



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

**D. FLOW MEASUREMENTS**

Three flowing wells. One was measured through the filling of a five gallon bucket (see attached). The other two were unmeasurable, but are located less than ¼ from the measured well. As such, the unmeasured wells are assumed to flow at the same rate as the measured well.

**E. FLOW CALCULATIONS**

Additional Computation Sheets Attached

Filling of five gallon bucket. See attached spreadsheet. Measured well produced 0.12 cfs.

0.12 cfs per well \* 3 wells = 0.36 cfs developed

**F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 32.3 \text{ acres} \times 3.5 \text{ AFA} = 113.1$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.36 \times 1.9835 \times 214 = 152.8$$

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

**G. NARRATIVE/REMARKS/COMMENTS**

Three separate flowing artesian wells comprise the PODs for this system.

All three wells feed into a system of ditches that are initially fed by the point of diversion for right 15-7117.

The artesian wells were tested in April of 2019. The graph below demonstrates groundwater levels from an artesian well (15S 36E 22 ABA1) measured formerly by the USGS, and now by IDWR. It is roughly 2.5 miles SSE of the points of diversion. The graph demonstrates that artesian pressures were roughly the same during the development period and the spring of 2019.

Have conditions of permit approval been met?  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       | 0.36 CFS                 | 113.1 AF             |

**Totals:**                      0.36 CFS                      113.1 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

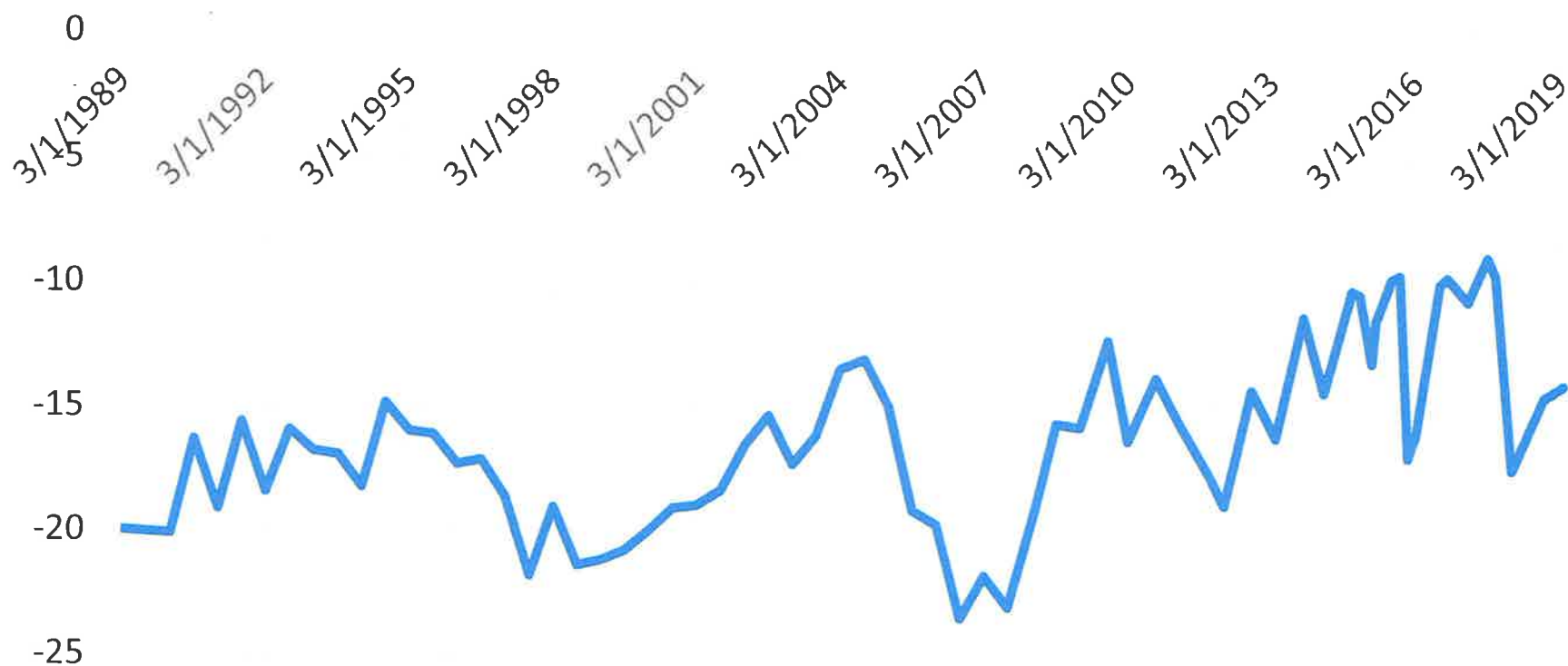
**I. AUTHENTICATION**                      Cooper Fritz - Eastern Region: Water Resource Agent, Senior

