

Final Report

860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard
Former Philadelphia Energy Solutions Refinery
3144 Passyunk Avenue, Philadelphia, Pennsylvania
Facility ID No. 51-33620

Prepared for

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Acronyms and Abbreviations

Act 2	Land Recycling and Environmental Remediation Standards Act (Pennsylvania Code Title 25, Chapter 250, “Administration of the Land Recycling Program”)
bgs	below ground surface
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NIR	Notice of Intent to Remediate
NorthStar	NorthStar Contracting Group, Inc.
PADEP	Pennsylvania Department of Environmental Protection
PESRM	Philadelphia Energy Solutions Refining and Marketing LLC
Property	former Philadelphia Energy Solutions Refinery, 3144 West Passyunk Avenue, Philadelphia, Pennsylvania
Ransom	Ransom Consulting, LLC
SHS	Statewide Health Standard
Site	petroleum release area near the 860 Unit and Hartranft Street – Point Breeze South Yard of the former Philadelphia Energy Solutions Refinery
Terraphase	Terraphase Engineering Inc.
TGM	<i>Technical Guidance Manual</i>
VOC	volatile organic compounds



Certification

Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act, adopted May 19, 1995, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth.

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in this *Final Report, 860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard, Former Philadelphia Energy Solutions Refinery, 3144 West Passyunk Avenue, Philadelphia, Pennsylvania*, dated March 2022, revised July 2022.

Based on the available data represented in this report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.

Alexander J. Strohl, PG
Senior Staff Geologist

July 19, 2022
Date



Executive Summary

In accordance with the requirements of Pennsylvania Code Title 25, Chapter 250, entitled “Administration of the Land Recycling Program,”¹ of the Land Recycling and Environmental Remediation Standards Act (Act 2), and on behalf of Philadelphia Energy Solutions Refining and Marketing LLC, Terraphase Engineering Inc. has prepared this report to detail the results of the environmental activities completed at the petroleum release area near the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard (Site) of the former Philadelphia Energy Solutions Refinery at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. This report follows the requirements of Section II.C. (7) of the Act 2 *Land Recycling Program Technical Guidance Manual*² and is submitted in accordance with Section 250.404 of the Act 2 regulations as a final report.

The Site is within the former Philadelphia Energy Solutions Refinery, an approximately 1,300-acre property situated in a highly developed area of Philadelphia. The refinery ceased operations in 2019 and has since been undergoing demolition and closure activities.

A petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the Site. The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks in the Point Breeze South Yard (i.e., PB 840 and PB 843). Both aboveground storage tanks were formerly used to store crude oil. The total area of the release was approximately 1,600 square feet, and 1,200 square feet of this area is an asphalt roadway. The remaining 400 square feet of the release occurred on soil where approximately 12 to 14 cubic yards of soil were removed and containerized in a roll-off container. Post-excavation soil sampling activities were conducted following the soil removal. The results of the sampling indicate the detection of several constituents of concern; however, the concentrations are less than the applicable Statewide Health Standards “Medium Specific Concentrations”³ for non-residential direct contact and non-residential soil migration to groundwater. The concentrations are also less than the applicable non-residential soil vapor intrusion screening values. Terraphase Engineering Inc. concludes that the requirements of Act 2 have been met, and as such, Philadelphia Energy Solutions Refining and Marketing LLC qualifies for the cleanup liability protection for certain petroleum constituents associated with the pipeline release.

¹ <https://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/025/chapter250/chap250toc.html>

² Philadelphia Department of Environmental Protection, Bureau of Environmental Cleanup and Brownfields. *Land Recycling Program Technical Guidance Manual*. 261-0300-101. March 26, 2021.

³ <https://www.dep.pa.gov/Business/Land/LandRecycling/Standards-Guidance-Procedures/Pages/Statewide-Health-Standards.aspx>



1 Introduction

Terraphase Engineering Inc. (Terraphase) has prepared this Final Report, on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), to detail the results of the environmental activities following a petroleum release that occurred during the removal of overhead pipelines within the pipe rack located near the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard (Site) of the approximately 1,300-acre former Philadelphia Energy Solutions Refinery at 3144 Passyunk Avenue, Philadelphia, Pennsylvania (the “Property”) situated in a highly developed area of Philadelphia. The refinery ceased operations in 2019 and has since been undergoing demolition and closure activities. The Site is depicted on Figure 1. The cleanup activities were performed in accordance with the applicable provisions of the Land Recycling and Environmental Remediation Standards Act (Act 2),⁴ administered by the Pennsylvania Department of Environmental Protection (PADEP), to obtain the associated release of environmental cleanup liability. While the Site is located within the Property, closure afforded by the approval of this Final Report will only apply to the Site.

The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks used to store crude oil in the Point Breeze South Yard (i.e., PB 840 and PB 843). The total area of the release was approximately 1,600 square feet, and 1,200 square feet of this area is an asphalt roadway. NorthStar Contracting Group, Inc. (NorthStar) conducted immediate cleanup actions relating to the residual liquids remaining on the low-permeability asphalt. Soil located beneath this asphalt is not expected to have been impacted by the release. The remaining 400 square feet of the release occurred on soil adjacent to the asphalt.

Terraphase submitted a Notice of Intent to Remediate (NIR) to PADEP on March 4, 2022. A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer* with service to the area. The NIR indicates that Site soils will be remediated to the non-residential Statewide Health Standard (SHS).⁵ In addition, notification of this Final Report submittal to PADEP was sent to the City of Philadelphia and a legal notification was published in the *Philadelphia Inquirer* with service to the area. Copies of the notification documents are included in Appendix A. This report was prepared in accordance with the *Act 2 Technical Guidance Manual*⁶ (TGM) and is intended to provide the PADEP with a summary of the soil remediation activities performed at the Site.

Section 2 details the site setting, including geology and hydrogeology. Section 3 details the remediation and site characterization activities. Section 4 provides an ecological screening evaluation. Section 5 provides a demonstration of attainment. Conclusions are presented in Section 6.

⁴ <https://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/025/chapter250/chap250toc.html>

⁵ <https://www.dep.pa.gov/Business/Land/LandRecycling/Standards-Guidance-Procedures/Pages/Statewide-Health-Standards.aspx>

⁶ <https://www.dep.pa.gov/Business/Land/LandRecycling/Standards-Guidance-Procedures/Guidance-Technical-Tools/Pages/Technical-Guidance-Manual.aspx>



2 Site Setting

This section briefly describes the site location, operational history of the Property, and the regional geology and hydrogeology of the Site, Property, and the surrounding area.

2.1 Site Description

PESRM owns the approximately 1,300-acre Property that is situated in a highly developed area of Philadelphia (Figure 1). The Property is developed with large tanks, buildings, pipelines, and roads and was formerly used as a petroleum refinery. The Site is located at the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard. The nearest residential area is located approximately 0.5 miles east of the Site.

The Site is accessed from Hartranft Street and its central portion is covered with asphalt. There are no on-site surface water bodies, and the Schuylkill River is located approximately 900 feet west.

2.2 Operational History

The former petroleum refinery operated between 1860 and 2019. Since ceasing operations in 2019, the Property has been undergoing demolition and closure activities.

2.3 Topography

Topography at the Property is generally flat. Regional topography slopes gently to the west towards the Schuylkill River, the nearest water body to the Site, and to the south towards the Delaware River. The ground surface is approximately 10 feet above mean sea level.

2.4 Site Geology

The Site is situated in the Atlantic Coastal Plain Physiographic Province of southeastern Pennsylvania, with geology consisting of unconsolidated sediments underlain by schist, gneiss, and other metamorphic bedrock⁷.

2.5 Site Hydrogeology

Based on previous environmental reporting at the Property,⁸ shallow groundwater flows to the south. Groundwater was not encountered during remediation and site characterization activities.

⁷ elibrary.dcnr.pa.gov/GetDocument?docId=1752507&DocName=Map13_PhysProvs_Pa.pdf

⁸ Langan, Remedial Investigation Report – AOI-2 Point Breeze Refinery, July 20, 2017.



3 Remediation and Site Characterization Activities

On October 11, 2021, a petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the Site. NorthStar had been conducting tank and pipeline decommissioning activities in the area.

The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks formerly used to store crude oil in the Point Breeze South Yard (i.e., PB 840 and PB 843). The total area of the release was approximately 1,600 square feet, and 1,200 square feet of this area is an asphalt roadway. The remaining 400 square feet of the release occurred on soil (consisting of surficial gravel fill with brick and ash, underlain by brown silt and sand) adjacent to the asphalt (Figure 2). On October 11, 2021, NorthStar reported a Notification of Release to the PADEP Southeast Regional Office of oily water directly to the road surface which migrated to the roadway gutters and contacted soil (Appendix B). Liquids discharged to the roadway were contained within the roadway gutters. The outer extents of the roadway gutters serve as the bounds of the spill and excavation because of their surficial sloping toward the roadway. NorthStar conducted immediate cleanup actions relating to the residual liquids remaining on the low-permeability asphalt. The liquids were recovered via vacuum trucks and use of absorbent materials. Approximately 450 gallons of recovered wastewater were discharged to the facility's Bio Tank Sewer, while approximately 50 gallons of recovered oil were transferred to PB 272 for potential future sale. Disposal documentation related to the liquid recovery is provided in Appendix C, with additional field notes in Appendix D. Because the asphalt was in good condition with no evidence of cracks or breaches, soil located beneath this asphalt is not expected to have been impacted by the release. Photographs of the asphalt roadway are included in Appendix D.

NorthStar proceeded to conduct a limited soil excavation in the unpaved areas impacted by the release. Surficial soil was removed using an excavator and screened for signs of impact. Impacted soil was identified using a photoionization detector, olfactory evidence, and visual staining as indicators. The final excavation dimensions and depth were guided by these field screening and visual observations. Soils immediately adjacent to the roadway were excavated to 1 ft below ground surface (bgs), while soil a few feet from the roadway was excavated to 0.5 ft bgs. No separate phase liquid was identified at the Site following the remedial activities. Approximately 12 to 14 cubic yards of soil were removed and deposited in a roll-off container. Post-excavation soil sampling activities were also conducted by NorthStar.

Title 25 of Pennsylvania Code 250, Section 707(b)(1)(B)(VI) states "For sites where there is a release to surface soils resulting in excavation of 50 cubic yards or less of contaminated soil, two samples shall be collected." On October 12, 2021, as a conservative approach, NorthStar collected six post-excavation soil samples (more than required) from the excavation base (0.5 ft or 1 ft bgs), where no obvious signs of impact post-excavation were identified in remaining soil (Figure 2). A supplemental sampling event was conducted at the same six locations and sampling depths on November 29, 2021, by Ransom Consulting, LLC (Ransom) to collect samples for analysis of additional parameters.



Impacted and potentially impacted soil was transferred to a roll-off container. On January 6, 2022, the 16.3 tons of soil from the Site was disposed of at the Pure Soil Technologies facility in Jackson, New Jersey. Disposal documentation is provided in Appendix C.

