

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 61-7722

Exam Date: 9/6/2012

1. Current Owner: DAVID DURRANT
BOX 194
HAMMETT ID 83627

And

ANN DURRANT
BOX 194
HAMMETT ID 83627

Correspondence should be mailed to Richard Durrant at the address listed below.

2. Accompanied by: Richard Durrant
Phone No: 208-941-3241
Address: 7590 S 10 Mile, Meridian, ID 83642
Relationship to Permit Holder: Son

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Property falls within King Hill irrigation district boundary.
2. Other water rights with the same point of diversion: 61-10702 – Water right for domestic use

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

GROUND WATER SE1/4SW1/4 Sec. 26, Twp 05S, Rge 08E, B.M.
ELMORE County

Method of Determination: Visual inspection and GIS

2.

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
05S 08E 26	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	3.5
												5.8					

Total Acres: 3.5

Method of Determination: Visual inspection and GIS

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/pipe id. as applicable.

SEE ATTACHED SHEET

YES Aerial Photo Attached (required for irrigation of 10+ acres).

YES Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
A0018572	Franklin Electric	2	UK	Franklin Electric submersible	2822019110
	AO Smith	2	K48A34A06	Pump GT20	A0787764

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. **Measurements:** Performed theoretical calculation. No way to get actual flow measurement by other means.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method:

Theoretical = 0.12

Permit allowed 0.4 cfs

Rate per acre = 0.12 cfs

I recommend the diversion of 0.12 cfs which is the capacity of the system

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.5 \times 4 = 14 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.11 \times 214 \times 1.9835 = 46.7 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 14 \text{ af}$$

G. NARRATIVE/REMARKS/COMMENTS

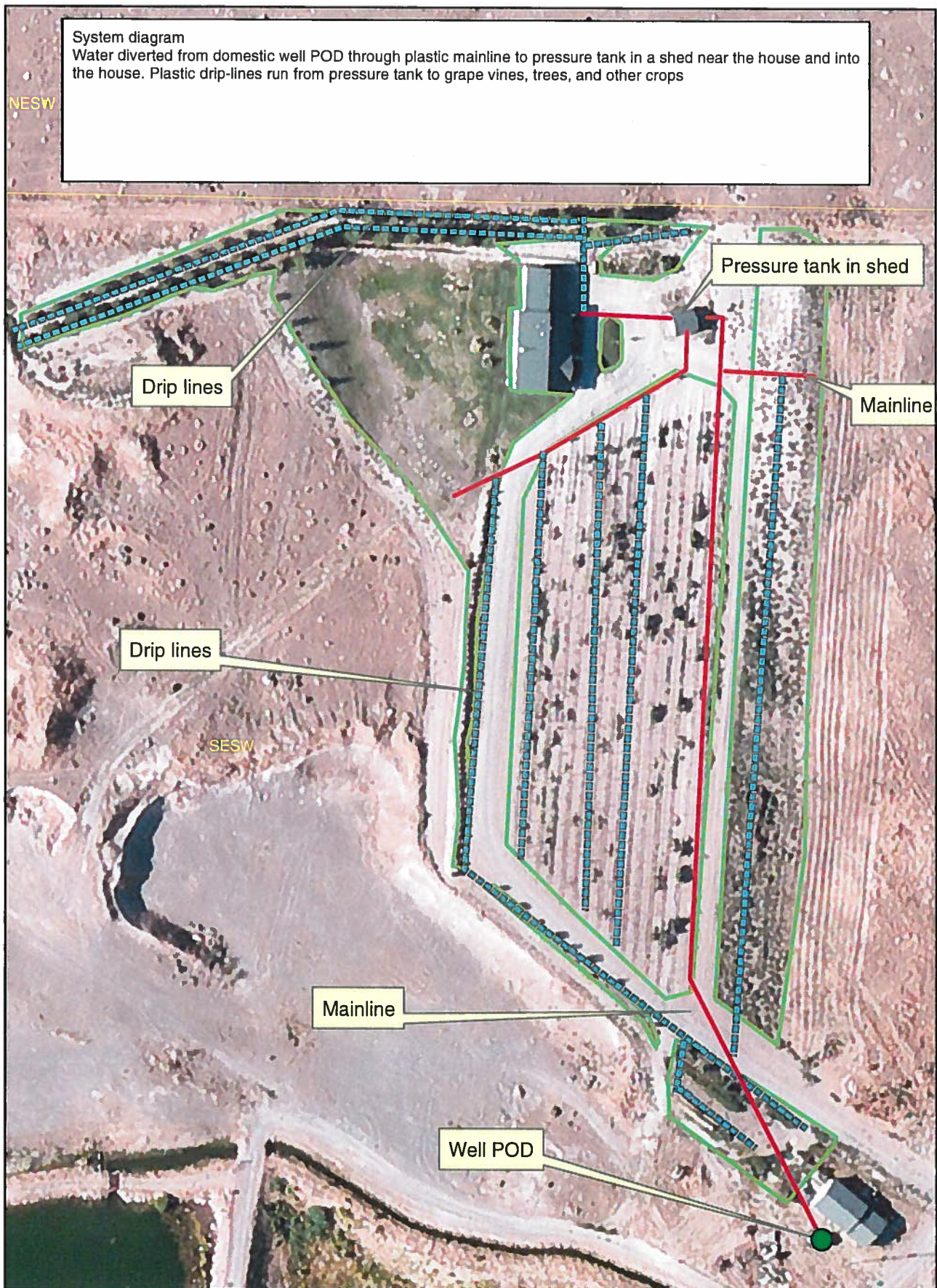
Have conditions of permit approval been met? X Yes No

