



N8065 Black Mesa Culvert Installation Project

Navajo Division of Transportation

Project Overview

Contract No. CO12660

Project Coordinator – Monica Redhouse

Project Superintendent – Andrew Yazzie

Project Forman – Michael Begay

Lead Carpenter – Bob Mitchell



Project Overview

- Executed Contract - March 27, 2018
- Pre-Conference / Notice to Proceed – April 18, 2018
(Contract 365 calendar days)
- Project Delay due to 401 & 404 NEPA Permits from June 4 to September 14, 2018 (95 days)
- Construction Started – September 17, 2018
- Completion Date – November 16, 2018 (60 days)

Project Budget

- Contract Amount \$252,916.91
- Modification Amount \$2,607.15
- Total Completed Amount \$255,524.06
- Actual Amount to Date \$177,407.79 (**22% profit**)





A large, silver, corrugated steel culvert pipe is being installed in a deep, earthen trench. The pipe runs diagonally from the upper left towards the lower right. Several construction workers in orange safety vests and white hard hats are positioned around the pipe, some near the open end at the bottom right. A yellow excavator is visible at the top of the trench. A large pile of dry brush and branches is on the left side of the trench. The date '10/09/2018' is printed in yellow in the bottom right corner.

-7 foot Diameter Corrugated Steel Culvert Pipe
-132 feet long

10/09/2018



10/30/2018

Wire Enclosed Riprap, Class 2



Minor Concrete Class A(AE) Type II



Seeding, Dry Method



Erosion Control Product Type 4









Questions?

1389 N2007 Road and Bridge

Navajo, AZ

Navajo Engineering & Construction Authority

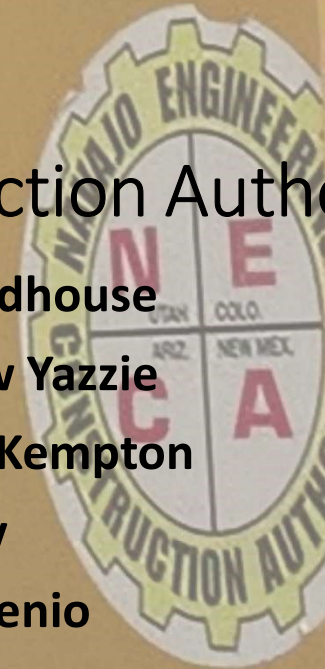
Project Coordinator: Monica Redhouse

Project Superintendent: Andrew Yazzie

Concrete Superintendent: Kenny Kempton

Safety Officer: Lee B. Roy

Project Engineer: Terrence Henio



SAFETY

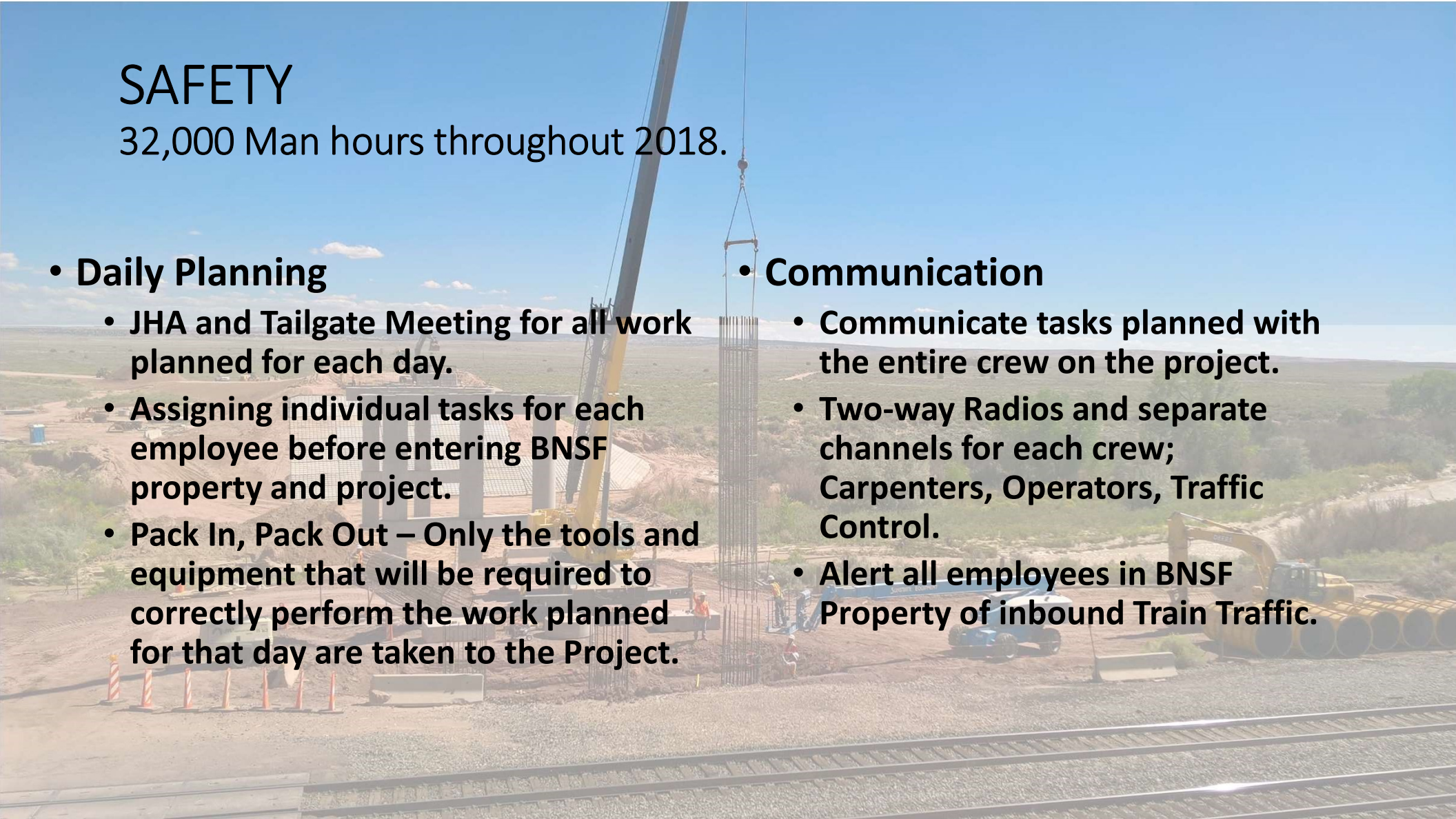
32,000 Man hours throughout 2018.

• Daily Planning

- JHA and Tailgate Meeting for all work planned for each day.
- Assigning individual tasks for each employee before entering BNSF property and project.
- Pack In, Pack Out – Only the tools and equipment that will be required to correctly perform the work planned for that day are taken to the Project.

• Communication

- Communicate tasks planned with the entire crew on the project.
- Two-way Radios and separate channels for each crew; Carpenters, Operators, Traffic Control.
- Alert all employees in BNSF Property of inbound Train Traffic.



Road Section

- **33,000 cubic yards of borrow excavation placed on the northern section of the project in 2018.**
- **114,000 cubic yards of roadway borrow placed and compacted to-date.**
- **4,500 Tons of base course placed on completed section of the roadway.**
- **185 cable concrete mats placed on the north and south abutments at the bridge.**

Bridge Section

- 570 cubic yards of concrete placed on the bridge substructure in 2018.
- 980 cubic yards of concrete total.
- All 915 feet of 4 foot and 5 foot diameter drill shaft placed for the abutments and piers.
- All piers and abutments completed to the caps, awaiting the delivery and hoisting of beams.
- Tallest cap is 50 feet from the bottom of the wash.

Upcoming 2019 Work Items

• Road Section

- Finish subgrade bridge approach
- Fine grade base course
- Install Fencing
- Pave Roadway
- Stripe road markings and set signs

• Bridge Section

- Hoist 24 – 129/130 ft. Beams
- Place metal decking, overhang brackets and reinforcing steel for concrete deck placement
- Form and place barrier wall and pedestrian fence



Questions?





