

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 15-7293
Exam Date: 7/11/2019

1. Current Owner:
ROBERT BURLEIGH 3013 N 5400 W MALAD ID 83252 AND
JENIFER BURLEIGH 3013 N 5400 W MALAD ID 83252
2. Accompanied by: Jenifer Burleigh

3. **SOURCE:**
GROUND WATER

Method of Determination: Visual confirmation of groundwater well.

B. OVERLAP REVIEW

There are no overlapping rights.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SE¼ SE¼, Sec. 3, Twp 14S, Rge 35E, B.M. ONEIDA County

Method of Determination: GPS and Arcview

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	35E	3																25.5	25.5

Total Acres: 25.5

Method of Determination: Aerial photography and Climate Engine

2.
 - ☒ 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

3. Diversion Information: 50 hp submersed pump

D. FLOW MEASUREMENTS

No direct measurement was possible.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

No PSI port was available on the system.

A review of rights licensed in the past five years (between 2015 and 2020) in basin 15 yielded three beneficial use field reports that noted psi values of irrigation systems larger than 20 acres:

Right 15-7184 (238 acres) was noted to operate at 40 psi,

Right 15-7110 (145 acres) operated at 50 psi,

Right 15-7294 (22 acres) operated at 55 psi.

Therefore, an attached calculation averaged the rate theoretical rate yielded at each psi, and determined that the system could produce 1.26 cfs. This is a sufficient quantity to cover the right's licensed rate of 0.51 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 25.5 \text{ acres} \times 3.5 \text{ afa} = 89.3 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.5 \text{ cfs} \times 214 \text{ days} \times 1.9835 \text{ af/day/cfs} = 212.2 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 89.3$$

2. Volume Calculations for Other Uses:

Not applicable. The well serves 23 horses, a "few" chickens, and the domestic in-home uses for the house on the property. These uses were not covered by the permit, therefore volume for them was not assigned to them by this right.

G. NARRATIVE/REMARKS/COMMENTS

There was some ambiguity regarding the irrigation of the "Horse Track" and the "SE 5 acres" during the development period. An analysis using Climate Engine of years 2015 (first year of irrigation), 2016, and 2017 (final growing season of development period), indicated that the "Horse Track" was irrigated, while the "SE 5 acres" was not irrigated. The two polygons analyzed, and their respective NDVI results, are included in this field report. NDVI values > 0.6 indicate irrigation.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	04/01 to 10/31	0.51 CFS	89.3 AF

Totals: 0.51 CFS 89.3 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above X None

____ Change P.U. as reflected above ____ Add P.U. as reflected above X None

I. AUTHENTICATION

Cooper Fritz - Eastern Region: Water Resource Agent, Senior

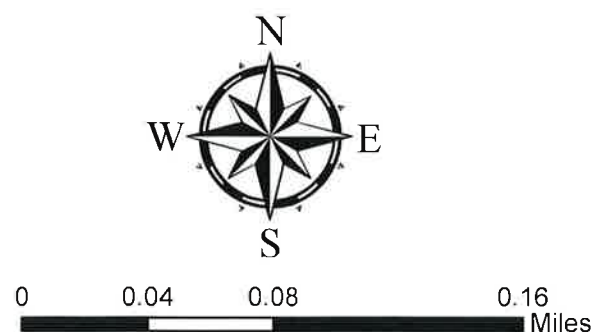
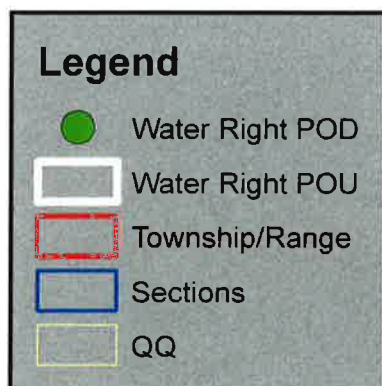
Field Examiner's Name _____ Date _____