Because Terraphase could not confirm the specific type of petroleum product released, soil samples were submitted for the following PADEP Short Lists of Petroleum Products inventory (Table III-5 of the TGM [March 2021]):

- **Leaded Gasoline, Aviation Gasoline and Jet Fuel:** benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and lead.
- **Unleaded Gasoline:** benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- **Kerosene, Fuel Oil No. 1:** benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- **Diesel Fuel and Fuel Oil No. 2:** benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethyl benzene, and 1,3,5-trimethyl benzene.
- **Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids:** benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(g,h,i)perylene.

Laboratory analytical services were provided for the initial sampling of volatile organic compounds (VOCs) and lead by Eurofins Lancaster Laboratories Environmental, LLC of Lancaster, Pennsylvania, and for the follow-up samples collected for semi-volatile organic compounds by Alpha Analytical, Inc. of Westborough, Massachusetts; both Pennsylvania-accredited laboratories. Soil samples, submitted for analyses during the site characterization, were placed directly into laboratory-provided glassware and stored on ice in a cooler under appropriate chain-of-custody protocol.

Copies of the laboratory data deliverables are included as Appendix E. The results of this sampling are discussed in Section 3.2 below.

3.1 Selection of Standards

The analytical results for the soil samples were compared to the Pennsylvania SHS and vapor intrusion screening values listed below and are intended to evaluate potential soil exposure pathways based upon current and reasonably expected future use of the Site, as follows:

- State-Wide Health Non-residential Direct Contact Soil Standards (more stringent of 0–2 and 2–15 feet);
- State-Wide Health Non-residential Soil-to-Groundwater Standards for Used Aquifers (total dissolved solids less than 2,500 milligrams per liter [mg/L]; non-residential S-GW MSC); and
- State-Wide Health Non-residential Vapor Intrusion Soil Screening Values (non-residential soil VISLs).



3.2 Site Characterization Results

Analytical results associated with the post-excavation soil sampling activities are summarized in Table 1. All the targeted constituents, except benzene, EDB, 1,2-DCA, methyl tert-butyl ether and toluene, were detected at concentrations greater than the laboratory reporting limits in at least one of the six post-excavation samples. All the reported detected concentrations were less than the applicable standards noted above.

With regards to EDB and 1,2-DCA, the reporting limits for these chemicals were greater than the PADEP non-residential S-GW MSC for EDB and non-residential soil VISLs for EDB and 1,2-DCA. As discussed in more detail in Appendix F, the 860 Unit Hartranft Pipeline release occurred during the removal of overhead pipelines within a pipe rack. The pipeline that caused the release was an out of service line used to remove water from PB 840 and PB 843. Both aboveground storage tanks were formerly used to store crude oil, which is not associated with EDB or 1,2-DCA. Neither EDB nor 1,2-DCA, would be expected to be present in crude oil or in water that was in contact with crude oil. Also, the soil analytical results did not identify elevated concentrations of any other chemical that would be expected to be present in soil at higher concentrations as a result of this release (Table 1). Based upon these lines of evidence, EDB and 1,2-DCA are unlikely to be present in soil impacted by this release and should be considered absent from soil for attainment demonstration.

Based on the soil characterization results, the identified constituent concentrations in post-excavation soil samples are less than concentrations that would be considered by PADEP to be protective of non-residential exposure.

4 Ecological Screening Evaluation

The following describes the ecological screening evaluation that was performed for the Site. This evaluation was conducted in accordance with Section II.B.5 of the PADEP TGM. The regulatory framework for conducting an ecological screening evaluation under the SHS is outlined in Section II.B.2(e) and summarized in the Ecological Screening Flow Chart provided in Figure II-16 of the TGM. The key elements of the screening procedure are comprised of nine steps.

The initial screening phase of the process consists of Steps 1 and 2, as follows:

- Step 1: Presence of Light Petroleum Product Constituents; and
- Step 2: Site Size.

As indicated on Figure II-16 of the TGM, after completion of the initial screen (Steps 1 and 2), the remediator may be able to determine that no further ecological screening is required.

Step 1: Presence of Light Petroleum Product Constituents

The first step in the ecological screening process is to determine whether the constituents present in on-site surface soil (soils at a depth of up to 2 feet) or sediments are related only to light petroleum products (i.e., gasoline, jet fuel A, kerosene, #2 fuel oil/diesel fuel), which have relatively low polycyclic aromatic hydrocarbon content (ASTM International E1739-95⁹ If light petroleum product constituents (including benzene, toluene, ethylbenzene, and xylene) are the only constituents detected on-site, then the screening process moves to Step 9 (Final Report: No Further Ecological Evaluation Required). Although light petroleum product constituents are present in the post-excavation soil samples, sampling results also indicate the presence of other constituents. The screening process continues to Step 2 (Site Size).

Step 2: Site Size

The second step in the ecological screening process is determining the area of exposed and contaminated surface soil (soil at a depth of up to 2 feet) and sediments that are of potential ecological concern. The minimum areas are: 2 acres of exposed and contaminated surface soil or 1,000 square feet of contaminated sediment. If the area of the site is smaller than the specified minimum areas, then the screening process moves to Step 9 (Final Report: No Further Ecological Evaluation Required).

Because no sediment is present at the Site and the area of the excavation encompassed 400 square feet (0.009 acres, less than the minimum), no further ecological evaluation is required.

⁹ ASTM International, Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites, 2015.



5 Demonstration of Attainment

This section provides a summary of the soil constituents detected at the Site based on the characterization activities and demonstrates attainment of the SHS. Based on the characterization results, the Site has been remediated to the non-residential SHS. In addition, the information included in Appendix F regarding the elevated reporting limits indicates that the EDB and 1,2-DCA non-detect results should not be considered results exceeding the non-residential S-GW MSC or non-residential soil VISLs. As such, these compounds are not included in the demonstration of attainment discussion.

Soil investigation results indicate concentrations of the following constituents of concern, with maximum detected concentrations shown, and attainment of a standard:

Soil			
Constituent	Maximum Concentration (mg/kg)	Location of Maximum Concentration	Selected Standards
Volatile Organic Compounds			
Cumene	0.49	CONF-SOIL-1	SHS
Ethyl Benzene	0.063 J	CONF-SOIL-4	SHS
Naphthalene	2.9	CONF-SOIL-4	SHS
1,2,4-Trimethylbenzene	6	CONF-SOIL-4	SHS
1,3,5-Trimethylbenzene	1.7	CONF-SOIL-4	SHS
Xylenes (Total)	0.62	CONF-SOIL-4	SHS
Semi-volatile Organic Compounds			
Anthracene	4	CONF-SOIL-6	SHS
Benzo(a)anthracene	7.5	CONF-SOIL-6	SHS
Benzo(a)pyrene	7.1	CONF-SOIL-6	SHS
Benzo(b)fluoranthene	9.6	CONF-SOIL-6	SHS
Benzo(g,h,i)perylene	4.3	CONF-SOIL-6	SHS
Chrysene	7.5	CONF-SOIL-6	SHS
Fluorene	5.3	CONF-SOIL-6	SHS
Phenanthrene	12	CONF-SOIL-6	SHS
Pyrene	14	CONF-SOIL-6	SHS
Metals			
Lead	45	CONF-SOIL-1	SHS

mg/kg = milligrams per kilogram



6 Conclusion

Soil remediation and characterization activities have been completed to address a petroleum release that occurred during the removal of overhead pipelines within the pipe rack located near the Site in accordance with Act 2. Based on the soil characterization results, the identified constituent concentrations in post-excavation soil samples are less than concentrations that would be considered by PADEP to be protective of non-residential exposure. Terraphase concludes that all requirements of Act 2 have been met, and as such, PESRM qualifies for the cleanup liability protection under Act 2 for detected petroleum constituents in soil at the site of the pipeline release.



Table

1 Soil Analytical Results



Table 1

Soil Analytical Results

860 Unit Hartranft - Pipeline Release

Philadelphia Energy Solutions Refining and Marketing, LLC, Philadelphia, PA

Location Sample Method Comments	Non-Residential	Non-Residential Soil to	Non-Residential	CONF-SOIL-1	CONF-SOIL-2	CONF-SOIL-3	CONF-SOIL-4	CONF-SOIL-5	CONF-SOIL-6
	Direct Contact	GW MSCs for Used	Soil Vapor Intrusion	Grab	Grab	Grab	Grab	Grab	Grab
	MSCs for Soil	Aquifers (TDS<=2500)	Screening Value	Post-Excavation ²	Post-Excavation ²	Post-Excavation ²	Post-Excavation ²	Post-Excavation ²	Post-Excavation ²
Volatile Organic Compounds									
Benzene	280	0.5	0.13	ND (0.39)	ND (0.31)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.36)
Cumene	10000	2500	2500	0.49 (0.39)	ND (0.31)	ND (0.3)	0.15 J (0.3)	ND (0.28)	0.039 J (0.36)
1,2-Dibromoethane	3.7	0.005	0.0013	ND (0.39)	ND (0.31)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.36)
1,2-Dichloroethane	85	0.5	0.1	ND (0.39)	ND (0.31)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.36)
Ethyl Benzene	880	70	46	0.036 J (0.39)	ND (0.31)	ND (0.3)	0.063 J (0.3)	ND (0.28)	ND (0.36)
Methyl tert-butyl ether	8500	2	1.4	ND (0.39)	ND (0.31)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.36)
Naphthalene	66	25	25	0.37 J (0.39)	ND (0.31)	ND (0.3)	2.9 (0.3)	ND (0.28)	0.65 (0.36)
Toluene	10000	100	44	ND (0.39)	ND (0.31)	ND (0.3)	ND (0.3)	ND (0.28)	ND (0.36)
1,2,4-Trimethylbenzene	4700	300	35	0.89 (0.39)	0.063 J (0.31)	0.05 J (0.3)	6 (0.3)	0.076 J (0.28)	0.23 J (0.36)
1,3,5-Trimethylbenzene	4700	93	210	0.37 J (0.39)	ND (0.31)	ND (0.3)	1.7 (0.3)	ND (0.28)	0.075 J (0.36)
Xylenes (total)	7900	1000	990	0.25 J (0.78)	ND (0.61)	ND (0.61)	0.62 (0.6)	ND (0.57)	ND (0.72)
Semi-Volatile Organic Compounds									
Anthracene	190000	350	--	ND (0.12)	ND (0.12)	0.14 (0.11)	ND (0.11)	ND (0.11)	4 (0.52)
Benzo(a)anthracene	130	340	--	0.071 J (0.12)	0.078 J (0.12)	0.45 (0.11)	ND (0.11)	ND (0.11)	7.5 (0.52)
Benzo(a)pyrene	91	46	--	0.09 J (0.16)	0.073 J (0.16)	0.45 (0.14)	ND (0.15)	ND (0.14)	7.1 (0.7)
Benzo(b)fluoranthene	76	170	--	0.12 (0.12)	0.089 J (0.12)	0.56 (0.11)	ND (0.11)	ND (0.11)	9.6 (0.52)
Benzo(g,h,i)perylene	190000	180	--	0.097 J (0.16)	0.043 J (0.16)	0.29 (0.14)	ND (0.15)	ND (0.14)	4.3 (0.7)
Chrysene	760	230	--	0.072 J (0.12)	0.068 J (0.12)	0.43 (0.11)	ND (0.11)	ND (0.11)	7.5 (0.52)
Fluorene	130000	3800	--	ND (0.21)	0.06 J (0.19)	ND (0.18)	ND (0.19)	ND (0.18)	5.3 (0.87)
Phenanthrene	190000	10000	--	0.071 J (0.12)	0.096 J (0.12)	0.48 (0.11)	ND (0.11)	0.028 J (0.11)	12 (0.52)
Pyrene	96000	2200	--	0.091 J (0.12)	0.11 J (0.12)	0.75 (0.11)	ND (0.11)	ND (0.11)	14 (0.52)
Metals									
Lead	1000	450	--	45 (1.4)	19 (1.5)	21 (1.6)	21 (1.2)	20 (1.4)	32 (1.8)

