

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-105031. Owner Greenleaf Farms IncPhone No. 208-459-7890Current address C/O Dan Dixon, PO Box 189, Greenleaf, ID 836262. Examiner's name Cody ParkerEXAM DATE 08/16/20173. Accompanied by Dan Dixon

Email _____

Address SameRelationship to permit holder Vice President, Farmer

Phone No. _____

4. Source Groundwater

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use Surface Water2. Other water rights with the same source and point of diversion 63-10543**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			SW	SE	20	04N	04W	Canyon	GPS, digital PLS map

2. Place(s) of Use:

Method of determination 1992 aerial imagery, digital PLS mapping

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	04W	20															22		22

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ 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
Well ID 306174		20			10" pipe open discharge

*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
Pump Curve						

2. **Measurements:** _____

22 irrigated acres from aerial imagery

Water pumped into ditch, irrigation of POU from ditch using 1" siphon tubes

[illegible][illegible]

F. FLOW CALCULATIONS☐ Additional computation sheets attached

Measured Method:

$$Q = (8.8 \times 20 \times 0.7) / (131) = 0.94 \text{ cfs (TDH from pump spec sheet)}$$

$$Q = 500 \text{ gpm} = 1.11 \text{ cfs (capacity from pump spec sheet)}$$

$$Q = 430 \text{ gpm} = 0.96 \text{ cfs (estimating from pump curve based on 131' TDH and a 3-stage pump)}$$

$$Q = 22 \text{ acres} \times 0.02 \text{ cfs/acre} = 0.44 \text{ cfs (BU standard)}$$

$$Q = 0.44 \text{ cfs (Permitted Rate)}$$

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 22 \text{ acres} \times 4.5 \text{ afa/acre} = 99.0 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.44 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 227.9 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 99.0 \text{ afa}$$

2. Volume Calculations for Other Uses:

No other uses

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Irrigation	03/01	11/15	0.44 cfs	99.0 afa
Totals:			0.44 cfs	99.0 afa

2. Recommended Amendments

☐ Change P.D. as reflected on page 1☐ Add P.D. as reflected on page 1☒ None☐ Change P.U. as reflected on page 1☐ Add P.U. as reflected on page 1☐ Other**I. AUTHENTICATION**

Field Examiner's Signature

Date 09/07/2017

Reviewer

Date 9/22/17 + 12/20/17

SEAL

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

NARRATIVE

Permit 63-10503 was approved on September 28, 1987 authorizing the diversion of 0.44 cfs from groundwater to irrigate 22 acres in Canyon county. Proof of beneficial use was submitted on April 13, 1988. On August 16, 2017 I completed a site visit as part of the beneficial use field exam. I was accompanied by Dan Dixon, the Vice President of Greenleaf Farms Inc.

There are three points of diversion listed on the permit. However, according to Mr. Dixon, only one of the three is used to irrigate the POU. The single POD for this permit is a well 16" in diameter and 223 ft deep. There is no metal tag to identify the well, but Mr. Dixon provided a copy of the well log for my reference. The GPS coordinates for the well are N 43°39'46.1" by W 116°50'15.7" which puts it in the SWSE of Section 20, Township 04 North, Range 04 West, Boise Meridian. Dan provided a pump spec sheet and pump curve for the diversion. According to the spec sheet, water is diverted using a 3-stage 20 hp pump with a total dynamic head of 131 ft. The spec sheet estimates the capacity of the system at 500 gpm or 1.11 cfs. According to the pump curve, based on the TDH and number of stages from the spec sheet, the capacity of the system should be around 430 gpm or 0.96 cfs (using the "B" curve for an impellor diameter of 7.00). I have included copies of the spec sheet and the pump curve in the file.

Water is diverted from the well in two directions. It can be diverted east into a concrete ditch for use in irrigating the land associated with right No. 63-10543, or it can be diverted west into a separate concrete ditch that conveys water along the south border of the irrigated area for this permit. Water is siphoned from the ditch using 1" tubes.

