

Incident ID	NCS1931842879
District RP	
Facility ID	
Application ID	

Part II, III and IV have been uploaded to edocs./rlm

Accepted - 10/18/2022

NV

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>265</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

**Characterization Report Checklist: Each of the following items must be included in the report.**

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141

State of New Mexico  
Oil Conservation Division

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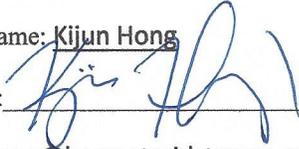
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kijun Hong

Title: Environmental Specialist

Signature: \_\_\_\_\_



Date: \_\_\_\_\_

5/20/2020

email: khong@harvestmidstream.com

Telephone: 505-632-4475

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

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## Remediation Plan

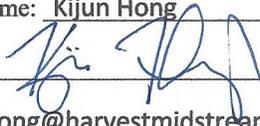
**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Kijun Hong Title: Environmental Specialist  
 Signature:  Date: 5/20/2020  
 email: khong@harvestmidstream.com Telephone: 505-632-4475

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



April 29, 2020

Cory Smith  
New Mexico Oil Conservation Division  
1000 Rio Brazos  
Aztec, New Mexico 87410

Via electronic mail: [cory.smith@state.nm.us](mailto:cory.smith@state.nm.us)

**RE: Site Delineation and Preliminary Remediation Report  
Trunk S Release (June 2019)  
3RP-1014; Incident #NCS1931842879  
Unit I, Section 7, T25N, R3W  
Rio Arriba County, New Mexico**

Dear Mr. Smith:

Animas Environmental Services, LLC (AES) has prepared this Site Delineation and Preliminary Remediation Report for a release which was discovered June 25, 2019, at the Harvest Four Corners (Harvest) Trunk S natural gas pipeline, located in Rio Arriba County, New Mexico. A topographic site location map is included as Figure 1, and an aerial site map is presented as Figure 2.

### *1.0 Release Description*

The June 2019 release consisted of at least 25 barrels (bbls) of condensate and 278.5 MCF of natural gas. The source of the release was a subsurface pipeline leak. Approximately 2,000 cubic yards (yd<sup>3</sup>) were excavated and transported off-site for disposal. Additional excavated overburden was temporarily stockpiled on-site. The excavation dimensions were reported to be 25 ft by 35 ft by 52 ft deep; however, because of the depth of the excavation, it was not possible to complete removal of all impacted soils safely. The excavation was subsequently suspended and backfilled. The pipeline was repaired and is currently back in service.

### *2.0 NMOCD Ranking*

In accordance with NMAC 19.15.29.12 Table I (August 2018), release closure criteria for this location are based on the minimum depth to groundwater within the horizontal extent of the release area and proximity to sensitive receptors:

624 E. Comanche St., Farmington, NM 87401  
PO Box 8, Farmington NM 87499  
505-564-2281  
[www.animasenvironmental.com](http://www.animasenvironmental.com)

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- **Depth to Groundwater:** A New Mexico Office of the State Engineer (NMOSE) SJ-01305 well record reported groundwater at 285 ft below ground surface (bgs).
- **Sensitive Receptor Determination:** The site is within 300 feet (ft) of a significant water course/drainage, whereby releases must be treated as if they occur less than 50 ft bgs to groundwater (NMAC 19.15.29.12C.4).

**Closure Criteria are:**

- 10 mg/kg benzene and 50 mg/kg total benzene, toluene, ethylbenzene, and xylene (BTEX);
- 100 mg/kg TPH as GRO/DRO and motor oil range organics (MRO); and
- 600 mg/kg chloride.

Site ranking information is included as an attachment.

### **3.0 Initial Field Sampling (July 2019)**

During the initial release response and excavation work in early July 2019, three soil samples were collected by LT Environmental from the surface (1 ft), wall (15 ft) and floor (30 ft) for field screening volatile organic compounds (VOCs) and for laboratory analysis of BTEX, TPH (GRO, DRO, and MRO) and chlorides. Additionally, shallow soil samples were collected from (1 ft) and 5 ft depths at two potholing locations, PH01 and PH02. Two upgradient surface samples, UG01 and UG02, were also collected for field screening and laboratory analysis. Analytical results indicated that concentrations above closure criteria were as follows:

- Benzene – 40 mg/kg (wall 15 ft);
- Total BTEX – 1,236 mg/kg (wall 15 ft);
- TPH (GRO, MRO, DRO) – 17,400 mg/kg (wall 15 ft) and 230 mg/kg (floor 30 ft); and
- Chlorides – exceeded in 6 of 9 samples with the highest concentration reported at 4,900 mg/kg from just below surface (1 ft) at the excavation.