Notes:

- All concentrations are presented in mg/kg (ppm). Detection limits are in parentheses.
- Post-Excavation Soil Samples were collected from the surface of the bottom of the excavation (Samples CONF-SOIL-1 and CONF-SOIL-4 at 0.5 ft bgs and CONF-SOIL-2, CONF-SOIL-3, CONF-SOIL-5, and CONF-SOIL-6 at 1 ft bgs).
- The Non-Residential Direct Contact MSCs for Soil presented are the more stringent of the Non-Residential Direct Contact MSCs for Surface Soil (0-2 ft) and Non-Residential Direct Contact MSCs for Subsurface Soil (2-15 ft).
- Volatile organic compounds and lead were sampled on 10/12/2021 and semi-volatile organic compounds were sampled on 11/29/2021.
- None of the concentrations exceed the PADEP Non-Residential Direct Contact MSCs for Soil.
- None of the concentrations exceed the PADEP Non-Residential Soil to Ground Water MSCs for Used Aquifers (TDS<=2500).
- None of the concentrations exceed the PADEP Non-Residential Soil Vapor Intrusion Screening Value.

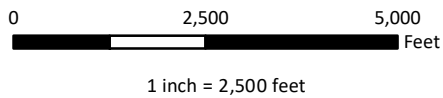
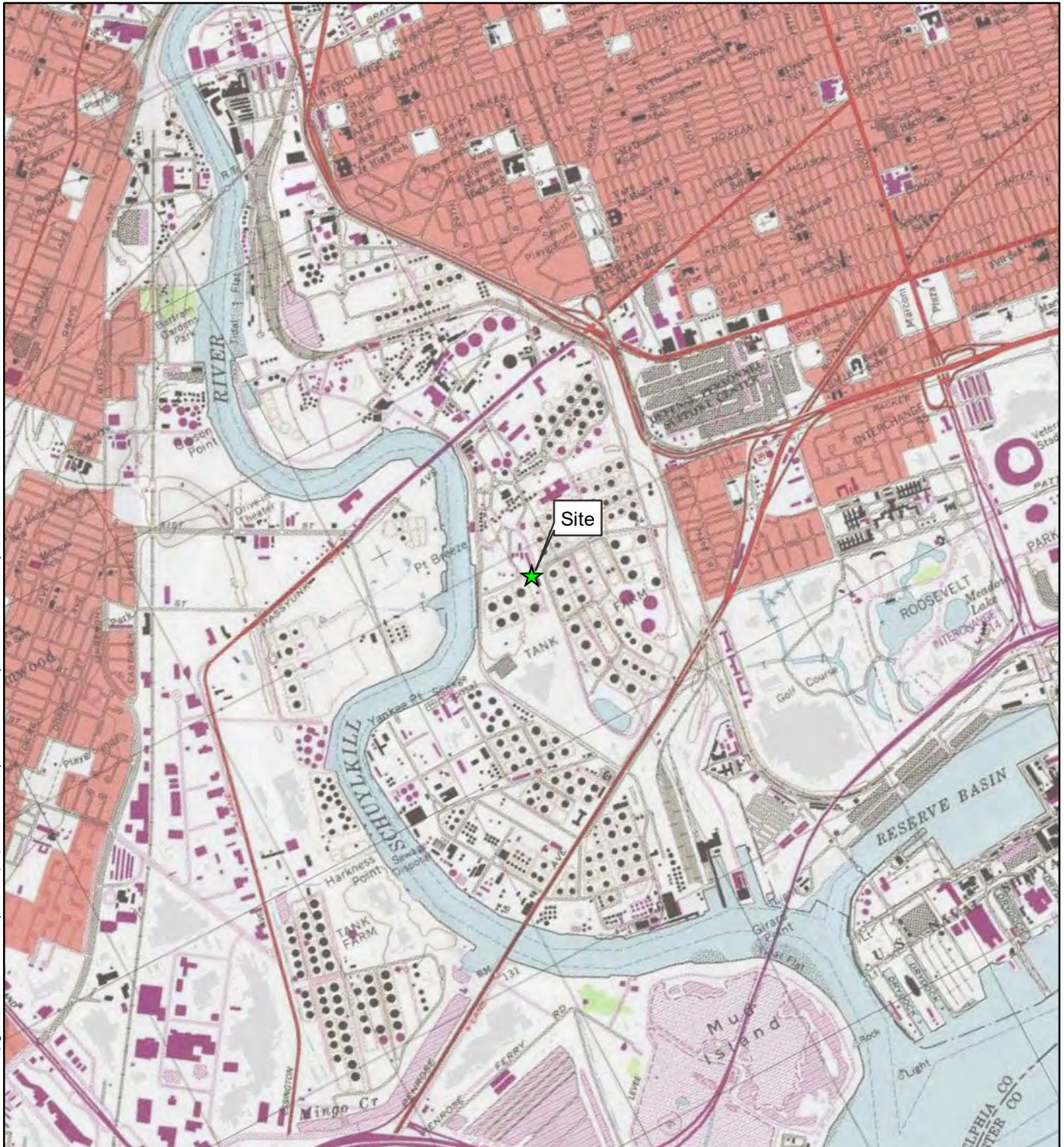
Abbreviations:

- ND -- Not Detected.
- J -- Estimated Concentration.
- bgs -- below ground surface

Figures

- 1 Site Location Map
- 2 Site Layout and Sample Location Map





Legend

★ Site Location

Base Map: USGS Philadelphia (1995) 7.5 Minute Quadrangle.

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Pipeline Release at 860 Unit Cooling Tower

PROJECT NUMBER: P044.001.004




Site Location Map

FIGURE 1

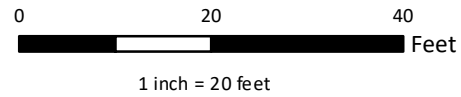
File: N:\GIS\IP\1044_001_PESRM-PES\WAXDs\Pipeline Release - 860 Unit Hartranft\Figure 2 - Site Layout and Sample Location Map.mxd, 12/14/2021, Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet





Legend

-  Confirmation Soil Sample Location
-  Approximate Act 2 Site
-  Soil Excavation Area

Notes:
Aerial imagery source Maxar 10/19/2019



 	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Site Layout and Sample Location Map Figure 2
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004		

Appendix A

Notice of Intent Documents



NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name 860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard

Former Name(s) / AKA Former Philadelphia Energy Solutions Refinery

Address / Location 3144 Passyunk Avenue

City Philadelphia Zip Code 19153

Municipality(s) Philadelphia County(ies) Philadelphia County

Latitude 39 ° (deg). 54 ' (min) 44.037 " (sec) Longitude 75 ° (deg). 12 ' (min) 1.219 " (sec)

Horizontal Collection Method GIS

Horizontal Reference Datum NAD83 Reference Point see Figure 1 attached

Wish to participate in the DEP/EPA MOA. Contact the Land Recycling Program Manager at landrecycling@pa.gov for details.

EPA ID#, if known _____

DEP ID#(s), if known 51-33620

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) October 11, 2021

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

A petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the 860 Unit Cooling Tower and Hartranft Street. The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks (ASTs) in the Point Breeze South Yard (i.e., PB 840 and PB843). Both ASTs were formerly used to store crude oil. The total area of the release was approximately 1,600 square feet, 1,200 square feet of which is comprised of an asphalt roadway. The remaining 400 square feet of the release occurred on soil where approximately 12 to 14 cubic yards of soil were removed and containerized in a roll-off container and disposed of off-site. The future use of the property is expected to be non-residential.

Provide a general description of proposed remediation measures.

A prompt interim response, including removal of 12 to 14 cubic yards of soil, was conducted immediately following discovery of the release. The soil was staged in a roll-off container and transported to Pure Soil Technologies in Jackson, NJ for recycling. Post excavation sampling has revealed no exceedances of the non-residential Statewide Health Standard.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health – Non-Residential Contaminants: petroleum constituents | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Anne Garr / Assistant Secretary</u>	eFACTS Client ID* _____	Facility No. <u>51-33620</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>(312) 283-4469</u>	Email Address <u>agarr@hilcoglobal.com</u>	
Company Name <u>Philadelphia Energy Solutions Refining and Marketing LLC</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>111 S Wacker Dr, Suite 3000, Chicago, IL, 60606</u>		

Property Owner		
Contact Person/Title <u>Anne Garr / Assistant Secretary</u>	eFACTS Client ID* _____	Facility No. <u>51-33620</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>(312) 283-4469</u>	Email Address <u>agarr@hilcoglobal.com</u>	
Company Name <u>Philadelphia Energy Solutions Refining and Marketing LLC</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>111 S Wacker Dr, Suite 3000, Chicago, IL, 60606</u>		