N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

CONTRACT NUMBER CO12940

NAZLINI, AZ TO CHINLE, AZ





N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Content and Overview

- Project Contract Sign and Notice to Proceed
- Project Location and Maps
- Initial Mobilization
- Chinle NECA Team
- Work Performed in 2018
- Shut Down 2018
- Infrastructure Reroutes and Relocations
- Outside Setbacks Encountered
- Project Progress
- Planned Restart of Project
- Q & A



N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4



Contract Signed April 15, 2018 in Nazlíní, AZ

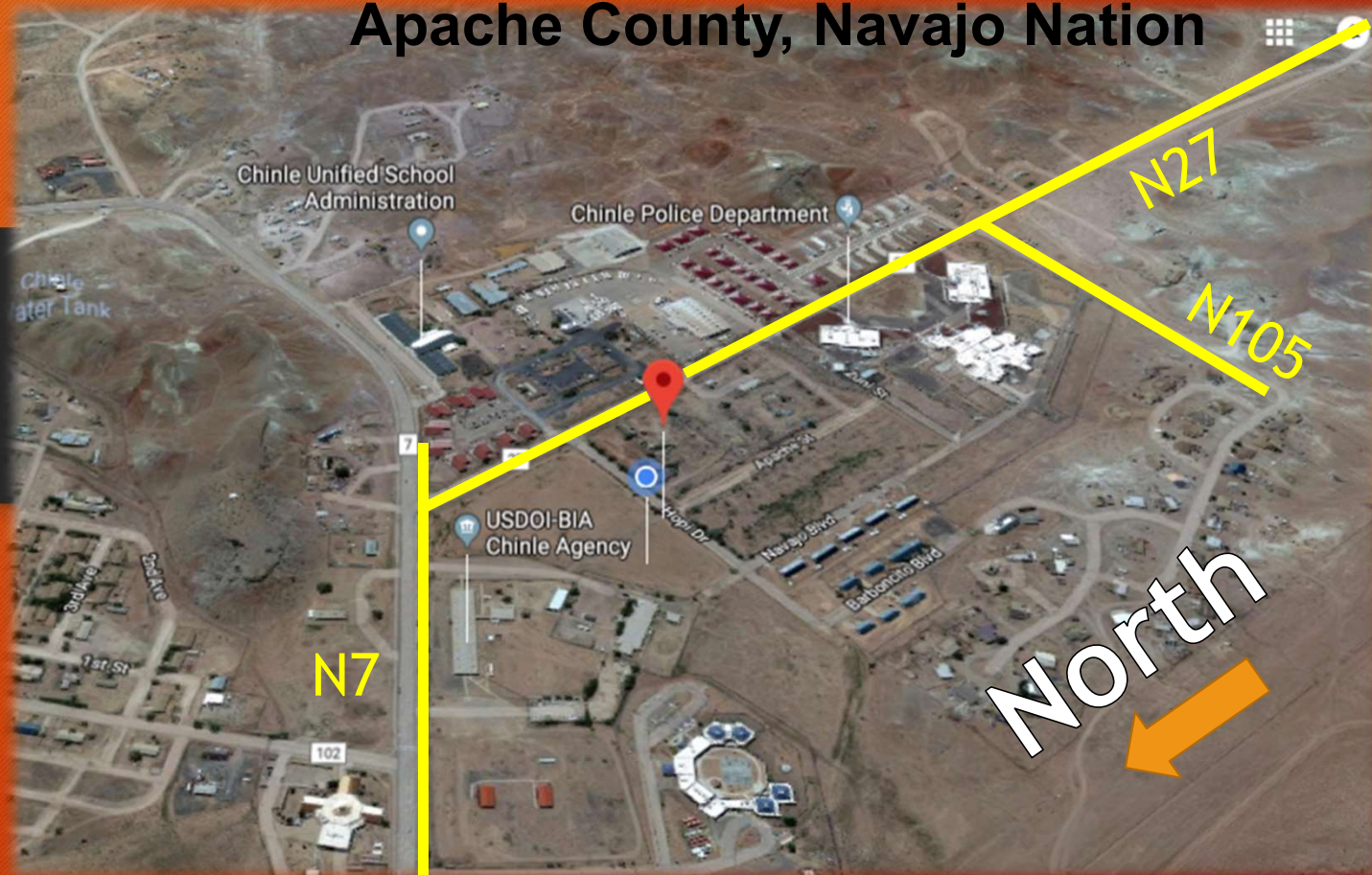


N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Contract Price: \$33,332,754.42
Notice to Proceed: July 09, 2018



N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4
Description of Project: 17.47 km (10.86 mi) of roadway located between Nazlini and Chinle, AZ, Apache County, Navajo Nation



<https://goo.gl/maps/d6TXvNRBw4K2>
<https://goo.gl/maps/sPi7FoXf8Js>



N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Mobilization and Chinle Yard setup began: July 2018

- Move in office trailers
- Fuel Station Setup
- Construction of Water Source and Ponds
- Transfer of Equipment
- Selection of Employees





N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Chinle NECA Team Members:

Michael Redhorse (Project Manager)
Monica Redhouse (Project Coordinator)
Jed Roanhorse (Project Engineer)
Jimmy Tsosie (Dirt Foreman)
Delbert Shirley (Traffic Control Supervisor)



Excavation, Precompaction, and Material Shipments

N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4



- Excavation
 - I. Scraper Ex
 - II. Embankment
 - III. Cut: 49+300 - 51+420
 - IV. Fill: 49+340 - 51+440
- Precompaction
- Managing Material Shipments
 - I. Concrete Arch Pipes
 - II. Corrugated Culvert Pipes
 - III. Lifting Cables for Concrete Arch/ Box Culverts





N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Excavation, Precompaction, and Material Shipments

- Began excavation for culvert pipes
 - I. One 3-Barrel Culvert Installed Sta 50+795
 - II. 1448 mm (57") x 965 mm (38") CSPA
 - III. 27.432 meters (90 ft) per barrel
 - IV. Layout culvert pipes
 - Water Development
 - I. Reinstall pumps
 - Traffic Control
 - I. Reroutes
 - II. Detours
 - Mobilization





Shut Down due to Extreme Weather December 2018





Construction Resume February 18, 2019





NTUA Utility Relocation

- Fiber Optic Line by Frontier Communications
- Gas Line by NTUA
- NTUA wastewater relocation by NECA
- Reroute Overhead Powerline over Roundabout by NTUA

N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4





N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Outside Set-Backs Encountered:

- Freezing Water Source, rupturing water line
- Very Dusty causing low visibility
- High Moisture Content
 - I. Wear and Tear
 - II. Equipment Breakdowns
- Running into Rock Excavation - Wear and Tear



N27(2-2)(4-2)/N7(2-3)/N105(1)1,2,&4

Planned Restart of Project

- Complete Utility Relocations
- Rehire construction crew
- Install traffic detours for traffic control
- Begin Installation of concrete arch pipes
- I. Build new water drainage channel
- Continue with road construction
- Build new N105 Detour
- Continue Communications with Wilson & Company and Vendors
- Continue work with Quality Control Ninyo & Moore



WILSON
& COMPANY

Ninyo & Moore



Example of
Concrete Mat
Drain Channel



Traffic Control
Snapshot: Chinle Old Airport
Road Detour (N105)



Questions?





PROJECT 1399

KAIBETO, AZ - N6330(1)1,2&4 N6331(2)2&4, N6331(1-2)2,4 &
N21(3A) SPUR ROAD

PROJECT OVERSIGHT

Ammerson Barber – Project Coordinator

Patrick Martinez – Project Manager

Quinn Montoya – Project Engineer



PROJECT OVERVIEW

Contract Cost – \$15,597,180.56

Projected Start Date – March 25, 2019

Projected Completion Date – April 10, 2020
(384 Calendar Days)