July field screening and associated laboratory analytical results are included in Table 1. Sample locations are included on Figure 2. Note that excavated soils consisted of poorly graded light brown to tan well fine-grained sand.

### **4.0 Soil Boring Installation**

#### **4.1 SB-1 Installation, November 2019**

MW Electric completed one boring (SB-1) over the four days onsite to a total depth of 60 ft bgs. Split spoon soil samples were collected at 5-foot intervals for field screening and analytical sample collection. Four soil samples were collected from SB-1 and were

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analyzed by Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. Field sampling and laboratory analytical results are included in Table 1. Copies of the Hall laboratory reports are attached.

The boring SB-1 was completed as a soil vapor extraction (SVE) well, with 10 feet of screen terminating at 50 feet bgs. A soil boring log with SVE construction details is attached. Drilling activities were suspended after installation of SB-1 due to mechanical issues with the drilling rig and due to weather related safety issues.

#### **4.2 SB-2 through SB-11 Installation, March 2020**

AES and Harvest concluded that an alternate drilling contractor would need to be utilized to complete the delineation work. AES scheduled Rodgers & Co. Drilling (Rodgers) for the week of March 9, 2020. Photographs of the drilling activities are attached.

Rodgers completed 10 soil borings (SB-2 through SB-11) over 8 days, from March 9 to March 16, 2020. Soil borings were installed to depths of 29 ft bgs (SB-6 and SB-8 through SB-11), 34 ft bgs (SB-7), 53 ft bgs (SB-4), 55 ft bgs (SB-3), and 59 ft bgs (SB-2 and SB-5). Boring locations were chosen to intersect the excavation area (SB-1 through SB-5), but the borings also had to maintain a 10-ft safe distance from the pipeline running through the middle of the former excavation. The borings were placed as follows:

- SB-1 was placed near the center of the excavation area;
- SB-2 through SB-5 were placed on each corner of the excavation area; and
- SB-6 through SB-11 were completed as step-out confirmation borings.

Note that SB-6 through SB-9 locations were placed approximately along the midpoint between borings SB-2 through SB-5 and 10 feet away in each direction. SB-10 and SB-11 were placed as secondary step out locations to the east and to the south. Soil boring locations are included on Figure 3.

Soil borings SB-1 through SB-5 were completed as SVE wells, with 10 to 15 ft of screen. Soil borings SB-6 through SB-11 were backfilled after boring completion and collection of soil samples. Soil boring logs and well completion diagrams are attached. All SVE wells were permitted with NMOSE on March 5, 2020, and the permit is attached.

Generally, shallow soils consist of well graded silty to coarse sands with interbedded clays layers of varying plasticity. A very hard sandstone layer exists at a depth of approximately 30 ft but was not encountered at every location. Soil boring SB-1 was installed as close to the middle of the excavation as could be done safely with the

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proximity to the active pipeline. Soils encountered in SB-1 were loose and appeared to be fill down to a depth of approximately 45 ft, which is consistent with conditions of the previous excavation and backfill. Below 45 ft, drilling became much more difficult, and soil samples were more cemented. Soil borings SB-2 through SB-5 were installed near the corners of the previously excavated area and appeared to have intersected both fill material and native material at approximately 12 to 19 ft bgs. Groundwater was not encountered in any of the soil borings that were installed. A geological cross section is included as Figure 4.

### **4.3 Field Screening and Results**

AES collected soil samples for field screening and laboratory analysis from all soil borings. Field screening was performed at 5-ft intervals at SB-1. Soil borings SB-2 through SB-11 were continuously cored for the depth of each boring.

#### 4.3.1 Field VOCs

Field screening for organic vapors was performed using the heated headspace method. One heated headspace sample for screening with a photo-ionization detector (PID) organic vapor meter (OVM) was taken from each 5-foot interval. Prior to field screening, the PID-OVM was calibrated in accordance with manufacturer's specifications. Soil sample collection for heated headspace analysis was performed by placing soil in clean and decontaminated 16 oz glass jars, sealed with new aluminum foil and a lid ring. Once each jar was heated and gently shaken so that vapors were released from the soil inside, the OVM probe tip was placed through the aluminum foil so that VOC readings could be recorded. Field screening results presented on each soil boring log.

