

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12091
Exam Date: 5/12/2016

1. CURRENT OWNER:
DARREL W POULTER And/Or
PHYLLIS J POULTER
26250 MOONGLOW DR
MIDDLETON ID 83644
(208)585-3244

2. ACCOMPANIED BY:
Permit Owner, Darrel Poulter

3. SOURCE:
Groundwater

TRIBUTARY:

B. OVERLAP REVIEW

1. PLACE OF USE:
63-9069B (irrigation only)

2. POINT-OF-DIVERSION:
63-9069B

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:
Groundwater, NW¼SW¼ Sec. 21, Twp 05N, Rge 02W, B.M. CANYON County

Method of Determination: GPS LAT: 43 45.252 LONG: -116 35.387

2. LOCATION OF PLACE OF USE:

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	02W	21										X							

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	02W	21										X	X						

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	02W	21										2.5	1.2						3.7

Total Acres: 3.7

Method of Determination: Aerial Photography and ArcMap tools

3. SUPPORTING DOCUMENTS

- ☒ 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. SYSTEM INFORMATION

Well ID	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
301938		5		Burgess	5 hp 45 gpm

D. FLOW MEASUREMENTS**1. EQUIPMENT:**

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

2. MEASUREMENTS:

None.

☒ Additional Computation Sheets Attached**E. FLOW CALCULATIONS****1. STANDARD METHOD:**

0.03 cfs/ac * 3.7 acres = 0.11 cfs

2. THEORETICAL METHOD:

See attached for calculations, theoretical = 0.10 cfs

3. OTHER LIMITING FACTORS:

	Irrigation (cfs)	Stockwater (cfs)	Domestic (cfs)
Permitted Rate	0.09	0.02	0.04
B.U. Standard	0.11	0.02	0.04
Measured/Theoretical	0.10	N/A	N/A
B.U. Proof Fee	\$50.00 -> 0 to 0.20 cfs total		

4. RECOMMENDATION:

0.09

0.02

0.04

F. VOLUME CALCULATIONS

1. VOLUME CALCULATIONS FOR IRRIGATION:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.7 \times 4.5 = 16.7$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.09 \times 260 \times 1.9835 = 46.4$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 16.7$$

2. VOLUME CALCULATIONS FOR OTHER USES:

Domestic

For one household when irrigation is described separately IDWR Application Processing Memorandum Number 22 recommends a diversion rate of 0.04 cfs and a volume of ~~0.16~~ afa.

0.6 afa.

Stockwater

$V = \# \text{ of animals} \times \text{gallons per day} \times \text{conversion from gallons to acre-feet} \times \text{conversion days to years}$

$$V = 2 \text{ cattle} \times 12 \times (1/325850) \times 365 = 0.0268 \text{ afa}$$

Volume Recommendation = 0.03 afa

→ AP MEMO 3 ALLOWS 0.2 AF FOR 0-10 RANGE CATTLE. 0.2 AFA RECOMMENDED FOR STOCKWATER VOLUME.

G. NARRATIVE/REMARKS/COMMENTS

On 05/12/2016 IDWR staff (Patrick Kelly and Phill Hummer) met with Darrel Poulter at his property to confirm the extent of the beneficial use established in connection with the development of his permit. He showed us the location of the well which was in a different place than indicated by the Arcmap shape file for the permit. The location was recorded using GPS and found to be within the same QQ as authorized on the permit so an amendment is not required. This is the same well used for water right no. 63-9069B. The POD for 63-9069B will be moved to the GPS location. Mr. Poulter informed us that the well was used to supply the main house and a smaller guest house with internal domestic water as part of one system. Both the main house and guest house are within the NWSW of section 21, township 05N, and range 02W, so the license should be issued without domestic use in the SWSW of that section. Since the two homes are part of one system and the guest house is not regularly used I am recommending the license be issued for 1 home at the rate and volume described in Application Processing Memorandum No. 22. Condition X01 should be changed to WB5 to exclude any irrigation from the domestic use per current department policy. Although none were present at the time of the field exam, Mr. Poulter confirmed that they had cows on the property during the development period. He said they typically had two cattle.