Reviewer James Cefalo Date 1/29/2020

15-7293 Point of Diversion and Place of Use at Licensing



2017 Imagery





15-7293 POD

MENU

Map



Climate Engine

Colors ▾

Map ▾

Layers ▾

Masking ▾

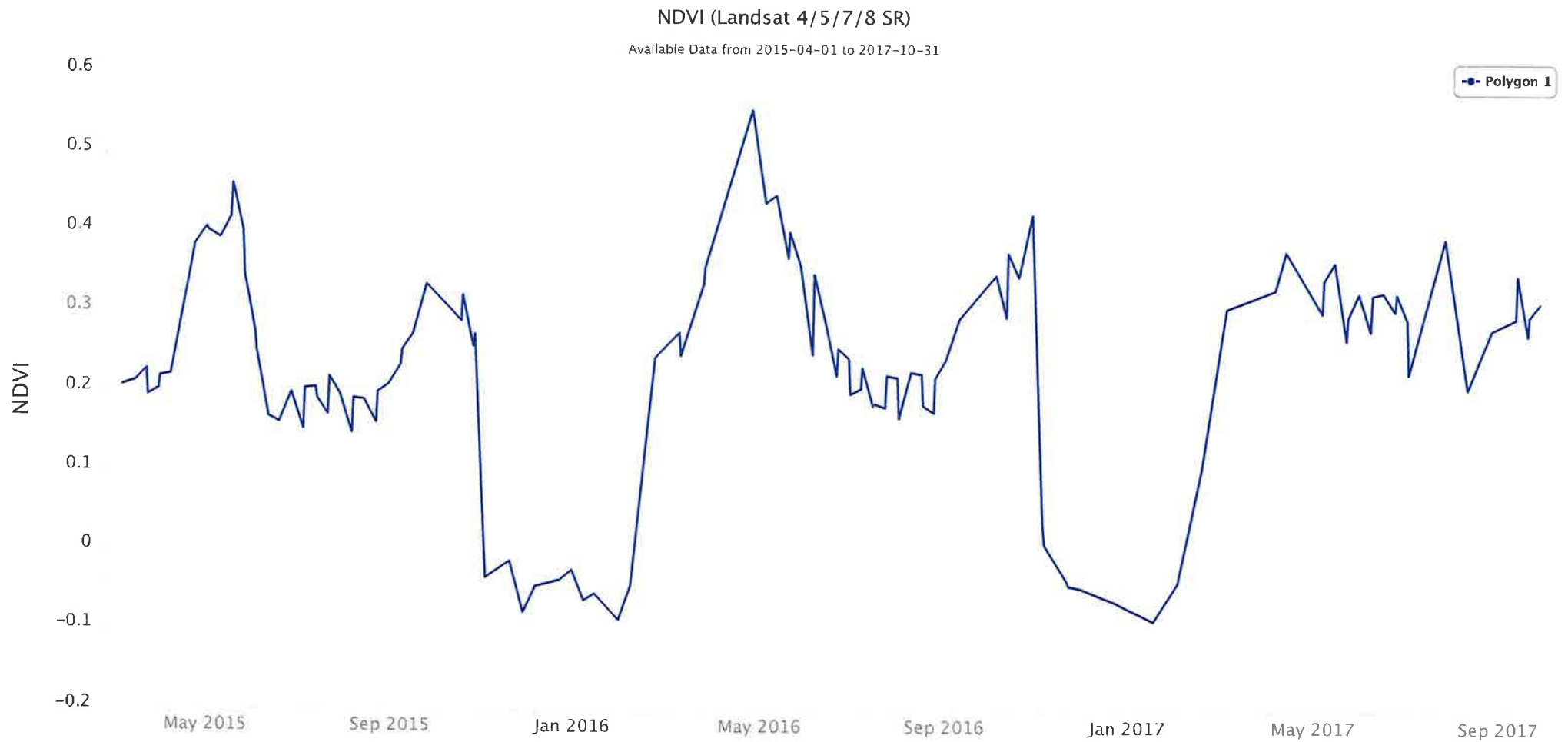
Download ▾

Link

Reset



"SE 5 acres"



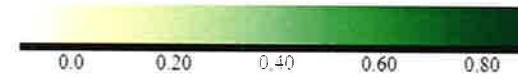
Generated by ClimateEngine.org

"SE 5 acres" NDVI data

Colors Map Layers Masking Download

Link Reset

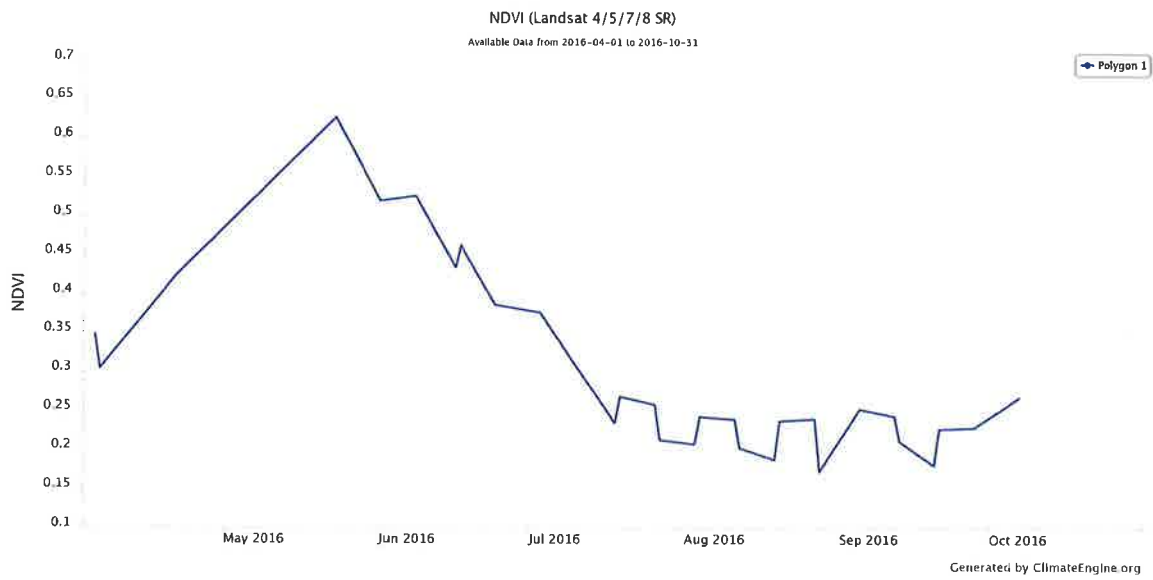
NDVI (Landsat 4/5/7/8 SR)
2016-04-01 to 2016-10-31, Maximum



