

**DART Air Monitoring  
TARGETING/INSPECTION REPORT**

<b>Inspection Date(s):</b>	April 25, through April 28, 2022		<b>Inspection Announced:</b> {No}		
<b>Name</b>					
<b>Email</b>					
<b>ERG Staff</b>					
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Frank Rodarte					
Drew Sloan					
<b>City of Albuquerque EHD Staff</b>					
Dwayne Salisbury					
<b>Facilities Inspected:</b>					
<b>Name</b>	<b>Address</b>	<b>Entry made to site</b>	<b>Detects Made*</b>	<b>Winds Favorable**</b>	<b>Canister Sample Collected</b>
<b>Albuquerque South Route</b>					
NuStar Energy	6348 Desert Rd, Albuquerque, NM 87105	No (4/25)	Yes (~570ppb) Dart	No	No
		Yes (4/26)	No	Yes	No
Phillips Loading Rack	6280-6363 Desert Rd, Albuquerque, NM 87105	No (4/25)	No	No	No
		No (4/26)	No	Yes	No
Western Refining	2040 2nd St SW, Albuquerque, NM 87102	No	No	Yes	No
Tempur Production USA	12907 Comfort Way, Albuquerque, NM 87120	No	No	Yes	No
Albuquerque Metal Recycling	3339 2nd St SW, Albuquerque, NM 87105	Yes (Not operating at visit)	No	Yes	No

Name	Address	Entry made to site	Detects Made*	Winds Favorable**	Canister Sample Collected
<b>Albuquerque North Route</b>					
Holly Asphalt Co	4949 Edith Blvd NE, Albuquerque, NM 87107	Yes	No	Yes	No
<b>Bloomfield Route 1</b>					
Harvest - Milagro Gas Treating Plant	1755 Arroyo Dr, Bloomfield, NM 87413	No	No	Yes	No
Hilcorp – San Juan Gas Plant	61 County Rd 4900, Bloomfield, NM 87413	No	No	Yes	No
El Paso Natural Gas Co	81 County Rd 4900, Bloomfield, NM 87413	No	No	Yes	No
Kinder Morgan Condensate Storage Facility #11606	75 County Rd 4900, Bloomfield, NM 87413	Yes	Yes (~580ppb at fence line, ~3,000ppb near tanks) DART	Yes	Yes
Transwestern Pipeline Company – Bloomfield Compressor Station	1407 Arroyo Dr, Bloomfield, NM 87413	No	No	Yes	No
Harvest Midstream – Gas Treatment Plant	County Rd 4937, Bloomfield, NM 87413	Yes	No	Yes	No
Hilcorp - Central Condensate Storage Facility	200 Montana, Bloomfield, NM 87413	No (4/27)	Yes (~2,080ppb) DART	Yes	Yes
		Yes (4/28)	Yes (>3,000ppb next to tanks)	Yes	Yes
<b>Bloomfield Route 2</b>					
Kutz Canyon Processing Plant	190 County Rd 4980, Bloomfield, NM 87413	No	No	Yes	No
Holly Energy Bulk Products Terminal	170 Road 4980 Bloomfield, NM, 87413	No (no operations at time of visit)	No	Yes	No

<b>Name</b>	<b>Address</b>	<b>Entry made to site</b>	<b>Detects Made*</b>	<b>Winds Favorable**</b>	<b>Canister Sample Collected</b>
Hilcorp-Rudy Compressor Station	36.675840, -107.957204	No	No	Yes	No
Hilcorp-Sullivan Gas Compressor	36.700132, -107.964796	No	No	Yes	No
Bloomfield Products Terminal	50 County Rd 4990, Bloomfield, NM 87413	No	No	Yes	No
El Paso - Rio Vista Compressor Station	81 County Rd 4900, Bloomfield, NM 87413	No	No	Yes	No
Harvest Chaco Compressor Station	59 County Rd 4990, Bloomfield, NM 87413	No	No	Yes	No
<b>Farmington Route</b>					
Kutz Compressor Station GCP1-1575	36.723015, -108.088684	No	No	Yes	No
Williams Four Corners - Crouch Mesa Compressor Station	36.724149, -108.064492	No	No	Yes	No
Gas Company of New Mexico - Crouch Mesa Compressor Station	36.714289, -108.067210	No	No	Yes	No
US Transport - Farmington	1205 Mission Ave, Farmington, NM 87401	No	No	Yes (light)	No
Hilcorp - Little Stinker 01F	36.821545, -108.063969	No	No	No (gate locked could not get downwind)	No
Four Corners Materials Inc - Asphalt Plant	1106 NM-516, Aztec, NM 87410	No (not operating at visit)	No	No	No
Hilcorp - Nell Hall 1E	36.831886, -108.028946	No (could not access)	No	No	No