The fields and pastures did not appear to be irrigated at the time of the field exam but the system and sprinkler lines are in place to irrigate the southern pasture and there is evidence that part of the property had undergone cultivation in the past. The department's aerial imagery records from the development period (2008 – 2015) are incomplete but Landsat images 08/28/2011 and 08/24/2013 show some irrigation took place. Mr. Poulter informed us that some irrigation has occurred in the past when they had cattle on the property. Despite the lack of concrete evidence water has been used for irrigation beyond the existing water right, there is some evidence in support of licensing this right and in this instance we are willing to give the owner the benefit of the doubt given the age of the permit. The north and west pastures were not developed and should not be included on the license. A system measurement was not conducted during the field exam because the system is mostly buried pipe and a suitable length of exposed pipe was not located. Mr. Poulter admitted he was not currently irrigating at the time of the field exam but he has irrigated in the past. We were able to see the sprinklers and the system diagram (drawn on the 2013 aerial imagery) shows the location of the sprinkler lines. The total number of acres should be reduced to the size of the yard and the southern pasture, together it is about 3.7 acres. These 3.7 acres are authorized for irrigation under water right no. 63-9069B but only up to a rate of 0.01 cfs/acre (0.8 cfs for 8.6 acres). Assuming the owner was using 0.02 cfs per acre when irrigating, then he was using addition water not already authorized under current water rights. Therefore a beneficial use was developed and the irrigation portion of the license should be issued but reduced by the amount acres not developed. Since the license will be reduced to less than 5 acres, the owner should be authorized to irrigate using up to 0.03 cfs/acre. Condition R69 should replace R61 to reflect the increase in rate per acre. Even though the total rate on the permit was not additive and the irrigation portion of the license will

be reduced (both the number of acres and the rate) the maximum value of the permit is 0.09 cfs so the total rate on the license should be 0.09 cfs. Condition X35 should replace WB7 since the right is not supplemental but does require a combined limit. Based on the theoretical calculation the system is only capable of 0.10 cfs. Rights 63-9069B and 63-12091 individually add up to more than the system is capable of so when combined right they should be limited to the system capacity.

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

Condition X02 on the permit states the stockwater use is for 2 horses, but the amount of water necessary for 2 cattle should be the same for 2 horses (per Application Processing Memorandum No. 3) and that condition is more explanatory than limiting so the stockwater portion of the license should be issued as permitted. The text condition stating the water bearing zone is only restrictive on wells located within the B63 Groundwater Restricted Area according to current department policy. Since the point of diversion is outside the restricted area we should consider the permit condition non-restrictive and remove it from the license.

H. RECOMMENDATIONS

1. RECOMMENDED AMOUNTS:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/01 to 11/15	0.09 CFS	16.7
DOMESTIC	01/01 to 12/31	0.04 CFS	0.6
STOCKWATER	01/01 to 12/31	0.02 CFS	0.2

Totals: 0.09 CFS 17.5 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 ☒ None

I. AUTHENTICATION

Field Examiner's Name PH
Date 10/13/17

Reviewer Angela M. Quinn
Date 10/4/17



NWSW

NESW

21

65N02W

DOWN

RED

SWSW

SESW

The USDA-FSA Aerial Photography Field office asks to be credited in derived products.

System Diagram p.1



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-12091
 Examiner: Phill Hummer
 Date of Field Exam: 5/12/2016

P/D No.:	OPTION 1	OPTION 2	OPTION 3
PUMP HORSEPOWER	5	5	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	150	200	250
DISCHARGE PRESSURE	45	45	45
FRICITION	0	0	0
RATE OF FLOW (cfs)	0.12	0.10	0.09
(gpm)	54.4	45.5	39.1
			AVG
			0.10
			46.3

The above calculates the formula = $Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$

Assumptions: %70 efficiency.

Examiners Notes:

5 hp submersible pump installed. A range of pumping level estimates based on the well drillers report. 45 psi used from common rainbird sprinkler systems. Theoretical average flow rate is 0.10 cfs.