PROJECT OVERVIEW

Submittal Pending

NO. 148 Bar Chart 1/3/19

NO. 39 SWPPP 1/11/19

Submittal Approved

NO. 150 Traffic Control 1/22/19

NO. 9b SPCC 1/24/19

NO. 118 Survey Verification 1/24/19

NO. 263 Cattle Guards 1/24/19

NO. 109 Survey QCP 1/25/19

NO. Safety 2/12/19

NO. 125 QCP 2/13/19

1/2019
1930 2016

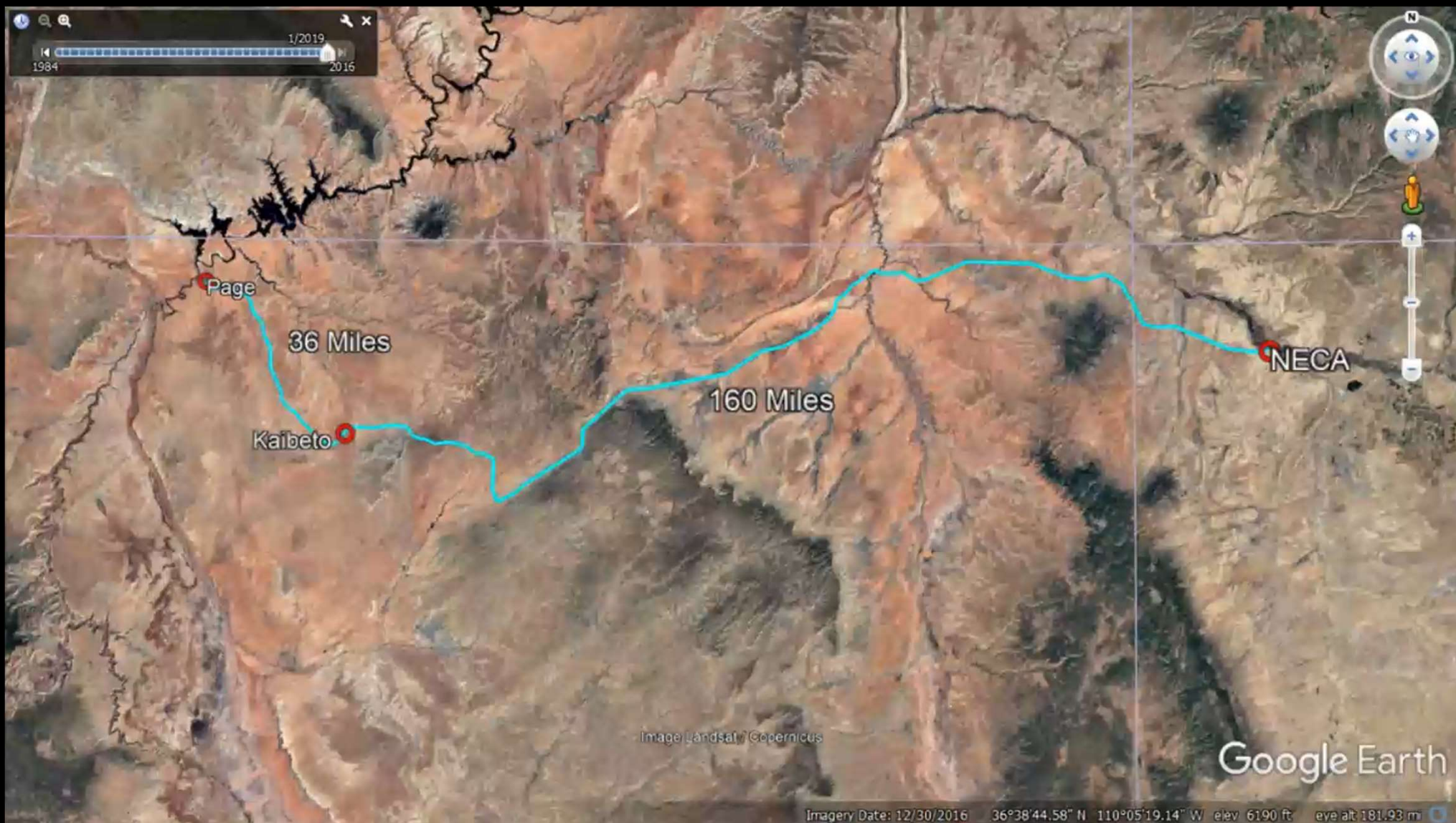
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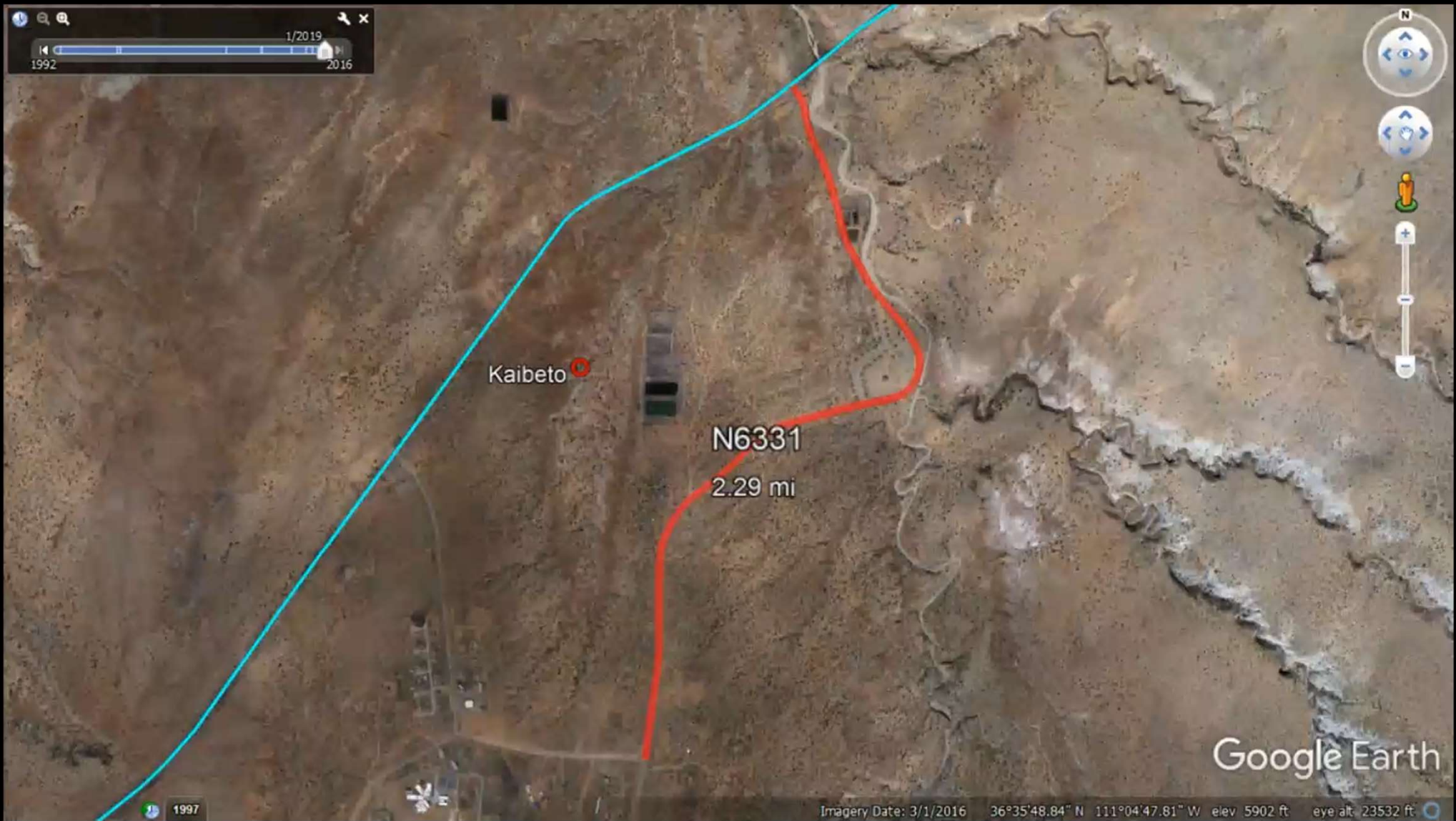


