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By OCD; Dr. Oberding at 2:51 pm, Mar 26, 2015

PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

APPROVED Conditionally

By OCD; Dr. Oberding at 2:51 pm, Mar 26, 2015

March 25, 2015

Dr. Tomas Oberding

New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Stipulations for approval:

- 1) BTEX (8021) and TPH (8015) samples must also be collected and reported;
- 2) An extra sample covering the range of constituents at each delineation location 5' deeper than the sample indicating contaminants below remediation guides (as described herein).

RE: **Delineation Plan**

Great Western Drilling

**Injection Line Accidental Discharge (1RP-3560) & Historical Arrowhead
Subdivision**

UL/D Sec 8 T18S R39E & UL/D Sec 8 T18S R39E

Dr. Oberding:

Great Western Drilling has retained Basin Environmental Service Technologies (Basin) to address potential environmental concerns at the above-referenced sites.

Background and Previous Work

Injection Line AD is located approximately 4.2 miles northeast of Hobbs, New Mexico at UL/D, Sec. 8, T18S, R39E as shown on the Geographical Location Map (Figure 1) and Area Map (Figure 2). The Arrowhead Subdivision is located approximately 4.1 miles northeast of Hobbs, New Mexico at UL/D, Sec 8 T18S R39E as shown on the Geographical Location Map (Figure 3) and Area Map (Figure 4). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 81+/- feet.

Delineation Work Elements

1. Conduct vertical and lateral delineation of residual chlorides and hydrocarbons from samples taken using a hand auger, backhoe and/or drill rig (see Appendix B for Quality Procedures).
 - a. Vertical sampling will be conducted until of the following criteria are met in the field.
 - i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of ≤ 250 ppm; and,
 - ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 100 ppm; or,
 - iii. The sampling reaches the capillary fringe.
 - b. Lateral sampling will be conducted until the following criteria are met in the field.
 - i. A decrease is observed in chloride concentrations between lateral sample points at similar depths; and,

- ii. A chloride concentration of ≤ 250 ppm is observed in a lateral surface sample; or,
- iii. Safety concerns impede further lateral delineation

2. Evaluate the risk of groundwater impact based on the information obtained.

If the evaluation of the site shows no threat to groundwater from residual constituents, then only a vadose zone remedy will be undertaken. However, if groundwater shows impact from residual chlorides, a Corrective Action Plan (CAP) will be developed to address these concerns.

Basin appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 if you have any questions or wish to discuss the site.