The highest OVM readings (>100 ppm) from each boring with corresponding depths are listed below:

- SB-1: 3,426 ppm (15 ft bgs);
- SB-2: 7,672 ppm (29 ft bgs);
- SB-3: 10,035 ppm (49 ft bgs);
- SB-4: 398.7 ppm (39 ft bgs);
- SB-5: 397.2 ppm (34 ft bgs);
- SB-6: 119.8 ppm (19 ft bgs); and
- SB-7: 171.3 ppm (19 ft bgs).

#### 4.3.2 Chlorides

Chloride concentrations in soil samples were evaluated in the field using Hach test kits (Model CD-51). Field chlorides ranged from 20 to 60 mg/kg in all samples. The highest field chloride concentrations from each boring are listed below:

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- SB-1: 60 mg/kg at 20, 34, 45 ft bgs;
- SB-2: 40 mg/kg at 10, 15, 20, 45, 50, 55 and 60 ft bgs;
- SB-3: 40 mg/kg at all sample intervals 5 to 55 ft bgs;
- SB-4: 40 mg/kg at all sample intervals 10 to 55 ft bgs;
- SB-5: 60 mg/kg at 5 ft bgs;
- SB-6: 40 mg/kg at all sample intervals 5 to 30 ft bgs; and
- SB-7: 40 mg/kg at all sample intervals 10 to 35 ft bgs.

Field screening OVM and field chloride results are included on the attached soil boring logs. Field chloride measurements are also presented on Figure 4A.

#### 4.4 Soil Laboratory Analyses

Two to four samples from each boring were submitted for laboratory analysis. Samples were placed in new, clean, laboratory-supplied containers, labeled, placed on ice, and logged onto a sample chain of custody record. The samples were maintained on ice until delivery to Hall. Soil samples were analyzed for the following USEPA Methods:

- BTEX per USEPA Method 8021B;
- TPH (GRO/DRO/MRO) per USEPA Method 8015M; and
- Chloride per USEPA Method 300.0.

#### 4.5 Soil Analytical Results

Soil analytical data indicates that the remaining contaminant mass is located within the previously excavated area (SB-1 through SB-5). All step out borings (SB-6 through SB-11) were below NMOCD action levels or laboratory detection limits for all analytes.

Analytical data showed the following exceedances for benzene, total BTEX, and TPH:

- SB-1 at 15 ft bgs exceeded NMOCD action levels for benzene (14 mg/kg), total BTEX (890 mg/kg) and total TPH (16,000 mg/kg); and
- SB-3 at 49 ft bgs exceeded NMOCD action levels for total BTEX (62.6 mg/kg) and combined TPH (2,270 mg/kg).

NMOCD action levels were not exceeded at any other intervals in any other soil boring locations. Laboratory analytical results for chlorides from all borings (November 2019 and March 2020) were well below the NMOCD action level of 600 mg/kg.

Laboratory analytical results are summarized and presented in Table 1 and Figures 3A and 4A. Copies of the Hall laboratory reports are attached.

#### 4.6 Shallow Soil Chloride Sampling and Analytical Results

Hand auger borings were advanced on March 18, 2020, to investigate potentially chloride impacted shallow soils. Samples were collected from the surface (1 ft bgs) and

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at 3 ft bgs from an undisturbed background location located northwest of the release area. One upgradient hand boring was located to the south of the evaporation pond along a surface drainage pathway leading from the pond. Samples were collected from the surface (1 ft bgs) and at 5 ft bgs for chlorides analysis. In addition, a four-point composite sample was collected from the stockpiled soil. Chloride sample locations are included on Figures 3 and 3A.

Samples were placed in new, clean, laboratory-supplied containers, labeled, placed on ice, and logged onto a sample chain of custody record. The samples were maintained on ice until delivery to Hall. Soil samples were analyzed for chlorides per USEPA Method 300.0 as well as for additional anion/cation parameters, including fluoride, sulfate, conductivity, calcium, magnesium, potassium, sodium, and alkalinity.

