

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 92-10017

Exam Date: 6/20/2012

1. Current Owner: US DEPT OF AGRICULTURE
FOREST SERVICE
ID PANHANDLE NATIONAL FOREST
3815 SCHREIBER WAY
COEUR D'ALENE ID 83814
(208)765-7273
2. Accompanied by: Forest Service Employee
Phone No: 208-245-6022
Address: St Maries Field Office
Relationship to Permit Holder: Employee
3. SOURCE TRIBUTARY
TWO EIGHTYONE GULCH EAST FORK EMERALD CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE
2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

TWO EIGHTYONE GULCH NW¼SW¼ Sec. 8, Twp 42N, Rge 01E, B.M. LATAH County

Method of Determination: GPS N46 59 57.83 W116 22 06.75

2.

<u>PLACE OF USE:</u>			MINING																
Twp	Rge	Sec	NE				NW				SW				SE				
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>Totals</u>
42N	01E	8							X	X	X	X							

Method of Determination: AERIAL PHOTO

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</u> <u>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</u> <u>Size</u>
	BOS			IPT 355	3"

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

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>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:

See Attached pump curve and theoretical calculation

$$Q = \frac{H_p (8.8) (2.5)}{H} = \frac{(7) (8.8) (1.7)}{40'} = \frac{1.08 \text{ cfs}}{\cancel{0.75 \text{ cfs}}}$$

Limited by Permit

E. FLOW CALCULATIONS

Measured Method:

____ Additional Computation Sheets Attached

SEE ATTACHED

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

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

N/A

2. Volume Calculations for Other Uses:

$$250 \text{ gpm} \times 20 \text{ min} = 5000 \text{ gal}$$

$$5000 \text{ gal} \times 5 \text{ days/year} = \frac{25000 \text{ gal/year}}{325850} = 0.077 \text{ AF/year}$$

Rounded up to 0.1 AF/y

$$\text{Pool Size } 20 \times 10 \times 8 = 1600 \text{ cf}$$

$$15 \times 35 \times 8 = 4200 \text{ cf}$$

$$15 \times 15 \times 8 = 1800 \text{ cf}$$

$$7600 \text{ cf} \times 7.4809 = 56854.84 \text{ gal}$$

$$\frac{56854.84 \text{ gal}}{325850} = 0.1745 \text{ AF}$$

Rounded to 0.2 AF

total AF = 0.3 AF

G. NARRATIVE/REMARKS/COMMENTS

This system provides water for a recreational garnet mining facility that the forest service runs for the public. The facility opens for the season on March 25 and closes September 15 and is run 5 days a week during that time. The system from 281 Gulch Creek is a 7 Horse Power pump that runs 15000 Gallon Per Hour. That pump refills the recirculation system for mining. The pump from the creek is only run up to 5 times a year for about 20 minutes each time depending on the need of water. The recirculation system has 4 ponds with a 7 Horse Power pump. The pump delivers water for up to 3 sluice boxes. The sluice boxes drain into the 2 upper settling ponds that overflow into the lower settling pond. Then the water gets recirculated back thru the system. Once a week to every other week they have the settling ponds dug out and the mud is put into the middle drying pond until the following week when it is hauled away after drying. All of the ponds fall under the 24 hour rule for storage. The original permit was for gravity feed system that did not recirculate the water. Due to water quality reasons they could not do that because of the muddy water being dumped back into the stream. With the recirculation system the point of diversion needed to be moved closer to the place of use. Also the place of use is in multiple QQ so this permit will need an amendment for licensing purposes.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
MINING	05/25 to 09/15	0.500 CFS	0.30 AF
Totals:		0.500 CFS	0.30 AF

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. AUTHENTICATION

Field Examiner's Name [Signature] Date 6-26-12

Reviewer [Signature] Date 2-21-13



Engine Driven Portable Trash Pump

**Die-Cast Aluminum or Cast Iron
Self-Priming Engine Driven Pumps**

- Available with Honda, B&S Gasoline, or Yanmar Diesel Engines
- Suction and Discharge Port Sizes: 2" and 3"
- Die-Cast Aluminum or Cast Iron
- Max. Flow: 180 to 300 GPM
- Max. Head: 103 to 110 ft.
- Max. Lift: 26 ft.
- Max. Solids Handling: 2S5- 1"; 3S5- 1.25"
- Silicon Carbide Seal
- Easy Clean Out
- EPDM O-Rings Standard; Optional Viton®
- Optional Wheel Kit