Sincerely,

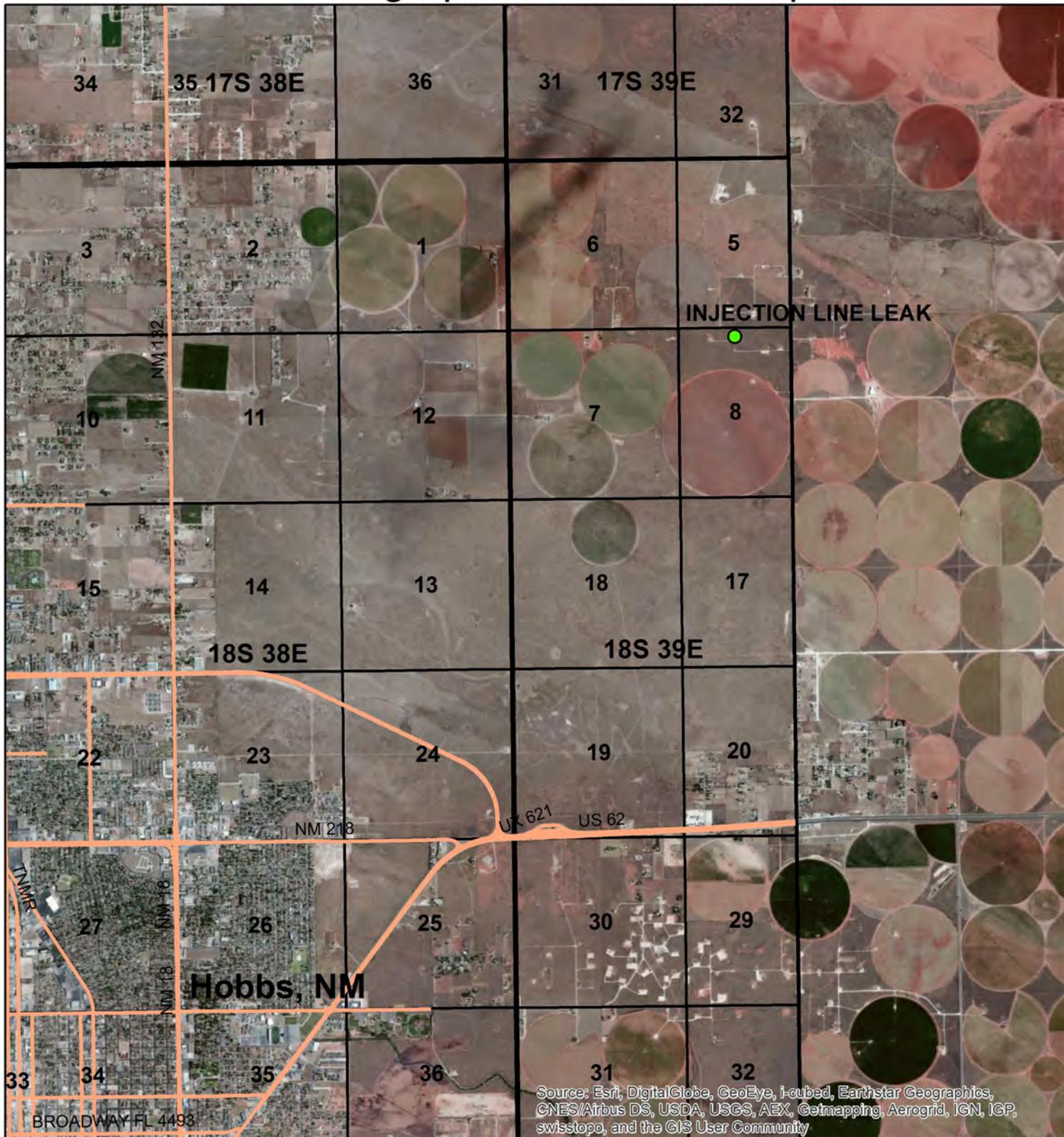


Hack Conder
Vice President of Environmental Services
Basin
(575) 631-6432

Attachments:

- Figure 1 – Injection Line AD Geographical Location Map
- Figure 2 – Injection Line AD Area Map
- Figure 3 – Great Western Drilling Arrowhead Geographical Location Map
- Figure 4 – Great Western Drilling Arrowhead Site Map