Image Landsat / Copernicus

Google Earth

Imagery Date: 12/30/2016 32°57'28.24" N 97°41'08.79" W eye alt 8748.56 mi





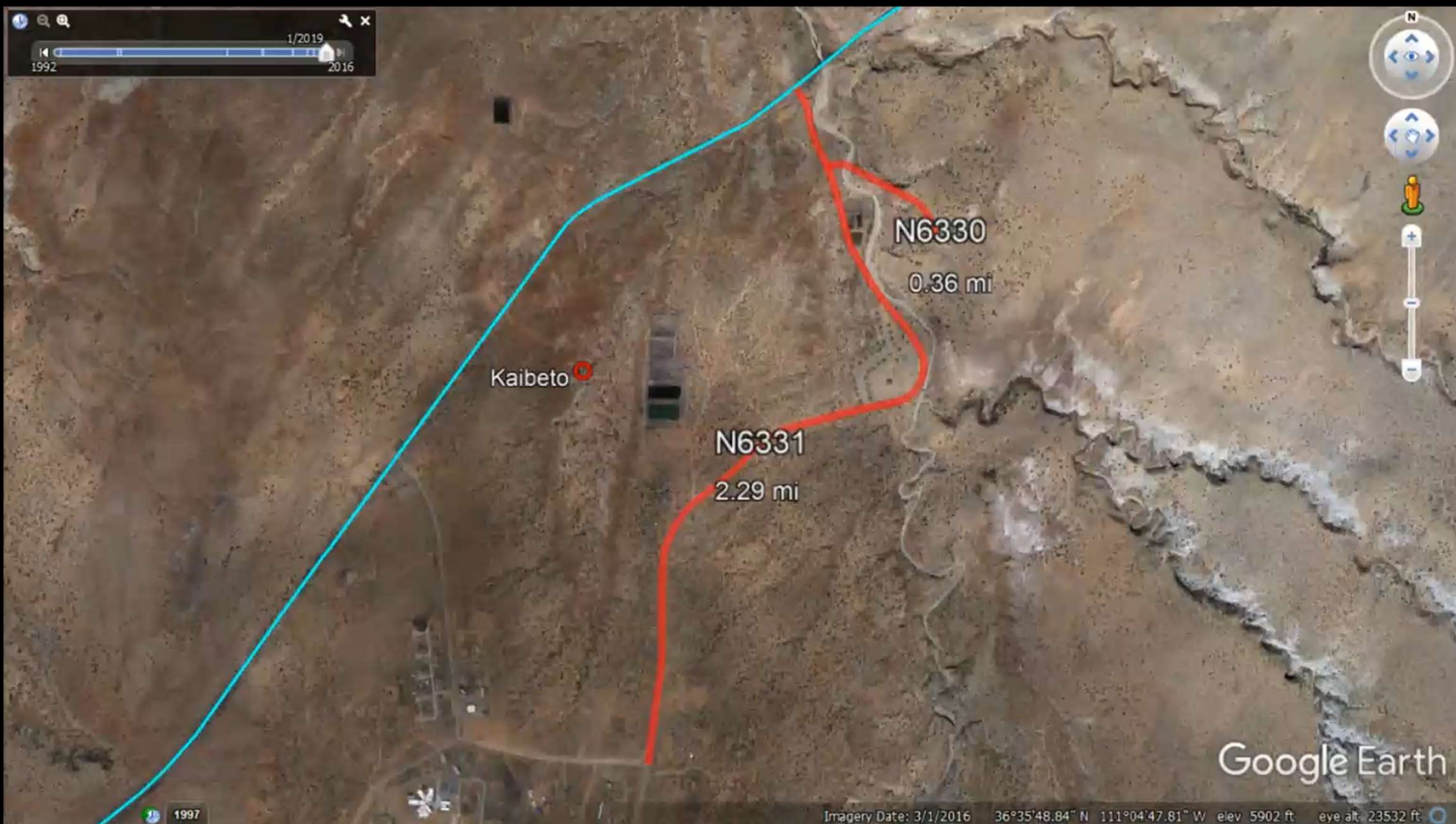
Kaibeto

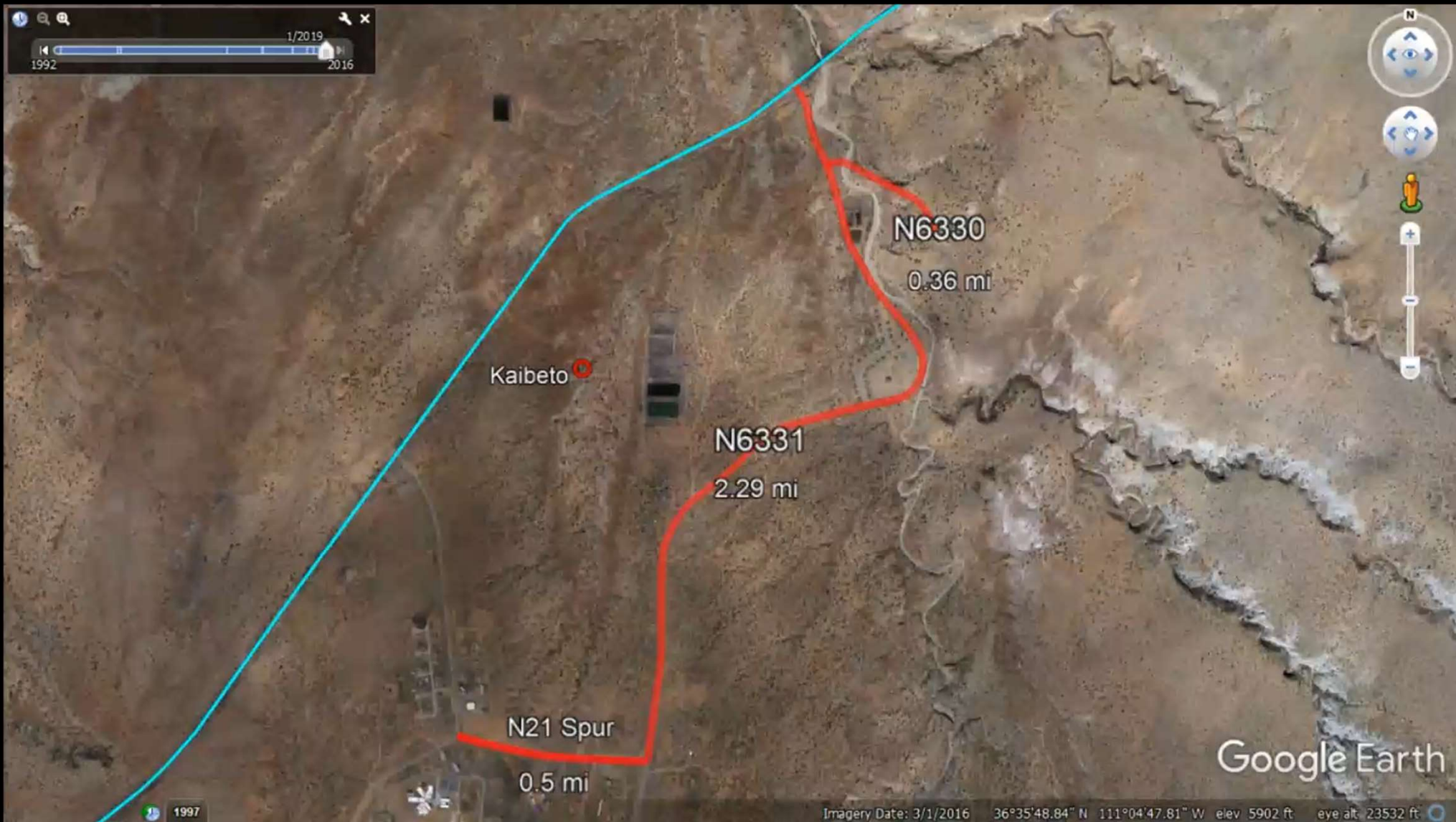
N6331

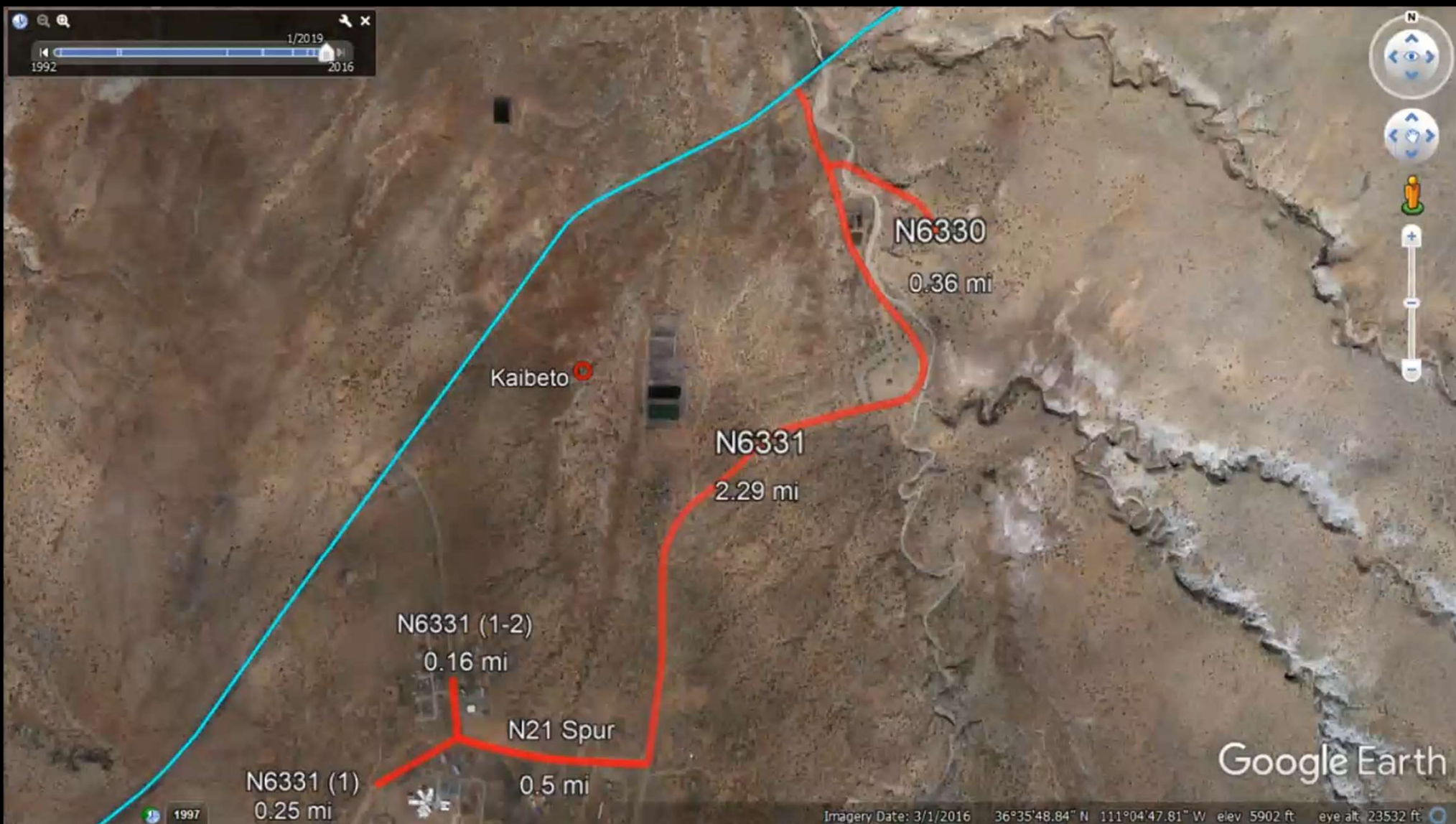
