

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

N

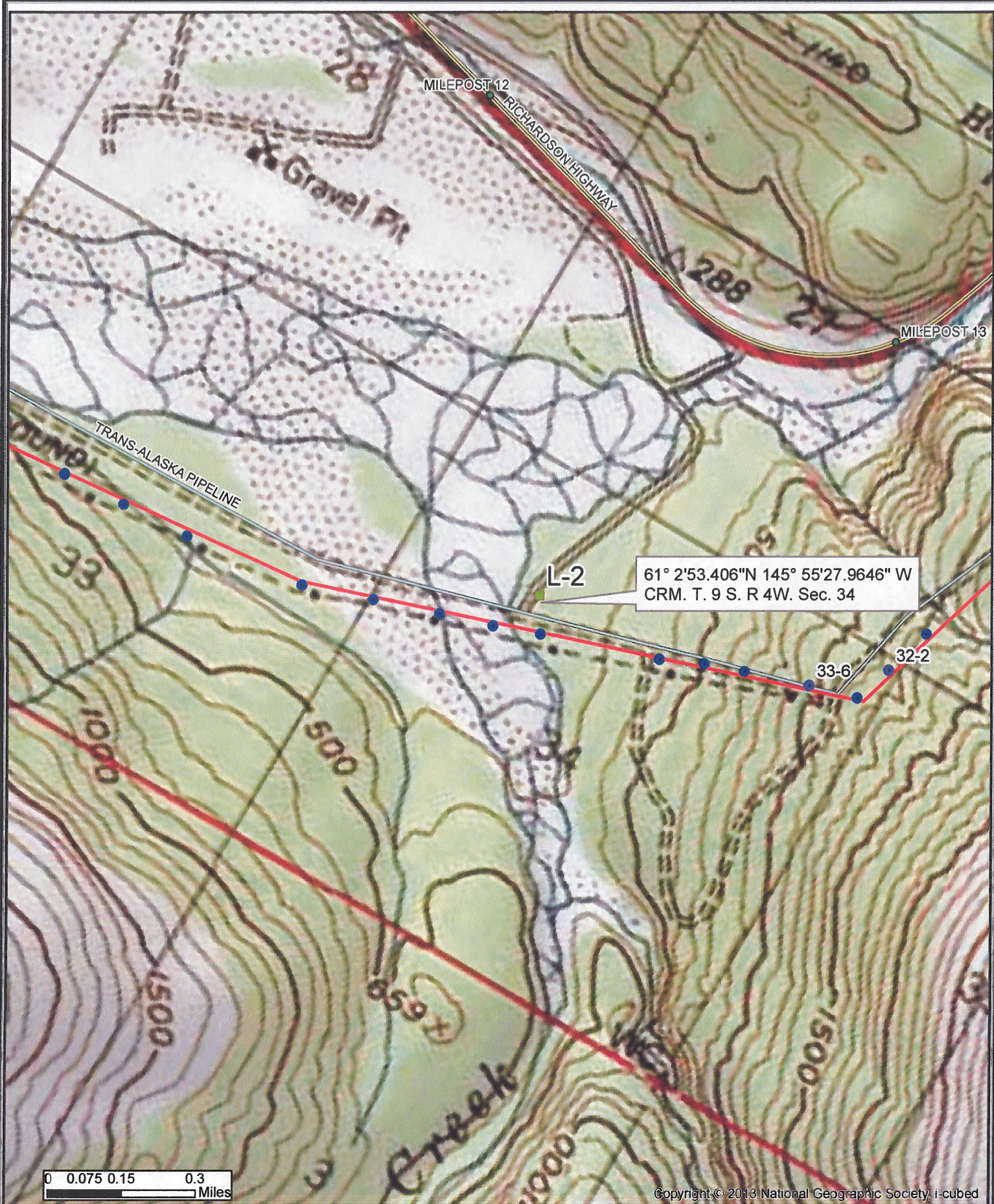
CVEA Marker Ball Replacement Project

L-2 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°0'0"W
1st Std Parallel: 20°0'0"N
2nd Std Parallel: 60°0'0"N
Latitude of Origin: 40°0'0"N