Geographical Location Map

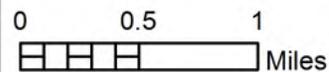


GREAT WESTERN DRILLING INJECTION LINE AD

1RP-3560

LEGALS: UL/ D SEC. 8
T-18-S R-39-E
LEA COUNTY, NM

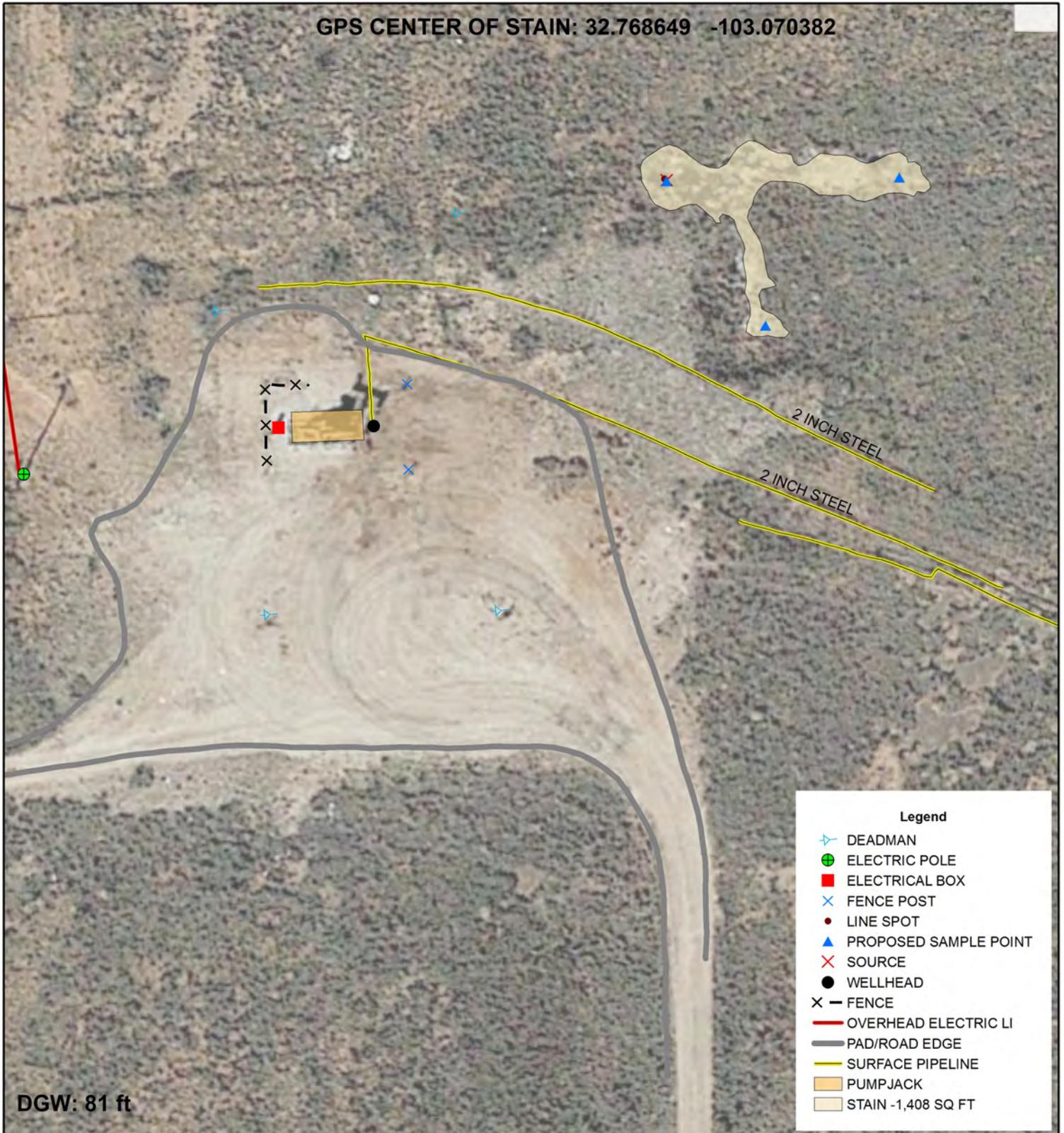
Figure 1



Drawing date: 3/17/15
Drafted by: L. Weinheimer

Area Map

GPS CENTER OF STAIN: 32.768649 -103.070382

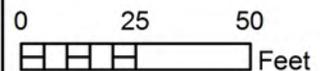


GREAT WESTERN DRILLING INJECTION LINE AD