TRS	Process	Basin Sequence	Owner	Source	POD POU	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
05N02W21	Water Permit	63-12091	POULTER, DARREL W; POULTER, PHYLLIS J	GROUND WATER	POD											X							
05N02W21	Water Permit	63-33240	POINTS, KARI FREDERICK; POINTS, TOM	GROUND WATER	POD					X													
05N02W21	Water Permit	63-33950	CRAIG, AIMEE; CRAIG, TYLER	GROUND WATER	POD				X														
05N02W21	Water Right	63-11182	GARWICK, GAIL E; GARWICK, HOWARD R	GROUND WATER	POD														X				
05N02W21	Water Right	63-11196	BEAN, SHAWN; FREDERICK, KARI; MAKI, JACKIE; MC CLINTOCK, RALPH; POINTS,	GROUND WATER	POD					X													
05N02W21	Water Right	63-11332	BENHAM, KEVIN	GROUND WATER	POD														X				
05N02W21	Water Right	63-11422	MILLER, ROB	GROUND WATER	POD																X		
05N02W21	Water Right	63-21395	BEAN, SHAWN; FREDERICK, KARI; MAKI, JACKIE; MC CLINTOCK, RALPH; POINTS,	GROUND WATER	POD					X													
05N02W21	Water Right	63-21575	ARVAI, CAROLYN S; ARVAI, JOHN	GROUND WATER	POD																X		
05N02W21	Water Right	63-21742	BERRY, RICK G; BERRY, SANDRA L; HOLLINGER, JAY D; HOLLINGER, LARAE	GROUND WATER	POD										X								
05N02W21	Water Right	63-25935	PETERSON, CARL H; PETERSON, MARGARET L	GROUND WATER	POD										X								
05N02W21	Water Right	63-26183	STOCKE, JOHN J; STOCKE, MELISSA	GROUND WATER	POD															X			
05N02W21	Water Right	63-26269	BAIRD, CRAIG R; BAIRD, KAYE W	GROUND WATER	POD															X			
05N02W21	Water Right	63-27454	ZURCHER, EUGENE; ZURCHER, TERRI	GROUND WATER	POD														X				
05N02W21	Water Right	63-27611	COOPER, CURTIS D; COOPER, KAREN	GROUND WATER	POD														X				
05N02W21	Water Right	63-27808	DUX, LINDA; DUX, RICHARD T	GROUND WATER	POD					X													
05N02W21	Water Right	63-28801	MILLER, MARY; MILLER, ROBBY	GROUND WATER	POD																X		
05N02W21	Water Right	63-30204	SONNEN, KENNETH; SONNEN, LISA; TALKINGTON, MIKE	GROUND WATER	POD														X				
05N02W21	Water Right	63-31382	CLARK, JOHN W; CLARKE, DAN; SMITH, JOANN K; SMITH, WAYNE R	GROUND WATER	POD											X							
05N02W21	Water Right	63-8264	FISHER, PAUL R; ST MARIE, JAMES; THOMAS, SHELLEY; WATTS, DAN	GROUND WATER	POD											X							
05N02W21	Water Right	63-90698	CLARK, JOHN W; CLARKE, DAN; POULTER, DARREL W; POULTER,	GROUND WATER	POD											X							

POD/POU
Overall
Analysis

[illegible]

[illegible]