Midnight Sun ENVIRONMENTAL, LLC

(Not a registered firm) | 10000 E. Highway 100 | Anchorage, AK 99515 | 415.444.2000



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Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

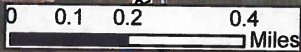
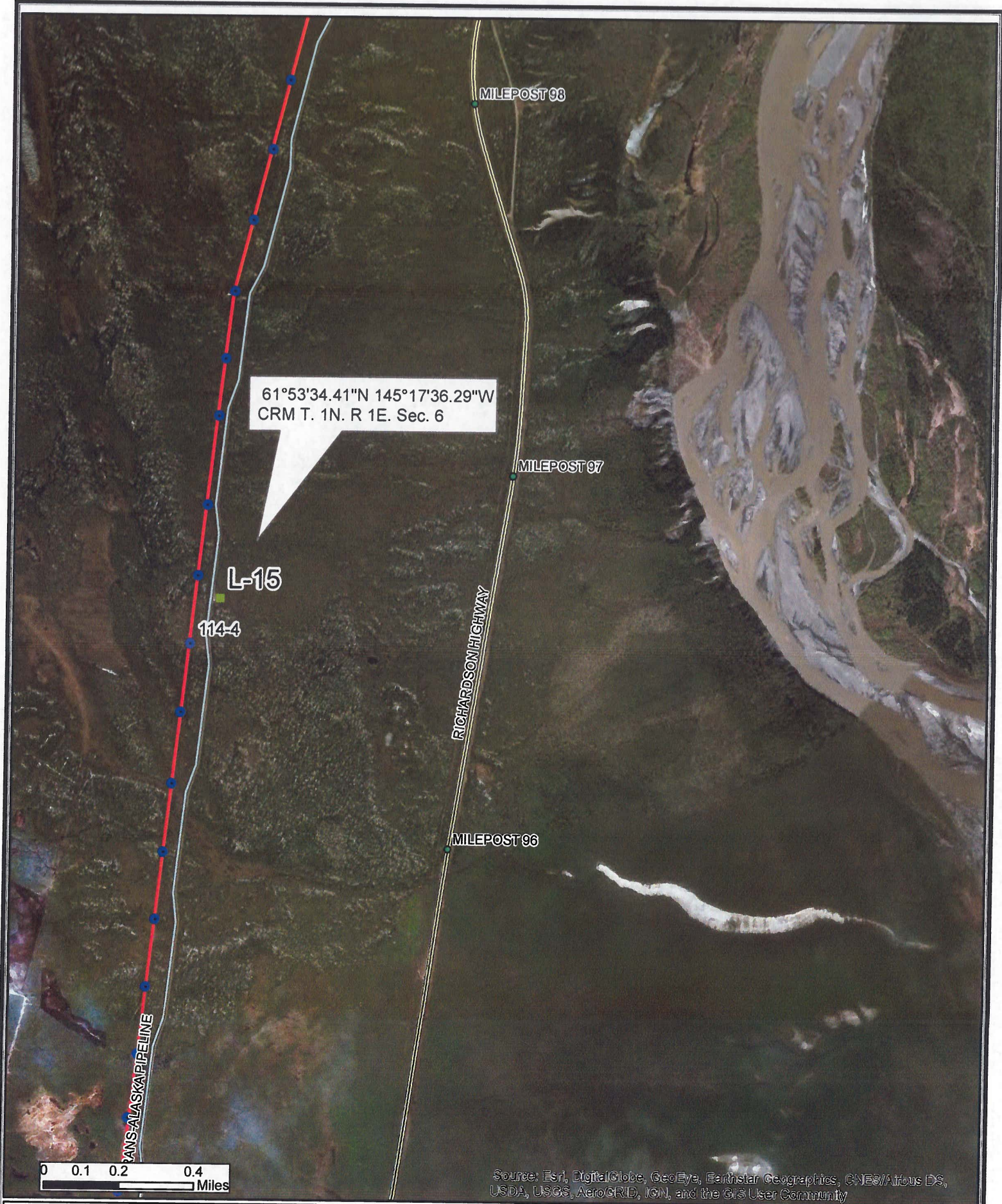
CVEA Marker Ball Replacement Project