Chloride concentrations from the stockpiled soil and background samples were below the action levels for chlorides. However, the upgradient samples located along a surface drainage pathway leading from the evaporation pond towards the Harvest release area exceeded the NMOCD action level, with 2,600 mg/kg (Upgradient @ 1 ft bgs) and 1,300 mg/kg (Upgradient @ 5 ft bgs).

Laboratory analytical results are summarized and presented in Table 1 and on Figures 3A and 4A. A copy of the Hall laboratory report is attached.

## **5.0 Remediation System**

Based on the results of the site delineation activities, Harvest is proceeding with implementing SVE to volatilize and remove contaminants through desorption of contaminants from the surface of soil particles, and through biodegradation of contaminants by moving air through subsurface soil pore spaces.

### **5.1 SVE Wells**

Based upon the results and observations from the site during soil boring installation, five borings were completed as SVE wells (SB-1 through SB-5). The SVE wells were completed with 10 ft of 0.010-inch of Schedule 40 PVC screen, except for SB-4 and SB-5, which were completed with 15 ft of 0.010-inch Schedule 40 PVC. Annular space in each SVE well was filled with 10-20 silica sand from the base of the SVE well up to at least 2 ft above the top of the screened interval. A hydrated bentonite seal, approximately 2 feet thick, was placed above the sand. Neat Portland cement grout was placed up to the surface.

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## 5.2 SVE System

Harvest Midstream has purchased a Varisolar SVE unit which will be installed at the site to facilitate removal of the remaining VOCs contamination from the pipeline release.

System specifications include the following:

- 4.6 HP vacuum blower capable of up to 190 cfm @ 50 inches of water vacuum;
- 60-gallon steel knock out tank;
- Vapor/moisture separator with high level shut off switch;
- A 6 well manifold constructed of 2-inch SCH 80 PVC with ball valves to allow for adjustable flows to each well; vacuum gauges and sample ports;
- Telemetry unit;
- Solar panel array; and
- Freeze protection circuit to allow for all season operation.

The system will be staged near the SVE well field, and the conveyance piping will be installed aboveground for the summer season. An SVE manifold will be constructed to allow for collection of flow rate data, vacuum and vapor samples. Wellheads will be constructed to allow for collection of wellhead vacuum, and vapor samples. Granular activated carbon vessels will be used to process effluent soil vapor before it is discharged.

System construction will begin with installation of four concrete footers for the SVE skid to be mounted on. Once the concrete has cured and the system is delivered and placed at the site, conveyance piping can be installed. The site is in an area that doesn't receive traffic and has an active pipeline running through the center of the well field; therefore, above ground conveyance piping will be installed.

A proposed remediation site layout is included as Figure 5, and manufacturer's information for the Varisolar SVE unit is also included as an attachment.

## 5.3 System Monitoring and Sampling

Harvest and AES will maintain SVE runtime greater than or equal to 90 percent per quarter. A soil gas sample for laboratory analysis will be collected shortly after initial startup of SVE operations and then a quarterly thereafter. The gas sample will be analyzed for:

- Volatile organics per USEPA Method 8260 Full List; and
- Carbon dioxide and oxygen per GPA 2261.

The gas sample port will be installed on the manifold prior to the inlet of the vacuum pump but after the convergence of all vapor streams. Harvest and AES will submit a

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quarterly progress report detailing remediation operations to NMOCD. The report will include at a minimum:

- Summary of remediation activity for the quarter;
- SVE run time, SVE mass removal, and product recovery (if applicable); and
- Gas sample analytical data.

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## 6.0 Deliverables

After the remediation system is installed and startup is complete, AES will begin preparation of a System Installation As-Built Report. The report will be submitted within 60-days of system startup. The report will include the following at a minimum:

- Discussion of installation and startup activities;
- System design specifications;
- A site map detailing equipment placement, well field and conveyance piping layouts;
- A map featuring approximate radius of vacuum influence;
- Startup data including well head and manifold vacuums, flow rates, PID data from both well head and system manifold;
- Analytical data for startup samples;
- Initial removal rates; and
- Photographs of the SVE system.

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## 7.0 Conclusions and Recommendations

### 7.1 Conclusions

A release was confirmed at the Harvest Trunk S pipeline in June 2019 in which approximately 25 bbls of condensate were released along with 278.5 MCF of natural gas. The release occurred on private property owned by Tony and Craig Schmitz (TNT Landfarm). Based on site ranking, action levels were determined to be 10 mg/kg benzene, 50 mg/kg total BTEX, 100 mg/kg TPH, and 600 mg/kg chlorides.