NDVI



"Horse Track" polygon

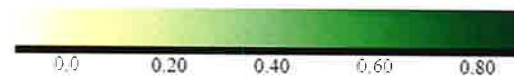


2016 "Horse Track"

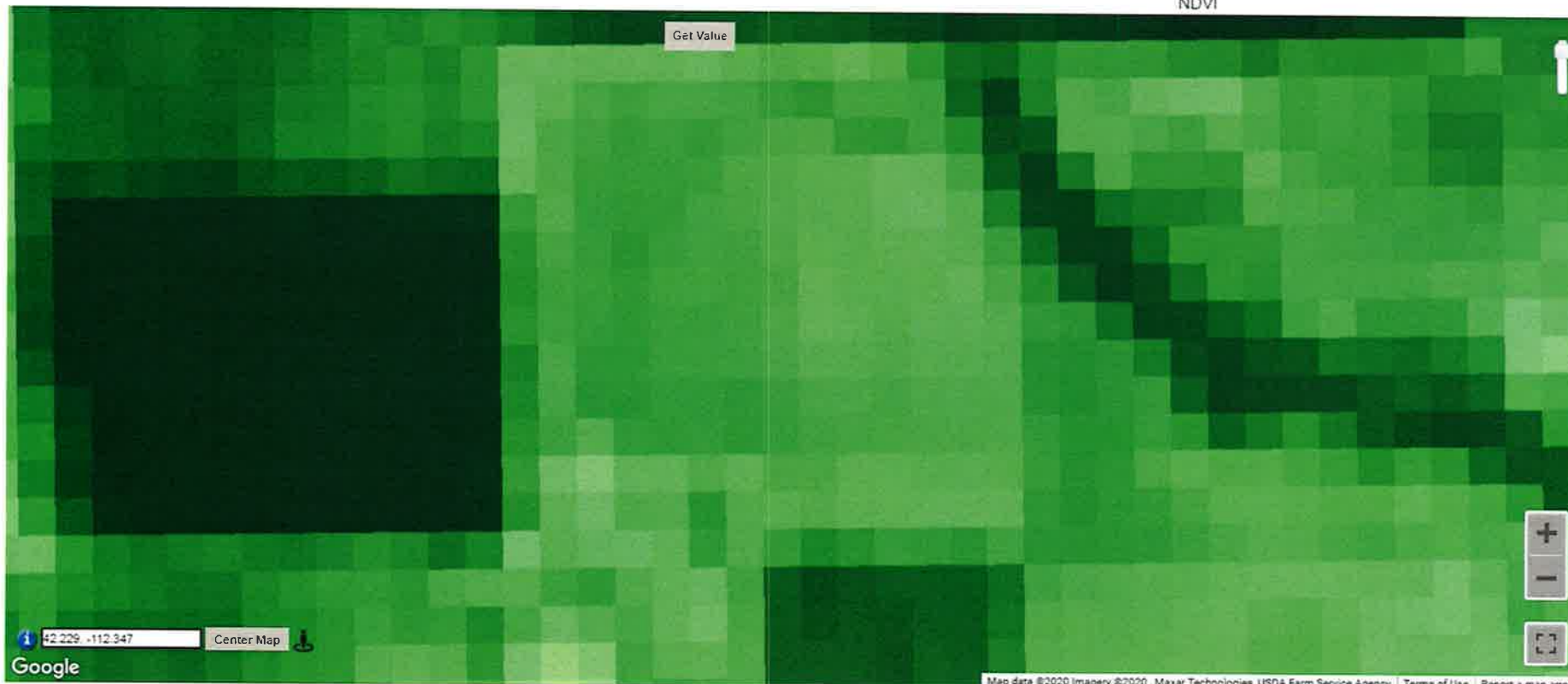
Colors ▾ Map ▾ Layers ▾ Masking ▾ Download ▾

[Link](#) [Reset](#)

NDVI (Landsat 4/5/7/8 SR)
2015-04-01 to 2015-10-31, Maximum



NDVI



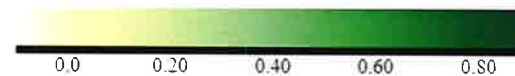
Map data ©2020 Imagery ©2020, Maxar Technologies, USDA Farm Service Agency | [Terms of Use](#) | [Report a map error](#)

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2015

NDVI (Landsat 4/5/7/8 SR)

2015-04-01 to 2015-10-31 Mean



NDVI



 - Permit Boundary / PDU

2015