2.29 mi

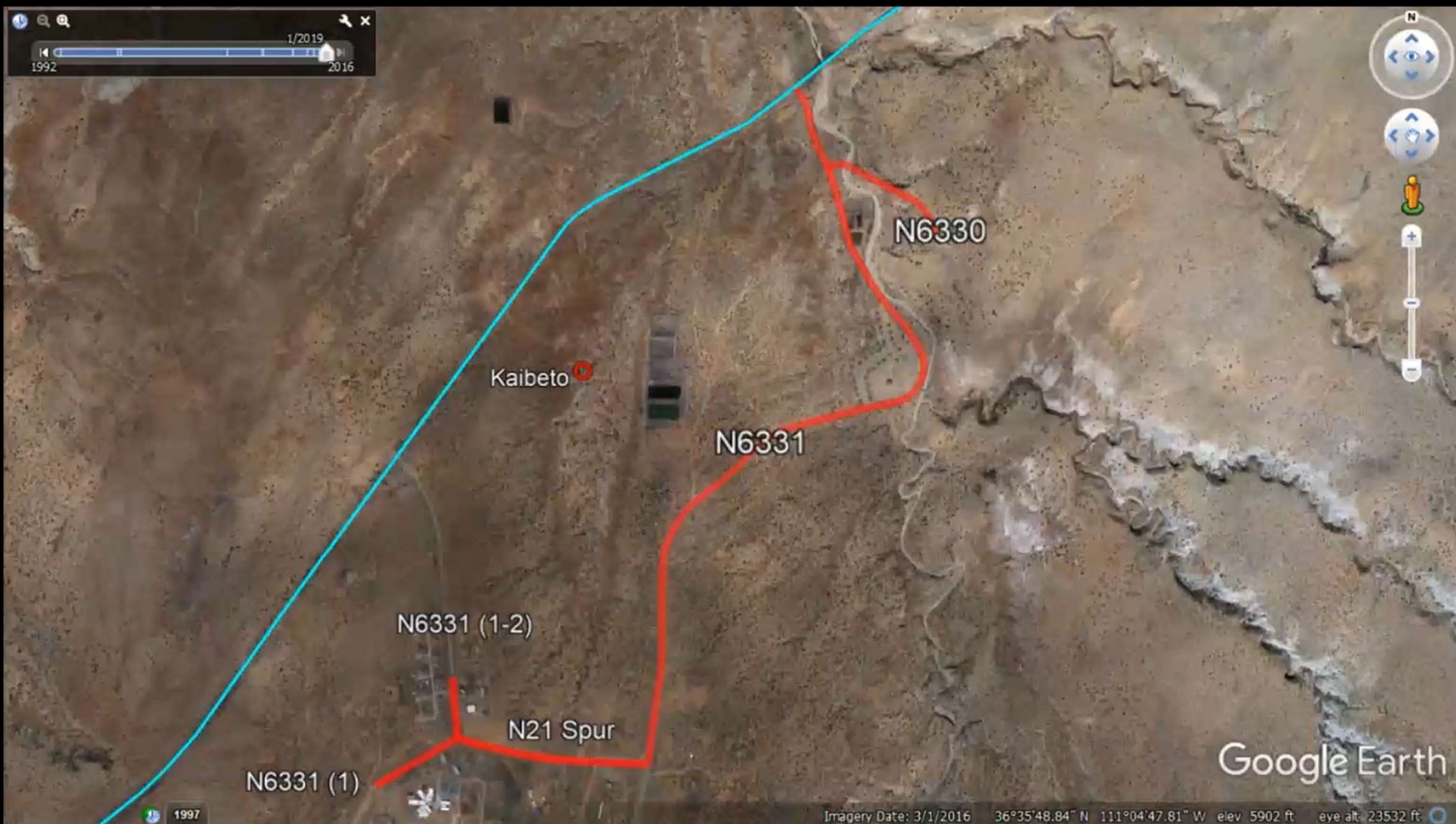
Google Earth

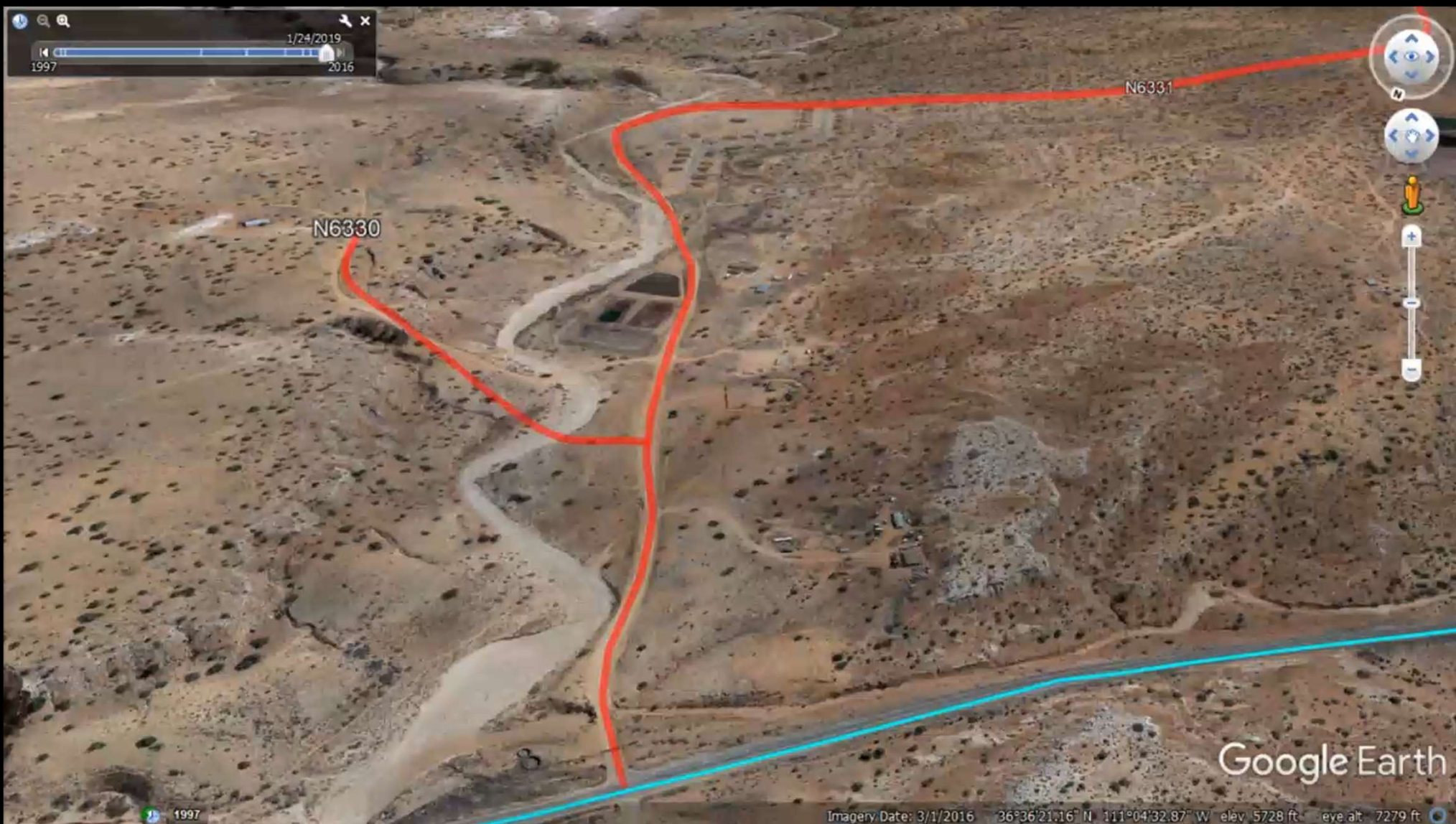
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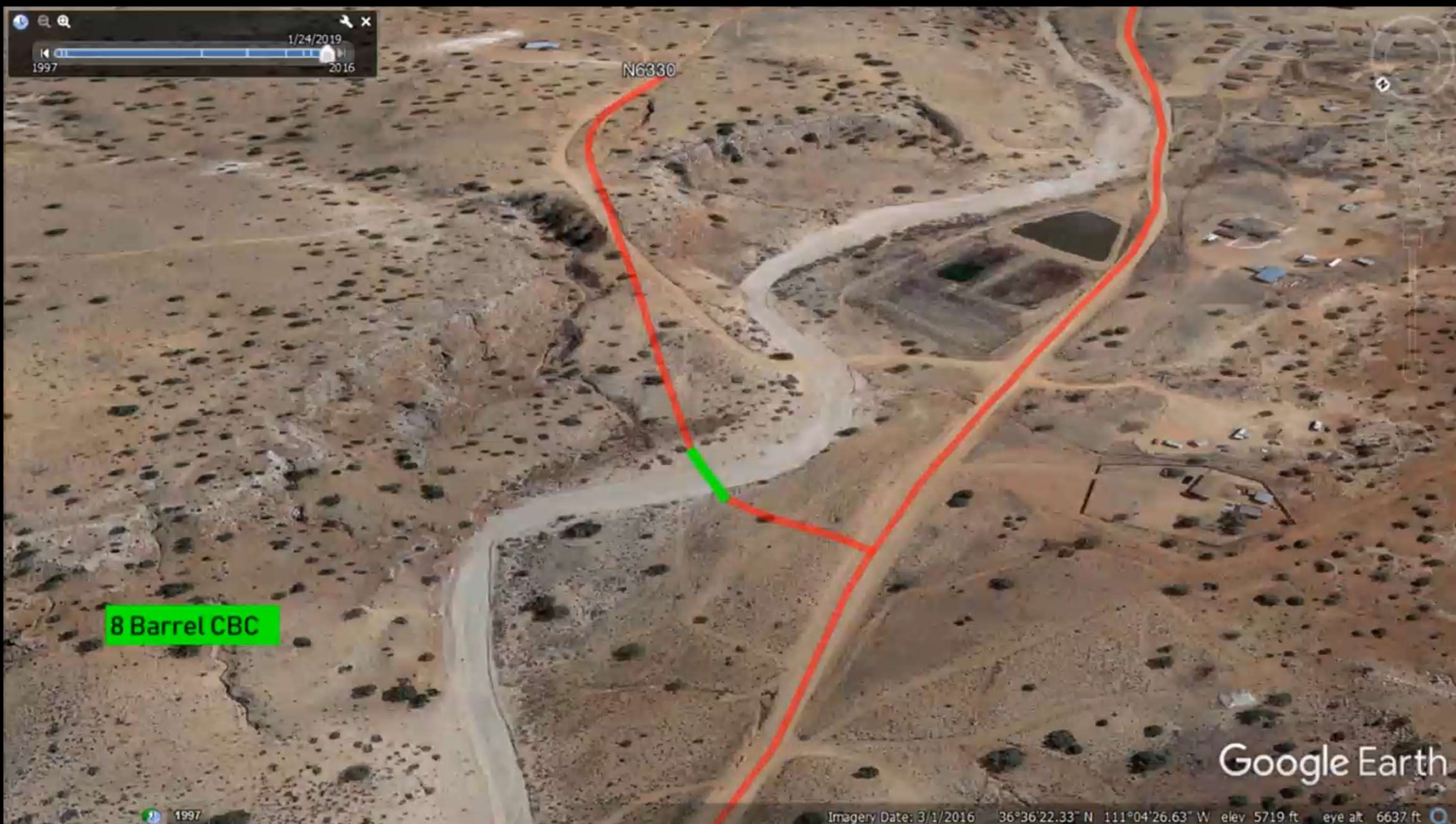


N6330

N6331

Google Earth

