



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

November 21, 2013

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

A J P FARMS INC
23546 HARTLEY LN
MIDDLETON ID 83644

RE: Water Right Permit No. 63-12105

Dear Permit Holders:

The Department of Water Resources is reviewing the permit referenced above prior to issuing a water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit. The examiner who verified your water use reported that certain elements of the permit have been developed differently than described on your permit. Changes that do not increase the authorized use of water under the permit can be requested and approved in accordance with Section 42-211, Idaho Code. Before a license can be issued, your permit must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit:

☒ **Point of Diversion**

☒ **Place of Use**

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when it is issued. Please review the amendment form carefully. If you concur with the information presented, please sign the form and return it with the \$100.00 filing fee within 14 days.

If you have any questions, please call me at (208)334-2190.

Sincerely,

KAY WALKER
Sr. Water Resource Agent

Enclosures: Amendment Application

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12105

Exam Date: 9/30/2013

1. Current Owner: A J P FARMS INC
23546 HARTLEY LN
MIDDLETON ID 83644
(208)459-7984
2. Accompanied by: Jim Payne
Phone No:
Address:
Relationship to Permit Holder: same

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: none
2. Other water rights with the same point of diversion: 63-8478

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

GROUND WATER NE1/4SE1/4NW1/4 Sec. 12, Twp 04N, Rge 03W, B.M.
CANYON County

Method of Determination: Garmin GPS N 43.70239, W - 116.64699

2.

PLACE OF USE: COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
04N	03W	12								X									

Method of Determination: AERIAL PHOTOS

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>
_WELL_____	_____	7.5	__unknown__	Grundfos 230S75	4"

*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>
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2. Measurements: none taken

E. FLOW CALCULATIONS _____ Additional Computation Sheets Attached

[1] PUMP CURVE IS 205 GPM @ WITH A Z = 80 = 205/448.8 = 0.457 = 0.46 CFS

[2] MINT STILL REQUIRES 200 GPM TO OPERATE = 200 GPM/448.8 = 0.45 CFS

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NOT APPLICABLE

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

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

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

2. Volume Calculations for Other Uses: COMMERCIAL USE IN A MINT STILL. Still is operated 6 days a week, 14 hours a day for the months of July through September [92 DAYS – I used 100 days for a little flexibility.]

$$V_{dr} = 0.46 \times 365 \times 1.9835 = 333.03 \text{ af}$$

$$V_{ir} = 200 \text{ gpm} \times 60 \text{ minutes/hour} \times 14 \text{ hours/day} \times 100 \text{ days/year} + 2000 \text{ gallons for initial boiler fill}$$

325850

$$= \frac{16802000}{325850} = 51.56 \text{ af} = 51.6$$

325850

Lesser of V_{ir} and V_{dr} = 51.6 af

G. NARRATIVE/REMARKS/COMMENTS

The permit was issued for 0.56 cfs groundwater for commercial uses. The commercial use is the operation of a mint still. I was accompanied on the field exam by Jim Payne, permittee. His son, Greg Payne, who operates the still, also provide information regarding the use of the ground water.

There is no well log on file at IDWR for the well. It is fitted with a 7.5 hp Grundfos 1 phase submersible pump. Riverside Inc provided a pump curve and stated that the pump was set at 147 feet, and that the pumping level was 95 total dynamic head.

Both the legal description of the POD and the POU are incorrect and will require an amendment.

The mint still is operated during the months of July through September, 6 days a week, 14 hours a day. Greg stated that there can be up to an hour a day when the water is not pumping, but because this is variable, I did not make any adjustment for this when calculating annual volume. At the beginning of the season, the boiler is filled with 2000 gallons of water from a water truck that is filled from the well.

Water is conveyed via a 4 inch diameter pipe to the still where it recharges the water in the boiler, and is converted to steam. The steam is directed into the bottom of 4 trailers filled with chopped mint, which is harvested at night. The steam/oil mixture is collected in steam collections tubes. It is then directed to condenser/ cooling tanks where it is cooled from 250° F to 118° F. The system requires 50 gpm in each of the condenser tanks to operate, for a total of 200 gpm.