I measured the irrigated acreage from 1992 aerial imagery, which was the closest imagery to the proof made date. There was 22 acres of irrigation developed, all of which lie within the SWSE of Section 20, Township 04 North, Range 04 West, B.M.

Surface water from the Wilder Irrigation District is also used to irrigate the place of use. The permit was not conditioned to restrict groundwater to strictly supplemental use. However, the groundwater is used supplementally. It is current IDWR policy to encourage surface water use to the fullest extent possible. Therefore, the license will carry a condition limiting the use of groundwater to those times when surface water is not available (~~065 and 105~~ ⁹⁴³). ^{AG 12/20/17}

The diversion rate I have recommended for the license is 0.44 cfs which is both the permitted rate and the beneficial use standard rate for 22 acres of irrigation at 0.02 cfs/acre. The POD is also used for right no. 63-10543. Combined, the two authorize a total diversion rate of 1.34 cfs which exceeds the capacity of the system according to both the pump installer's estimate of the capacity, and the capacity indicated by the pump curve. Therefore, I will recommend that a combined use limit be added to the right to ensure that the two rights, when combined, do not exceed the capacity of the system. Depending on the diameter of the impellor that you assume (it was not listed) the pump curves predict a capacity between 0.96 cfs and 1.18 cfs. The pump installer's estimate of 1.11 cfs, seems like the target rate that the system was designed for. So, I

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will use that figure as my estimate of the capacity absent any other information regarding the size of the impellor.

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Figure 1 The well that provides water for both 63-10503 and 63-10543



Figure 2 Concrete channels run to the east and west from the well to convey diverted water to the POUs for both rights

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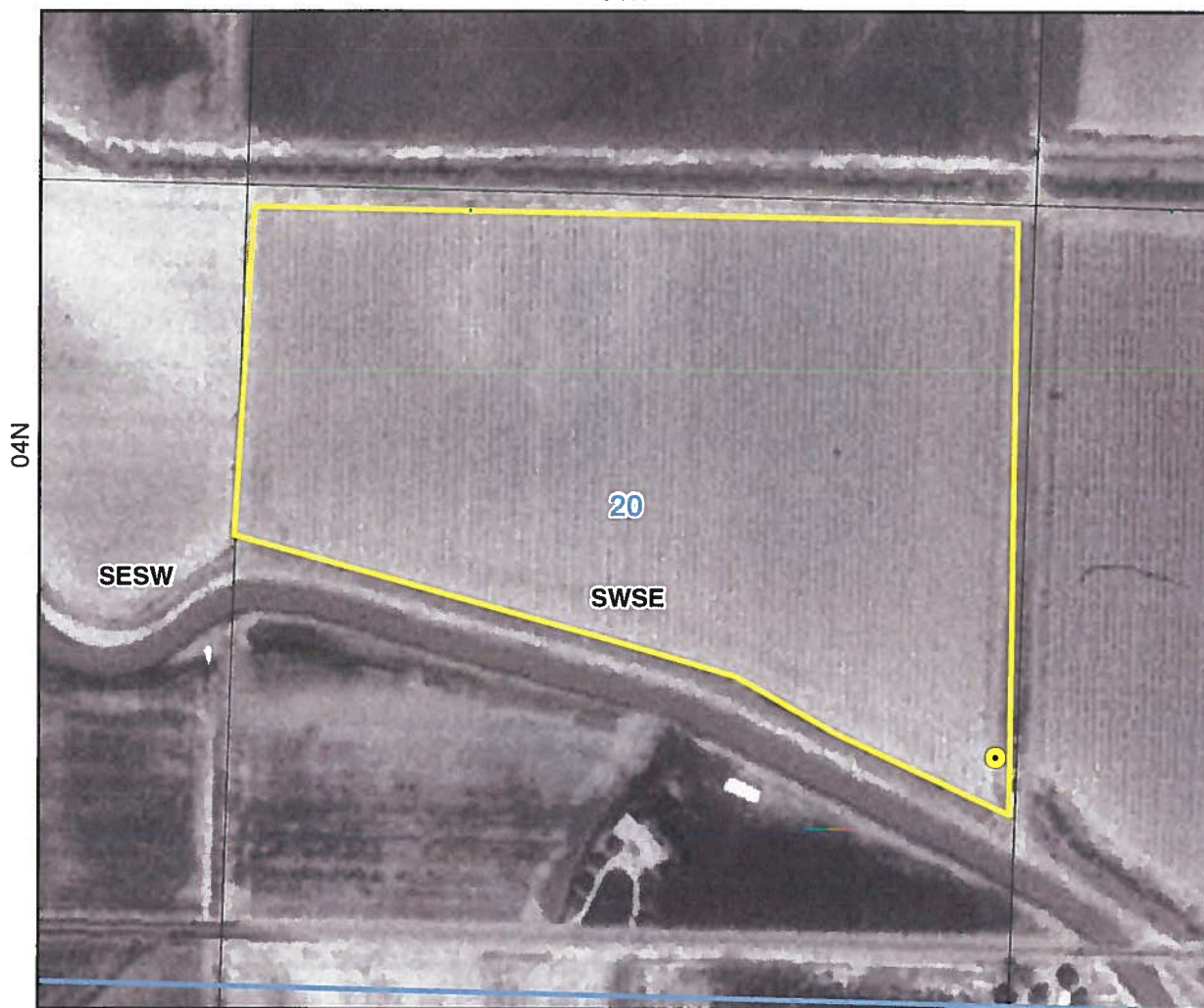


