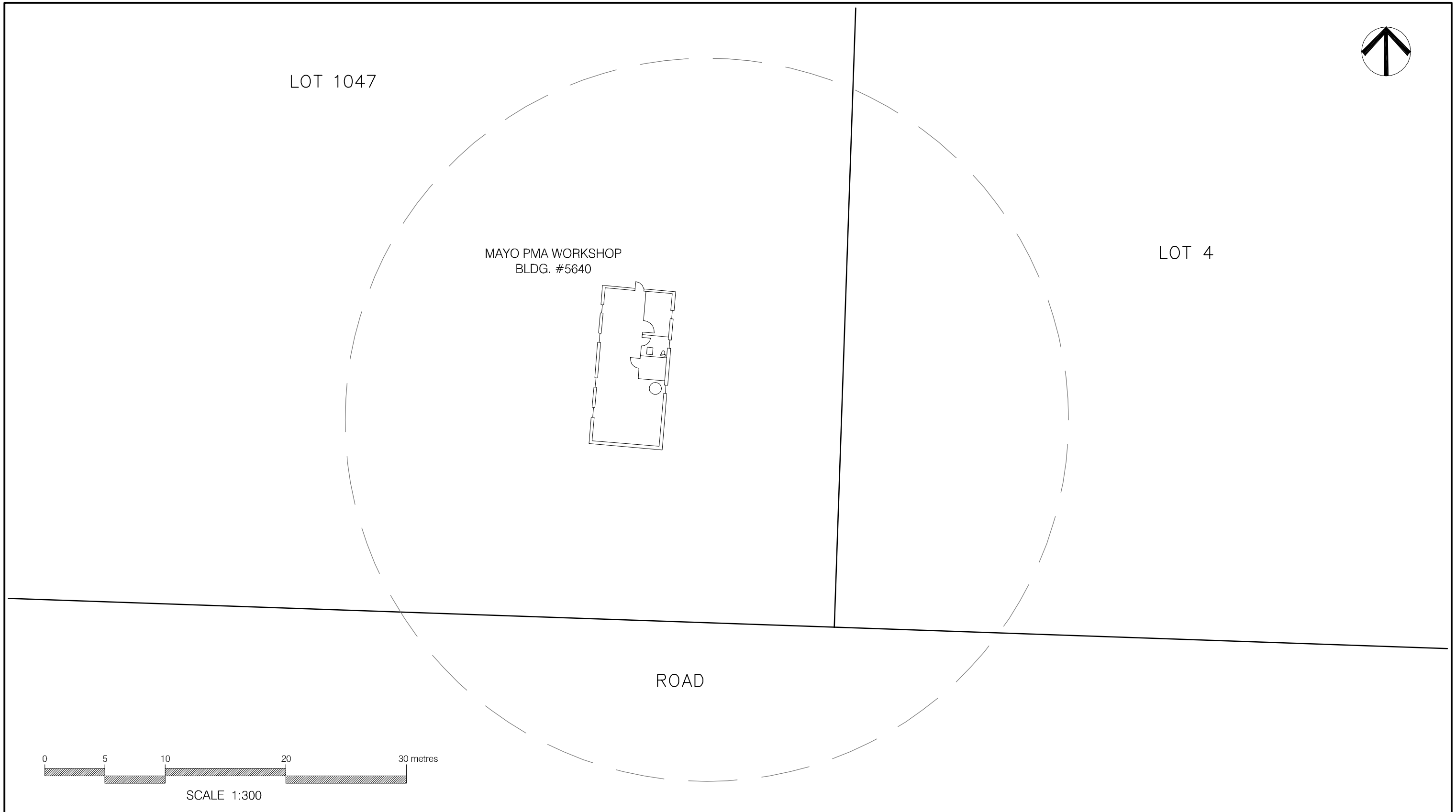


NOTES:

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

MAYO PMA WORKSHOP
BUILDING # 5640
SITE LOCATION DIAGRAM
WELL ID: 5640

REVISION ISSUE
0

FIGURE No.
FIGURE 5640–A

\\eba.local\corp\Whitehorse\Data\0201Drawings\1260002 Water Assessment YTG\004 - Northern Region\mayo\1260002004 Mayo PMA Workshop_5640A Site Plan.dwg, 1/13/2006 3:50:51 PM, Adobe PDF, jbuyck

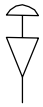
LEGEND


PUMP


PRESSURE GAUGE


GATE VALVE


CHECK VALVE

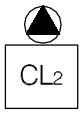

SOLENOID

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

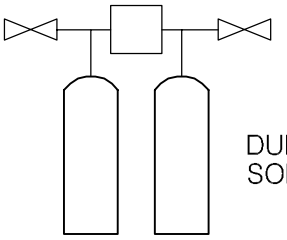
FLOW METER

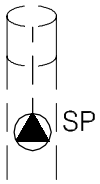
WATER FILTER
(CARTRIDGE TYPE)