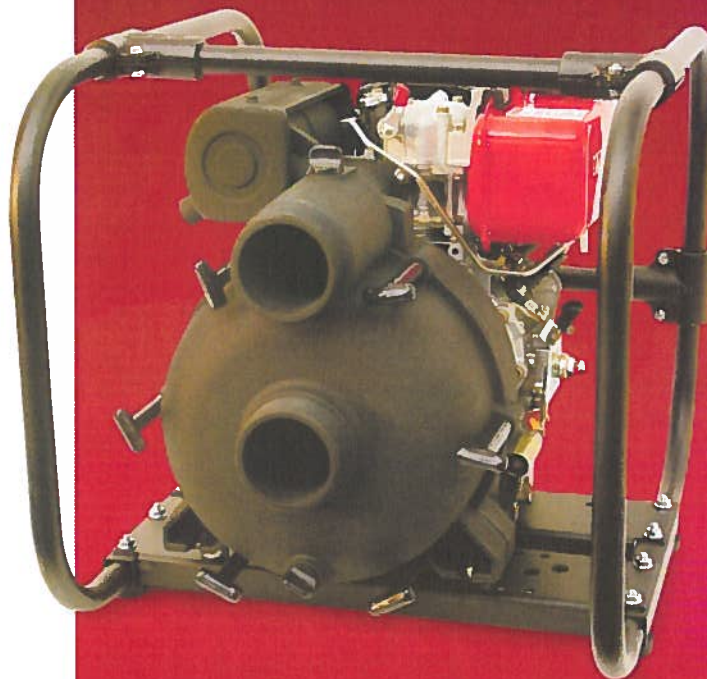


Model 2S5HR

High-volume self-priming centrifugal trash pumps come standard with a ductile iron impeller to resist abrasion and "T" handles for easy cleanout. All pumps feature stainless steel internal hardware, iron wearparts, built-in check valve, suction strainer and heavy duty steel frame. Standard with male NPT threads. Many IPT Trash Pumps are readily available "Off-the-Shelf" for fast 24 hour shipment. For use with non-flammable liquids which are compatible with pump component materials.

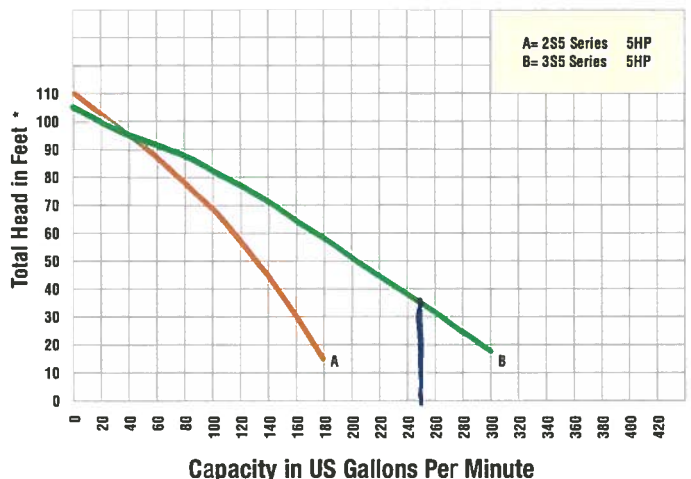
*Viton® is a registered trademark of DuPont

COMMERCIAL DUTY



Model 3S5YCR

Performance of Trash Pump



*Convert to PSI, divide by 2.31

Liquid-Water specific gravity 1.0

Portable Trash Pump

2" Trash Pumps (EPDM O-rings and Check Valve)

Alum. Model#	Ship Wt.	Curve	C. Iron Model#	Ship Wt.	Ports	Driver	Seal	Run Time	Tank size
2S5AR	83	A	2S5ACR	105	2" NPT	B&S CP650	VITON®*/SIC-SIC	100 min.	3 qt.
2S5HR	87	A	2S5HCR	109	2" NPT	Honda GX160	VITON®*/SIC-SIC	100 min.	3.8 qt.
2S5YR	108	A	2S5YCR	130	2" NPT	Yanmar Diesel L48	VITON®*/SIC-SIC	110 min.	2.6 qt.

Maximum Solids Handling Capability: 1" Diameter

3" Trash Pumps (EPDM O-rings and Check Valve)

Alum. Model#	Ship Wt.	Curve	C. Iron Model#	Ship Wt.	Ports	Driver	Seal	Run Time	Tank size
3S5AR	92	B	3S5ACR	114	3" NPT	B&S CP650	VITON®*/SIC-SIC	100 min.	3 qt.
3S5HR	96	B	3S5HCR	118	3" NPT	Honda GX160	VITON®*/SIC-SIC	100 min.	3.8 qt.
3S5YR	117	B	3S5YCR	139	3" NPT	Yanmar Diesel L48	VITON®*/SIC-SIC	110 min.	2.6 qt.