Figure 3 1" siphon tubes draw water from the concrete channels for irrigation.

State of Idaho
Department of Water Resources
Attachment to Water Right License
63-10503

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

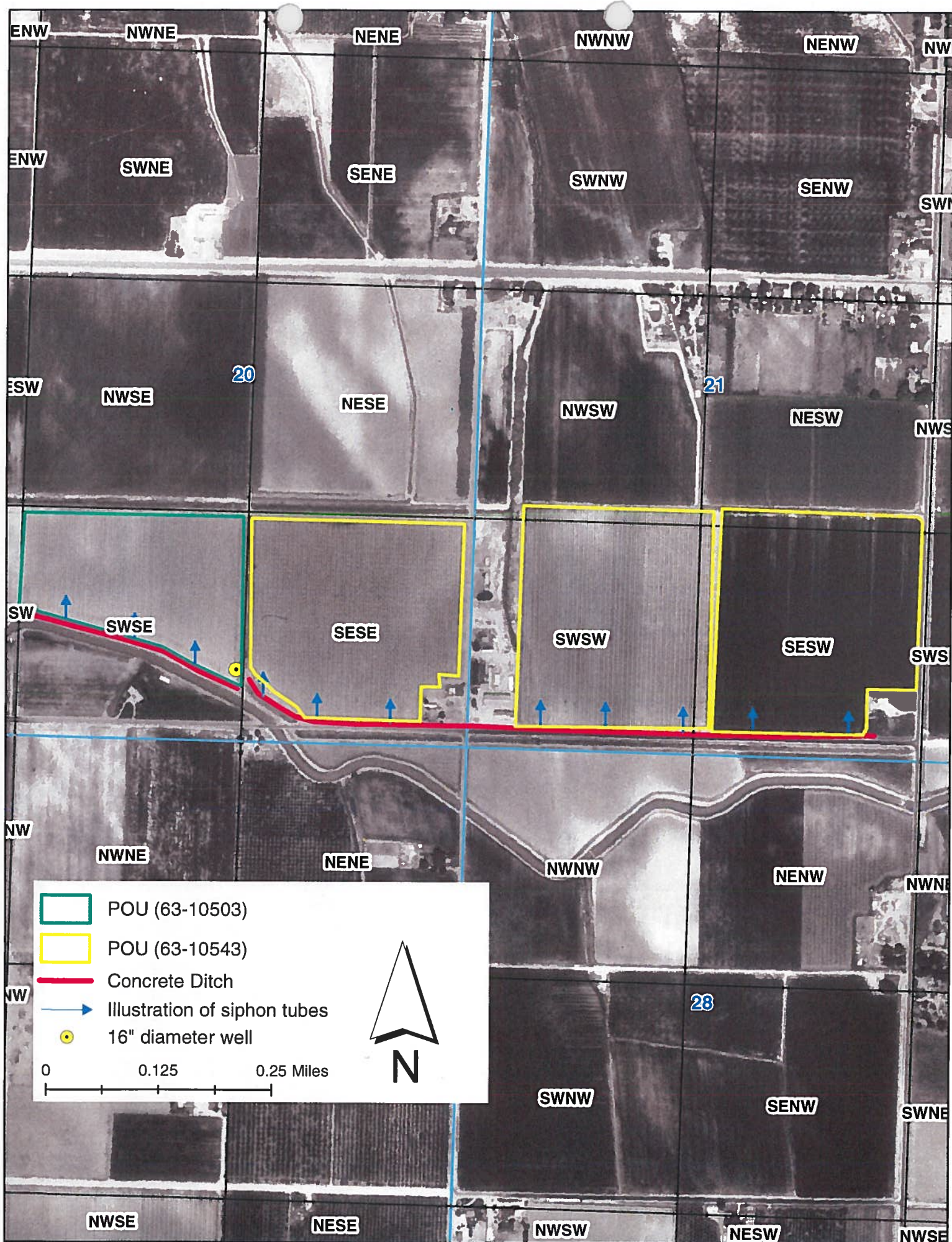
04W



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections

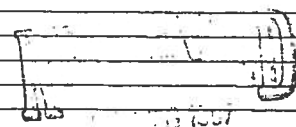
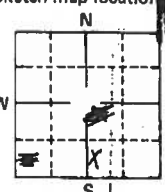
0 0.0375 0.075 0.15 Miles





STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTState law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

