

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 21-7566

Exam Date: 9/13/2007

1. Current Owner: CAROL BURK
1920 MALIBU DR
IDAHO FALLS ID 83404
(208)542-6382

Or

STEVEN BURK
1920 MALIBU DR
IDAHO FALLS ID 83404
(208)542-6382

2. Accompanied by: Steve and Carol Burk

Phone No: SAA

Address: SAA

Relationship to Permit Holder:

3. SOURCE

UNNAMED STREAM

TRIBUTARY

HENRYS LAKE

B. OVERLAP REVIEW

1. Other water rights with the same place of use: See attached sheet
2. Other water rights with the same point of diversion: 21-12384, 21-2100

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM

NW1/4SE1/4

Sec. 33, Twp 16N, Rge 43E, B.M.

FREMONT County

Method of Determination: GPS

2.

PLACE OF USE:

POWER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
16N	43E	33														X			

Method of Determination: ArcView

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

2. Measurements:

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method:

Flow was calculated using the Hazen and Williams Equation for Closed Pipe Flow. This yielded a value of 0.8 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: 0.8 cfs X 723.94 = 579.15 AFA

G. NARRATIVE/REMARKS/COMMENTSHave conditions of permit approval been met? ☒ Yes ☐ No**H. RECOMMENDATIONS****1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
POWER	01/01 to 12/31	0.80 CFS	579.15 AFA
<u>Totals:</u>		0.80 CFS	579.15 AFA

2. Recommended Amendments
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other
I. AUTHENTICATIONField Examiner's Name Joseph Larsen  Date September 20, 2007

Reviewer _____ Date _____

Hazen-Williams Equation for Closed Pipe Flow

Assumptions: Head Loss due to bends, couplings, & valves is negligible

$$Q_{cfs} = 1.318 C_h (\pi D^2/4) \times (D/4)^{0.63} \times (H/L)^{0.54}$$

Q = Discharge (cfs)

D = Pipe Diameter (ft) = .33 ft

L = Pipe Length (ft) = 355 ft

H = Elevation Drop (ft) = 21 ft

C_h = Values for Types of Pipe = 150

150	-Plastic (PVC)	110	-Riveted Steel
140	-Very Smooth	100	-Old Cast Iron
130	-Cast Iron	80	-Badly Corroded Cast Iron
120	-Wood, Concrete		

$$Q_{cfs} = 1.318 \left(\frac{150}{C_h} \right) \left[\pi \left(\frac{.33}{D} \right)^2 / 4 \right] \times \left(\frac{.33}{D} \right)^{0.63} \times \left(\frac{21}{H} / \frac{355}{L} \right)^{0.54}$$

$$Q_{cfs} = \underline{0.7986} \text{ cfs}$$

$$= \sim 0.8 \text{ cfs}$$

Comment Report

21-7566

1. SCURTIS 9/8/1997 DIVERSION DESCRIPTION

Comment: Pelton wheel and/or water wheel in creek to power the residence known as the Joseph Sherwood residence and store. This will be a possible lodge/museum.

2. jlarsen 9/19/2007 Field Report Narrative

Comment: Diversion shares spring box with IDFG Fish Hatchery. Diversion is valved in spring box. Leaves spring box as 4 inch PVC. Runs down hill about 200 feet and enters basement of Sherwood Museum where it has a second valve and drain. It exits the building and runs about 50 feet back to the stream channel where the 4 inch PVC is split into 4-1 1/4 inch flex hoses that are reduced to 3/4 inch nozzles. These nozzles create pressure that back powers a 3 phase 1 HP motor in order to generate power. the motor generates 230 volts @ 1.9 amps.
This system has about 21 feet of head.

3. jlarsen 9/19/2007 POD

Comment: Updated shape

4. jlarsen 9/19/2007 POU

Comment: Updated Shape

5. jlarsen 9/19/2007 POU

Comment: Updated Shape

6. jlarsen 9/19/2007 POU

Comment: Updated PLS

7. jlarsen 9/20/2007 POU Overlap Analysis

Comment: POU that overlap QQ are:

21-2100

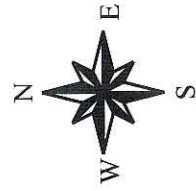
21-4061

21-12384

21-13039

21-13038

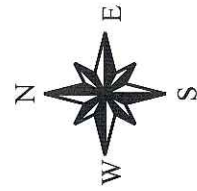
Steve and Carol Burk Permit # 21-7566



16N43E33NWSE



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16N43E33NWSE

Spring Box

4 inch PVC Pipe

Ball Valve

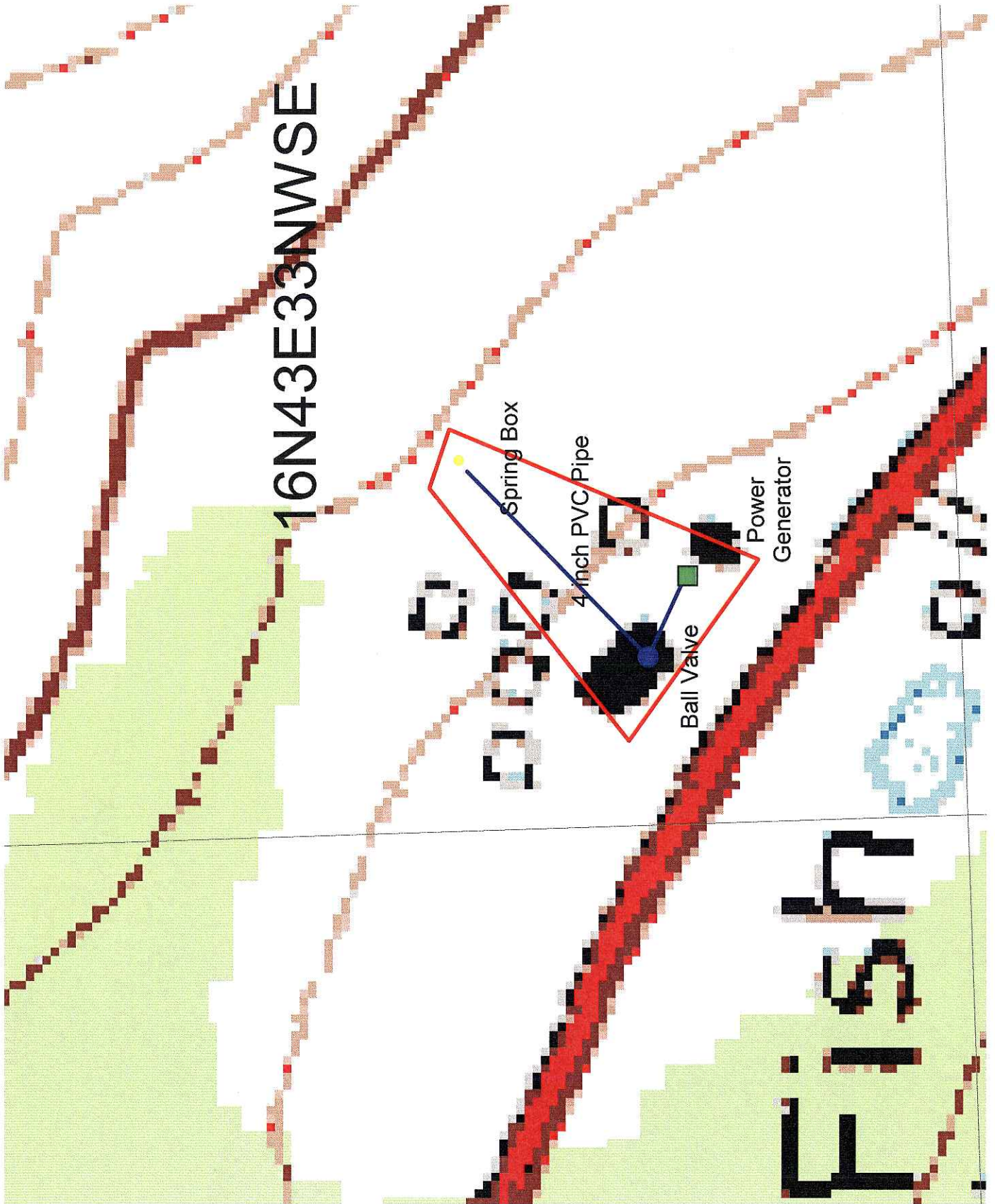
Power Generator

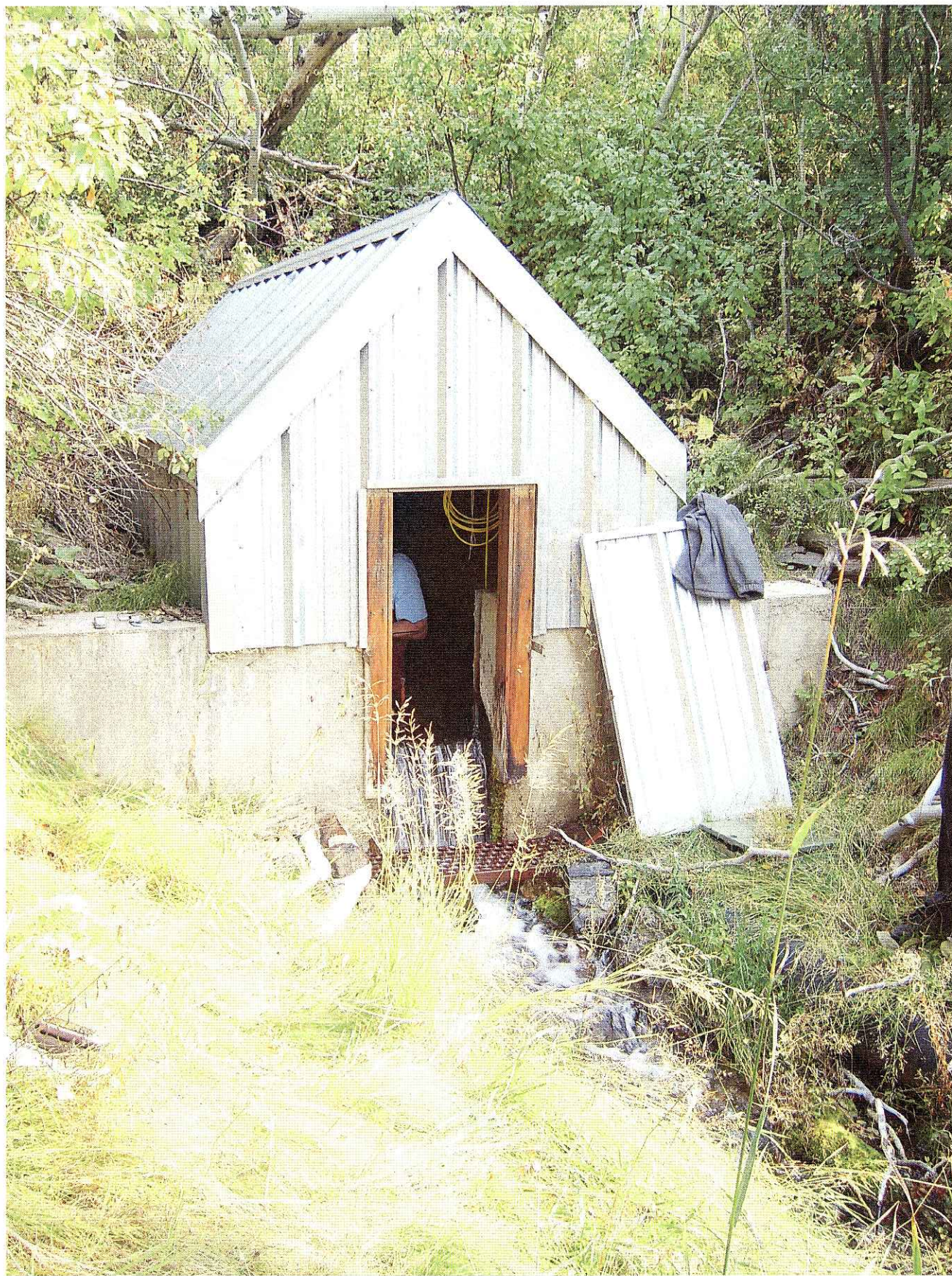