Imagery Date: 3/1/2016 36°36'21.16" N 111°04'32.87" W elev 5728 ft eye alt 7279 ft

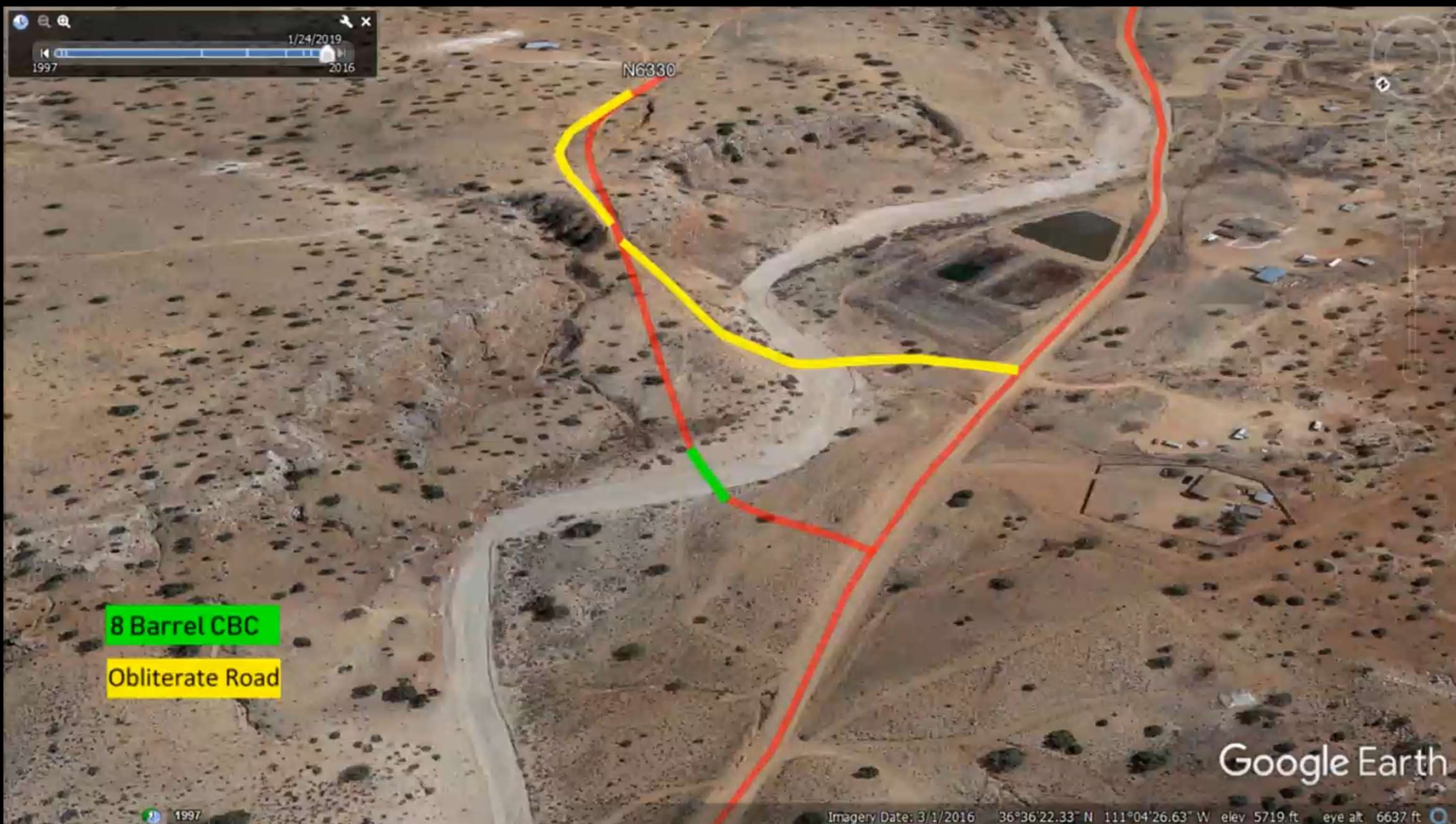


8 Barrel CBC

N6330

Google Earth

Imagery Date: 3/1/2016 36°36'22.33" N 111°04'26.63" W elev 5719 ft eye alt 6637 ft