OCT 26 1987

1. WELL OWNER <i>Rodco, Inc.</i> Name <u>Greenleaf Farms, Inc.</u> Address <u>304 E. Caldwell Blvd. PO Box 189</u> <u>Caldwell, ID 83605</u> <u>83606</u> Owner's Permit No. <u>63-10503</u> <u>63-87-W-048</u>		7. WATER LEVEL <i>Department of Water Resources</i> Static water level <u>0</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality _____ <i>Describe artesian or temperature zones below.</i>																																																																																																																	
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)		8. WELL TEST DATA ☒ Pump ☐ Bailer ☐ Air ☐ Other _____ <table border="1"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td>600</td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>		Discharge G.P.M.	Pumping Level	Hours Pumped	600																																																																																																												
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3. PROPOSED USE ☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)		9. LITHOLOGIC LOG <table border="1"><thead><tr><th rowspan="2">Bore Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>28</td><td>0</td><td>8</td><td>Silty Clay</td><td></td><td></td></tr><tr><td></td><td>8</td><td>26</td><td>Calechie</td><td></td><td></td></tr><tr><td></td><td>26</td><td>41</td><td>Sand and Gravel</td><td>X</td><td></td></tr><tr><td></td><td>41</td><td>63</td><td>Brn. and Gray Clay</td><td></td><td></td></tr><tr><td></td><td>63</td><td>73</td><td>Soft Sandstone</td><td></td><td></td></tr><tr><td></td><td>73</td><td>123</td><td>Brn. & Blu Clay</td><td></td><td></td></tr><tr><td></td><td>123</td><td>124</td><td>Sandstone sand mixed in</td><td></td><td></td></tr><tr><td></td><td>124</td><td>133</td><td>Blu Clay</td><td></td><td></td></tr><tr><td></td><td>133</td><td>140</td><td>Brn. & Blu Clay</td><td></td><td></td></tr><tr><td></td><td>140</td><td>143</td><td>Sandstone sand & Clay</td><td></td><td></td></tr><tr><td></td><td>143</td><td>148</td><td>Sand to pea gravel (Good)</td><td>X</td><td></td></tr><tr><td></td><td>148</td><td>163</td><td>Blu & Brn. Clay</td><td></td><td></td></tr><tr><td></td><td>163</td><td>183</td><td>Blue Clay</td><td></td><td></td></tr><tr><td></td><td>183</td><td>193</td><td>Blue & Gray Clay</td><td></td><td></td></tr><tr><td></td><td>193</td><td>216</td><td>Blue & Brn. Clay</td><td></td><td></td></tr><tr><td></td><td>216</td><td>218</td><td>Brn. Clay w/ oyster shell fragments.</td><td></td><td></td></tr><tr><td></td><td>218</td><td>223</td><td>Blue Clay</td><td></td><td></td></tr></tbody></table>		Bore Diam.	Depth		Material	Water		From	To	Yes	No	28	0	8	Silty Clay				8	26	Calechie				26	41	Sand and Gravel	X			41	63	Brn. and Gray Clay				63	73	Soft Sandstone				73	123	Brn. & Blu Clay				123	124	Sandstone sand mixed in				124	133	Blu Clay				133	140	Brn. & Blu Clay				140	143	Sandstone sand & Clay				143	148	Sand to pea gravel (Good)	X			148	163	Blu & Brn. Clay				163	183	Blue Clay				183	193	Blue & Gray Clay				193	216	Blue & Brn. Clay				216	218	Brn. Clay w/ oyster shell fragments.				218	223	Blue Clay		