L-2 Valdez to Glennallen, AK

Midnight Sun ENVIRONMENTAL, LLC

2000 International Road, Suite 300, Anchorage, AK 99503-4000

Coordinate System: Albers
Central Meridian: 96°00'00"W
1st Std Parallel: 20°00'00"N
2nd Std Parallel: 60°00'00"N
Latitude of Origin: 40°00'00"N



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

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N

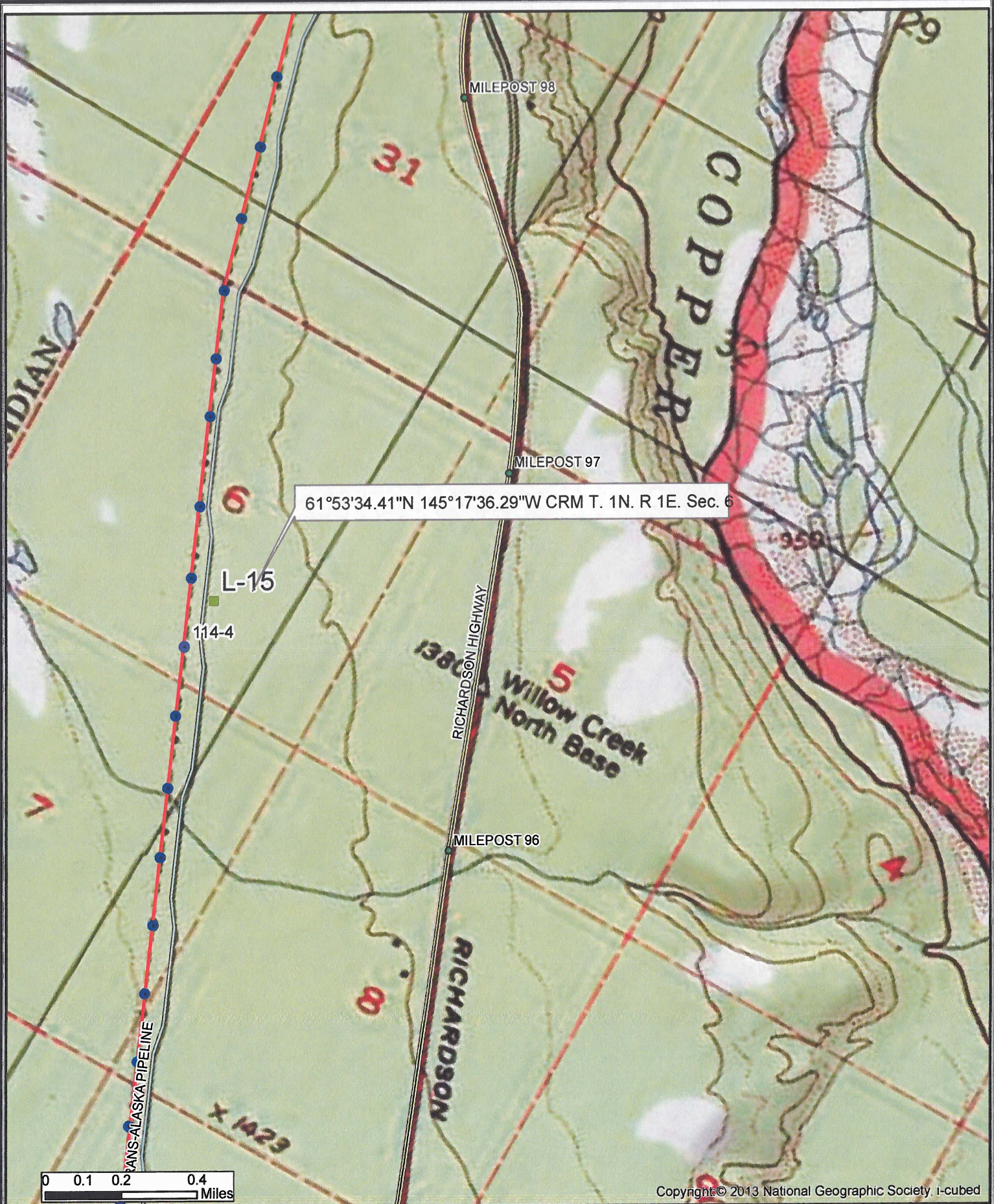
CVEA Marker Ball Replacement Project

L-15 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°0'0"W
1st Std Parallel: 20°0'0"N