After cooling, the liquid collects in separator tanks for about an hour and the mint oil is extracted into 55 gallon drums. The water that is separated from the oil goes either into a tank to recirculate the water and serve as boiler feed water, or it is diverted to be re-distill, to collect any remaining mint oil. There is an overflow pipe on the blue boiler feed water tank from which spent water is diverted out of the system.

The pump curve provided by Riverside indicates that the system produces 205 gpm at 95 tdh, the dynamic pumping level, or a diversion rate of 0.46 cfs. The mint still requires 200 gpm to operate at peak efficiency, which is 0.45 cfs. The permitted quantity is 0.56 cfs, but it appears that this exceeds the system capacity of 0.46 cfs. Usually, if the calculated rate is within 75% of the permitted rate, it is acceptable to license the permitted rate, I recommend for licensing 0.46 cfs.

Based on the hours of operation, I recommend for licensing an annual volume of 51.6 af, the lesser of the volume calculations.

There are no POU overlaps, but 63-8478 is a POD overlap. It is for lawn and landscaping irrigation around the permittee's house and stockwater, for a total diversion rate of 0.03 cfs and a volume of 1.8 af. A combined use condition is needed that limits the total diversion to the system capacity of 0.46 cfs. A volume limitation is not necessary.

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

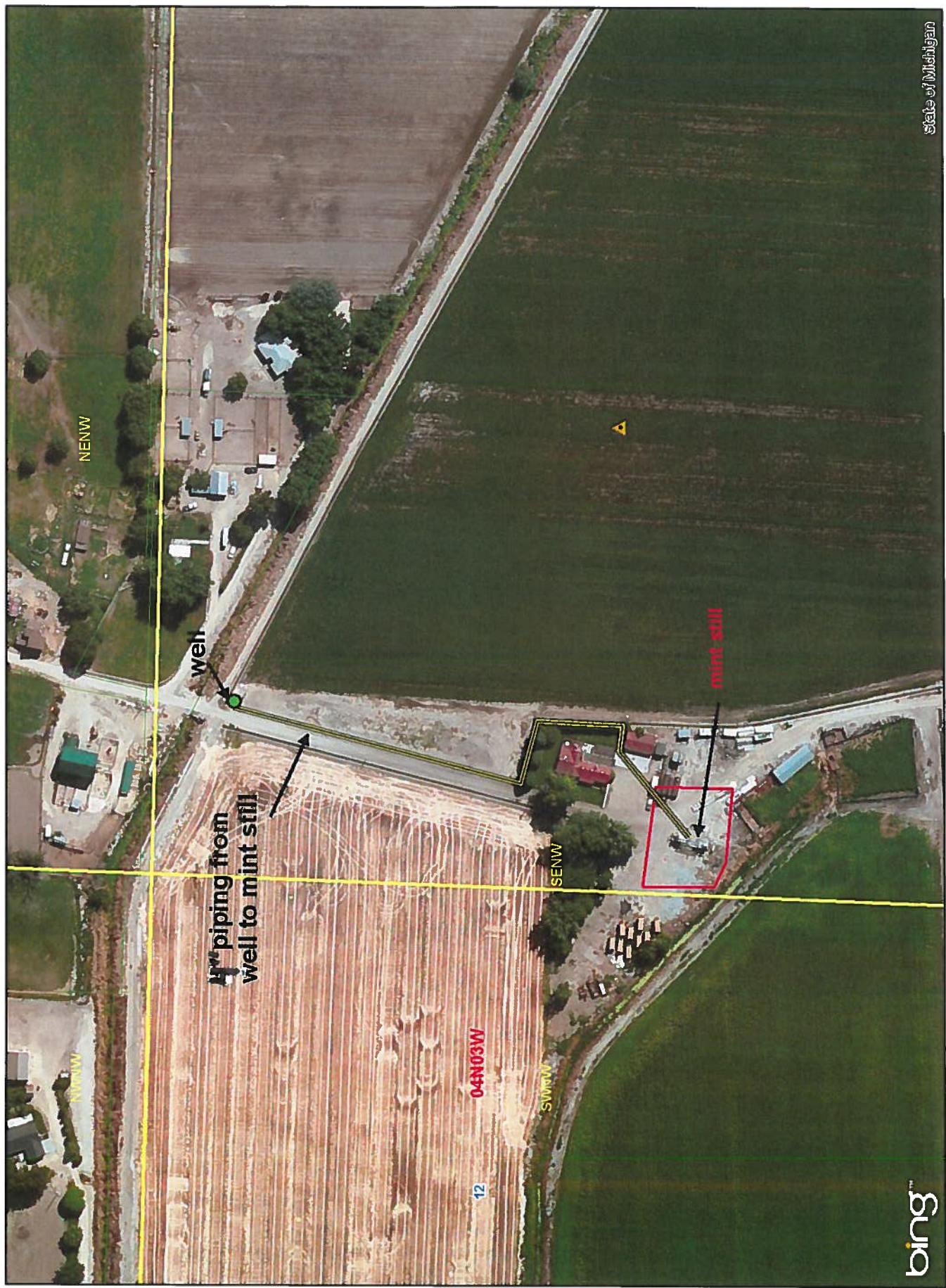
H. RECOMMENDATIONS

- 1) Permit amount 0.56 cfs
- 2) Beneficial use limit n/a cfs
- 3) System measurement 0.46 cfs
- 4) Proof fee amount 1 cfs

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
COMMERCIAL	01/01 to 12/31	0.460 CFS	51.6 AF
	<u>Totals:</u>	0.460 CFS	51.6 AF

☐_x_Change P.D. as reflected above ☐_Add P.D. as reflected above ☐_None
☐_x_Change P.U. as reflected above ☐_Add P.U. as reflected above ☐_Other