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4. METHOD DRILLED ☐ Rotary ☐ Air ☐ Hydraulic ☒ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____		 Department of Water Resources Western Regional Office																																																																																																																	
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>250 inches</td><td>16 inches</td><td>18 feet</td><td>26 feet</td></tr><tr><td>250 inches</td><td>16 inches</td><td>46 feet</td><td>136 feet</td></tr><tr><td>250 inches</td><td>16 inches</td><td>146 feet</td><td>147 1/2 feet</td></tr></tbody></table> Was casing drive shoe used? ☐ Yes ☒ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches <table border="1"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Well screen installed? ☒ Yes ☐ No Manufacturer's name <u>Roscoe Moss</u> Type <u>Fulflo</u> Model No. _____ Diameter <u>16</u> Slot size <u>1/8</u> Set from <u>26</u> feet to <u>46</u> feet Diameter <u>16</u> Slot size <u>1/8</u> Set from <u>136</u> feet to <u>146</u> feet Gravel packed? ☒ Yes ☐ No ☐ Size of gravel <u>3/8</u> Minus Placed from <u>18</u> feet to <u>223</u> feet Surface seal depth <u>18</u> Material used in seal: ☐ Cement grout ☐ Bentonite ☒ Puddling clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld _____ ☐ Cemented between strata Describe access port _____ 2"		Thickness	Diameter	From	To	250 inches	16 inches	18 feet	26 feet	250 inches	16 inches	46 feet	136 feet	250 inches	16 inches	146 feet	147 1/2 feet	Number	From	To	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet																																																																																						
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6. LOCATION OF WELL Sketch map location must agree with written location.  Subdivision Name _____ UCL 17 1506 Lot No. _____ Block No. _____ County <u>Canyon</u> SW 1/4 SEE 1/4 Sec. 20 T. 4N N/S, R. 4W E/W.		10. Work started <u>9/8/87</u> finished <u>9/12/87</u>																																																																																																																	
11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>Pete Cope Drilling Co., Inc.</u> Firm No. <u>213</u> Address <u>6505 W/.Chinden Blvd.</u> Date <u>9/16/87</u> Signed by (Firm Official) <u>Pete Cope</u> and (Operator) <u>Mark Chastain</u>																																																																																																																			