PRESSURE TANK

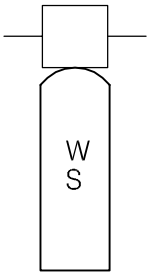


CHLORINE RESERVOIR AND
INJECTION PUMP


DUPLEX WATER
SOFTENER

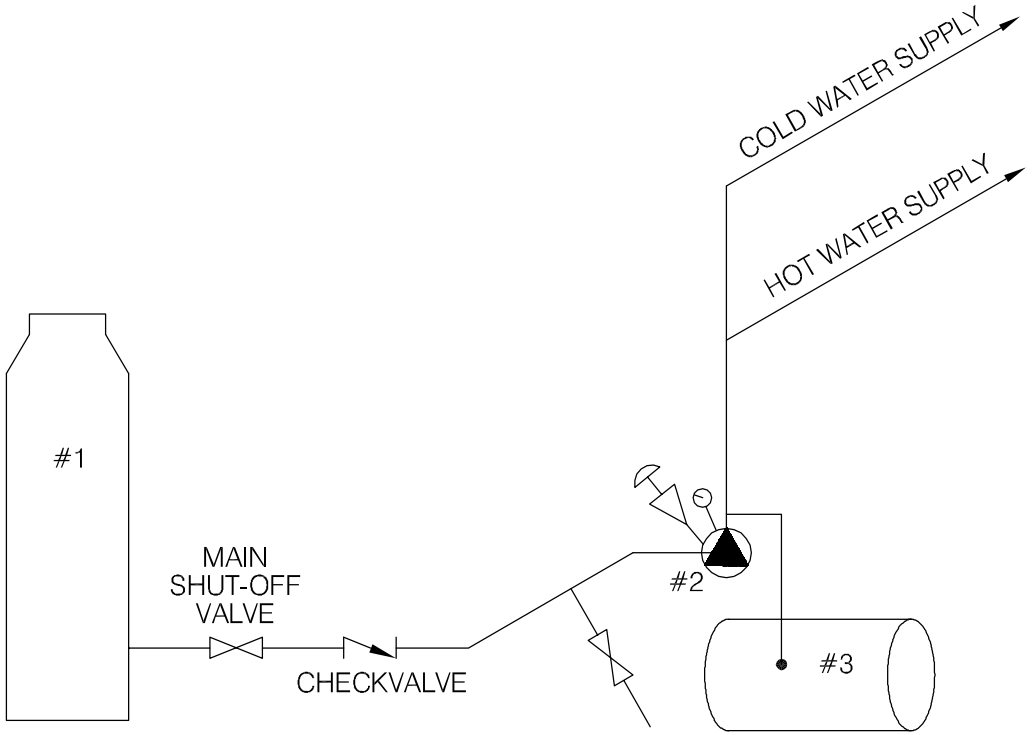


WELL WITH
SUBMERSIBLE PUMP



ACTIVATED
CARBON

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



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

EBA Engineering Consultants Ltd.			PROJECT	SMALL PUBLIC WATER SYSTEMS ASSESSMENT NORTHERN REGION	
CLIENT Yukon Highways and Public Works Property Management Branch			TITLE	WATER SYSTEM DISTRIBUTION/TREATMENT SCHEMATIC SYSTEM ID.: 5640 PMA WORKSHOP - MAYO, YT.	
DATE SEPT. 2005	DWN. JSB	CHKD. RMM	FILE NO. 1260002.004		DWG.: FIGURE 5640-B

Z:\0201Drawings\1260002 Water Assessment YTG\004 - Northern Region\mayo\1260002004 Mayo PMA Workshop_5640B Schematic.dwg, 4/5/2006 2:56:52 PM, Adobe PDF, jbuyck

Northern Region – PMA Shop
Building # 5640

DISTRIBUTION & TREATMENT SYSTEM DATA

Item	Description	Manufacturer	Model	Part No.	Serial No.	Size
1	STORAGE TANK	N/A	270 GALLON CYLINDRICAL			
2	JET PUMP	MONARCH	MJS-33			1/3 HP
3	PRESSURE TANK	N/A	GALVANIZED (OLD STYLE)			
4						
5						
6						
7						
8						
9						
10						

Table 5640 - 2: Water Quality Results

SOURCE:	Building 5640 - Mayo PMA Shop	GCDWQ Criteria		
Location/ Resident	Mayo			
Address				
Treatment	None			
Disinfection	None			
Source of Water	Water delivery			
Purpose of Sampling	Base Line			
Sample Location				
Date Sampled	N/A	**Lower**	**Upper Limit**	
Field Chemistry (EBA)		**AO**	**MAC**	**AO**
pH	8.21	6.5		8.5
TDS (ppm)	102			500
EC (uS/cm)	207			500
Temperature (°C)	20.3			
Free Available Chlorine	0.01			

Notes:

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

Italics and underline indicates exceedence of proposed MAC (ie. arsenic)

Bold with Yellow highlighting indicates exceedence of CDWQG Aesthetic Objective (AO)

Bold Underline with Yellow highlighting indicates exceedence of CDWQG MAC

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

< = Less than the detection limit indicated.