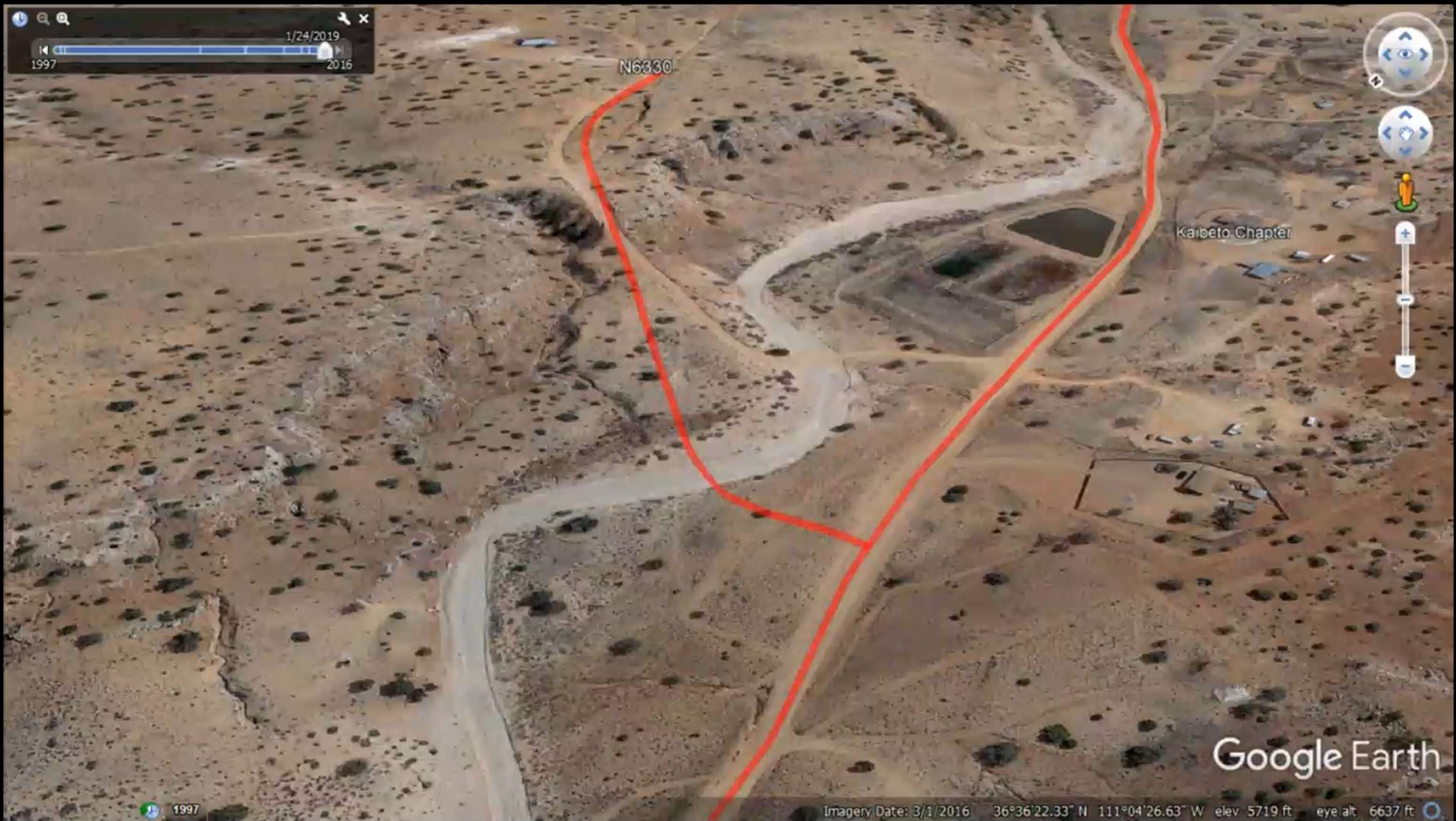


8 Barrel CBC

Obliterate Road

Google Earth

Imagery Date: 3/1/2016 36°36'22.33" N 111°04'26.63" W elev 5719 ft eye alt 6637 ft



N6330

Kaibeto Chapter

Google Earth

Imagery Date: 3/1/2016 36°36'22.33" N 111°04'26.63" W elev 5719 ft eye alt 6637 ft





Parking Lot

Obliterate Road

Kaibeto Chapter

Google Earth

Imagery Date: 3/1/2016 36°36'13.10" N 111°04'26.61" W elev 5735 ft eye alt 6886 ft





Obliterate Bridge

Google Earth

Imagery Date: 3/1/2016 36°35'48.32" N 111°04'21.40" W, elev. 5782 ft. eye alt. 6603 ft.



Obliterate Bridge

Google Earth

Imagery Date: 3/1/2016 36°35'48.32" N 111°04'21.40" W, elev. 5782 ft. eye alt. 6603 ft.

12/2016
1977 2016

Project 1377 - N21(3)