Name	Address	Entry made to site	Detects Made*	Winds Favorable**	Canister Sample Collected
<b>Aztec Route</b>					
Potter Canyon Compressor Station	427 NM-173, Aztec, NM 87410	No	No (>3,000ppb detect made close by on Corridor 3B but could not be found again or near facility- unsure of origin)	Yes	No
SIMCOE - H9 Straddle Compressor Facility	36.884236, - 107.970914	No	Yes (~20ppm methane detection on Li-Cor)	Yes	No
Hilcorp - Cox Canyon Compressor Station	36.968730, - 107.910120	No	No	Yes	No
Hilcorp - Decker Junction CDP Compressor Station	36.967827, - 107.918037	No	No	Yes	No

\*"PID Detect" for this effort equates to a PID reading above 200ppb (greater than 105mV inflection above baseline) or above 5000ppb for methane on the Li-7810.

\*\*"Favorable" denotes winds generally in the direction from facility to DART vehicle that are constant and not experiencing strong gusts.

## SECTION I – INTRODUCTION

### Background Information

From April 25 to April 28, 2022, Scott Sholar and Alexia Scott of ERG performed mobile air monitoring using the ERG Data Acquisition in Real Time (DART) in New Mexico. ERG was joined by several EPA, New Mexico Department of Environmental Management (DEM), and city of Albuquerque staff members who provided input for the destinations to be monitored, as well as for sampling events. The purpose of the inspection was to monitor fuel terminals distribution facilities, and other local industrial facilities for the potential release of volatile organic compounds (VOCs) and methane into the surrounding community and environment.

ERG deployed the DART unit and a LI-COR Biosciences LI-7810 Trace Methane Analyzer on a rental car from April 25<sup>th</sup> through April 28 and navigated to the pre-determined destinations and locales. To perform the inspection, ERG drove the DART and LI-7810 along all publicly accessible fence lines around the facilities at 10-15 miles per hour to obtain accurate results. A Teledyne FLIR GF320 infrared type camera used for imaging of VOCs and methane was also deployed to help in fugitive and leak detection. ERG's FLIR camera operator was Optical Gas Imaging Certified for its use.

The DART Photoionization Detector (PID) calibration was assessed prior to deployment for this investigation. The PID measures VOCs and can distinguish between an ambient concentration versus an elevated VOC plume. The DART outputs readings in millivolts (mV) and a calibration factor of 1.9, determined during pre-deployment testing, was applied to the mV measurements in post deployment data processing. The calibration factor was multiplied by the peak inflection over where the baseline was reading on average during each hour of monitoring. The baseline generally hovers around the ambient background mV count and a VOC measurement is the inflection above the baseline. The inflection above baseline is the value multiplied by the calibration factor.

As an example, if ambient background is hovering around 400 mV and a peak of VOCs measures 930 mV the measured inflection is 530 mV. The inflection is multiplied by the calibration factor (1.9 in this instance) to calculate a 1,000 parts per billion (ppb) VOC plume.

The PID can measure VOCs from 0.5 ppb to 3,000 ppb. For purposes of this DART investigation a measurement above 200 ppb was considered a "detect" or a measurement of a VOC plume. Further information on PID can be found on the vendor's website at <https://ionscience.com/usa/products/minipid-2-hs-high-sensitivity-gas-sensor/>.

A challenge was performed on the LI-7810 prior to deployment. During the challenge, the LI-7810 measured several known concentrations of methane including 20ppm and 2.5ppm as well as zero air. All measurements were completed with percent error responses less than 10% each.

## **Area/Site Descriptions**

Only facilities where PID detects were made or other locations of note will be outlined in this section. Figures 1 through 7 display the routes, facilities, and areas monitored around Albuquerque and the San Juan Basin.

### NuStar Energy

NuStar Energy is a petroleum products bulk storage facility located on Desert Road between State Road 47 and Industry Way in South Albuquerque NM. There is a similar Phillips facility just west of the NuStar facility and other industry surrounding on other sides of the facility. ERG was able to navigate on the DART on the road along all sides of the facility and made entry to monitor onsite on April 26, 2022.

### Kinder Morgan Condensate Storage Facility

The Kinder Morgan Condensate Storage facility is located along County Rd 4900 North of Bloomfield, NM along a corridor of oil and gas facilities. The facility has a battery of six liquid condensate storage tanks located on the top of a hill for loading and unloading of condensate for transport. ERG was able to navigate north of the facility along County Rd 4900 and onsite near operations on the facility.