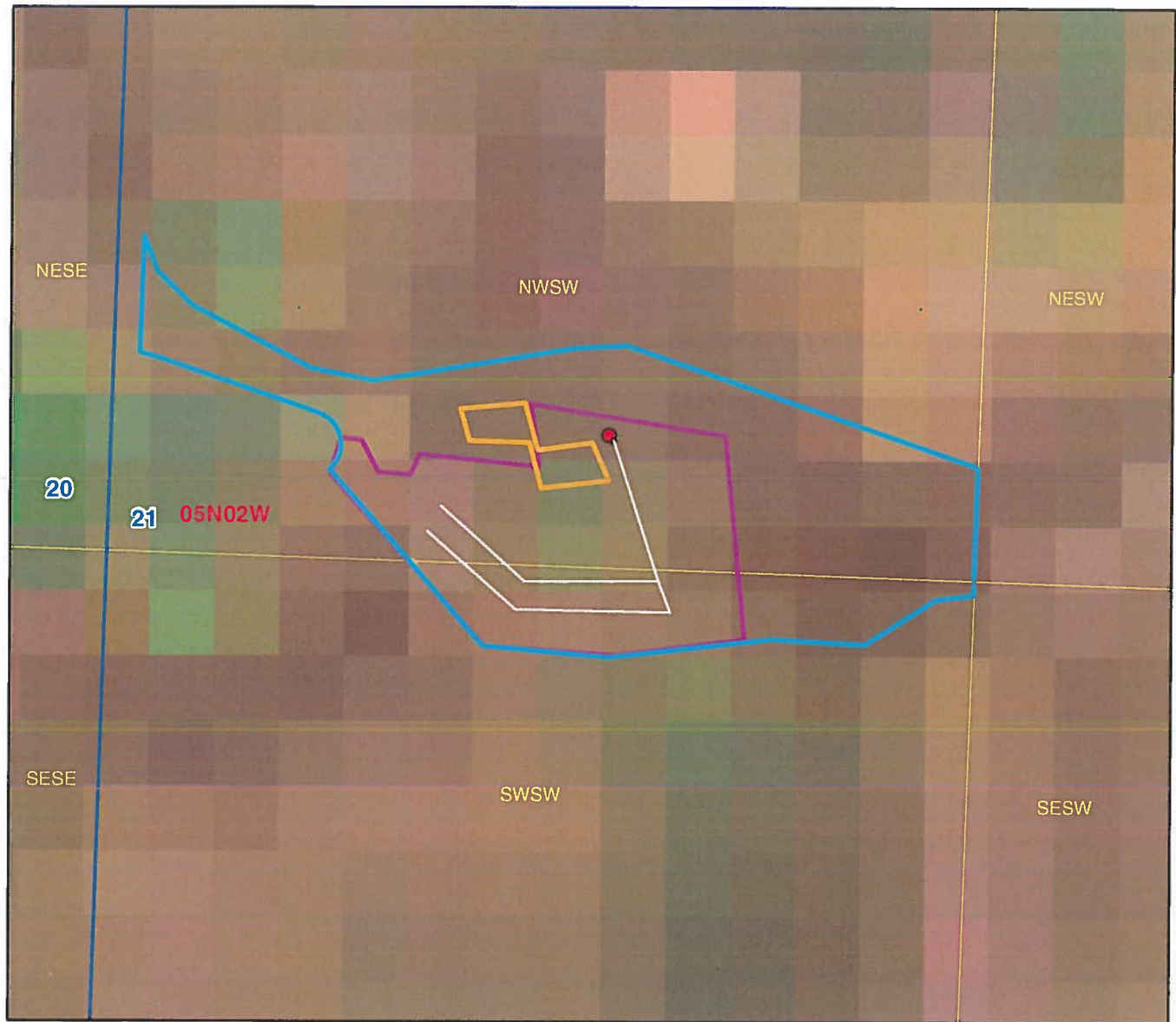


Photo showing the well on Darrel and Phyllis Poulter's property. This well serves both water rights no. 63-9069 and 63-12091. Location: -116 36.387 43 45.252

State of Idaho
Department of Water Resources

Water Right(s): 63-12091

This map depicts the place of use boundaries for this water right. The white lines show the approximate location of the installed sprinkler lines. The dark redish brown parts of the background image indicate where irrigation has taken place. This image shows beneficial use of water for irrigation has taken place at the place of use within the development period.



Legend

- POD
- LandSat Image 08/28/2011
- POU - Stockwater
- POU - Domestic
- POU - Irrigation
- Township/Range
- Sections
- QQ
- Red: Band_1
- Green: Band_2
- Blue: Band_3