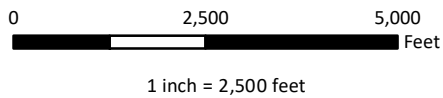
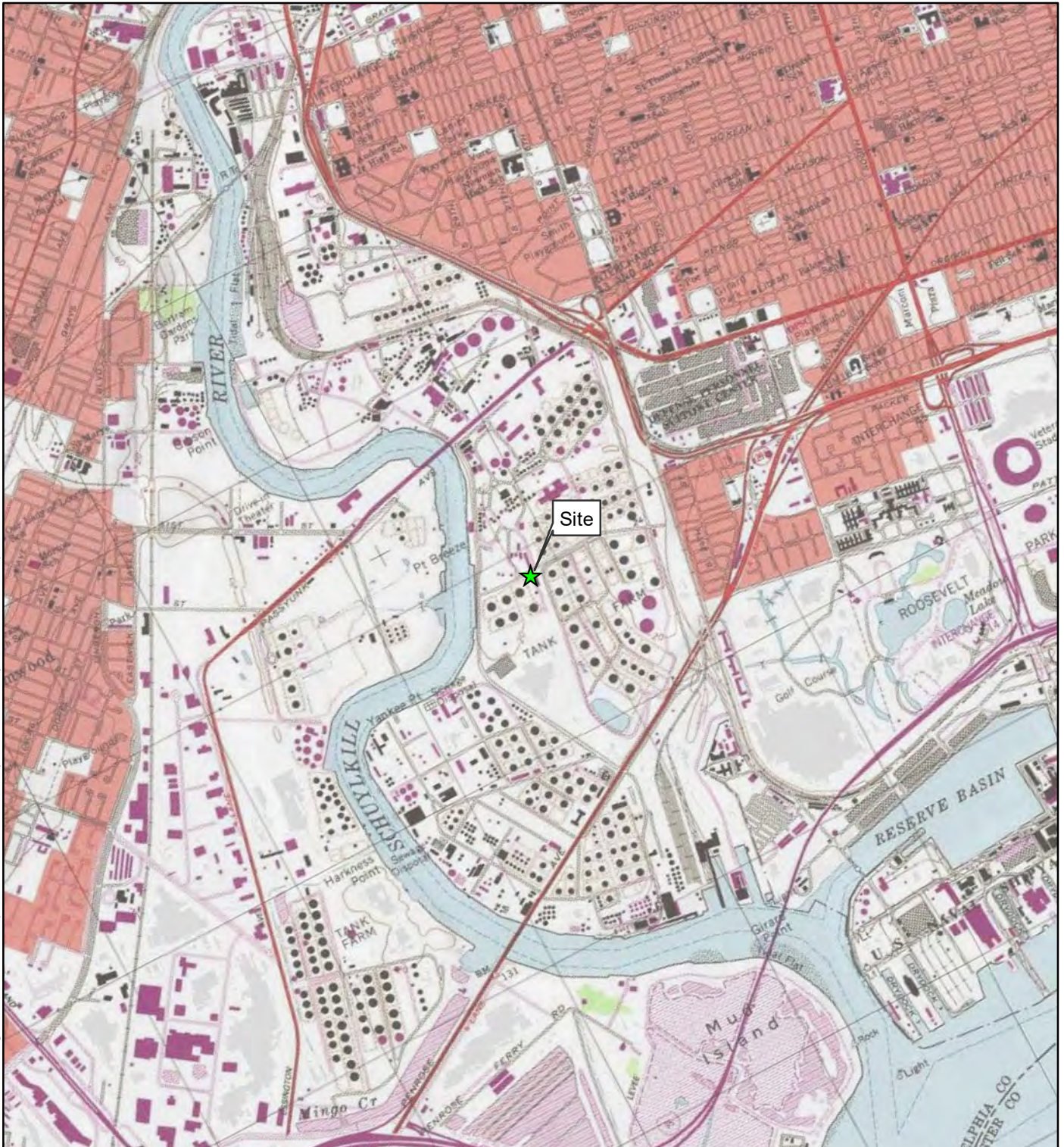
Consultant		
Contact Person/Title <u>Kevin Long / Principal Consultant</u>	eFACTS Client ID* _____	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Corporation</u>	
Phone Number <u>609-236-8171, ext 93</u>	Email Address <u>kevin.long@terrphase.com</u>	
Company Name <u>Terraphase Engineering Inc.</u>	EIN or Federal ID # <u>27-3543127</u>	
Address (street, city, state, zip) <u>100 Canal Pointe Blvd, Suite 108, Princeton, NJ 08540</u>		

*Include eFACTS Client ID (if known) – “Client Types” below:

- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Preparer of Notice of Intent to Remediate		
Name <u>Kevin Long / Principal Consultant</u>	Title <u>Principal Consultant</u>	
Phone Number <u>609-236-8171, ext 93</u>	Email Address <u>kevin.long@terrphase.com</u>	
Company Name <u>Terraphase Engineering Inc.</u>	eFACTS Client ID _____	

Address (street, city, state, zip) 100 Canal Pointe Blvd, Suite 108, Princeton, NJ 08540



Legend

★ Site Location

Base Map: USGS Philadelphia (1995) 7.5 Minute Quadrangle.

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Pipeline Release at 860 Unit Cooling Tower

PROJECT NUMBER: P044.001.004

Site Location Map

FIGURE 1



March 1, 2022

Ms. Leigh Anne Rainford
Philadelphia Department of Public Health
Environmental Health Services
321 University Avenue – 2nd Floor
Philadelphia, PA 19104

sent via UPS, Proof of Delivery Requested

**Subject: Notice of Intent to Remediate
860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard
Former Philadelphia Energy Solutions Refinery
3144 Passyunk Avenue
Philadelphia, PA 19153**

Dear Ms. Rainford:

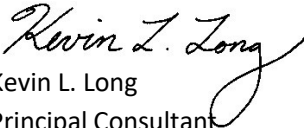
The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) be provided to the municipality in which the site is located. In accordance with this provision of Act 2, Terraphase Engineering, Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), is formally notifying you of PESRM's intent to remediate the above-referenced site to the non-residential Statewide Health Standard. A copy of the Notice of Intent to Remediate, which will be sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Notice is hereby given that Terraphase, on behalf of PESRM, will submit a final report to the Department of Environmental Protection for the site known as the Former Philadelphia Energy Solutions Refinery located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. The report indicates that the remediation performed has attained compliance with the statewide health cleanup standard.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. 4, No. 2. Should you have any questions or comments regarding the proposed remediation, please contact me at kevin.long@terraphase.com or 609-236-8171, ext. 93.

Sincerely,

for Terraphase Engineering Inc.


Kevin L. Long
Principal Consultant

Enclosure: Notice of Intent to Remediate

KL:cs

cc: Julianna Connolly (jconnolly@hilcoglobal.com)
Joseph Jeray (ijeray@hilcoglobal.com)

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z75YA673094272907

Weight

0.50 LBS

Service

UPS Next Day Air Saver®

Shipped / Billed On

03/01/2022

Delivered On

03/02/2022 10:14 A.M.

Delivered To

PHILADELPHIA, PA, US

Received By

CD MONROE

Left At

Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/02/2022 11:10 A.M. EST

**Notice of an Intent
to Remediate to an Environmental Standard
and Notification of Receipt of a Final Report (for Statewide health standard).
(Sections 302(e)(1)(ii), Sections 302(e)(2),
303(h)(1)(ii), 303(h)(2),
304(n)(1)(i), and 305(c)(1))**

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2., notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 3144 Passyunk Avenue, Philadelphia. This Notice of Intent to Remediate states that the site is the Former Philadelphia Energy Solutions Refinery. The site has been found to be contaminated with petroleum constituents which has contaminated soil on the Site. Philadelphia Energy Solutions Refining and Marketing LLC has indicated the proposed remediation measures will consist of soil excavation and disposal. The proposed future use of the property will be non-residential for commercial/industrial use.

Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for a site located at located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

The Philadelphia Inquirer

801 MARKET STREET, SUITE 300, PHILADELPHIA, PA 19107

Affidavit of Publication

On Behalf of:
TERRAPHASE ENGINEERING
1100 E HECTOR ST
SUITE 416
CONSHOHOCKEN, PA 19428

STATE OF PENNSYLVANIA COUNTY OF PHILADELPHIA:

Before the undersigned authority personally appeared the undersigned who, on oath represented a and say: that I am an employee of The Philadelphia Inquirer, LLC, and am authorized to make this affidavit of publication, and being duly sworn, I depose and say:

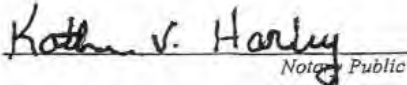
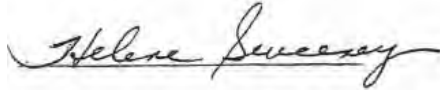
1. The Philadelphia Inquirer, LLC is the publisher of the Philadelphia Daily News, with its headquarters at 801 Market Street, Suite 300, Philadelphia, Pennsylvania 19107.
2. The Philadelphia Daily News is an edition of The Philadelphia Inquirer. The Philadelphia Daily News is continuously published and distributed Sunday-Friday in the City of Philadelphia, count and state aforesaid.
3. The printed notice or publication attached hereto set forth on attached hereto was published in all regular print editions of the Philadelphia Daily News on

Legal Notices

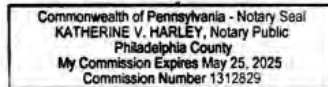
as published in Daily News Legals in the issue(s) of:

3/4/2022

4. Under oath, I state that the following is true and correct, and that neither I nor The Philadelphia Inquirer, LLC have any interest in the subject matter of the aforesaid notice or advertisement.


Notary Public

My Commission Expires:



Ad No: 98349
Customer No: 104799

COPY OF ADVERTISEMENT

Notice of an Intent to Remediate to an Environmental Standard and Notification of Receipt of a Final Report (for Statewide health standard). (Sections 302(e)(1)(ii), Sections 302(e)(2), 303(h)(1)(ii), 303(h)(2), 304(n)(1)(i), and 305(c)(1))

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2., notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 3144 Passyunk Avenue, Philadelphia. This Notice of Intent to Remediate states that the site is the Former Philadelphia Energy Solutions Refinery. The site has been found to be contaminated with petroleum constituents which has contaminated soil on the Site. Philadelphia Energy Solutions Refining and Marketing LLC has indicated the proposed remediation measures will consist of soil excavation and disposal. The proposed future use of the property will be non-residential for commercial/industrial use. Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for a site located at located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act. This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

Appendix B

Notice of Release - Environmental Incident Report





ENVIRONMENTAL INCIDENT REPORT

Date of Incident: 10/11/2021

Time of Incident: 1030 hrs.

Date of Report: 10/11/2021 Updated 11/8/2021

Report Author: Robert Armstrong, Sr. Project Manager

Incident Location and Relevant Background Information:

The Incident occurred within the former PESRM Refinery where a pipe rack containing various process lines crosses the roadway near the 860 unit cooling tower and Hartranft Street. The scheduled removal of the pipe lines within this pipe rack were in progress at the time of the incident. The pipeline that caused the release was an out of service line used to remove water from AST's 840 & 843. The water was then directed to the Point Breeze BIO Plant for treatment. The location of the area affected by the release is just north and west of the CO2 spheres and AST's PB 840 & 843 (See figures & drawings tab for locations of key features). The total area affected by the release was roughly 1,600 square feet and 1,200 square feet of this area is an asphalt roadway. The remaining 400 square feet represents the impacted soil area and approx. 12 to 14 cy of soil were removed.

Causes & Corrective Actions: (If Applicable - Provide Recognition for Notable and/or Positive Actions that Occurred During the Incident)

Finding:	Residual oil and water in pipeline was trapped in low spot of the pipeline. Low spot was not visually obvious without close observation and comparison to
Potential Corrective Actions:	<p>a. If possible/practical determine existing low spots that may contain residual material and drain those areas prior to removal</p> <p>b. If low spots cannot be determined or identified or provide adequate containment for material to drain in order to prevent potential</p> <p>c. If access to drain areas of a pipeline suspected to contain residual material consider alternative methods such as a cold tap and divert or direct the flow to a vac truck or container.</p>
Positive Feedback:	At the time of the incident additional resources were immediately requested, resulting in preventing migration and reducing the environmental impact.