Field Examiner's Name \_\_\_\_\_ Cooper Fritz \_\_\_\_\_ Date 7/29/2019

Reviewer James Cefalo \_\_\_\_\_ Date 7/30/19

# Water Level vs Date

## Well 15S 36E 22 ABA1



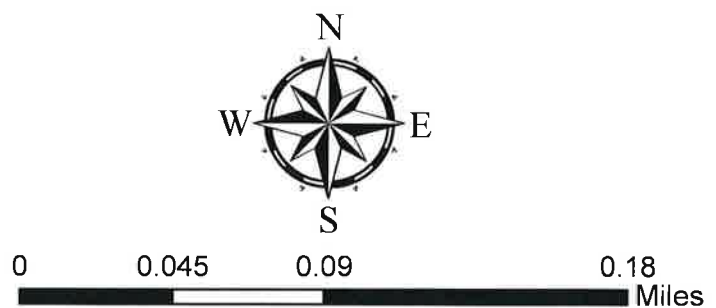
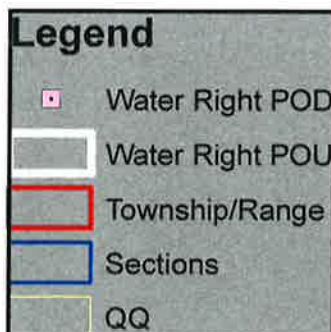
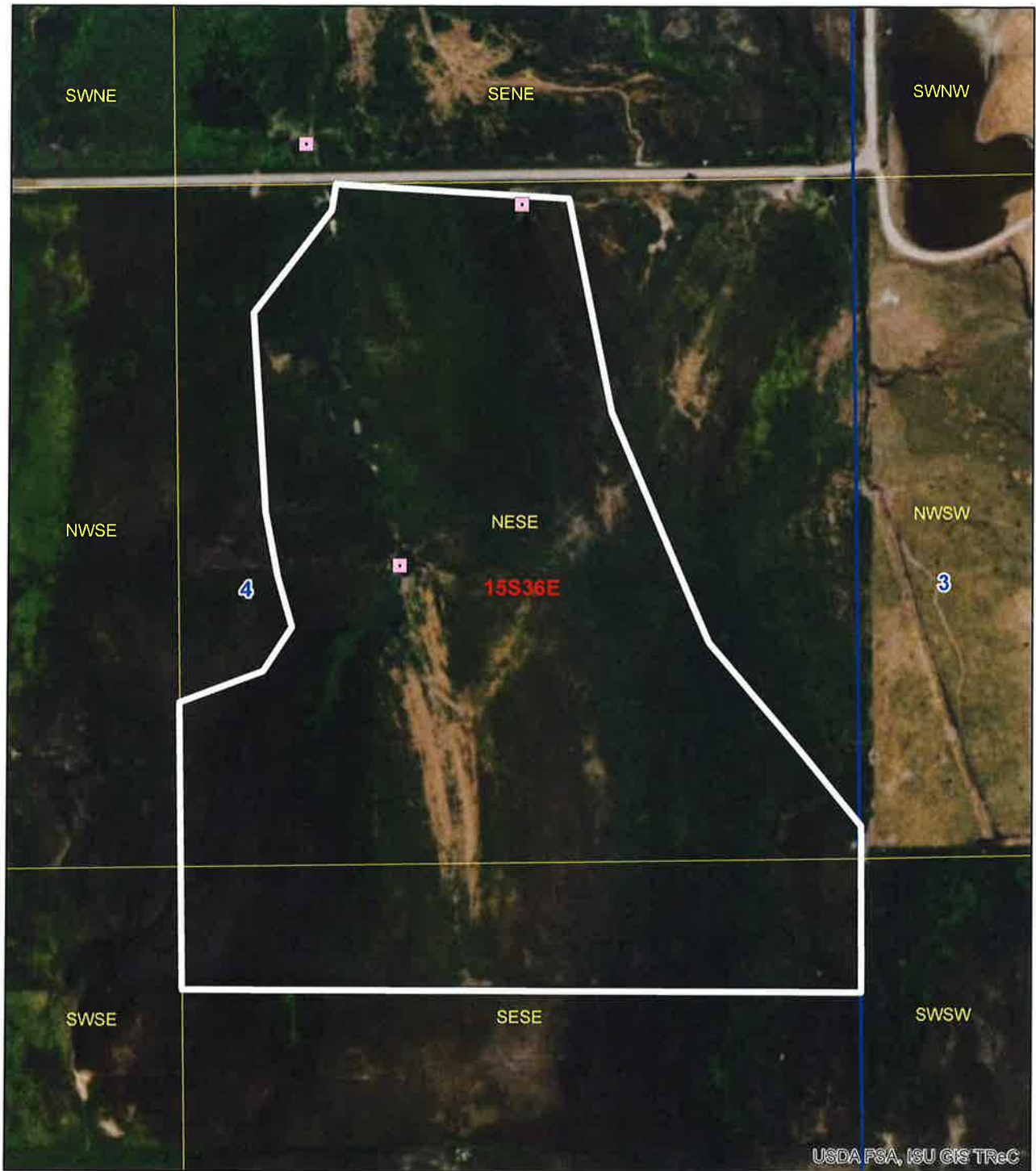
15-7121 Artesian Well Measurement