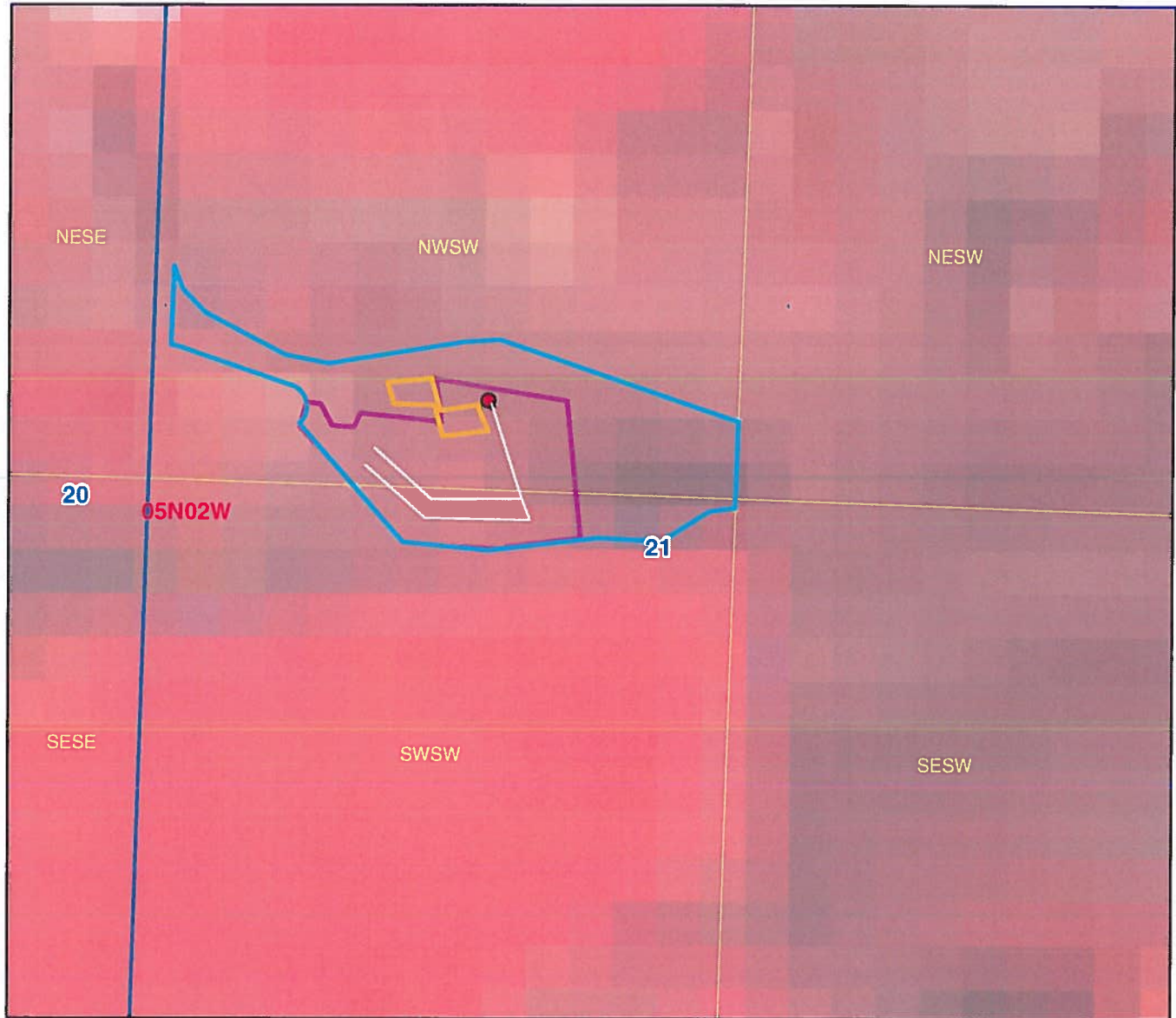
0 0.025 0.05 0.1 Miles



State of Idaho
Department of Water Resources

Water Right(s): 63-12091

This map depicts the place of use boundaries for this water right. The white lines show the approximate location of the installed sprinkler lines. The redish parts of the background image indicate where irrigation has taken place. This image shows some beneficial use of water for irrigation has taken place at the place of use within the development period.



Legend

- POD
 - POU - Stockwater
 - POU - Domestic
 - POU - Irrigation
 - Township/Range
 - Sections
 - QQ
- p42r29_l8_20130824_b543.sid
- RGB
- Red: Band_1
 - Green: Band_2
 - Blue: Band_3

0 0.0375 0.075 0.15 Miles