AO = Aesthetic Objective

MAC = Maximum Acceptable Concentration (Health Based)

eba

SMALL PUBLIC WATER SYSTEM ASSESSMENT

PART A: EBA Site Inspection

Inspector: Ryan Martin, Luke Lebel Date August 17, 2005

WELL ID #	Owner	Location Description
5640	YTG	Mayo PMA workshop

1. Well Location and Potential Contaminant Sources

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

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

c. GPS location: 7054007 456481 elev. 507
(RM pipe)

d Is there electric power? ☒ Yes ☐ No

e Is there outside water access? ☐ Yes ☒ No

f. Does the well system have:

☐ 15 or more service connections to a piped distribution system ? If so how many_____
PMA workshop

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

g. Nearest building, specify n/a

h. Distance from well to building _____

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

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

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

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/a

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

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 Inside building

Entrance by animals? ☐ Yes ☒ No There is no vermin screen on overflow

p. Is well site subject to flooding? ☐ Yes ☐ No n/a

q. Is the well site well drained? ☐ Yes ☐ No n/a

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

If yes, is it ☐ in use ☐ abandoned

Is the location known? ☐ Yes ☐ No

Distance from the well to known buried tank _____

s. Are there any other known contaminant sources on the property?

☐ Yes ☐ No Describe _____

If yes, specify the source: ☐ dump ☐ sewage lagoon ☐ cemetery ☐ other

Potential Source 1:_____; Distance from well to Potential Source 1:_____

Potential Source 2:_____; Distance from well to Potential Source 2:_____

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

2. Well and Wellhead information:

a. When was well installed? Year water delivery Month _____

b. Type: ☐ drilled ☐ dug ☐ sand point ☐ other n/a

c. Is there a drillers log for the well: ☐ Yes ☐ No n/a

d. Is there a surface seal to 6 m ☐ Yes ☐ No ☐ unknown ☐ unlikely n/a

e. Surface casing: ☐ Yes Diameter n/a ☐ No

f. Well casing: Diameter n/a Material: ☐ steel ☐ plastic ☐ concrete

g. Depth of well: n/a ☐ measured (if possible) ☐ reported ☐ from log

h. Static water level below ground: n/a

☐ 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 _____ slot size(s) _____
Location of screen: from _____ to _____ from log reported

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

m. Is the ~~well head~~ water storage tank: ☐ 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,

i. Is the well head below grade? describe in detail n/a

ii. Are there signs of ponding on the enclosure(e.g. water stains, etc.)? ☐ Yes ☐ No n/a

iii. Is the wellhead enclosed by fiberglass insulations? ☐ Yes ☐ No n/a

iv. Any evidence of rodents? Specify n/a

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

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. n/a

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 n/a

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

5. Pump Installation:

a. Is the ~~well~~ system 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 n/a

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

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

i. Is there provision for taking water samples before water reaches storage? ☐ Yes ☒ No

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

k. Is the pump and piping protected from freezing? ☒ Yes ☐ No

If yes, describe: Inside heated building

l. Comments on pump installation: _____

6. Conclusions

a. Comments on overall installation:

There is no vermin screen on the overflow pipe. This system is on water delivery.
TDS 102 ppm
EC 207 µS
pH 8.21
Temp 20.3°C
FAC 0.01 mg/L

b. Recommendations: _____

PART B: EBA Site Inspection

Inspector: BERT ALBISSER Date AUG 17/05

WELL ID #	Owner	Location Description
5640	YTG	MAYO PMA SHOP

6. Water Treatment

a. Is well water treated? ☑ Yes ☐ No; Type of treatment: TOWN 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 _____ 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: 270 GALLON CYLINDRICAL

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: _____

Overall Tank

What are the tank size and dimensions?

270 GALLONS - 36" x 84"

What material is the tank constructed of? POLYETHYLENE

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:

THIS IS A TYPICAL TEMPORARY WATER SYSTEM

b. Recommendations:

INSTALL DUPLEX INLINE FILTRATION - 30 & 5 MICRON FOLLOWED BY 5 GPM NSF55 CERTIFIED UV STERILIZER ON DISCHARGE OF PUMP.

Photo 037: 5640 Water fill and AST.

Photo 038: 5640 PMA building.

Photo 191: 5640 Water tank and jet pump.