Release / Incident Information (check one):

Waste: _____ Petroleum: Residual Oil & Wash Water Other: _____

Chemical: _____ Gas/Vapor: _____

Nuisance Complaints: N/A

Odor: _____ Fugitive Dust: _____ Noise: _____

Environmental Impact- sensitive receptors - (check all that apply):

Land: X Air: _____ Water: _____ Community: _____

Potential Impact to Gound Water: YES: _____ NO: X

Impact to Community: YES: _____ NO: X

Agency Notification Required: YES: X NO: _____

Notification Made: YES: X NO: _____

Time of Notification: 12:00 hrs. Agency Notified: The PADEP Agency Agency Answering service (follow-up call from K. Bauer @12:30)

Additional Comments:

N/A

Follow-up Remedial Actions:

Confirmatory sampling and Analysis to be performed in the affected soil area

Equipment Utilized During Corrective/Remedial Actions:

Quantity	Description
1	skid steer
1	Vacuum Truck
1	Roll-Off Box
1	Roll-off Truck

Quantity	Description
2	CY sacks of sorbent material

Personnel	Position
3	Operators
6	Laborer
2	Supervisor

Analytical Data (received 11/04/2021)

Incident Date	Laboratory	Sample ID	Sample Collection Date	COC Date	Matrix	Results Comparison to: PA Tables 3a & 4a Residential	Analyses Requested
10/11/2021	Eurofins Lancaster	See COC below: a total of 6 confirmation grab samples and were collected following the cleanup. An additional 2 grab samples and a composite were collected from the roll-off containing the remediated soil.	10/12/2021	1/13/2021	SOL	see attached: (Under review)	Full Waste Characterization (Additional Paramters Pending)

Waste Disposition:

Water and Oil collected was sent to the PB BIO Plant for treatment **(Completed)**

TSDF and DOT Shipping information: Contaminated soil in Roll-off # RB44062RT - Submitting profile request to WM week of 11/8/21 (soil will be classified as Non-Haz) and will be shipped upon approval from the landfill. **(In Progress)**

COC & Table A Parameters + Total Benzene



CHAIN OF CUSTODY
Page 1 of 1



MATRIX CODES

702 Electronic Drive Phone: 215-355-3000
 Horsham, PA 19044-0962 Fax: 215-355-7231
 Client/Account No. 181185M Construction Group, Inc
 Address 3144 Passyunk Ave
 Philadelphia PA 19145
 City/State/Zip 440-325-1534
 Phone/Fax ramsfranz@eurofins.com
 Client Contact e-mail:

Be In/Report to (if different)
 Sampling Site Address (if different) Include State
 P.O. No. PWSID #
 Quota #
 e-mail:

Ascorbic/HCl Vials # HCl Vials
 # Na2S2O8
 # NaOH/Zn acetate pH
 # HNO3 pH
 # H2SO4 pH
 # NaOH pH
 # Unpreserved
 # HCl # NH4Cl # MeOH
 # DI Water

DW DRINKING WATER
 GW GROUND WATER
 WW WASTEWATER
 SO SOIL
 SL SLUDGE
 DL DL
 SOL NON-SOL SOLID
 MI MISCELLANEOUS
 X OTHER

PROJECT	Collection		G R A B	C D M F	Matrix Code	Type	Number of Casseres												ANALYSIS REQUESTED	Field pH, Temp (°C), DO, CO2, Cond, etc.
	Date	Matrix Type					H	C	N	P	A	S	H	P	H	P	H	P		
Hartman-10TH-COMP-SOIL-1-2700	10/12/21	1000	X		SO	5													Total Benzene	Use caution
Hartman-10TH-COMP-SOIL-2-2800	10/12/21	1005	X		SO	5													See attached Table A Parameters	whenever work with these samples
Hartman-10TH-COMP-SOIL-3-2800	10/12/21	1007	X		SO	5														
Hartman-10TH-COMP-SOIL-4-2800	10/12/21	1011	X		SO	5														
Hartman-10TH-COMP-SOIL-5-2800	10/12/21	1012	X		SO	5														
Hartman-10TH-COMP-SOIL-6-2800	10/12/21	1014	X		SO	5														
Hartman-10TH-RB4402-RT-1-2011-10-12	10/12/21	1030	X		SO	5														
Hartman-10TH-RB4402-RT-2-2011-10-12	10/12/21	1036	X		SO	5														
Hartman-10TH-RB4402-RT-3-2011-10-12	10/12/21	1038	X		SO	7														

SAMPLED BY: (Name/Company) TAT: STANDARD (10 DAY) Report Format: Standard NJ-RDD SRP-RDD
 or DUE DATE ASPP Standard + QC Forms EDD
 Field Parameters Analyzed By: Initials Date/Time

PLEASE USE FOR RECEIVING AND AVAILABILITY FOR USE (10 DAY) (unrounded and for all but standard reporting forms)

SAMPLE CUSTODY CHANGES MUST BE DOCUMENTED BELOW - USE FULL LEGAL SIGNATURES, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	DELIVERY	CUSTOMER	CUSTODY SEAL NUMBER
1	10/17/21	1225	[Signature]	10/13/21	1225	<input type="checkbox"/> EDD COURIER <input type="checkbox"/> CLIENT		
2	10/17/21	1800	[Signature]					
3								
4								
5			[Signature]	10/13/21	1810			

Rec'd Temp. 3.3° Initials MR Ice N Location
 COMMENTS: 3.3°
 Hazardous: yes/no



TABLE A PARAMETERS



410-59999-02 Chain of Custody

Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/> Ignitibility	As Received		>140	F	
<input type="checkbox"/> Oil & Grease	As Received			mg/kg	
<input type="checkbox"/> Paint Filter Test	As Received		No free liquids		
<input type="checkbox"/> PCBs	As Received		50		
<input type="checkbox"/> pH	As Received		2 - 12.5	S.U.	
<input type="checkbox"/> Reactive Cyanide	As Received		100		
<input type="checkbox"/> Reactive Sulfide	As Received		500		
<input type="checkbox"/> Total Solids	As Received				
<input type="checkbox"/> Total Volatile Solids	As Received				
<input type="checkbox"/> Ammonia-Nitrogen	ASTM		111111	mg/l	
<input type="checkbox"/> Chemical Oxygen Demand	ASTM				
<input type="checkbox"/> Oil & Grease	ASTM		88550	mg/l	
<input type="checkbox"/> Total Solids	ASTM				
<input type="checkbox"/> pH	TCLP				
<input type="checkbox"/> Arsenic	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/> Barium	TCLP	Metals	100	mg/l	85
<input type="checkbox"/> Cadmium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/> Chromium	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/> Copper	TCLP	Metals	187	mg/l	142
<input type="checkbox"/> Lead	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/> Mercury	TCLP	Metals	0.2	mg/l	0.17
<input type="checkbox"/> Nickel	TCLP	Metals	242	mg/l	206
<input type="checkbox"/> Selenium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/> Silver	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/> Zinc	TCLP	Metals	1875	mg/l	1594
<input type="checkbox"/> 2,4-D	TCLP	Herb	10	mg/l	8.5
<input type="checkbox"/> 2,4,5-TP	TCLP	Herb	1	mg/l	0.85
<input type="checkbox"/> Chlordane	TCLP	Pest	0.03	mg/l	0.0255
<input type="checkbox"/> Endrin	TCLP	Pest	0.02	mg/l	0.017
<input type="checkbox"/> Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/> Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/> Lindane	TCLP	Pest	0.4	mg/l	0.34
<input type="checkbox"/> Methoxychlor	TCLP	Pest	10mg/l	8.5	
<input type="checkbox"/> Toxaphene	TCLP	Pest	0.5	mg/l	0.425
<input type="checkbox"/> 2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
<input type="checkbox"/> 2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
<input type="checkbox"/> m-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/> o-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/> p-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/> Pentachlorophenol	TCLP	Acids	100	mg/l	85
<input type="checkbox"/> 2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/> Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/> Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
<input type="checkbox"/> Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55

**TABLE A PARAMETERS**

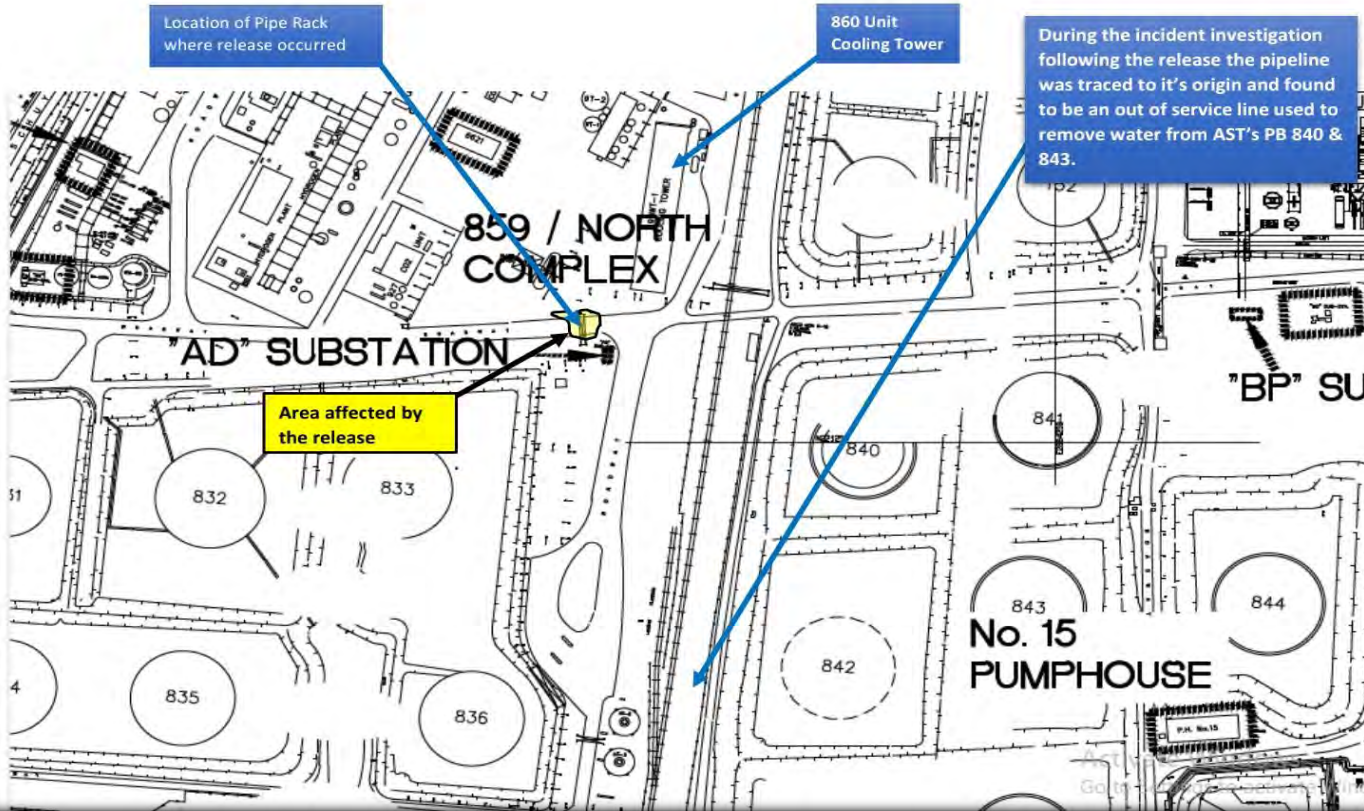
*Volatile Organic Compounds must be taken from discrete samples