2nd Std Parallel: 60°0'0"N
Latitude of Origin: 40°0'0"N

MSE **Midnight Sun ENVIRONMENTAL, LLC**

2010-2011



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Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

CVEA Marker Ball Replacement Project

L-15 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N

MSE Midnight Sun
ENVIRONMENTAL, LLC



0 0.1 0.2 0.4
Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

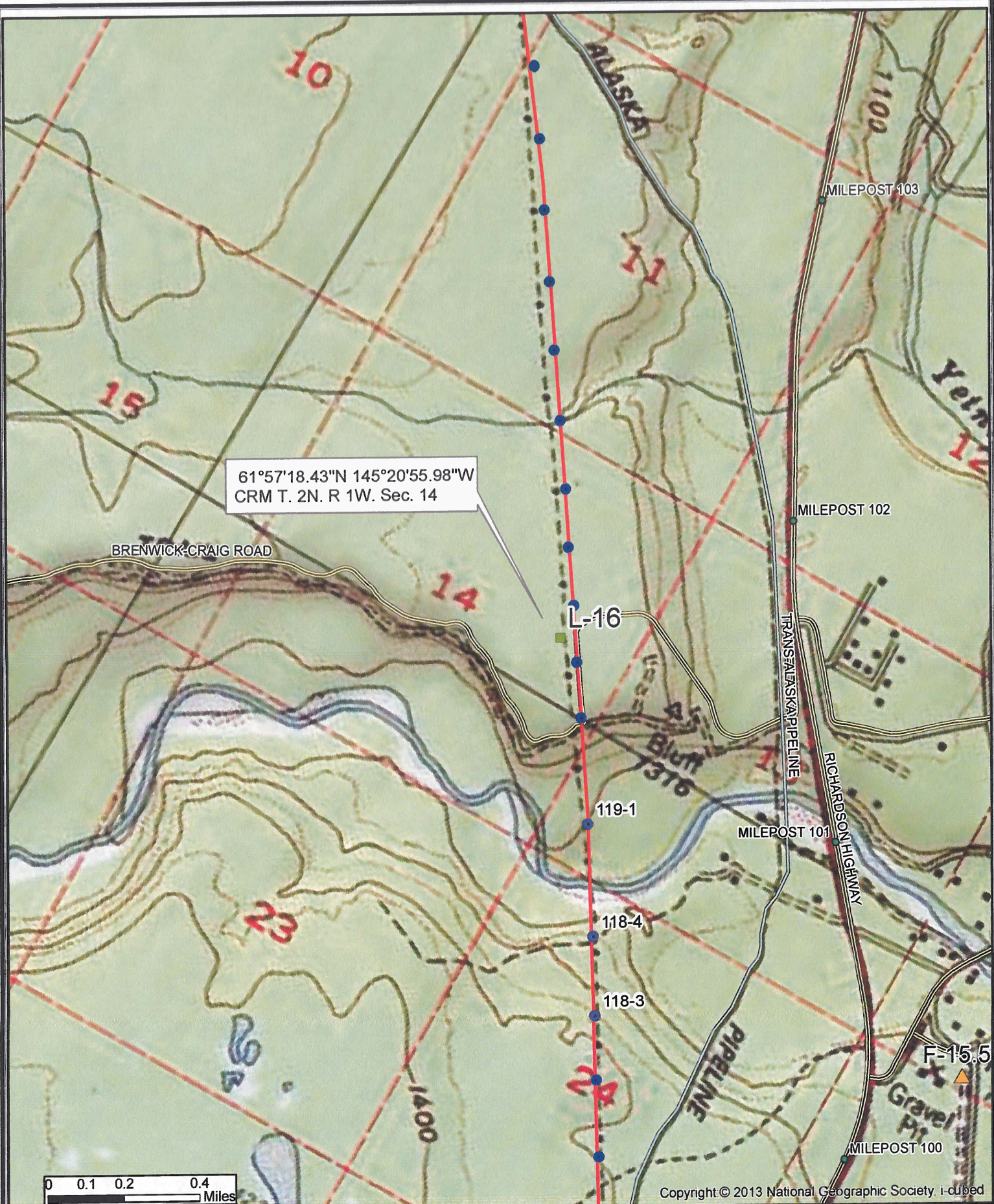
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CVEA Marker Ball Replacement Project