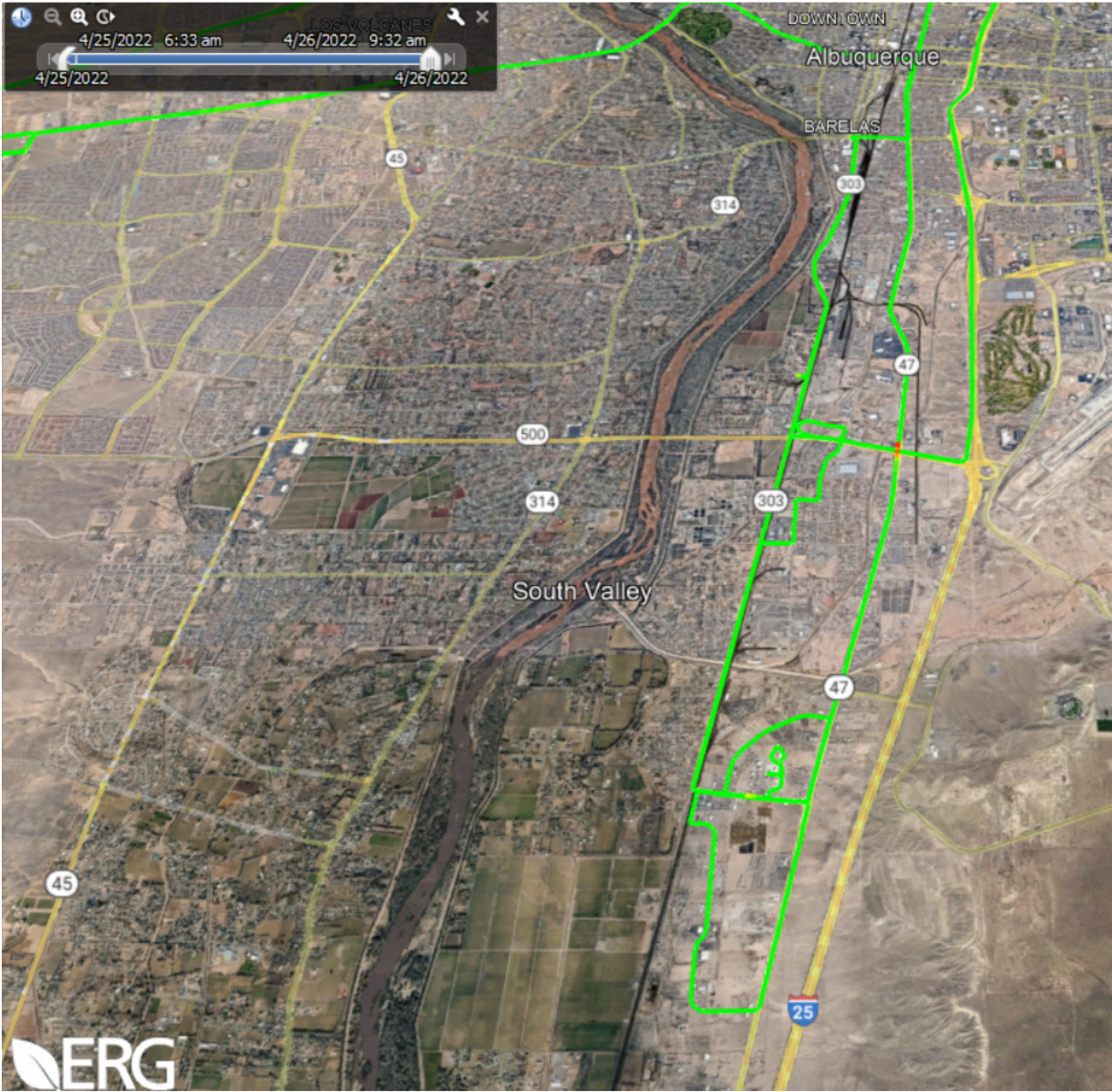
### Hilcorp - Central Condensate Storage Facility

The Hilcorp – Central Condensate Storage facility is located on Montana Street just west of highway 550 north of Bloomfield, NM. It is located between other light industrial and transport facilities located to the north and south. The facility has several batteries of liquid condensate storage tanks, equipment for loading and unloading of condensate for transport, and two holding ponds for treatment of condensate liquid. ERG was able to navigate north of the facility via a parking lot, east along highway 550, south via Montana Street, west via local trails, and onsite near operations on the facility.