Parameter Name	Type	Category	Limit	Units	85% of Limit
<input type="checkbox"/> Nitrobenzene	TCLP	Semi/Volatile	2	mg/l	1.7
<input type="checkbox"/> Pyridine	TCLP	Semi/Volatile	5	mg/l	4.25
<input type="checkbox"/> 1,1-dichloroethylene	TCLP	Volatile	0.7	mg/l	0.595
<input type="checkbox"/> 1,2-dichloroethane	TCLP	Volatile	0.5	mg/l	0.425
<input type="checkbox"/> 1,4-dichlorobenzene	TCLP	Volatile	7.5	mg/l	6.375
<input type="checkbox"/> Benzene	TCLP	Volatile	0.5	mg/l	0.425
<input type="checkbox"/> Carbon Tetrachloride	TCLP	Volatile	0.1	mg/l	0.075
<input type="checkbox"/> Chlorobenzene	TCLP	Volatile	100	mg/l	85
<input type="checkbox"/> Chloroform	TCLP	Volatile	8	mg/l	6.8
<input type="checkbox"/> Methyl ethyl ketone	TCLP	Volatile	200	mg/l	170
<input type="checkbox"/> Tetrachloroethylene	TCLP	Volatile	0.7	mg/l	0.595
<input type="checkbox"/> Trichloroethylene	TCLP	Volatile	0.1	mg/l	0.075
<input type="checkbox"/> Vinyl Chloride	TCLP	Volatile	0.7	mg/l	0.595

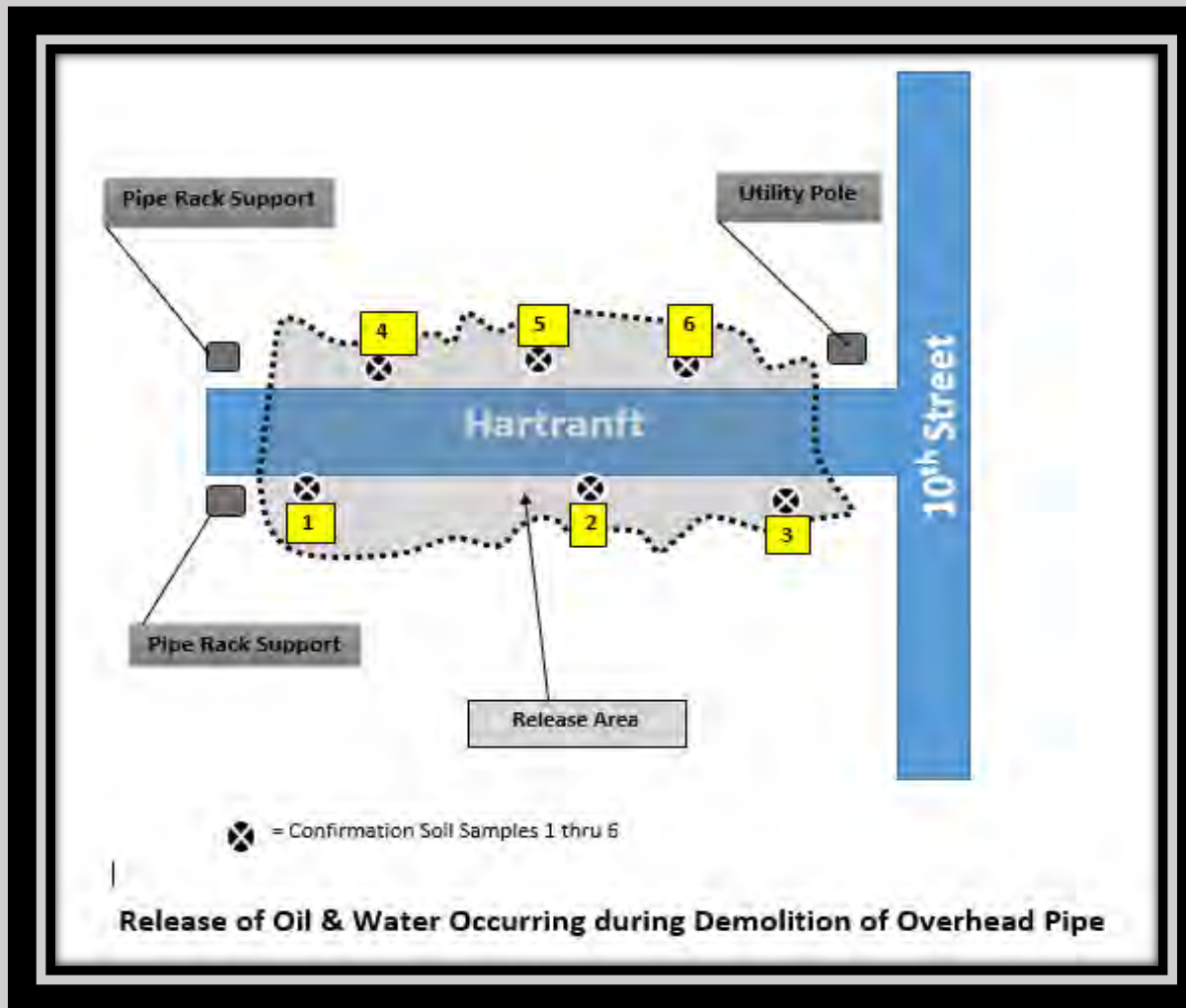
INCIDENT TIMELINE

DATE	TIME	ACTIVITY
10/11/2021	1015-1030	Demolition crew removing decommissioned pipes from pipe rack at 860 unit, a pipe previously flushed contained, but contained some residual oil and water in a low spot in the line. when the pipe was sheared it released residual water and oil directly to the road surface. the material then migrated to the curb areas making contact with soil.
	1030 - 1230	crews worked to vacuum the oil and water from curb areas and remove surface soil. Completed free liquid & soil removal at 1230hrs.
	1155 - 1210	Notification made to The PADEP. Message left with answering service. Answering service passed the information on to Mr. Kevin Bauer at the agency
	1230	Mr. Bauer returned the call and a brief summary of the incident was provided and he
	1255	Cleanup of the affected area to include the road surface is complete
10/12/2021	1000	Samples collected and prepared for pickup by lab
10/13/2021	1225	Samples transferred to custody of lab courier
11/4/2021	1120	Sample results received from Eurofins and under review.

INCIDENT LOCATION



Sample Locations: 6 grab confirmation samples (see COC for Sample ID's)





Appendix C

Disposal Documents



SUBCONTRACTOR NAME: ACV CHARLES DICKERSON

DATE: 10/11/21

TIME: 1150

MATERIAL TYPE: LIQUID SOLID RECOVERED OIL/WATER

DESCRIPTION OF WASTE: OIL AND WATER MIXED

VOLUME

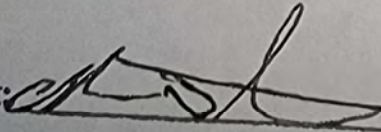
<u>500</u>	GALLONS		TONS		CY		OTHER-SPECIFY
------------	---------	--	------	--	----	--	---------------

ESTIMATE

<u>5</u>	% OIL	<u>95</u>	% WATER		% SOLIDS		% EMULSION
----------	-------	-----------	---------	--	----------	--	------------

SOURCE OF WASTE: 10TH/HARTRAFT (SPILL)

DISPOSAL POINT: BIO TANK SEWER

SIGNATURE: 

DATE: 10/11/21



PURE SOIL TECHNOLOGIES

P.O. Drawer 43
Farmingdale, NJ 07727
Phone: 732.308.1113 Fax: 732.462.9626

151245

Weigh Scale Ticket #
escala de boleto

NON-HAZARDOUS MATERIAL MANIFEST

You must return 4 copies of this manifest upon delivery.

SITE INFORMATION

Site Name: PES

Address: 1144 PASSYUNK AVE

City, State, Zip: PHILADELPHIA, PA 19145

AGENT / CONSULTANT

Name: R&B DERRIS LLC

Contact Name: PATRICK DURIA

Phone: (609) 361-8056

<p>Approval Number</p> <p><u>2112037</u></p>	<p>Description of Material</p> <p>Non-Haz Contaminated Soil</p> <p><u>1.8-10864 FT</u></p>	<p>** Must be Initialed By Authorized Agent.</p> <table border="1"> <thead> <tr> <th></th> <th>SITE</th> <th>**INITIALS</th> </tr> </thead> <tbody> <tr> <td>Time Arrive:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Time Depart:</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>		SITE	**INITIALS	Time Arrive:	_____	_____	Time Depart:	_____	_____
	SITE	**INITIALS									
Time Arrive:	_____	_____									
Time Depart:	_____	_____									

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Authorized Agent for PES RMA LLC
Robert Duria
 Generator/Authorized Agent Name (Print) _____ Signature _____ Shipment Date 1/6/2022

TRANSPORTER

Transporter Name: Liberty Waste & Recycling Driver Name (Print): Steve Day
 Address: 576 W. ... Vehicle License No/State/EPA No.: _____
 City, State, Zip: PHILADELPHIA, PA 19102 Truck Number: 81

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Steve Day Driver Signature Date 01/06/2022 Driver Signature Date

DESTINATION

Site Name: PURE SOIL TECHNOLOGIES Phone: (732) 667-8861
 Address: 655 SOUTH HOPE CHAPEL ROAD, JACKSON, NJ 08827

Business hours are: Monday through Friday 7 AM to 5 PM. Saturday By Appointment Only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature _____ Receipt Date _____



PURE SOIL TECHNOLOGIES

P.O. Drawer 48
Farmingdale, NJ 07727
Phone: 732.308.1113 Fax: 732.462.9826

151245

NON-HAZARDOUS MATERIAL MANIFEST

You must return 4 copies of this manifest upon delivery.

Weigh Scale Ticket #
escala de boleta

SITE INFORMATION

Site Name: PES
Address: 144 PASSYUNK AVE
City, State, Zip: PHILADELPHIA PA 19146

AGENT / CONSULTANT

Name: R&B DERRIS LLC
Contact Name: PATRICK DERRIS
Phone: (800) 261-8038

Approval Number <u>2112037</u>	Description of Material Non-Haz Contaminated Soil <u>Box</u> <u>FB70864 FT</u>	<p><i>** Must be Initialed By Authorized Agent.</i></p> <table border="1"> <thead> <tr> <th></th> <th>SITE</th> <th>INITIALS</th> </tr> </thead> <tbody> <tr> <td>Time Arrive:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Time Depart:</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>		SITE	INITIALS	Time Arrive:	_____	_____	Time Depart:	_____	_____
	SITE	INITIALS									
Time Arrive:	_____	_____									
Time Depart:	_____	_____									

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Authorized Agent for PES Rm, LLC
Patrick Derris Generator/Authorized Agent Name (Print) [Signature] Signature 1/16/2022 Shipment Date

TRANSPORTER

Transporter Name: Liberty Truck & Repair Co Driver Name (Print): Steve Day
Address: 776 U. S. 101 Vehicle License No/State/EPA No.: AUG25P
City, State, Zip: WILMINGTON DE 19807 Truck Number: 81

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature] Driver Signature 1/16/2022 Date [Signature] Driver Signature 1/16/2022 Date

DESTINATION

Site Name: PURE SOIL TECHNOLOGIES Phone: 732.462.9826
Address: 668 SOUTH HOPE CHAPEL ROAD, JACKSON NJ 08527