L-16 Valdez to Glennallen, AK

Coordinate System: Albers
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1st Std Parallel: 20°0'0"N
2nd Std Parallel: 60°0'0"N
Latitude of Origin: 40°0'0"N

MSE Midnight Sun
ENVIRONMENTAL, LLC



- Legend**
- Fuel Spot
 - Laydown
 - Poles
 - CVEA_Transmission



CVEA Marker Ball Replacement Project

Valdez to Glennallen, AK

L-16

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N





Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

CVEA Marker Ball Replacement Project

L-17 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°0'0"W
1st Std Parallel: 20°0'0"N
2nd Std Parallel: 60°0'0"N
Latitude of Origin: 40°0'0"N

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Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

CVEA Marker Ball Replacement Project

L-17 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N

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61° 6'18.0099"N 145° 49'50.3596"W
CRM T. 9 S. R 3W. Sec. 7

RICHARDSON HIGHWAY
MILEPOST 17

WORTMANS

MILEPOST 18

MILEPOST 19

L-3F

TRANS-ALASKA PIPELINE

39-2

39-3

38.4

0 0.075 0.15 0.3
Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission



CVEA Marker Ball Replacement Project

L-3F Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°0'0"W
1st Std Parallel: 20°0'0"N
2nd Std Parallel: 60°0'0"N
Latitude of Origin: 40°0'0"N

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Legend

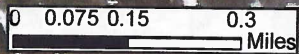
- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