Maximum Solids Handling Capability: 1.25" Diameter

5/8 Threaded Kit (Single)

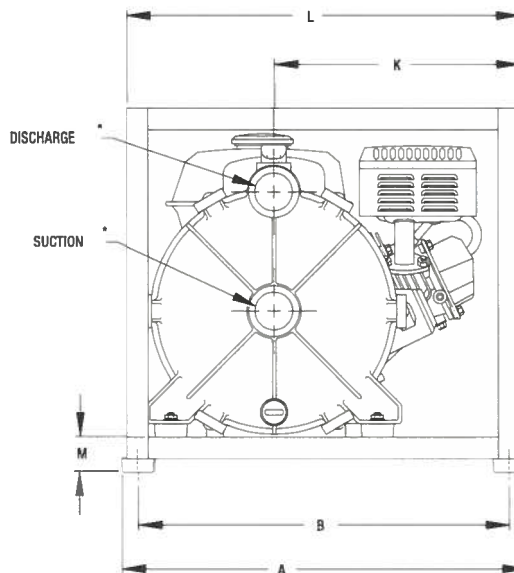
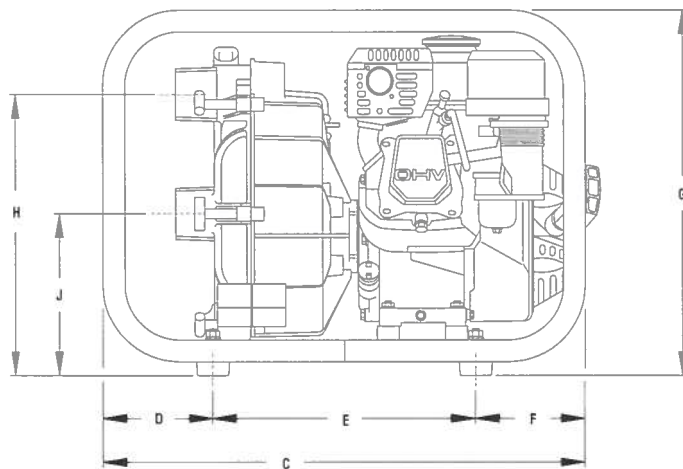
Alum. Model #	Alum. Ship Wt. (lbs.)	Cast Iron Model #	Cast Iron Ship Wt. (lbs.)	Seal Type & Elastomer /Faces	Mounting
2S5	36	2S5C	36	Viton®*/Sic/Sic	Handle
3S5	42	3S5C	42	Viton®*/Sic/Sic	Handle

*Viton® is a registered trademark of DuPont

Standard Features

- > Ductile Iron Impeller
- > Quick Release Handles
- > Silicon Carbide, Self-Lubricated Seal with Graphite Impregnated Seat and Viton® Elastomers
- > Heavy Duty Steel Frame
- > Large Pump Casing
- > Built-In EPDM Check Valve
- > Horizontal Discharge and Male Threaded NPT Connections
- > Choice of Honda and Briggs & Stratton Gas or Yanmar Diesel Engines
- > Optional Wheel Kit available
- > Strainer Included
- > Rubber Foot Mounting
- > Maximum Temperature 180°F
- > Optional Viton®* O-Ring / Check valve available

WARNING: Do not use in explosive atmosphere or for pumping volatile flammable liquids.