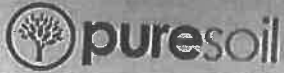
Business hours are: Monday through Friday 7 AM to 5 PM, Saturday By Appointment Only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent _____ Signature [Signature] Receipt Date 1/16/22

Form: PST CB

TRANSPORTER COPY



Pure Soil Technologies
855 SOUTH HOPE CHAPEL RD
JACKSON, NJ 08527
732-657-8551

CUSTOMER:
R&B DEBRIS LLC
5900 SYLON BLVD
HAINESPORT NJ 08060
609-261-8036

CUSTOMER NO: 3880
TICKET NO: 298875
DATE: 01/06/22
TIME: 10:39 AM

JOB NAME:
PES
3144 PASSYUNK AVE
PHILADELPHIA PA 19146

JOB NO: 2112037
QUOTE NO: 2112-039
MANIFEST NO: 151245
PRODUCT: JR86
JR86 SOIL

CARRIER: LIBERTY WASTE
TRUCK NO: LIB01
LIC. PLATE: AU625T

<u>DAILY LOADS</u>	<u>METRIC</u>	<u>TONNAGE</u>	<u>METRIC (Mg)</u>	<u>ENGLISH (TN)</u>
1	14.79	16.30	32.33 Mg	GROSS 35.64 TN
<u>TO-DATE LOADS</u>	<u>METRIC</u>	<u>TONNAGE</u>	<u>METRIC (Mg)</u>	<u>TARE</u>
1	14.79	16.30	17.55 Mg	NET 16.30 TN

RATE: \$0.00
TAX: \$0.00
TOTAL: \$0.00

RECIEVED BY:
WEIGHMASTER: JAMES MATTHEWS NJWMS #31489

* manual weight

Appendix D

Field Notes and Photolog of Asphalt Roadway





Vacuuming oil and wash water from Area 2 of the spill calculation Sheet. Water was decanted from the vacuum truck (estimated 500 gallons) and remaining oil placed in tank 272 slop oil tank for future sale.



Sorbent material and excavated soil being stockpiled while waiting for a lined roll-off to arrive from the empty container laydown area.



Looking east Area 3 on spill calculation Sheet (final excavation was 6" to 1' depth
From original grade) total cubic yards of soil removed from Area 3 is approx. 9 CY.

Area outlined in Blue = 1' Depth

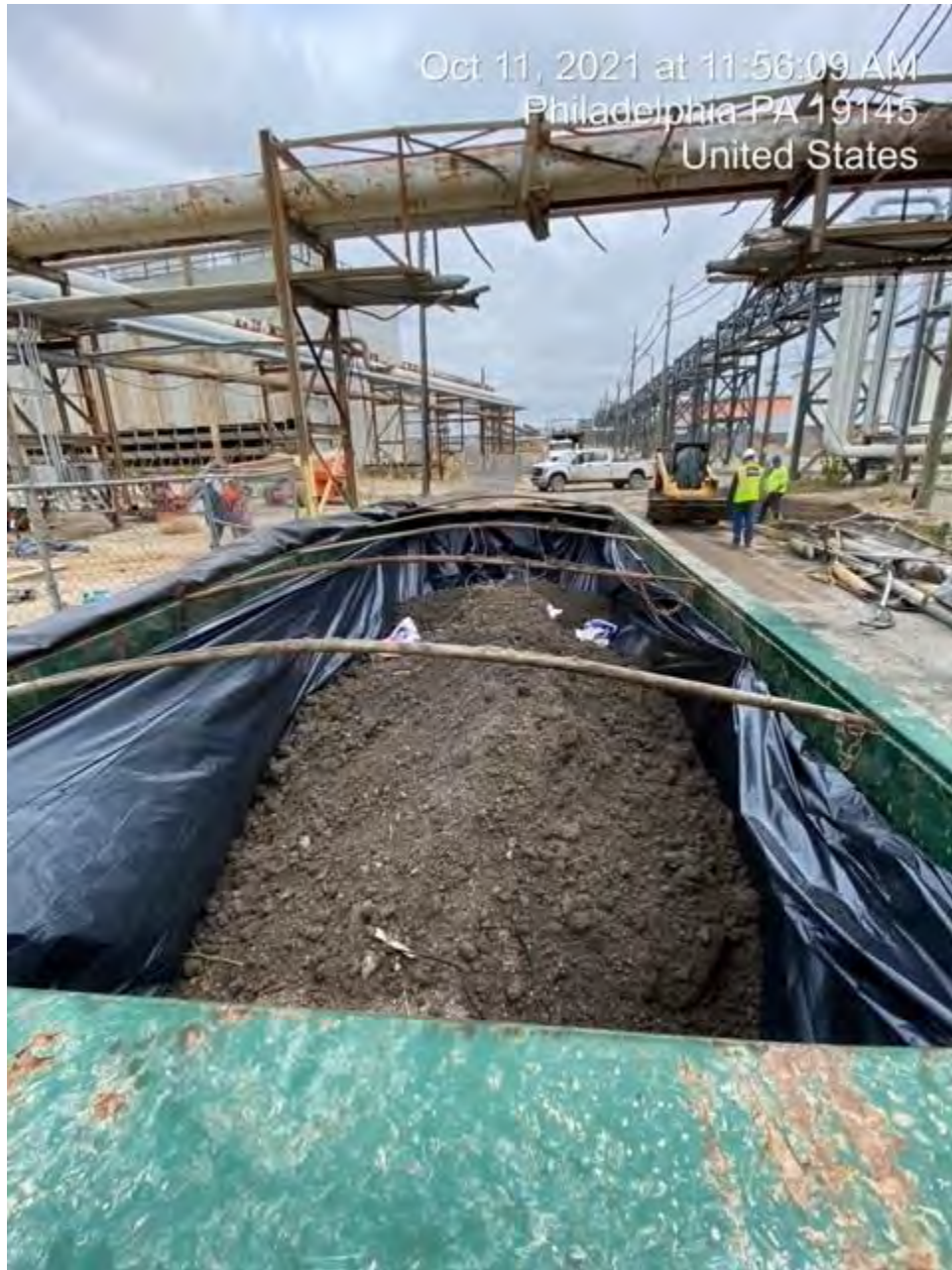
Area Outlined in Yellow = 6" Depth



Looking northeast as sorbent material and excavated soil is stockpiled.



Roll-off # RB44062RT



View of sorbent material from roadway and excavated soil in Roll-off

Oct 11, 2021 at 12:58:49 PM
Philadelphia PA 19145
United States



Looking east at release area (Post Cleanup)

DATE **10/11/2021**

AREA **860 Unit at 10th Street & Hartranft**

ENTER NUMBERS IN THE BLUE HIGHLIGHTED CELLS

AREA 1 (Consists of Impermeable Roadway)

LENGTH in feet **16.00**
WIDTH in feet **30.00**
DEPTH in inches **0.0313**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
16 30 0.002604167 7.48 **9.35**

AREA 2 (Gravel and Soil Gutter of Roadway)

LENGTH in feet **40.00**
WIDTH in feet **4.15**
DEPTH in inches **0.1250**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
40 4.15 0.010416667 7.48 **12.93**

AREA 3 (Gravel and Soil Gutter of Roadway)

LENGTH in feet **50.00**
WIDTH in feet **5.25**
DEPTH in inches **0.0625**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
50 5.25 0.005208333 7.48 **10.23**

32.51 TOTAL GALLONS

0.77 TOTAL BBLs

ESTIMATE THE LENGTH AND WIDTH OF THE SPILL IN FEET

Dimensional Perspective

If dipping a known length (such as a ruler) into the liquid is not feasible the following information can be used as a reference for estimating the depth of liquid.

- 1/32 " = 0.03125" a film of hydrocarbons
- 1/16 " = 0.0625" thickness of a penny
- 3/16 " = 0.1875" width of a typical ball point pen
- 1/2 " = 0.5" length of a thumbnail

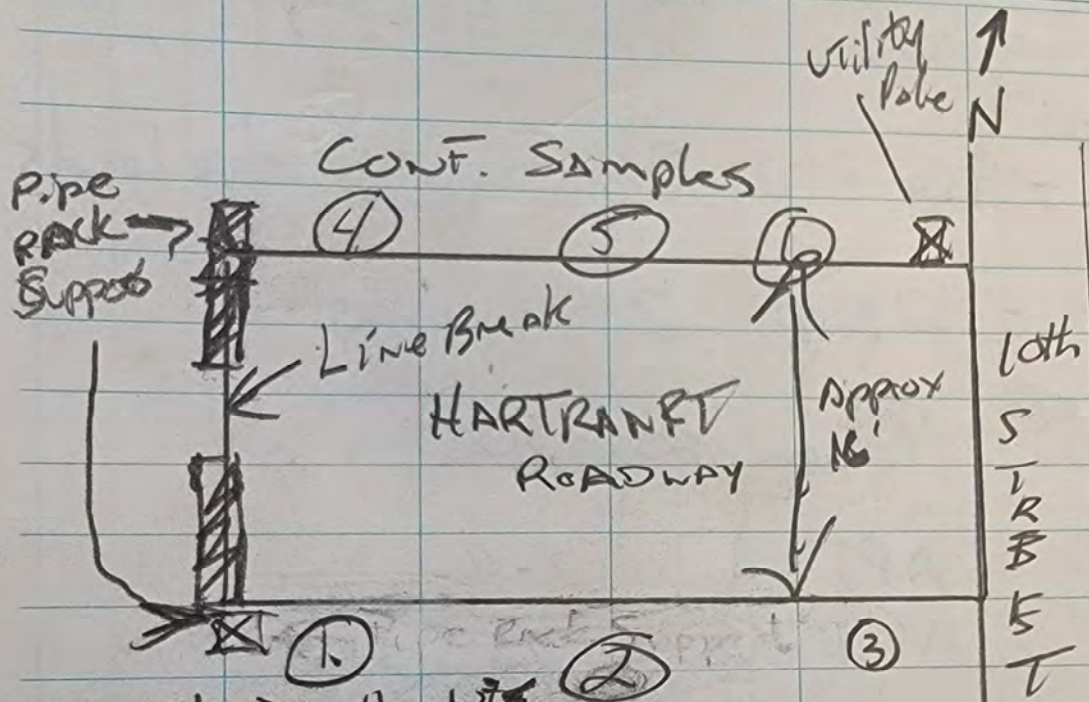
The soil areas were likely not impacted by 25 gal. of Oil (area # 1 is impermeable roadway)

t 10th Street

OF THE SPILL IN FE

a ruler) into the lik
ed as a reference

carbons
penny
cal ball point pen
mbnail



GRAB # Depth OBS.