Following the release, a limited excavation was completed and approximately 2,000 yd<sup>3</sup> were excavated and transported off-site for disposal. Additional excavated overburden was temporarily stockpiled on-site. Final excavation dimensions were reported to be 25 ft by 35 ft by 52 ft deep; however, it was not possible to safely remove remaining impacted soils. The pipeline was repaired and returned to service.

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AES completed site delineation of the release area, the excavation extents, and outside the excavation area in November 2019 and March 2020. As part of site delineation activities, a total of 11 soil borings (SB-1 through SB-11) were advanced at the site, with total depths ranging from 29 ft to 59 ft bgs. Soils consisted of well graded silty to coarse sands with interbedded clays layers of varying plasticity. A very hard sandstone layer was noted at approximately 30 ft bgs in some of the borings. Groundwater was not encountered during the site delineation activities. Five of the borings were completed as SVE wells and will be incorporated into the SVE system to be installed at the site in May 2020.

Residual soil concentrations exceeding NMOCD action levels were noted at the edges of the previous soil excavation in SB-1 at 15 ft bgs, with benzene (14 mg/kg), total BTEX (890 mg/kg) and total TPH (16,000 mg/kg); and in SB-3 at 49 ft bgs, with total BTEX (62.6 mg/kg) and combined TPH (2,270 mg/kg). Laboratory analytical results from SB-2, SB-4, and SB-5 (within the footprint of the former excavation area) were all below NMOCD action levels. Additionally, all other laboratory analytical results from step out borings (SB-6 through SB-11) were below applicable NMOCD action levels for benzene, total BTEX, and TPH. Vertical and lateral extents of the June 2019 release appear to be defined for benzene, total BTEX and TPH.

Chloride concentrations did *not* exceed the NMOCD action level of 600 mg/kg in excavation wall or floor samples (July 2019) or in SB-1 through SB-11 (November 2019 and March 2020). However, in July 2019, several surface samples and near surface samples were collected by LT Environmental both upgradient of the release area (UG01, UG02, and PH01) and downgradient of the release area (PH02) along an area of surface drainage to the south-southeast. Chloride concentrations for the surface/near surface in July 2019 exceeded the NMOCD action level of 600 mg/kg, with concentrations ranging from 1,300 mg/kg to 3,300 mg/kg chlorides. A surface sample from the release area had 4,900 mg/kg chloride; however, however this area was within the excavation footprint, and these soils were removed from the site for off-site disposal.

Additional shallow soil samples were collected for chlorides analysis outside the release area in March 2020, including a background sample and an upgradient location draining from the evaporation pond area. A 4-point composite sample was also collected from the stockpiled soil. Results of the additional chloride sampling showed that background samples had chloride concentrations of 310 mg/kg (1 ft bgs) and 340 mg/kg (5 ft bgs); however, the concentrations from the area upgradient of the release but below the evaporation pond were reported as **2,600 mg/kg (1 ft bgs)** and **1,300 mg/kg (5 ft bgs)**. Stockpiled soil chloride concentrations were reported as 180 mg/kg, which is below the action level of 600 mg/kg chloride.

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## 7.2 Recommendations

Based on the results of the site delineation, AES makes the following recommendations:

- In order to address residual petroleum contaminant impacts from soils and vapors within the former release area, borings located within the former excavation area (SB-1 through SB-5) were completed as SVE wells and will be incorporated into the SVE system.
- For chlorides at the release area, the area of elevated chloride concentrations at the surface (4,900 mg/kg) was excavated and removed for off-site disposal in July 2019. Subsurface chloride concentrations from site delineation borings (SB-1 through SB-11) were all well below action levels, and no further action is recommended in the release area relating to chlorides.
- For chlorides in surface and near surface soils upgradient of the release area, concentrations above the NMOCD action level of 600 mg/kg were noted in samples from July 2019 and March 2020. These elevated chloride concentrations appear to be related to the presence of the upgradient evaporation ponds and may be associated with migrating overspray. Mitigation efforts for elevated chloride concentrations should be coordinated through the existing TNT facility permits and maintenance activities.
- For the stockpiled soil, contaminant concentrations for benzene, total BTEX, TPH and chlorides were all below NMOCD action levels, and no further action is recommended. Harvest will coordinate with property owners to finalize disposition of the stockpiled soil.