Field Examiner's Name Wesley Moore Date 11/9/17
Reviewer [Signature] Date _____

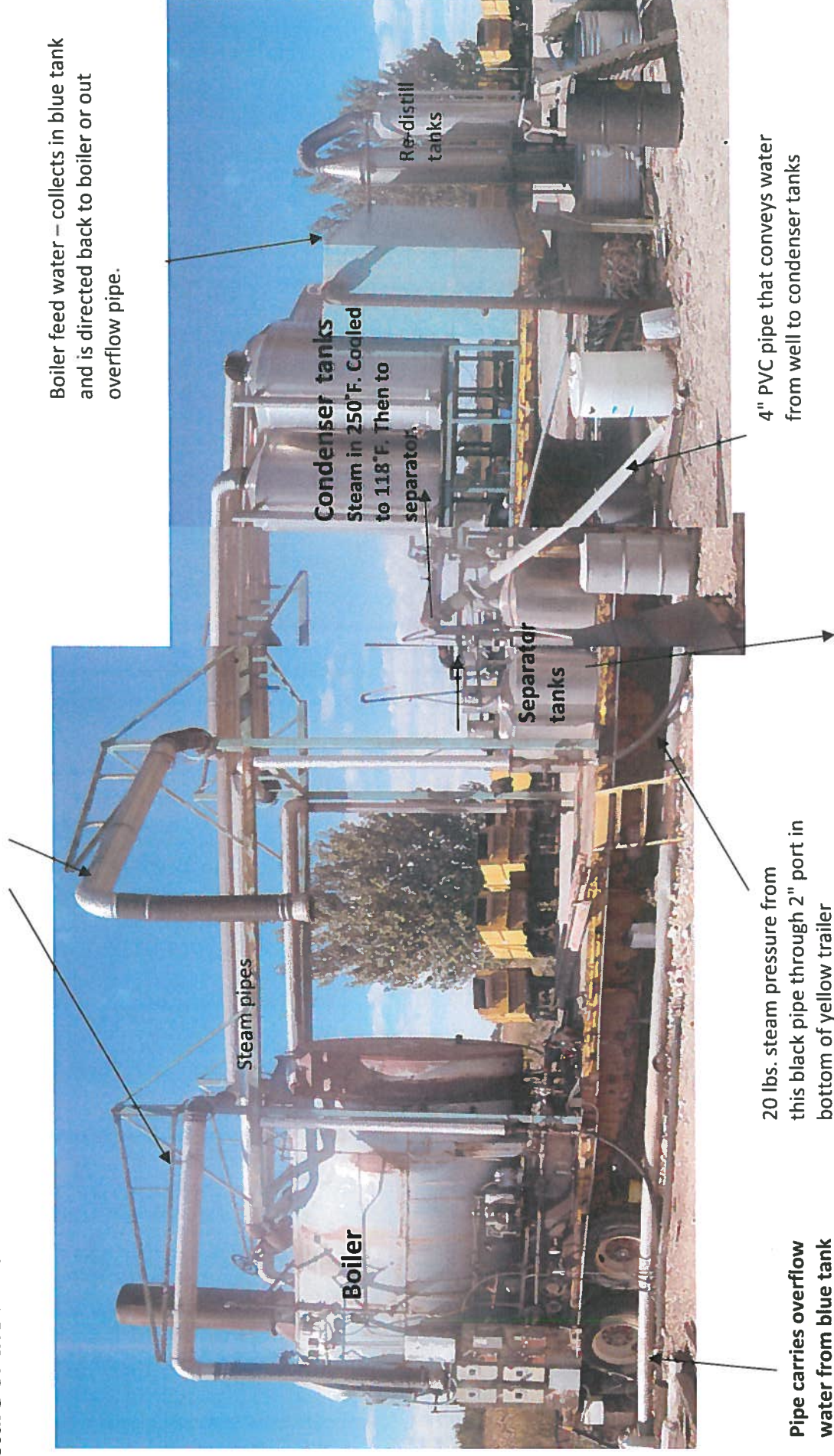


63-12105 - 2011 BING PHOTOGRAPHY -- AJP Farms. POU outlined in red. POD is the green point.
 Delivery system piping is labeled.

63-12105 – Field exam photographs

Picture of the mint still

Steam collection tubes – 2 on each side of still. Yellow trailers [seen in background] filled with chopped mint sit under the tubes



Pipe carries overflow water from blue tank to fields

20 lbs. steam pressure from this black pipe through 2" port in bottom of yellow trailer

Separator tanks – after mixture cooled back to liquid @ 118°F, diverted here for 1 hour. The oil is extracted into 55 gallon barrels.

Boiler feed water – collects in blue tank and is directed back to boiler or out overflow pipe.

Condenser tanks
Steam in 250°F. Cooled to 118°F. Then to separator

Re-distill tanks

4" PVC pipe that conveys water from well to condenser tanks



Well that is the POD.

Music, Vicky

From: Music, Vicky
Sent: Monday, October 28, 2013 2:34 PM
To: 'gspfarmstinc@hotmail.com'
Subject: field exm for water right permit 63-12105
Attachments: DOC.pdf

Hi Greg –

I attached a composite picture of the mint still. Will you please call me because I have more questions about the distillation process and the still. Thank you.

Sincerely,

Vicky Music
Sr. Water Resource Agent
Western Region
208.334.2190

Please reply that you received this message.





P.O. Box 720
111 S. Roswell Blvd.
Parma, ID. 83660
Office (208) 722-6731 Fax (208) 722-6736
Email riverside@rsicorp.net

FAX

DATE: 09/24/2013

ATTENTION: Greg Payne

COMPANY: _____

FROM: Pory Walund

FAX NO: 459-6372

REGARDING: Pump Curve

NO. OF PAGES: 2 (including this page)