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 10/31	0.11 CFS	14 AF
	Totals:	0.11 CFS	14 AF

 Change P.U. as reflected above Add P.U. as reflected above Other

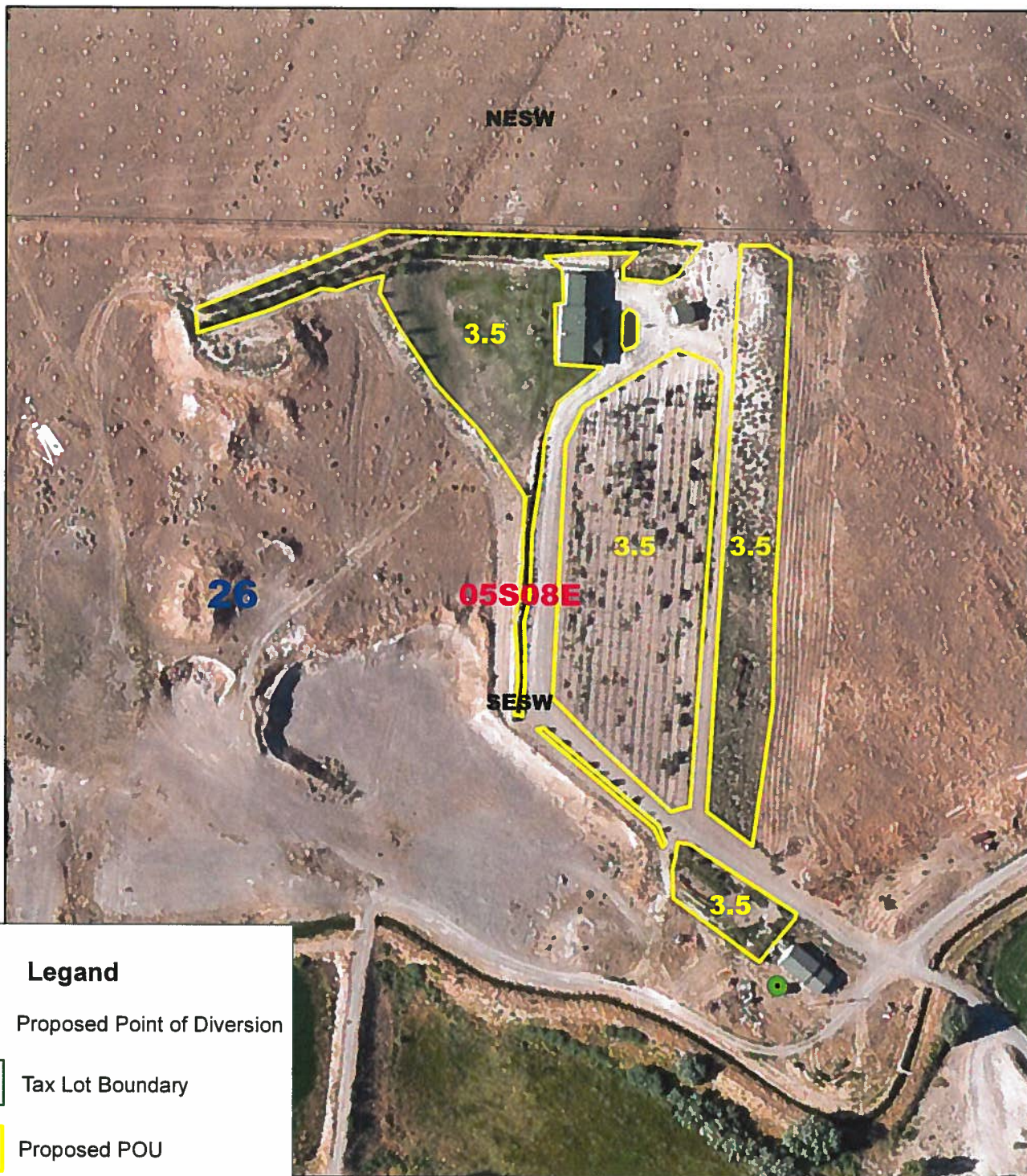
Reviewer _____ Date _____

Durrant File 61-7722



Proposed POU 61-7722

Durrant



Legend

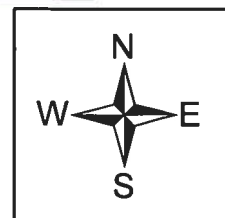
 Proposed Point of Diversion

 Tax Lot Boundary

 Proposed POU

 Quarter Quarter

 Section Lines



GROUNDWATER THEORETICAL ANALYSIS

FILE: 61-7722

DATE: 9/7/12

BY: Chad F. Hersley

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8 \times (HP) \times (EFF.))}{TDH}$

Q = CFS

HP = Total Brake Horsepower of pumping plant (including booster)

Eff. = Pumping plant efficiency (assume 70% or 0.70)

TDH = Total dynamic head = [(LIFT) + (PSI X 2.31)]

LIFT = Depth to water in FEET from land surface to pumping water level

PSI = Pumping pressure measured in PSI near pump (if open discharge assume [0])

(8.8) X (4.0) X (0.70)

24.640

[(73.0) + (60.0 X 2.31)] 138.600

211.600

Q = 0.116

LIFT FROM:

Measurement ☐

Owner ☐

Area estimate ☐

Well Logs ☒

Booster Y ☒ N ☐

PSI FROM:

Measurement ☐

Owner ☐

Estimate ☐

Owner Gage ☒

NOTES ON PUMP:

Motor Make, Serial or ID

2 HP Franklin Electric submersible

Pump Make, Serial or ID, rating

2 HP AO Smith motor K48A34A06

Gould Pump GT20, A0787764

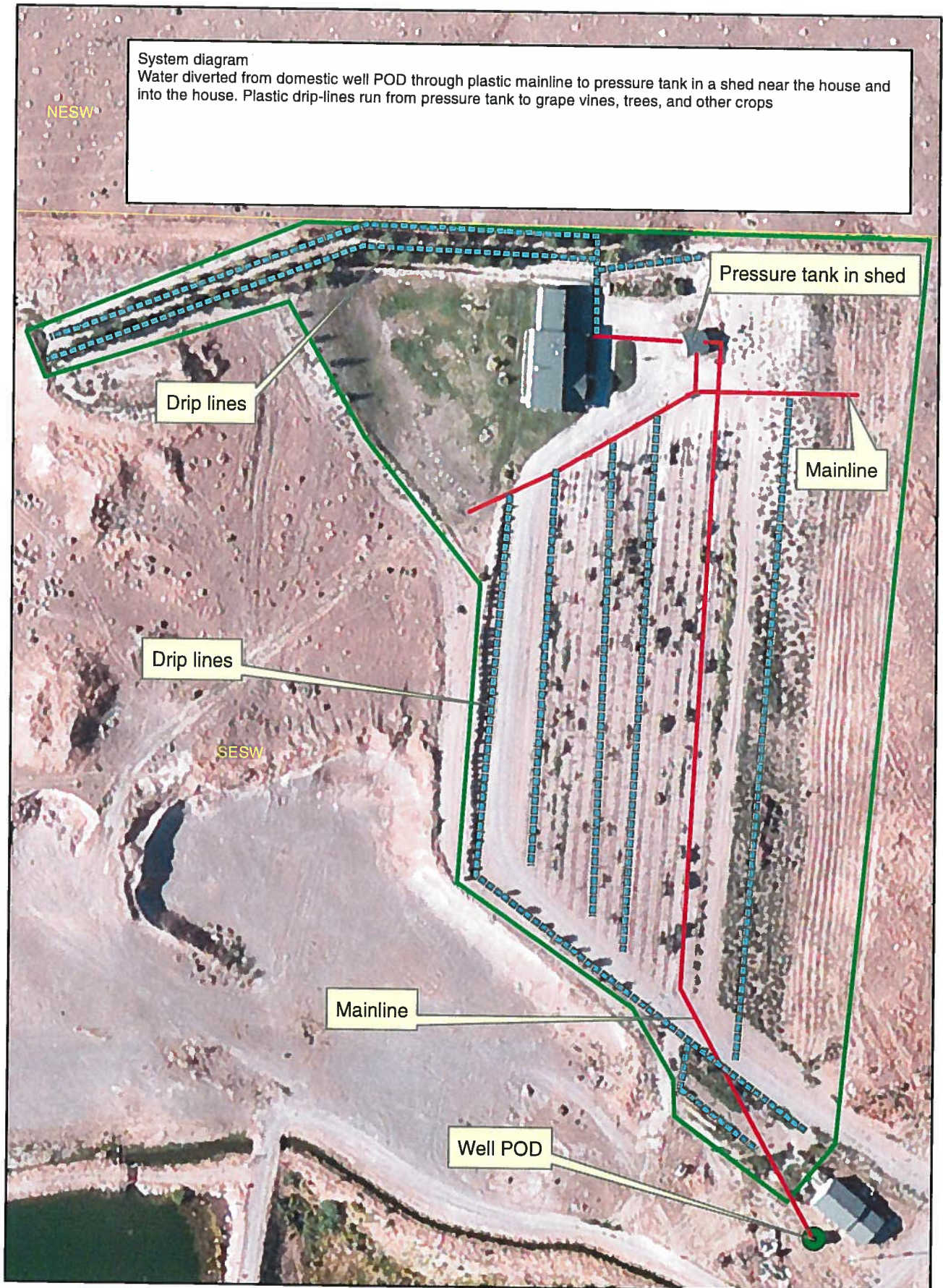
REMARKS: 2 HP Franklin Electric Submersible pump in well, model and serial No. unknown

Booster pump is 2 HP AO Smith motor with a Goulds pump GT20

63 foot static water level plus 10 foot drawdown

System diagram

Water diverted from domestic well POD through plastic mainline to pressure tank in a shed near the house and into the house. Plastic drip-lines run from pressure tank to grape vines, trees, and other crops





Point of diversion, well and pumps in pump house to left of telephone pole. View to the north



Well and booster pump



Pressure tank in garage on north end of property near the house



View north-west from garage showing border on the back of the property irrigated with drip irrigation



View west showing drip irrigated border continuing behind house



Irrigated border continues on the back of the property to the west end of property



Looking south from garage and pressure tank shows irrigated grape field



Southwest view from same vantage as previous picture



Southwest view from south end of the house, trees bordering lane are drip irrigated