1RP-3560

UL D SECTION 8
T-18-S R-39-E
LEA COUNTY, NM

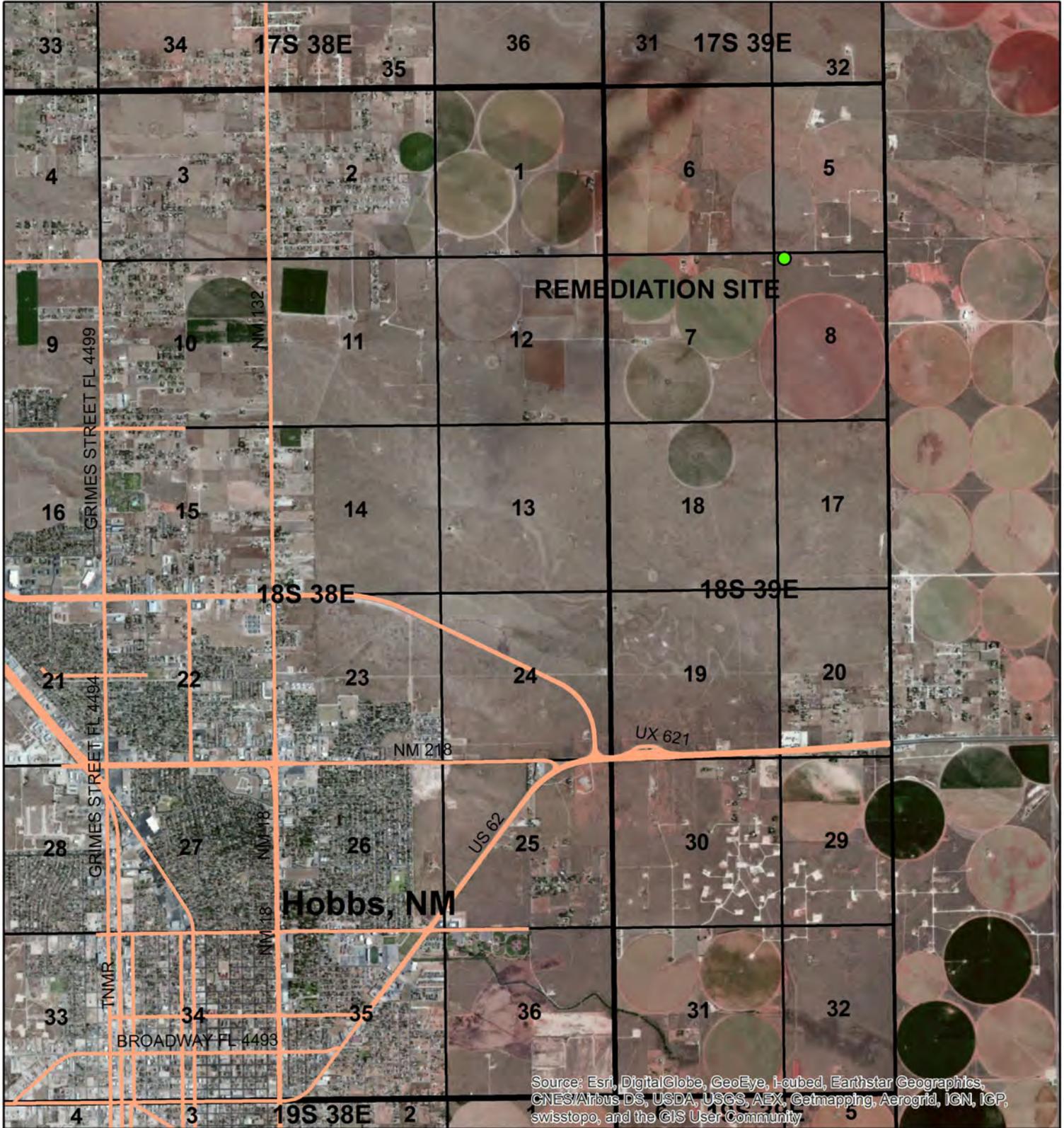
Figure 2



GPS date: 3/18/15 KH
Drawing date: 3/18/15
Drafted by: T. Grieco



Geographical Location Map

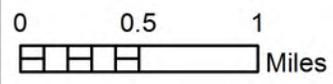


Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**GREAT WESTERN
DRILLING
ARROWHEAD
SUBDIVISION**
 LEGALS: UL/ A SEC. 8
 T-18-S R-39-E
 LEA COUNTY, NM