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## 8.0 Project Schedule

For continuing site work, AES anticipates the following schedule:

April 2020	The VariSun SVE system was delivered to AES.
May 2020	Mobilize to the site and begin system setup work during the week of May 11, 2020. System installation should take 5 to 7 days to complete, including time for the concrete footers to cure. System startup will be performed immediately following construction. Startup and

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shakedown activities should require approximately 2 to 3 days onsite.  
June 2020 Prepare and submit SVE system installation report along with startup monitoring and sampling results.

If you have any questions about site conditions or this report, please do not hesitate to contact Eddie Hubbert or Elizabeth McNally at (505) 564-2281.

Sincerely,



Edward Hubbert  
Project Manager



Elizabeth McNally, P.E.

#### Attachments:

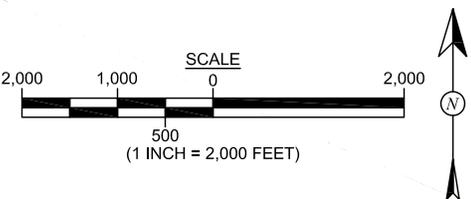
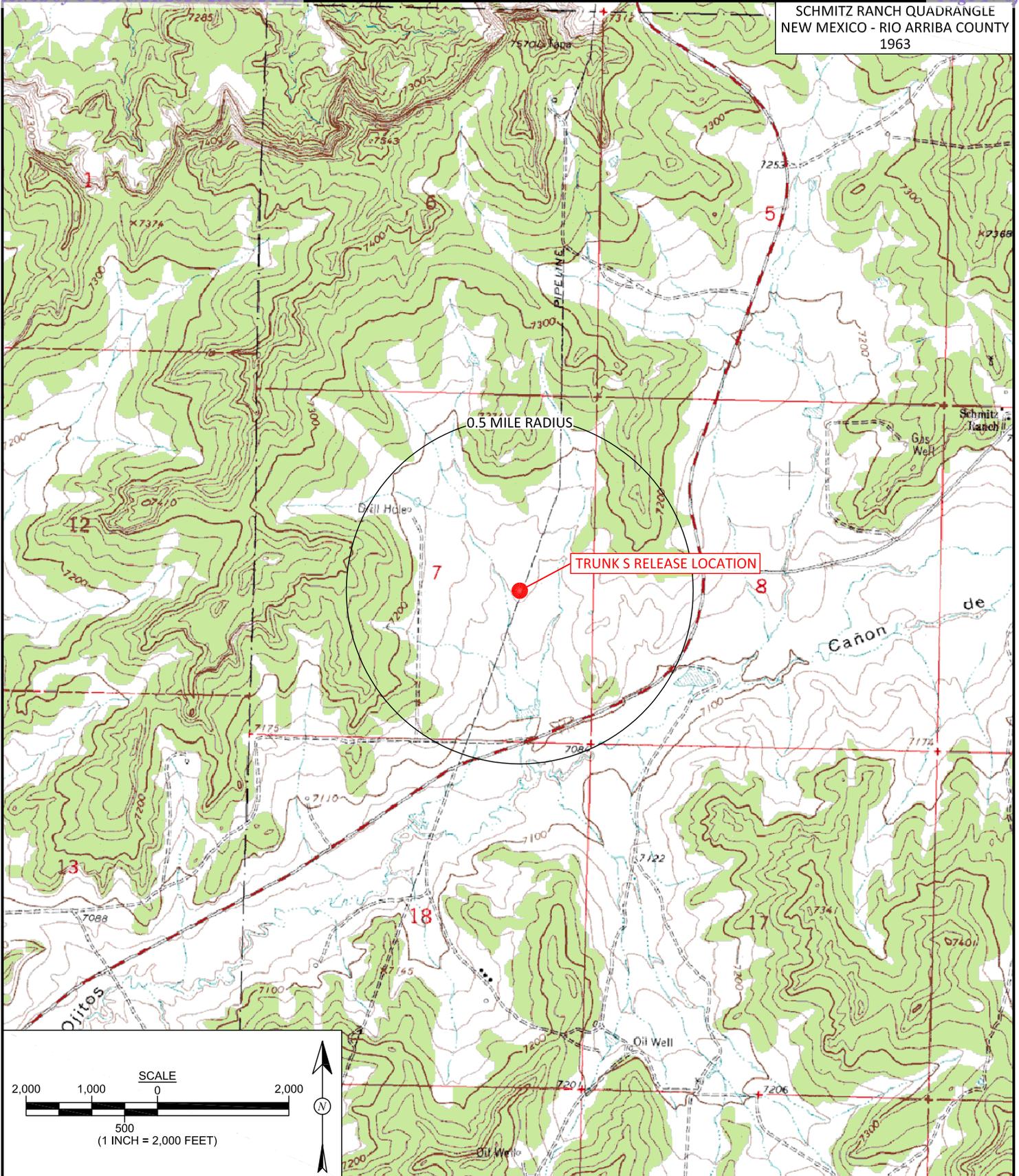
Figure 1. Topographic Site Location Map  
Figure 2. Aerial Site Location Map with July 2019 Sample Locations  
Figure 3. Soil Boring Location and Sampling Results Map  
Figure 3A. Soil Boring Location and Chloride Sampling Results Map  
Figure 4. Geologic Cross-Section  
Figure 4A. Geologic Cross-Section with Chloride Results  
Figure 5. Proposed Site Remediation Layout  
Table 1. Soil Analytical Results  
Table 2. Soil Anion/Cation Results  
Photographic Log  
Soil Boring Logs and SVE Well Construction Schematics - SB-1 through SB-11  
Site Ranking Information  
NMOSE Permit to Drill a Well(s) with No Water Right — SJ-4380 POD1-POD9  
Hall Analytical Reports 1907148, 1911A22, 1911D02, 2003514, 2003649, 2003651, 2003679, 2003860, and 2003897  
Varisolar SVE System Manufacturer's Information