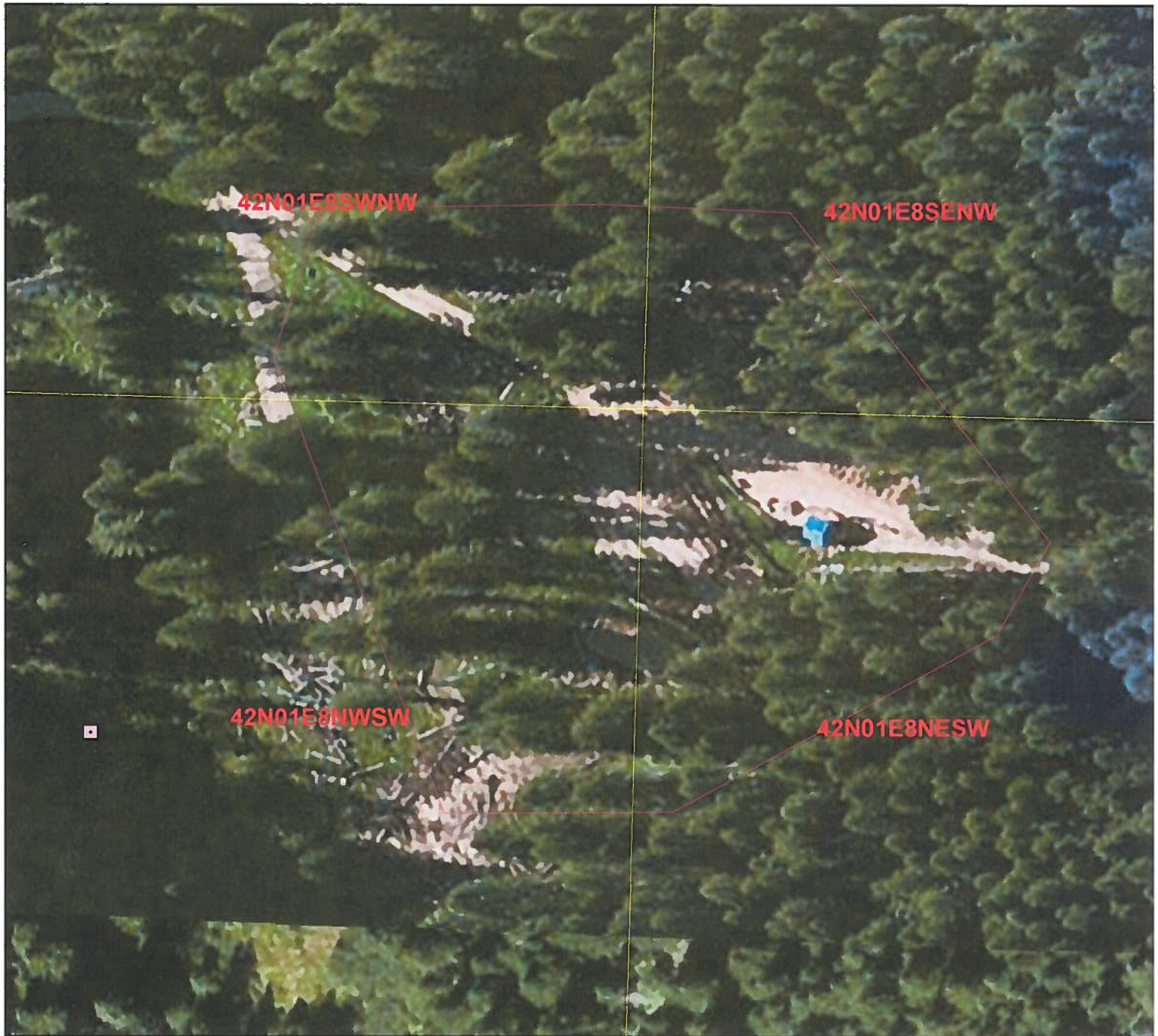


DIMENSIONS:
INCHES
[MILLIMETERS]

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	DISCH *	SUCT *
2S5	19.5 [495]	18.00 [457.2]	24.3 [617]	7.40 [187.1]	9.30 [235.5]	7.60 [193.4]	20 [508]	12.75 [323.8]	7.25 [184.2]	11.25 [285.8]	19 [482]	1.80 [46.2]	2.00	2.00
3S5	19.5 [495]	18.00 [457.2]	24.3 [617]	7.40 [187.1]	9.30 [235.5]	7.6 [193.4]	20 [508]	13.40 [340.4]	7.38 [187.4]	11.36 [288.5]	19 [482]	1.80 [46.2]	3.00	3.00

(*) STANDARD NPT (MALE) PIPE THREAD

92-10017



Legend

-  Water Right POD
-  Water Right POU
-  QQ

0 65 130 260 Feet



92-10017



0 62.5 125 250 Feet

Legend

- Water Right POD
- QQ





FROM LOWER POND UP
TO SLUICE BOXES



LINE FROM CREEK UP TO
LOWER POND



LOWER POND



MIDDLE DRYING POND



MIDDLE DRYING POND
AND LOWER POND



POINT OF DIVERSION



PUMP FROM CREEK



RECIRCULATION PUMP



RECIRCULATION PUMP
MODEL



SLUICE BOXES



SLUICE BOXES INTO
UPPER POND 1



UPPER POND 1



UPPER POND 1 MIDDLE
AND LOWER POND



UPPER POND 2 FOR
SLUICE BOX #3