| Time to produce five gallons (seconds) | Seconds to Produce One Gallon | Gallons produced per minute | cfs  |
|--|-------------------------------|-----------------------------|------|
| East Pipe                              |                               |                             |      |
| 13.1                                   | 2.62                          | 22.90                       | 0.05 |
| 12.7                                   | 2.54                          | 23.62                       | 0.05 |
| 12.7                                   | 2.54                          | 23.62                       | 0.05 |
| 12.8                                   | 2.56                          | 23.44                       | 0.05 |
| 12.7                                   | 2.54                          | 23.62                       | 0.05 |
| West Pipe                              |                               |                             |      |
| 9.8                                    | 1.96                          | 30.61                       | 0.07 |
| 10.3                                   | 2.06                          | 29.13                       | 0.06 |
| 10.5                                   | 2.1                           | 28.57                       | 0.06 |
| 10.4                                   | 2.08                          | 28.85                       | 0.06 |
| 10.8                                   | 2.16                          | 27.78                       | 0.06 |
| 10.3                                   | 2.06                          | 29.13                       | 0.06 |

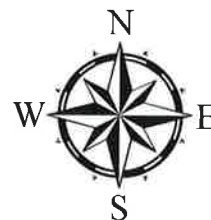
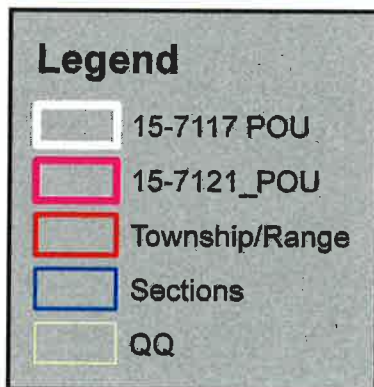
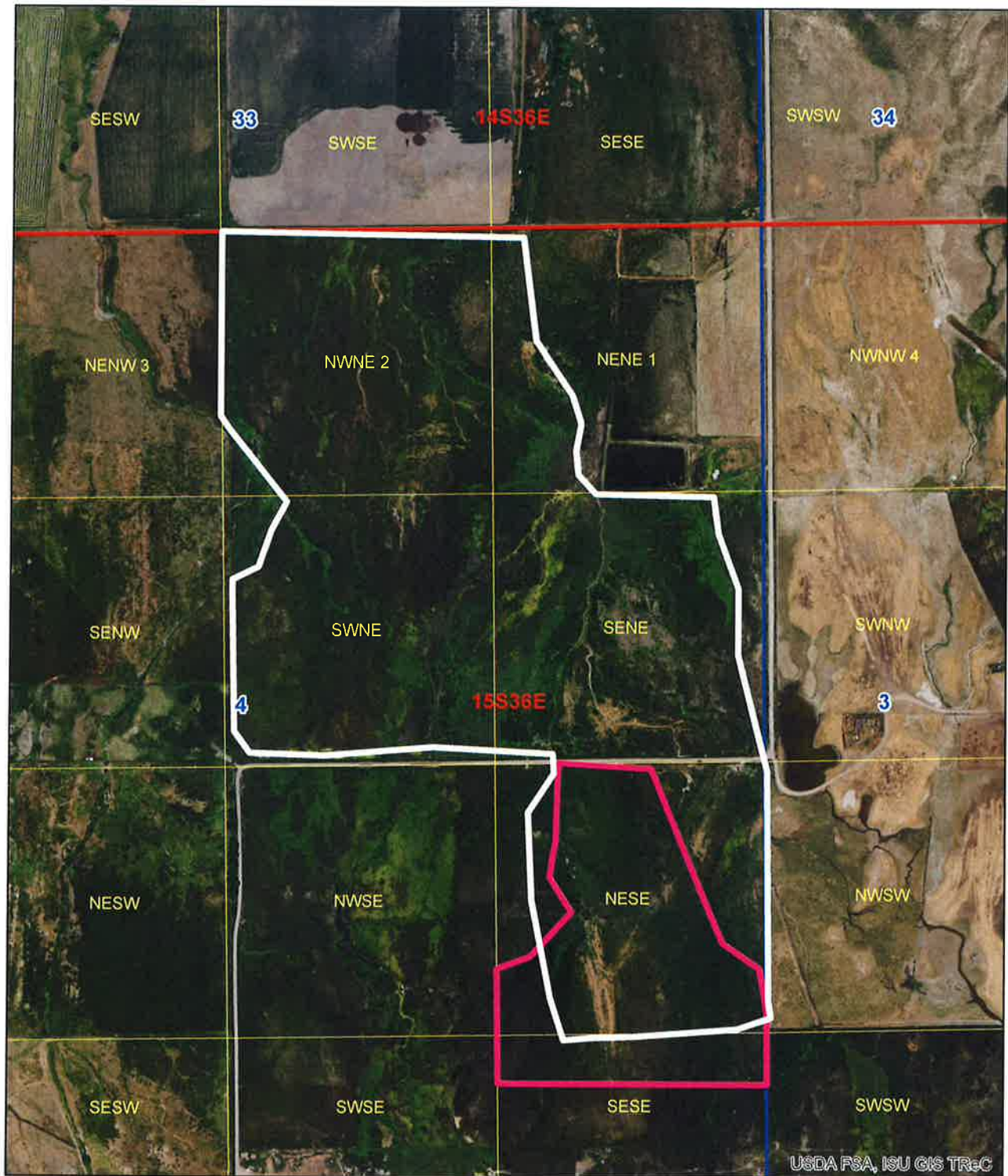
Rate (cfs) as developed:

0.12

# 15-7121 Place of Use and Points of Diversion at Licensing



# 15-7117 and 15-7121 POU Overlap at Licensing



Well in middle of field



POD North of  
road



POD South of  
road