Figure 3

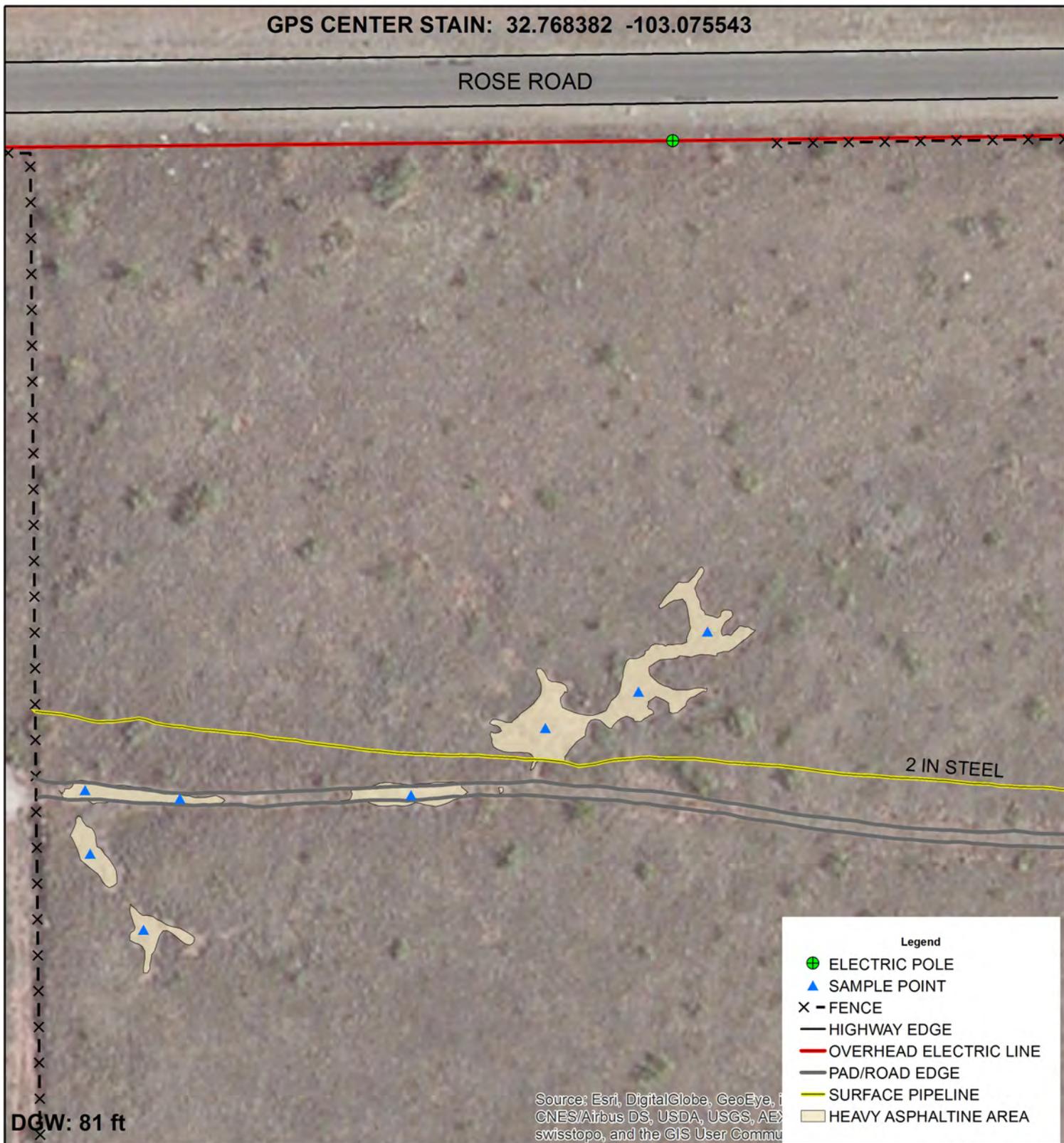


Drawing date: 3/17/15
 Drafted by: L. Weinheimer

Site Map

GPS CENTER STAIN: 32.768382 -103.075543

ROSE ROAD



Source: Esri, DigitalGlobe, GeoEye, i
CNES/Airbus DS, USDA, USGS, AE
swisstopo, and the GIS User Commu



GREAT WESTERN DRILLING ARROWHEAD SUBDIVISION

UL D SECTION 8
T-18-S R-39-E
LEA COUNTY, NM

Figure 4

0 25 50
Feet

GPS date: 3/18/15 TG
Drawing date: 3/18/15
Drafted by: T. Grieco