CVEA Marker Ball Replacement Project

L-3F Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N

MSE Midnight Sun
ENVIRONMENTAL, LLC



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

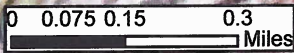
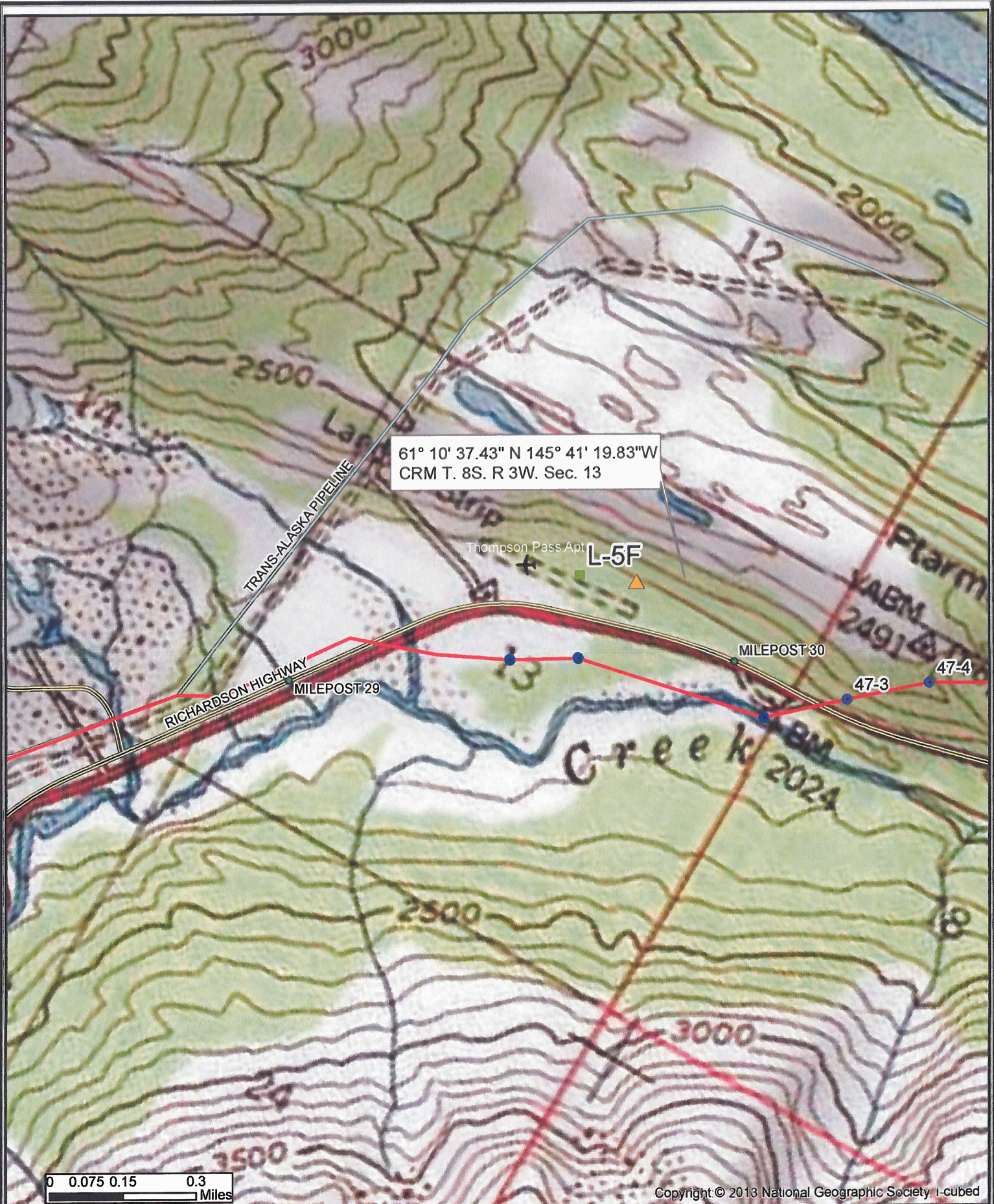
- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

CVEA Marker Ball Replacement Project

L-5F Valdez to Glennallen, AK

Midnight Sun ENVIRONMENTAL, LLC

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N



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- Legend**
- Fuel Spot
 - Laydown
 - Poles
 - CVEA Transmission



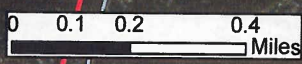
CVEA Marker Ball Replacement Project

Valdez to Glennallen, AK

L-5F

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Fuel Spot
- Laydown
- Poles
- CVEA_Transmission