Number	Description	List Price	Net Price
20	HP MOTOR 3 Phase 440 Volt 7.5 Make 1760 RPM (With/Without) Ratchet _____		
20	HP STARTER (Across Line/Auto Start) 440 Volt Ampere Make _____ AMP SAFETY SWITCH 440 Volt 3 Phase Therat Make _____ GEAR DRIVE Ratio (With/Without) Ratchet _____ Make _____		
WL	SPICER SHAFT " Long _____		
W	DRIVE FLANGE Bore _____ Key _____		
W	ENGINE FLANGE Bore _____ Key _____		
6 WK	HEAD 6 "Outlet 6 (Water Lub/Oil Lub) _____		
1 Gal	OILER Volt Solenoid _____		
6	"X 10' "DISCHARGE NIPPLE (TOE/TBE) _____		
120'	SETTING OF 6 "X 2 "X 1 3/4" in 20' Length		
9	"BOWLS BEH Type 3 Stage (Open/Close) Ports (Bronze/Cast Iron) Wear Rings (Bronze/Cast Iron) Impellers (Oversize/Standard) Shaft Fitted _____ X _____ X _____		
6	"X 2 'SUCTION (TOE/TBE) _____; _____ Couplings		
6	" STRAINER (Bronze/Galvanized) (Screwed/Welded) (Basket/Cone)		
1	20 HP 6" Gate Valve Installed & Threaded in		
	Motor & 6" out Col. would be used. & Carry a 1 year warranty		
	TOTAL	\$5686=	\$5686=

CURVE NO.
18-077
3-15-84

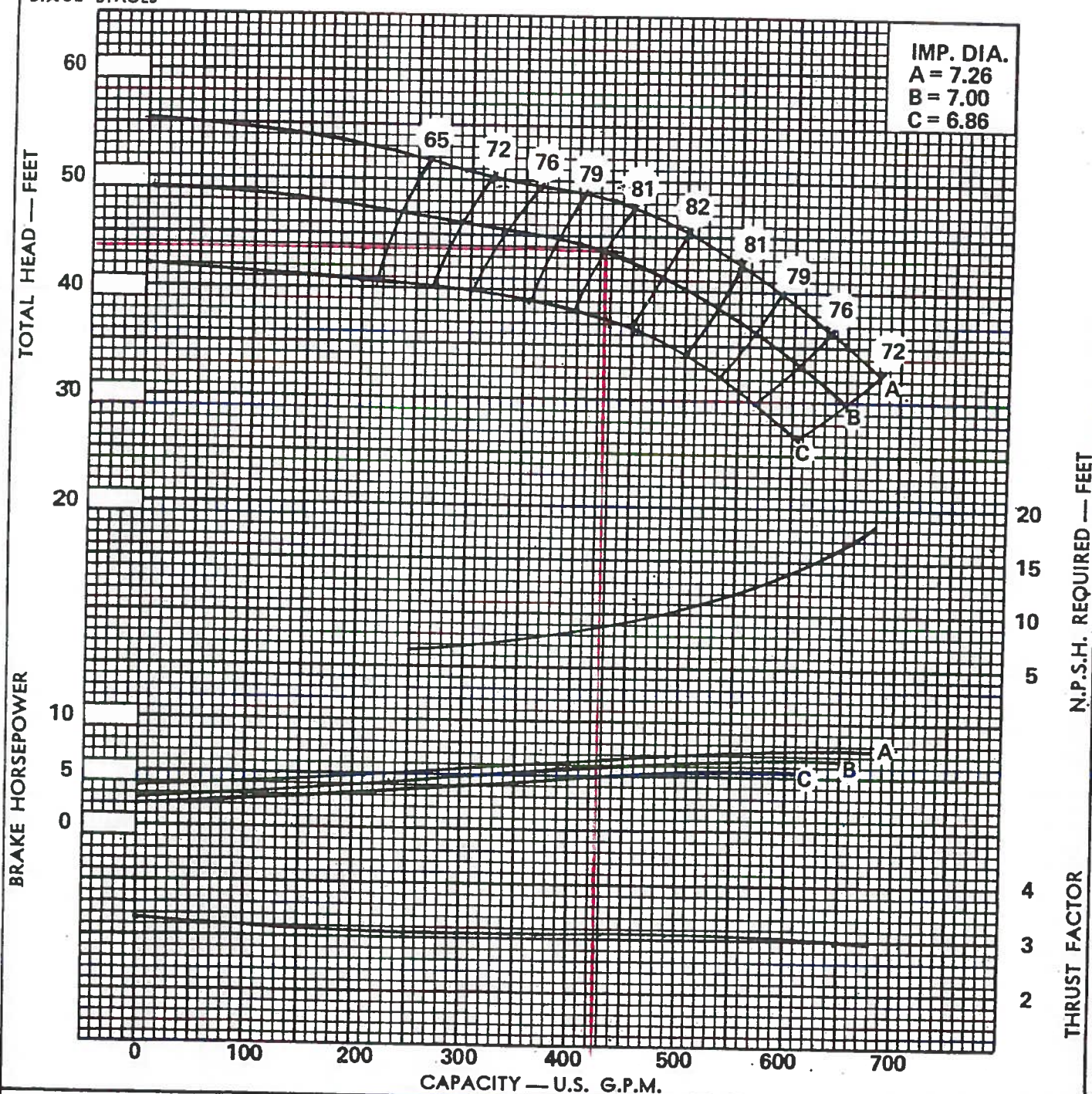
No. Stages	Eff. Change	MATERIAL	Eff. Change
1	-4	IMP.—C.I.	-2
2	-3	IMP.—NI-RI	-1
3	-2	BOWL—BRZ.	-2
4	0	BOWL—NI-R.	-1