*Kijun Hong  
Harvest Trunk S Release (3RP-1014; Incident #1931842879)  
April 29, 2020; Page 12 of 12*

Cc:  
Kijun Hong  
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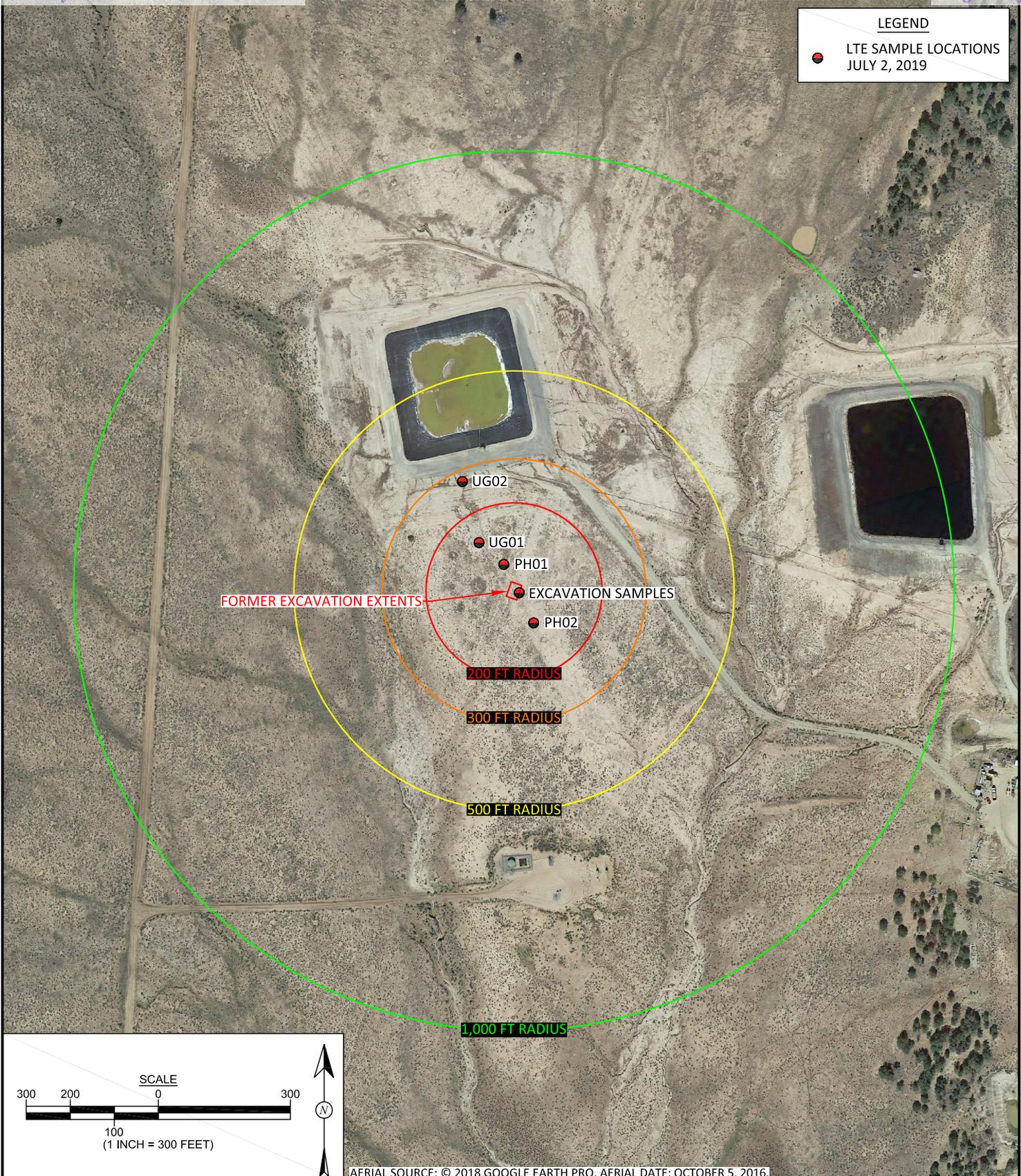
## Attachments