### SIMCOE - H9 Straddle Compressor Facility

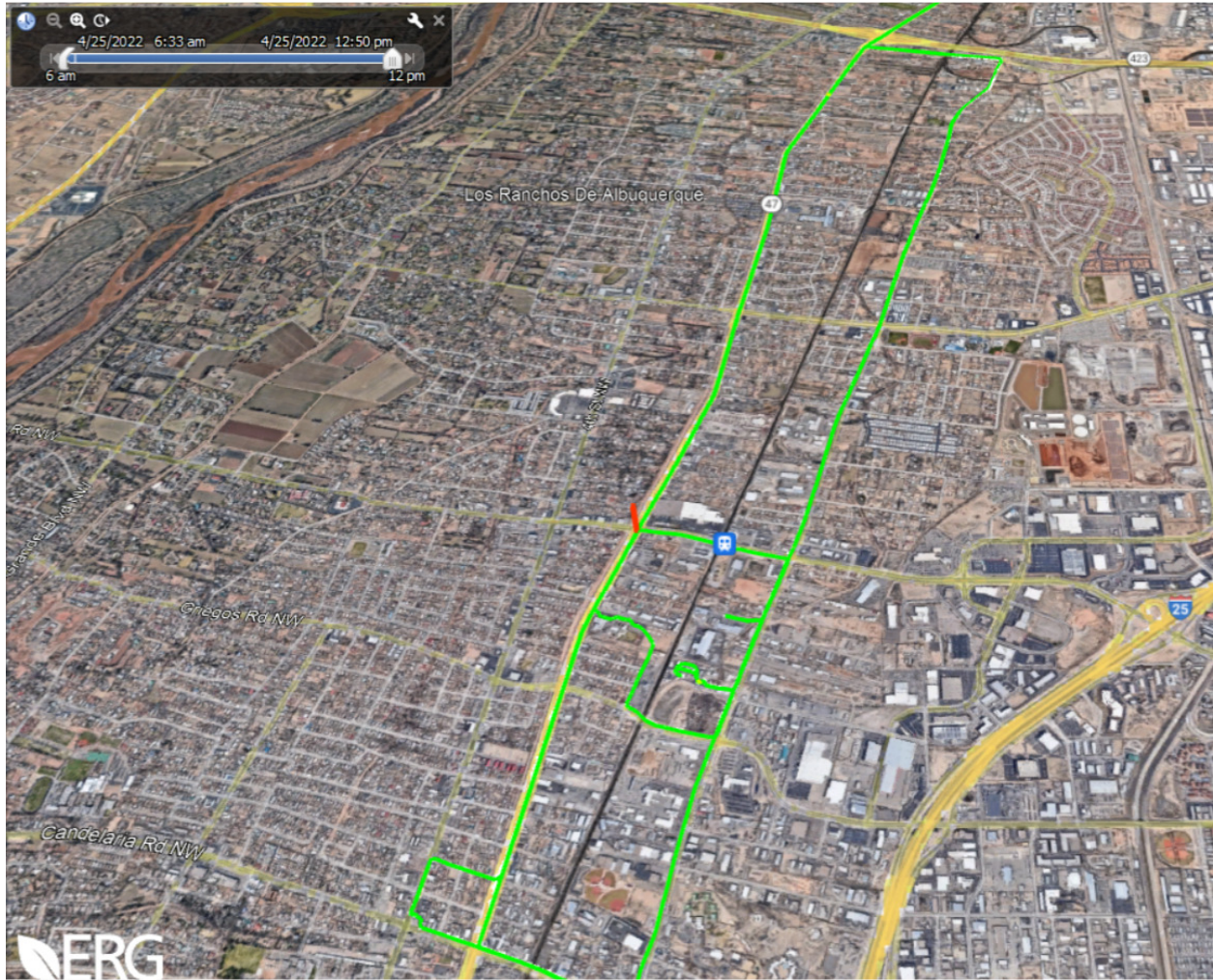
The SIMCOE – H9 Straddle compressor facility is a remote compressor station located to the North and south off a local road just northwest of County Rd 2900 North of Aztec, NM. ERG was able to navigate the DART along the roads next to the facility near the operations.

Figure 1. Map of Route inspected around south Albuquerque, NM during April 25-26 investigations