0.1 Miles

0.05

0

0.05



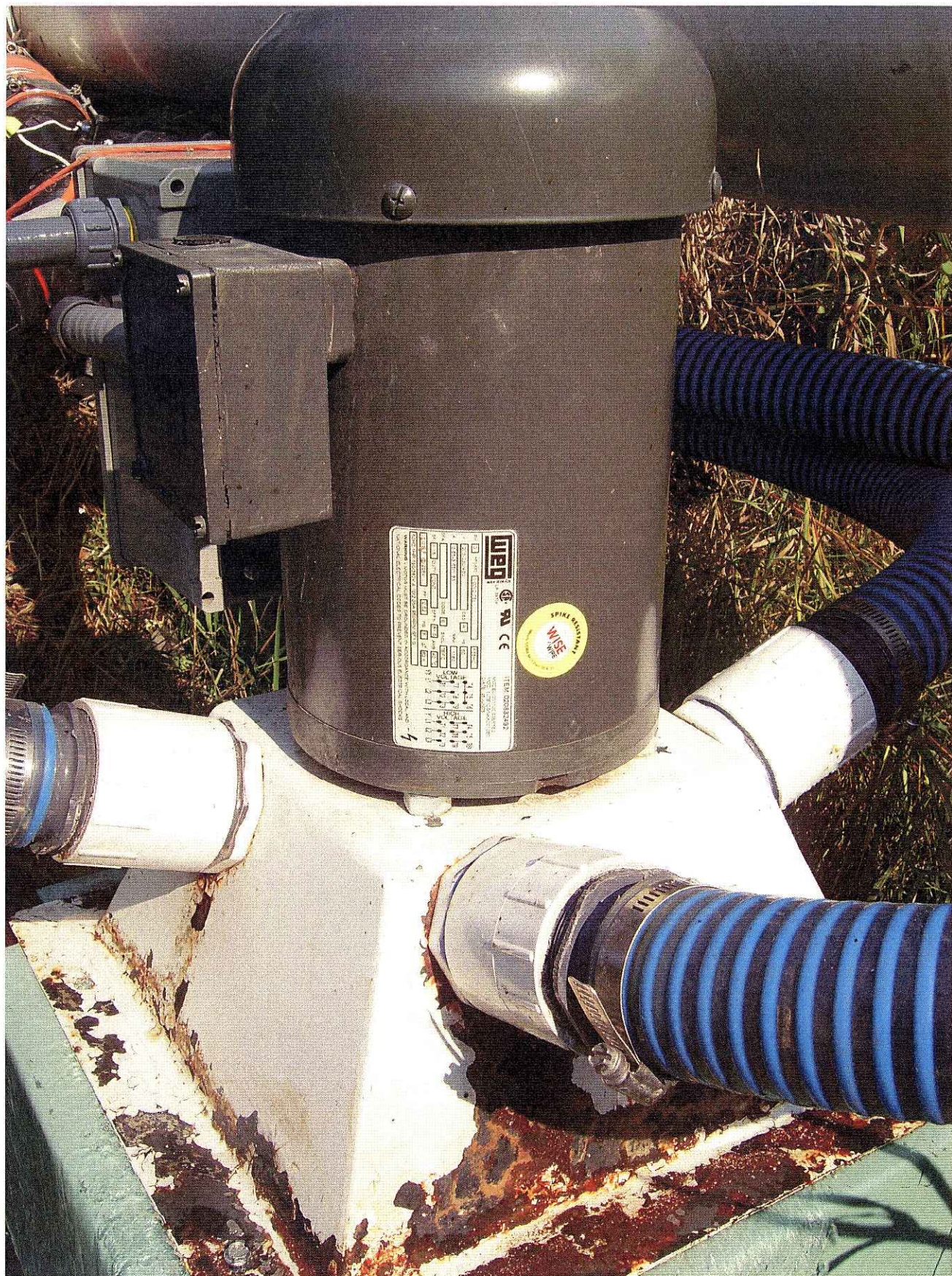














ITEM: 020832492

MODEL 00112ES3EF56C
MOD 1UTEICGNXX00106Q
DATE 26JUN06

MADE IN BRAZIL LR 38324

WEG **UL** **CE**

PH	3	HP(KW)	1.00(0.75)	F56HC			
V	208-230/460	DES	A	Hz	60		
A	3.65-3.65/1.83	RPM	1160				
SFA		CODE	E	ENCL	TEFC		
SF	1.15	DUTY	CONT	EFF%	81.5	AMB	40 °C
	1.0 S.F. @ 208V	PF	0.62	INS	F	Δ	80 K
50HZ 1HP 190/380V 4.10/2.05A 950RPM SF1.0							

WARNING - MOTOR MUST BE GROUNDED IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES TO PREVENT SERIOUS ELECTRICAL SHOCKS.

LOW VOLTAGE HIGH VOLTAGE

Y L1 L2 L3 Y L1 L2 L3

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10

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