COMMENTS: Greg - Pump setting 147'
Grundfos 230575-2 submersible pump

1 PH, 7.5 HP, Roughly 205 GPM @ 95 TDH

Performance Curves

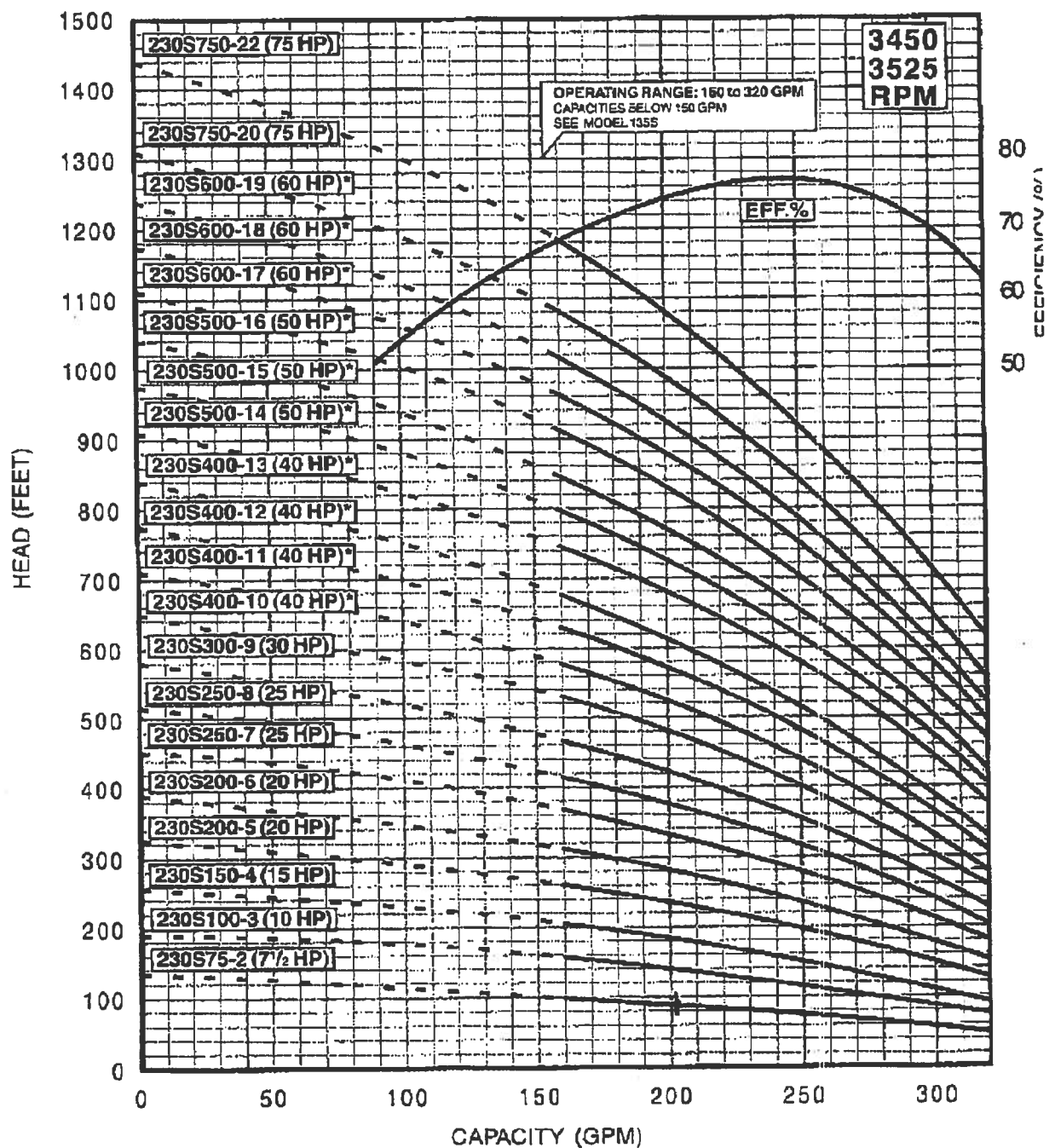
230 GPM

Model 230

FLOW RANGE: 160 -320 GPM

OUTLET SIZE: 3" NPT

NOMINAL DIA



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

4" MOTOR STANDARD, 7.5 HP/3450 RPM.

6" MOTOR STANDARD, 10-40 HP/3450 RPM.

8" MOTOR STANDARD, 50-75 HP/3525 RPM.

* Alternate motor sizes available.

Performance conforms to ISO 254
@ 8 ft. min. submergence.



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August 29, 2013

A J P FARMS INC
23546 HARTLEY LN
MIDDLETON, ID 83644

Re Permit To Appropriate Water No. 63-12105

Dear A J P Farms:

The permit referenced above was issued for 0.56 cfs for commercial use, for a mint still, from ground water. This letter is to request that you call me to schedule the field exam for this permit. A field exam is required by Idaho law before a license can be issued, at which time it becomes a water right. The license is the end product needed for continued water use.

Additionally, please have available at the exam someone familiar with the system and its construction, as well as the following documentation:

- 1 - pump and motor specs;
- 2 - the depth at which the pump is set; and,
- 3 - a pump curve.

Please call me as soon as possible at 208.334.2190, to set an appointment for the exam. Failure to respond to this letter request by **September 30, 2013**, may result in the permit being voided or a license issued for less than the permitted amount. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Vicky Music".

Vicky Music
Sr. Water Resource Agent

87,300

9-30-13



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Sr. Water Resource Agent