N21 Spur

N6331

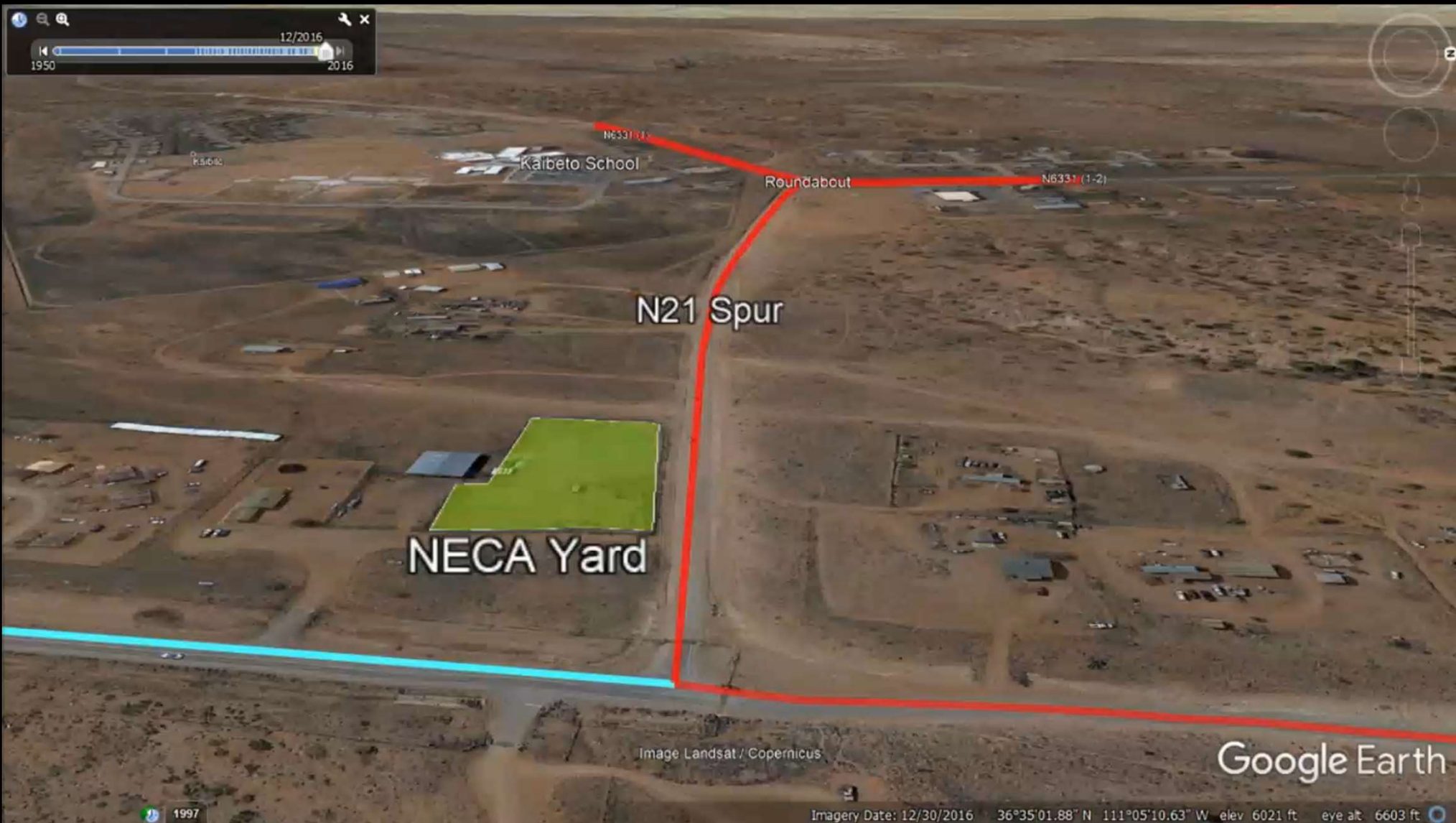
Image Landsat / Copernicus

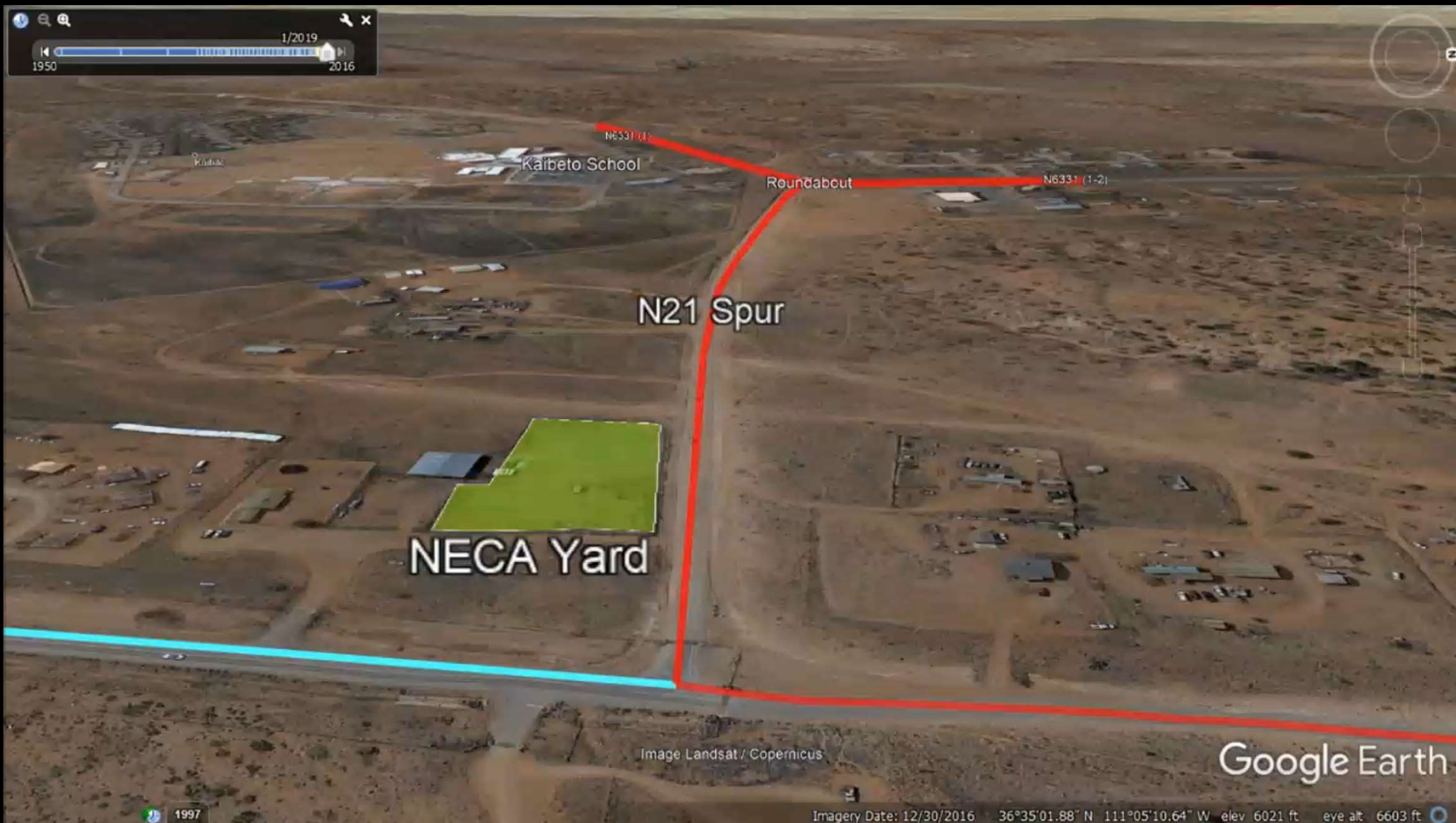
Google Earth

1997

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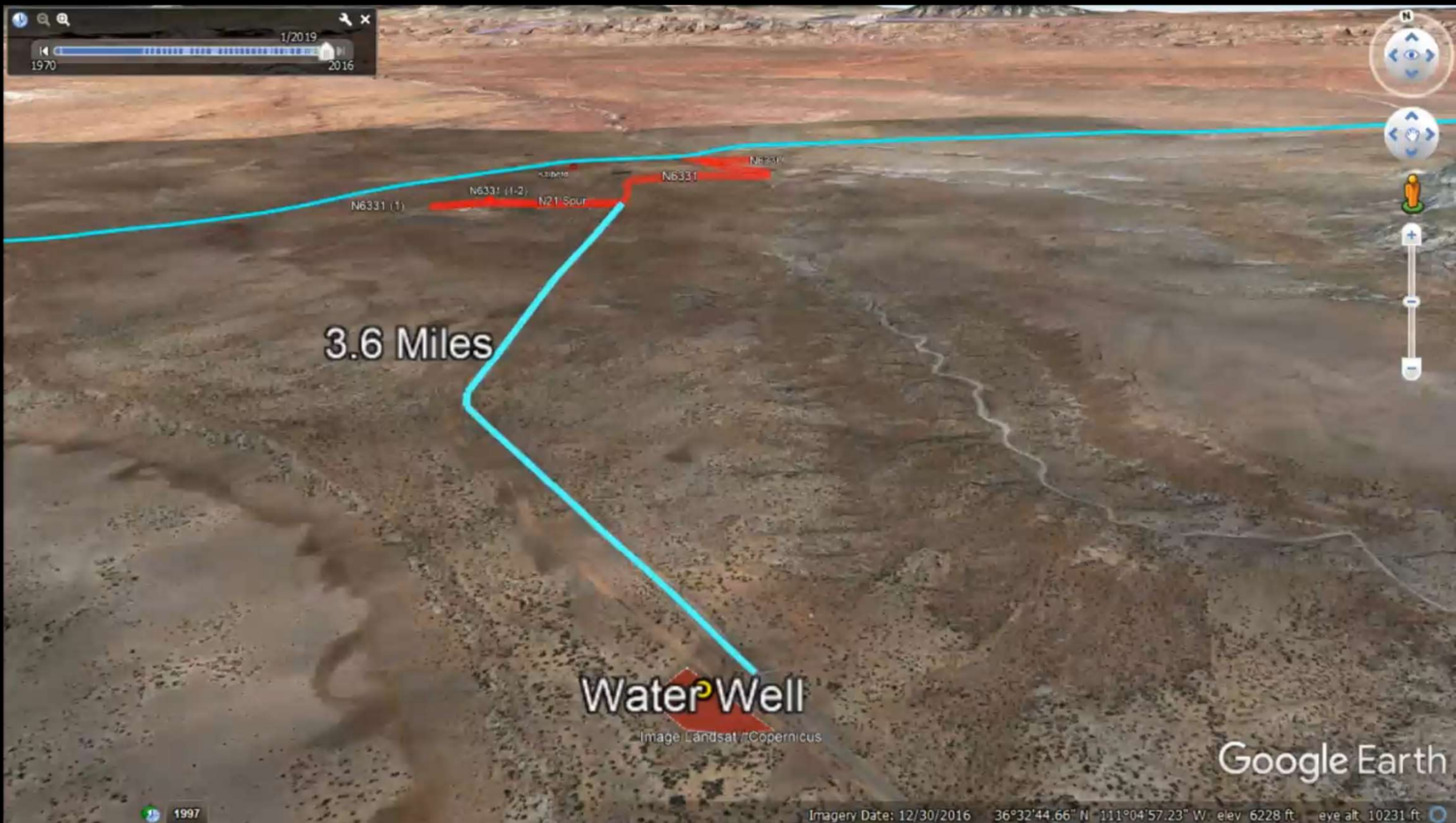
12/2016
1950 2016











A wide-angle photograph of a desert landscape. In the foreground, a dirt road with visible tire tracks leads towards the horizon. The ground is dry and sandy with sparse, low-lying green and brown shrubs. In the middle ground, a small white building with a dark roof and a single door stands near a larger, leafy tree. A utility pole with wires is also visible. The background features rolling hills and a clear blue sky with scattered white clouds. The word "QUESTIONS?" is superimposed in the center of the image in a large, black, serif font.

QUESTIONS?