**Figure 2. Map of Route inspected around north Albuquerque, NM during April 25 investigation**





**Figure 3.** Map of Route inspected around Northeast Albuquerque during April 25 investigations

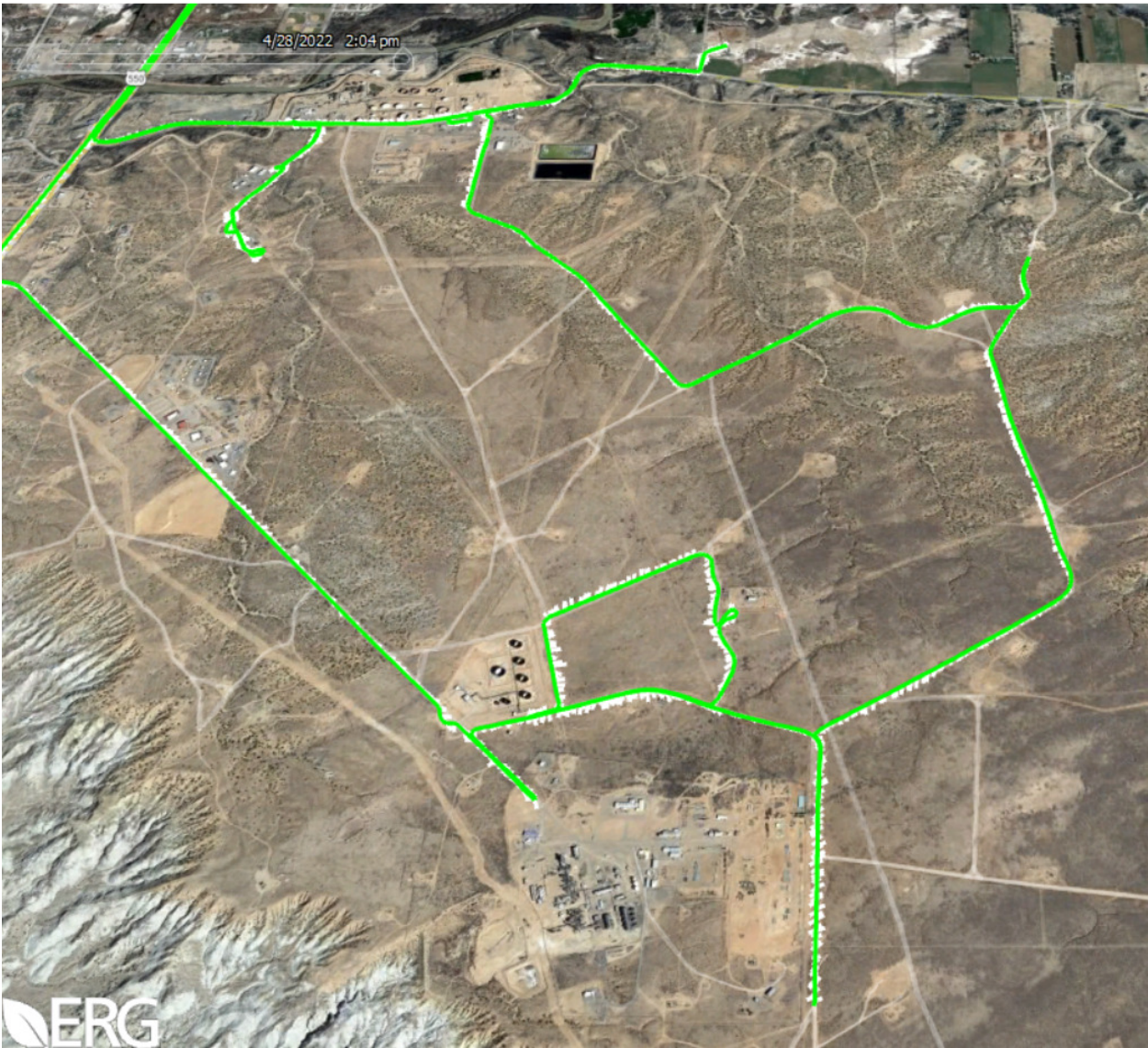


**Figure 4.** Map of Route inspected around North Bloomfield during April 27-28 investigations





**Figure 5.** Map of Route inspected around South Bloomfield during April 27-28 investigations

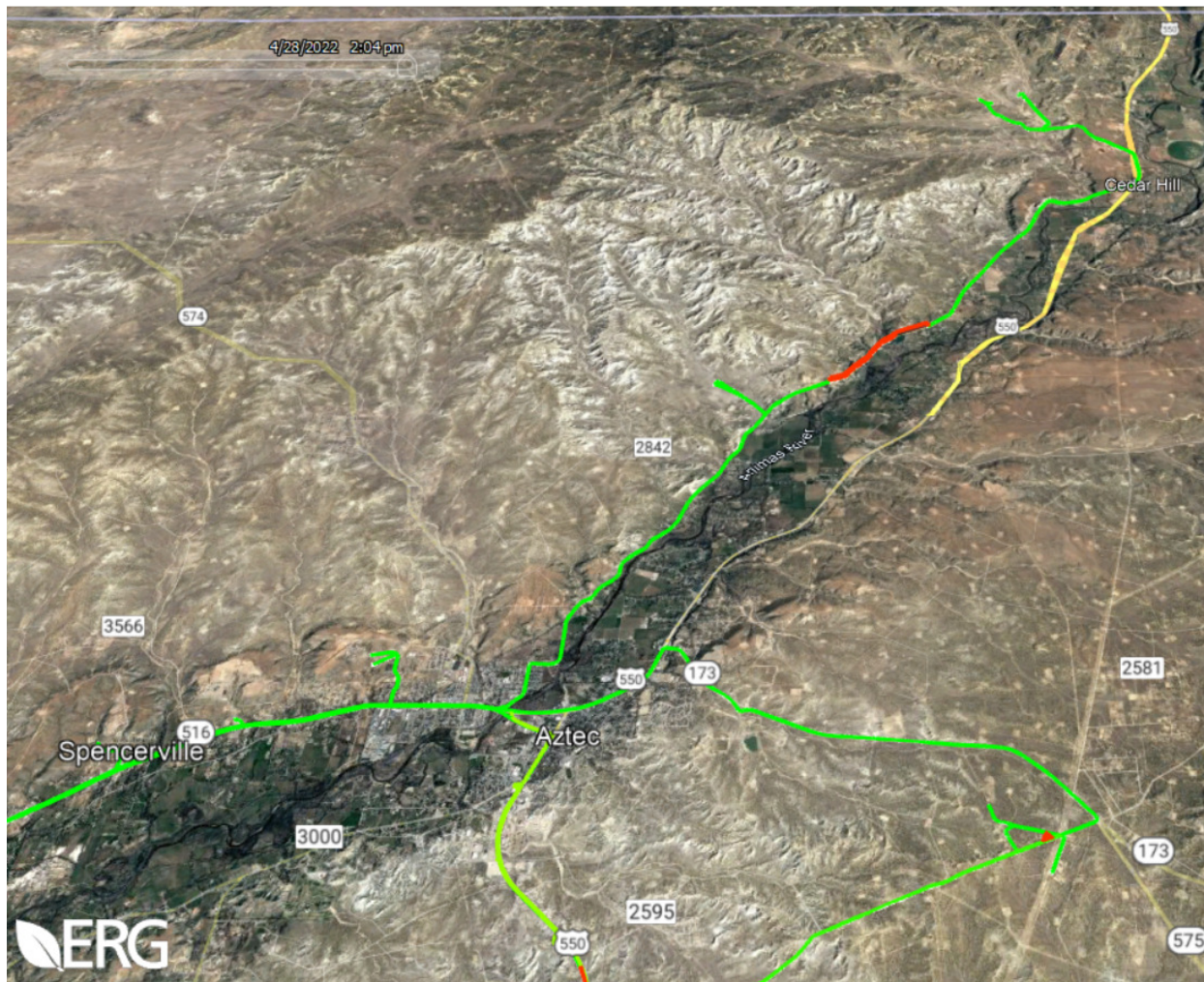


**Figure 6. Map of Route inspected around Farmington during April 28 investigations**





**Figure 7. Map of Route inspected around Aztec during April 27-28 investigations**



## **SECTION II – OBSERVATIONS**

### **Quality Assurance Observations**

Several times throughout the day, the ERG inspection team observed visual wind readings from windsocks and flags on facility properties and compared by ERG inspection team to the readings from the DART to verify the readings were correct. All seemed similar and wind readings were determined to be acceptable for the investigation.

The ERG inspection team exposed the DART PID to a VOC source when set up and prior to operation each day (i.e., a “bump test”). All bump tests showed a positive response within 10 seconds of exposure to VOC source.

## Individual Site Observations

We discuss below facilities where onsite entry was made or local fence line or onsite detects were made. For the DART data visualized below green depicts measurements made below 200ppb. Yellow to orange readings are between 200 and 800ppb. Red measurements are above 800ppb.

Area or on-road detects are provided in the accompanying data but, if not discussed here specifically, are likely due to mobile source emissions or were plumes or anomalies that could not be found again or reproduced while in the area.

### NuStar Energy

ERG performed a fence line and onsite drive of NuStar Energy facility on April 25 and 26 along the roads surrounding the facility; entry was made at the facility on April 26, 2022.

On the morning of April 25th, while navigating along Desert Rd in south valley Albuquerque, NM, several measurements above 200ppb were recorded and a measurement of approximately 570ppb was made. A distinct volatile odor was perceived by ERG investigation staff while in the plume. The wind during this time period was coming generally from the south so the DART was upwind of the NuStar Energy facility. The Dart was driven south of Desert Rd around the other local facilities, but no apparent source of the measured plume could be found. Figure 8 provides an image of the April 25, 2022 morning drive detects (yellow bars) and background measurements (green bars) from the DART.

On the morning of April 26, a second drive was performed onsite at the NuStar Energy facility. No detects were made during this drive. The winds were light with some wind gusts during this onsite inspection. No plume detects were made along Desert Rd on April 26. Figure 9 provides an image of the April 26, 2022 onsite drive measurements (green bars) from the DART.