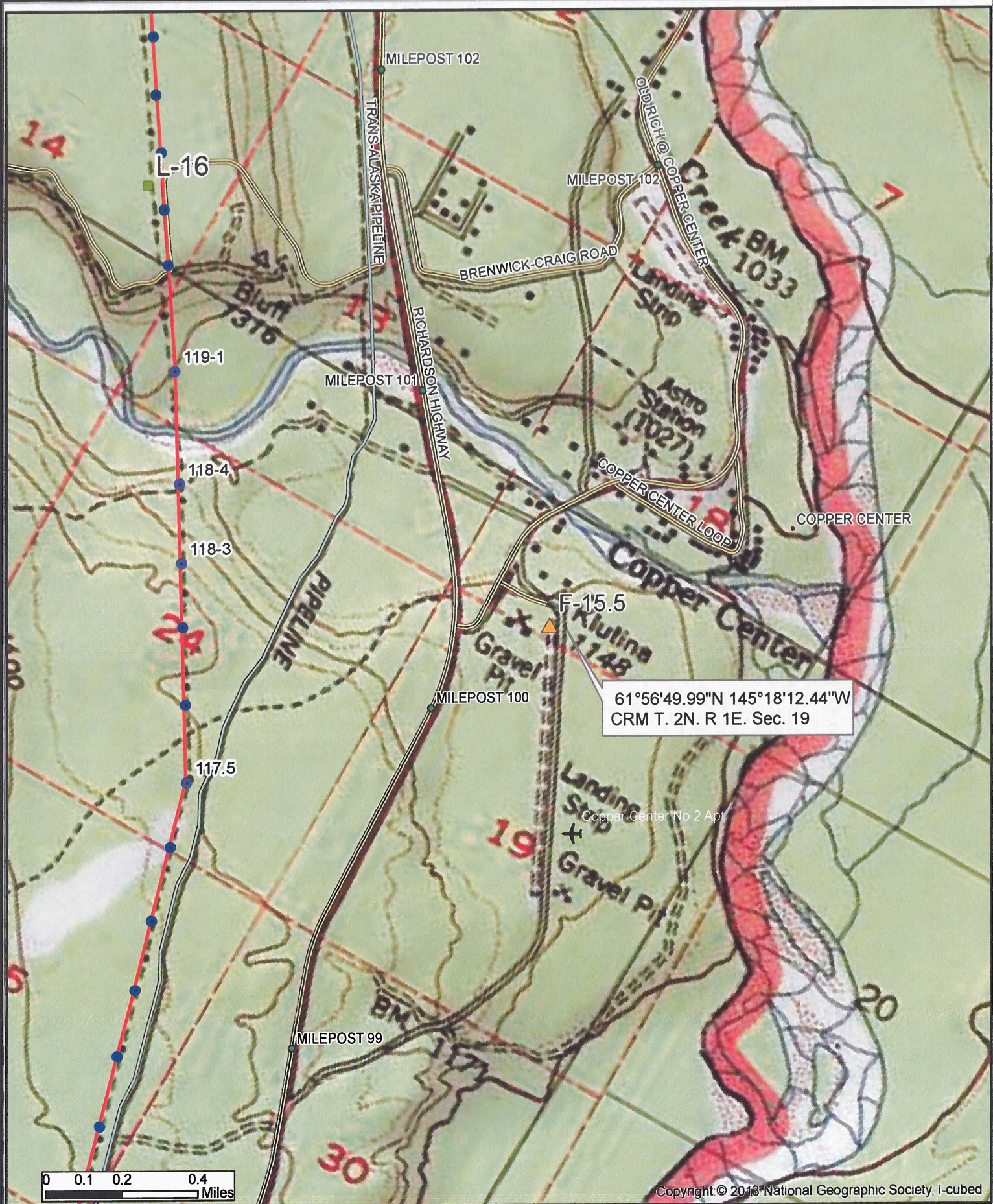
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CVEA Marker Ball Replacement Project

F-15.5 Valdez to Glennallen, AK

Coordinate System: Albers
Central Meridian: 96°00'W
1st Std Parallel: 20°00'N
2nd Std Parallel: 60°00'N
Latitude of Origin: 40°00'N