9BEH

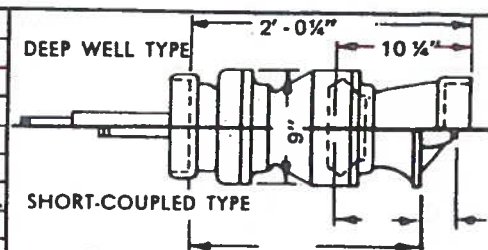
1750 R.P.M.

SINGLE STAGE LAB PERFORMANCE WITH STANDARD MATERIALS. EFFICIENCY SHOWN FOR 4 OR MORE STAGES. HORSE POWER SHOWN FOR ONE STAGE BASED ON 4 STAGE EFFICIENCY. CORRECTIONS SHOULD BE MADE FOR STAGES AND MATERIAL.

ONE ()
STAGE STAGES



EYE AREA — SQ. IN. = 9.57	IMPELLER WT.-LBS. = 9
WR ² PER IMPELLER = 0.30 LB.-FT. ²	ONE STAGE WT.-LBS. = 135
MAX. SPHERE SIZE = 0.50 in.	ADD'L STAGE WT.-LBS. = 53
MAX. NO. STD. STAGES = 16	IMPELLER NUMBER = 45B19
MAX. OPERATING P.S.I. = 370	DISCH. SIZES = 6
STD. LATERAL = 0.50 in.	SUCTION SIZES = 6
STD. SHAFT DIA. = 1.500 in.	MAX. LATERAL = --- in.
MAX. SHAFT DIA. = 1.887 in.	BOWL CONN. FLANGED COLLET
MIN. SUBMERGENCE = 22 in.	ADD '8 "PER ADDITIONAL STAGE.



BasinSequence	Owner	Source	Use
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[illegible]



State of Idaho

DEPARTMENT OF WATER RESOURCES

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

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

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

May 4, 2017

GREENLEAF FARMS INC
C/O DAN DIXON
PO BOX 189
GREENLEAF ID 83626

RE: Scheduling Field Exam for Water Right Permit No. 63-10503

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **this season**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes **0.44 cfs of GROUND WATER** for **irrigation** use. **If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination.**

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If that use was developed, but have ceased using the water and you currently carry no interest in it, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Assignment of Permit form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days at (208) 334-2190 to either schedule an examination or submit a relinquishment or assignment form. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Sincerely,

Cody Parker
Water Resource Agent

Enclosures: Relinquishment of Permit form
Assignment of Permit form
Water Permit Report and Map