**Figure 8. Desert Rd Detects 04/25/22 AM Route**



**Figure 9. NuStar Energy Onsite 04/26/22 AM Route**



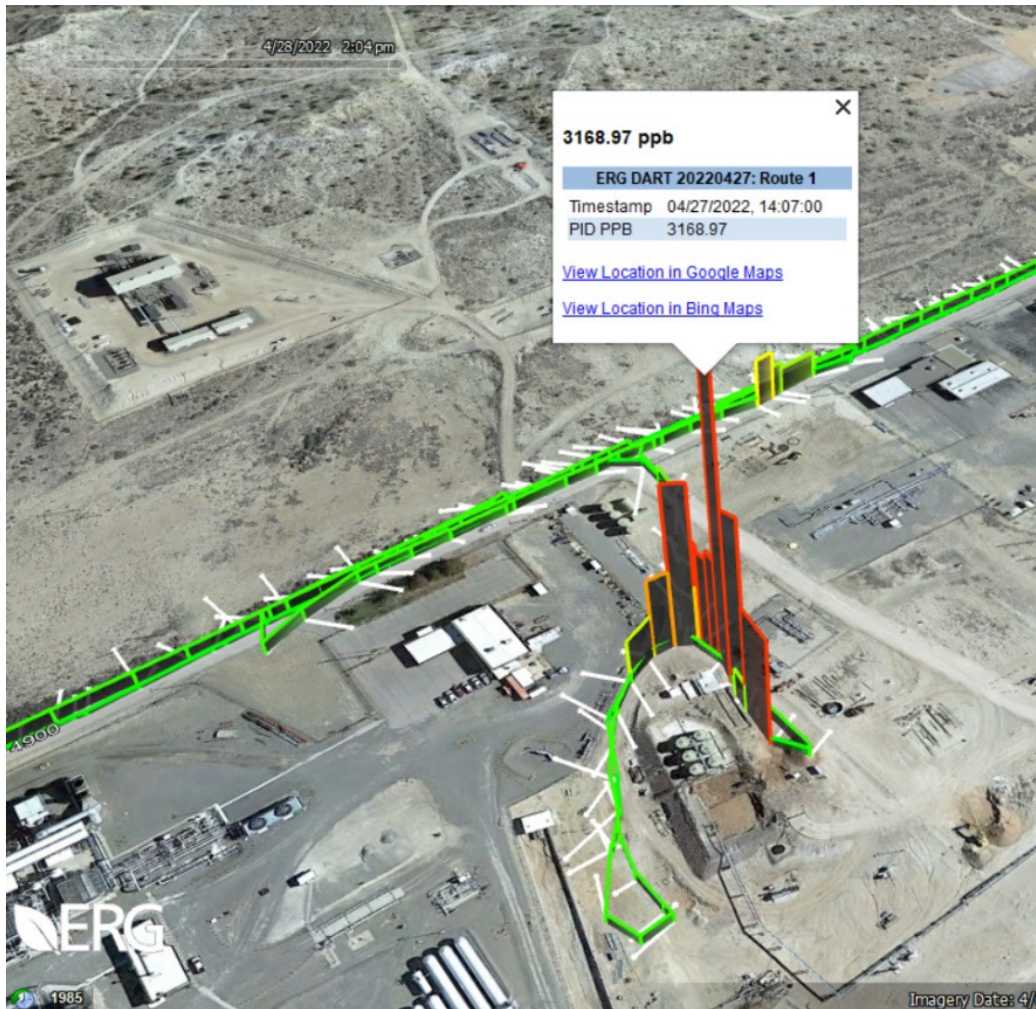
Kinder Morgan Condensate Storage Facility

EGR performed a downwind transect drive along County Rd 4900 of the several facilities located to the South on April 27, 2022. The DART detected a plume with readings of around 580 ppb VOCs while downwind of the Kinder Morgan Condensate Storage facility. A SUMMA canister sample was collected while the DART was located in the measured plume. A chain of custody form was completed for the sample and a copy can be found in Attachment 1. A strong smell of sulfur and fuel was noted by investigation staff. After the roadside detect was made EPA contacted Kinder Morgan staff and entry to the facility was made. While onsite, detects were observed downwind of the storage tanks including



measurements up to 3ppm. The same odor noticed on the road was found onsite near the tanks. The same detects were not made upwind from the tanks. The FLIR confirmed the release was likely due to a relief valve located on the top of one of the storage tanks. Figure 10 provides an image of the April 27, 2022 drive detect from the DART.

**Figure 10.** 04/27/22 Kinder Morgan Condensate Storage Facility Routes and Detects



Hilcorp - Central Condensate Storage Facility

While driving north of the Hilcorp – Central Condensate facility on April 27, 2022, the DART detected a plume of VOCs measuring up to 3ppm. A very strong odor of sulfur and fuel was noted while located in the plume. A canister sample was collected in this plume for analysis. A chain of custody form was completed for the sample and a copy can be found in Attachment 1. Figure 11 provides an image of the April 27, 2022, afternoon drive detects (red, orange, and yellow bars) and background measurements (green bars) from the DART.