MSE **Midnight Sun ENVIRONMENTAL, LLC**



<p>Legend</p> <ul style="list-style-type: none"> Fuel Spot Laydown Poles CVEA_Transmission 	<p align="center"> CVEA Marker Ball Replacement Project F-15.5 Valdez to Glennallen, AK </p> <p> <small> Coordinate System: Albers Central Meridian: 95°00'W 1st Std Parallel: 20°00'N 2nd Std Parallel: 60°00'N Latitude of Origin: 40°00'N </small> </p>	<p align="center"> Midnight Sun ENVIRONMENTAL, LLC <small> 10010 Highway 20, Suite 300, Anchorage, AK 99515 Phone: (907) 561-1111 </small> </p>
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HELICOPTER REFUELING PLAN

CVEA Marker Ball Replacement from the Meals Substation to Pump Station 11

February 19, 2018

DRAFT

Introduction

The purpose of this Helicopter Refueling Plan is to for safe helicopter procedures for personnel and the environment during helicopter refueling activities the Marker Ball Replacement project from Valdez to Glennallen Alaska, which will be implemented by Northern Powerline Constructors, Inc. (NPC) for Copper River Valley Electric Association (CVEA). A helicopter will be used during the removal and replacement of marker balls along the existing transmission line. Billings Flying Service, Inc. (Billings) is the subcontractor who will be providing helicopter services for the project. Billings will be providing a four to five person crew consisting of two pilots, one crew member and one to two mechanics.

Helicopter Refueling

As the helicopter will be required to move up and down the transmission line, it will need to be refueled at regular intervals with Jet A Fuel with PRIST®. PRIST® is a fuel additive which inhibits bacterial growth within the fuel and prevents any moisture present in the fuel from freezing (See Attachment A for Proposed Landing Zones). The refueling will be conducted while the helicopter is running in order to maximize fuel efficiency and minimize down time associated with helicopter operations. At the proposed helicopter landing areas, a mobile refueling truck with a 2000-gallon tank will be used for refueling operations. The tanker trucks will be operated by either Shoreside Petroleum, Inc. (Shoreside), or Fisher's Fuel Inc. (Fisher's), depending on the specific refueling location along the transmission line. Both Shoreside and Fishers will follow their individual Operations Manual for safe refilling operations (included in Attachment A).

Upon landing the helicopter, one crew member from the helicopter crew will refuel the helicopter. This is accomplished by moving the tanker truck into position approximately 30 feet from the aircraft and connecting a Closed Circuit Refueling (CCR) system to the tanker truck. The CCR system is equipped with a cam lock fitting, which requires the opening of two gates within the fuel dispensing hose to open in order for fuel to flow through the hose. The CCR system has a grounding system built into it to minimize the risk of fire or explosion from electrical sparks. The crewmember will then turn on the power take off (PTO) which begins pumping fuel from the tanker to the helicopter. The pump on the tanker truck is capable of pumping roughly 80 gallons per minute, requiring approximately four minutes for refueling of the helicopter. The tanker truck is equipped with a "dead man switch" which results in the pump shutting off if the switch is not continuously pushed, reducing the chances of a spill. The crewmember will be in continuous two-way communication with the helicopter pilots. Upon completion of refueling, the crewmember will turn off the PTO and close the gates of the hose. The crewmember will then reel up the hose, and the helicopter will take off to commence work. During refueling operations, crewmembers will abide by Billings Spill Prevention Plan, and each refueler will also maintain an individual operations Manual (Shoreside Operations manual included in Attachment B).

Spill Prevention

The tanker truck will be equipped with a fuel containment barrier under the hose reel. After refueling of the helicopter, the hose will contain approximately 17-20 gallons of fuel. The fuel hose is rated at 250 psi, minimizing the risk of leaks associated with the hose. However, in the event that a leak in the hose should occur, the spill would be contained within the containment barrier under the hose reel. Additionally, a spill kit, boom, equipment, duck pond and fire extinguisher will be present on site during refueling operations.

Spill Reporting

In the event that a spill should occur at the site, the spill response and reporting procedures documented in the onsite Hazardous Materials Control Plan (HMCP) will be followed.

Attachments:

- (A) Proposed Landing Zones
- (B) Shoreside Operations Manual Mobil Facilities