SCHMITZ RANCH QUADRANGLE  
NEW MEXICO - RIO ARRIBA COUNTY  
1963



 <p><b>animas environmental services</b> Farmington, NM • Durango, CO animasenvironmental.com</p>	<p><b>DRAWN BY:</b> C. Lameman</p>	<p><b>DATE DRAWN:</b> April 8, 2020</p>	<p><b>FIGURE 1</b> <b>TOPOGRAPHIC SITE LOCATION MAP</b> HARVEST MIDSTREAM TRUNK S RELEASE LOCATION INCIDENT NUMBER: NCS1931842879 RELEASE ID: 373888 NE¼ SE¼, SEC. 7, T25N, R3W RIO ARRIBA COUNTY, NEW MEXICO N36.41180, W107.18085</p>
	<p><b>REVISIONS BY:</b> C. Lameman</p>	<p><b>DATE REVISED:</b> April 8, 2020</p>	
	<p><b>CHECKED BY:</b> E. Hubbert</p>	<p><b>DATE CHECKED:</b> April 8, 2020</p>	
	<p><b>APPROVED BY:</b> E. McNally</p>	<p><b>DATE APPROVED:</b> April 8, 2020</p>	

**LEGEND**  
 LTE SAMPLE LOCATIONS  
 JULY 2, 2019



**SCALE**  
 300 200 0 300  
 100  
 (1 INCH = 300 FEET)



AERIAL SOURCE: © 2018 GOOGLE EARTH PRO, AERIAL DATE: OCTOBER 5, 2016.

 <p><b>animas environmental services</b>                  Farmington, NM • Durango, CO                  animasenvironmental.com</p>	<p><b>DRAWN BY:</b> C. Lameman</p>	<p><b>DATE DRAWN:</b> April 8, 2020</p>	<p><b>FIGURE 2</b>   <b>AERIAL SITE LOCATION MAP</b>                  HARVEST MIDSTREAM                  TRUNK S RELEASE LOCATION                  INCIDENT NUMBER: NCS1931842879                  RELEASE ID: 373888                  NE¼ SE¼, SEC. 7, T25N, R3W                  RIO ARRIBA COUNTY, NEW MEXICO                  N36.41180, W107.18085</p>
	<p><b>REVISIONS BY:</b> C. Lameman</p>	<p><b>DATE REVISED:</b> April 8, 2020</p>	
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	<p><b>APPROVED BY:</b> E. McNally</p>	<p><b>DATE APPROVED:</b> April 8, 2020</p>	

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
 Action 8406

**CONDITIONS**

Operator: Harvest Four Corners, LLC 1111 Travis Street Houston, TX 77002	OGRID: 373888
	Action Number: 8406
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 129947 for most updated status.	10/18/2022