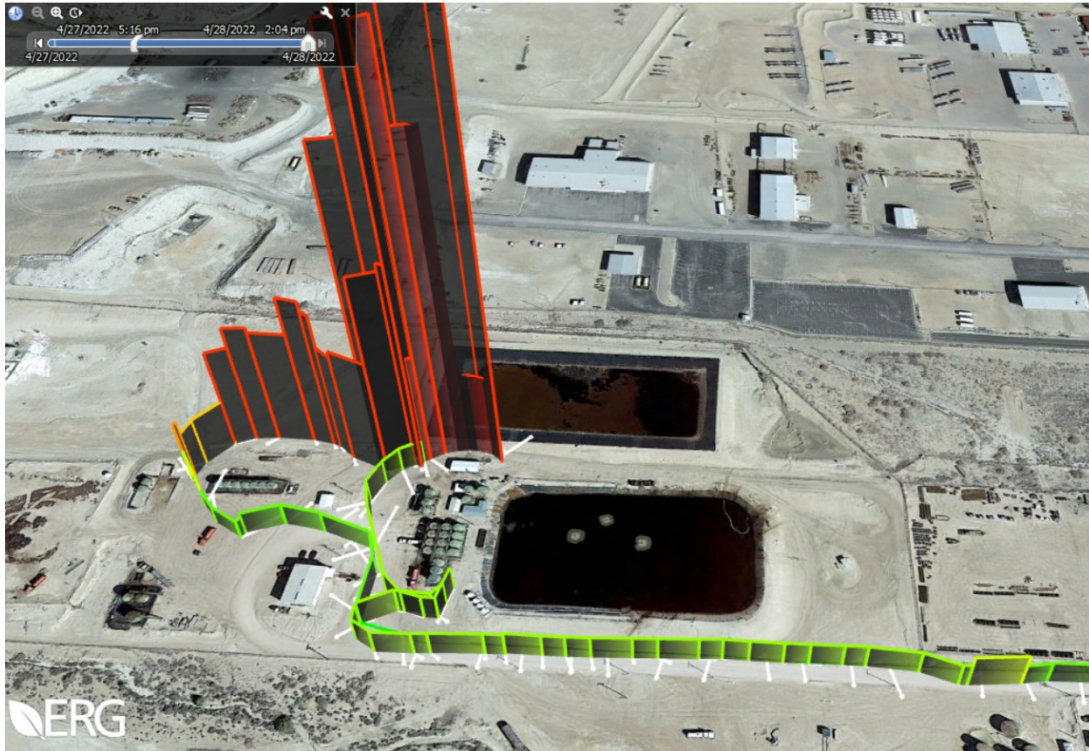
**Figure 11.** 04/27/22 PM Hilcorp – Central Condensate Storage Routes and Detects



On April 28, 2022 entry was made to the Hilcorp – Central Condensate facility. The DART detected VOCs greater than 3ppm near the eastern most tank batteries. A very strong odor of sulfur and fuel was noted in the measured plume. A canister sample was collected in this plume for analysis. A chain of custody form was completed for the sample and a copy can be found in Attachment 1. Figure 12 provides an image of the April 28, 2022 onsite detects (red, orange, and yellow bars) and background measurements (green bars) from the DART.



**Figure 12. 4/28/22 Hilcorp – Central Condensate Storage Onsite Routes and Detects**



SIMCOE - H9 Straddle Compressor Facility

While near the remote SIMCOE – H9 Straddle Compressor facility north of Aztec, NM on April 28, 2022, the LI-7810 detected a methane spike of around 20ppm next to some compressor gas line piping which included a valve flange. The FLIR was deployed, and a video of the leak emissions was captured. A video of the emissions is depicted in attachment 6 of this report deliverable. As the DART does not detect methane no visual is available from the DART.

**SECTION III – Analytical Results**

Analytical results will be sent as a report addendum once reviewed and finalized.

**SECTION IV – Conclusions**

As of the completion of this report, ERG was not aware of any follow-up activities from the EPA or the State of New Mexico pertaining to any of these facilities. All conclusions and decisions regarding follow-up on the findings presented here will be solely at the determination of the U.S. EPA and the State of New Mexico Environment Department.

**SECTION V – Attachments**

Attachment 1 – COC Forms DART Inspection April 2022

Attachment 2 – Data Visualization for 4/25/22 route (.kmz file)



Attachment 3 – Data Visualization for 4/26/22 route (.kmz file)

Attachment 4 – Data Visualization for 4/27/22 route (.kmz file)

Attachment 5 – Data Visualization for 4/28/22 route (.kmz file)

Attachment 6 – FLIR video depiction of SIMCOE valve leak