1.	6"	Clean gravel/soil
2.	1'	Clean gravel/soil
3.	1'	Clean gravel/soil
4.	6"	Clean soil
5.	1'	Clean soil
6.	1'	Clean soil

* 6 samples sent for analysis to compare to SWHS
10/12/21

Roadway - asphalt intact
* grade - < 1% Toward west
* Gutters slope Toward Roadway

are likely not
1 is imperme

Spill Calc Es

Location PES REFINERY Date 11/29

Project / Client AST/SPILL/DELINEATION

LEAD, ~~AS~~

0830 TYLER SHORT (BLANSON) ON-SITE

OBJECTIVE: COLLECT COOLING TOWER + NORTH YARD DELINEATION SAMPLES

0840 MIKE S. + MIKE ON-SITE (TPI)

MOBILIZE TO 860 UNIT COOLING TOWER

0900 TS TO CRAB BUTLEWARE FROM ~~ALPHA~~ ^{TS} STORAGE

0930 TS RETURN TO SPILL AREA

0940 BEGIN DRILLING CONF-SOIL-1

0945 CALIBRATE DIB PBE w/ 10 ppm ISO BUTYLENE
CONF-SOIL-1 PID

0-1' - FILL w/ GRAVEL + SAND, 0.1

1'-1.5' - BROWN SANDY SILT 12.57 ✓

1000 COLLECT CONF-SOIL-1 @ 1-1.5'

1015 COMPLETE DRILLING CONF-SOIL-2
CONF-SOIL-2 PID

0-2.5' - FILL w/ GRAVEL, BRICK, ASH 10.5

2.5-5.0' - DARK BROWN SANDY SILT 21.8

1020 COLLECT CONF-SOIL-2 @ 2.5'-3.0'

1025 TS TO MEET ALPHA

1035 COMPLETE UNLOADING COOLERS, TS BACK TO SPILL AREA.

1045 COMPLETE DRILLING CONF-SOIL-3
CONF-SOIL-3 PID

0-1.5' - GRAVEL FILL 12.3

1.5-2.5 - BROWN SAND w/ SILT 22.4 ✓

Rite in the Rain

Location PES REFINERY

Project / Client

Date 11/29

AST / SPILL / DELINEATION

1050 COLLECT CONF-SOIL-3 @ 1.5'-2'

1055 COMPLETE DRILLING CONF-SOIL-4

CONF-SOIL-4:

0-0.5 - CRACK FILL PID

0.5-3.0 - BROWN SILT w/ SAND 5.7

1100 COLLECT CONF-SOIL-4 @ 0.5'-1.0'

1102 COMPLETE DRILLING CONF-SOIL-5

CONF-SOIL-5:

0-2 - FILL w/ GRAVEL, BRICK, SAND PID

2-5 - BROWN SAND w/ some SILT 15.3

1105 COLLECT CONF-SOIL-5 @ 2.0-2.5'

1110 COMPLETE DRILLING CONF-SOIL-6

CONF-SOIL-6

0-2' - ASPHALT, GRAVEL FILL PID

2'-5' - DARK BROWN SAND w/ some GRAVEL 10.8

1115 COLLECT CONF-SOIL-6 @ 2-2.5'

1125 TS TO PICK UP PID FROM PINE;

1135 M. K. (RANDOM) LEAVES SITE w/ PPB PAB

1222 REMOBILIZE TO PB-666 FOR

DELINEATION SAMPLING

1227 BEGIN DRILLING ~~1050~~ PB-666-1212

1315 COMPLETE DRILLING PB-666-1212

PB-666-12 R PID

0.0-0.5 FINE BROWN SAND w/ SILT 2.5

6.0-6.5 DARK ^{FINE} BROWN SAND w/ SILT 14.7

Location PES REFIN

Project / Client AST/SPILL

14.5-15.0 DARK BROWN

1320 COLLECT PB-666

1325 COLLECT PB-666

1330 COLLECT PB-666

1335 COMMENCE SW

1350 ANDREW S. (T

RANSOM X

FORWARDED TO

1400 COMPLETE DRILL

DRILL ROD STUCK

2.0 AND CONF

PB-666-112:

0.0-0.5 - BROWN SAND

6.0-6.5 - BRICK, ASH,

14.5-15.0 - BROWN LAYER

1415 COLLECT PB-

1420 COLLECT PB-

1430 COLLECT PB-

1440 COLLECT PB-

1500 COMMENCE DRILL

PB-666-29 COMPLETE DRILL

0.0-0.5 - BROWN SAND

3.5-4.0 -

6.0-6.5

Appendix E

Laboratory Analytical Reports



ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-58999-1
Client Project/Site: NorthStar Sampling
Revision: 1

For:
NorthStar Contracting Group, Inc.
2250 East Adams Avenue
Philadelphia, Pennsylvania 19124

Attn: Robert Armstrong



Authorized for release by:
11/17/2021 5:41:08 PM

Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

A handwritten signature in cursive script that reads "Amek Carter".

Amek Carter
Project Manager
11/17/2021 5:41:08 PM



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Definitions/Glossary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^c	CCV Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
B	Analyte was found in the blank.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
*-	LCS and/or LCSD is outside acceptance limits, low biased.
B	Analyte was found in the blank.
F3	Duplicate RPD exceeds the control limit
FH	MS and/or MSD recovery above control limits.
FL	MS and/or MSD recovery below control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent

Definitions/Glossary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1

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Case Narrative

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Job ID: 410-58999-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-58999-1

Revision

The report being provided is a revision of the original report sent on 11/4/2021. The report (revision 1) is being revised due to: Add additional Volatiles and Total Lead.

Receipt

The samples were received on 10/13/2021 6:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3°C and 2.3°C

GC/MS VOA

Method 8260C: The following samples were diluted due to the abundance of non-target analytes: Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Herbicides

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

PCBs

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-183531 recovered outside control limit (+/-20%D) for DCB Decachlorobiphenyl. This surrogate is used for control purposes and the CCV and samples associated with this CCV have surrogate %R well within acceptance criteria; therefore, the data have been reported. Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3) and Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4)

Method 8082A: The DCB Decachlorobiphenyl surrogate recovery for the following samples was outside acceptance limits (high biased) on the primary column due to matrix interference: Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-183928 recovered outside control limit (+/-20%D) for DCB Decachlorobiphenyl. This surrogate is used for control purposes and the CCV and samples associated with this CCV have surrogate %R well within acceptance criteria; therefore, the data have been reported. The associated samples are: Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9).

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-184470 recovered outside acceptance criteria, high biased, for %D for DCB Decachlorobiphenyl (Surr) on one column. Results are confirmed on both columns and reported from the passing column. Since the associated sample was non-detect for this analyte, the data have been reported. Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides

Method 8081B: The following samples were diluted due to the nature of the sample matrix: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Case Narrative

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Job ID: 410-58999-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti)

(410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9). Elevated reporting limits (RLs) are provided.

Method 8081B: The continuing calibration verification (CCV) recovered above the upper control limit for Methoxychlor. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 6010C: The TCLP leachate blank for batch 410-183271 contained Barium, Nickel and Lead above the method detection limit (MDL) but below the reporting limit (RL). This target analyte concentration was less than the TCLP Regulatory Hazard Limit. The associated sample(s) were also below the TCLP Regulatory Hazard Limit for this analyte; therefore, re-extraction was not performed. Associated Sample(s): Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	36	J	390	31	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	250	J	780	110	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	890		390	39	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	370	J	390	160	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	490		390	31	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	370	J	390	39	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	21	J	22	8.3	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	32		22	8.3	ug/Kg	1	✳	8082A	Total/NA
Lead	45		1.4	0.58	mg/Kg	1	✳	6010C	Total/NA
Barium	0.74	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	3.0		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.022	J B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	87		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	33		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3600	FH	760	250	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.5		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	45	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	63	J	310	31	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	9.1	J	19	7.1	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	10	J	19	7.1	ug/Kg	1	✳	8082A	Total/NA
Lead	19		1.5	0.62	mg/Kg	1	✳	6010C	Total/NA
Barium	0.28	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	0.069	J	0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	89		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.2		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	1600		670	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	9.3		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	130	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	130	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	39	J !	75	25	mg/L	1		410.4	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	50	J	300	30	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	13	J p	19	7.2	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	47		19	7.2	ug/Kg	1	✳	8082A	Total/NA
Lead	21		1.6	0.64	mg/Kg	1	✳	6010C	Total/NA
Barium	0.43	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	0.86		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	14		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	97		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	2900		670	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	9.5		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.1	J ! B	5.2	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	56	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	56	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	63	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	63	J	300	24	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	620		600	83	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	6000		300	30	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	2900		300	120	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	150	J	300	24	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	1700		300	30	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	8.6	J	18	6.9	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	7.9	J	18	6.9	ug/Kg	1	✳	8082A	Total/NA
Lead	21		1.2	0.49	mg/Kg	1	✳	6010C	Total/NA
Barium	0.37	B	0.050	0.010	mg/L	1		6010C	TCLP
Chromium	0.018	J	0.15	0.016	mg/L	1		6010C	TCLP
Lead	0.35	B	0.15	0.071	mg/L	1		6010C	TCLP
Zinc	2.3		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.057	J B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	89		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.3		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	6500		650	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	8.0		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	76	J	280	28	ug/Kg	50	✳	8260C	Total/NA
PCB-1260 (2C)	9.2	J	18	6.8	ug/Kg	1	✳	8082A	Total/NA
Lead	20		1.4	0.54	mg/Kg	1	✳	6010C	Total/NA
Barium	0.27	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	1.9		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	93		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.9		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	950		630	210	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	8.7		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.1	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	25	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	230	J	360	36	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	650		360	140	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	39	J	360	29	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	75	J	360	36	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	23		21	7.8	ug/Kg	1	✳	8082A	Total/NA
Lead	32		1.8	0.72	mg/Kg	1	✳	6010C	Total/NA
Barium	0.40	B	0.050	0.010	mg/L	1		6010C	TCLP
Lead	0.15	B	0.15	0.071	mg/L	1		6010C	TCLP
Zinc	1.5		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	87		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	12		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3300		710	240	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.6		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.0	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	120	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	120	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	68	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	57	J	360	28	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	430	J	710	100	ug/Kg	50	✳	8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

(Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2100		360	36	ug/Kg	50	☼	8260C	Total/NA
Naphthalene	570		360	140	ug/Kg	50	☼	8260C	Total/NA
Isopropylbenzene	770		360	28	ug/Kg	50	☼	8260C	Total/NA
1,3,5-Trimethylbenzene	770		360	36	ug/Kg	50	☼	8260C	Total/NA
PCB-1254 (2C)	11	J	21	7.8	ug/Kg	1	☼	8082A	Total/NA
PCB-1260 (1C)	13	J	21	7.8	ug/Kg	1	☼	8082A	Total/NA
Lead	28		1.6	0.64	mg/Kg	1	☼	6010C	Total/NA
Barium	0.54	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	7.3		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.11	B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	80		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	8.7		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	5000		710	240	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.3		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	37	J!	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	55	J	350	42	ug/Kg	50	☼	8260C	Total/NA
Ethylbenzene	160	J	350	28	ug/Kg	50	☼	8260C	Total/NA
Xylenes, Total	1300		700	99	ug/Kg	50	☼	8260C	Total/NA
1,2,4-Trimethylbenzene	3300		350	35	ug/Kg	50	☼	8260C	Total/NA
Naphthalene	790		350	140	ug/Kg	50	☼	8260C	Total/NA
Isopropylbenzene	1400		350	28	ug/Kg	50	☼	8260C	Total/NA
1,3,5-Trimethylbenzene	1200		350	35	ug/Kg	50	☼	8260C	Total/NA
PCB-1254 (2C)	11	J	20	7.7	ug/Kg	1	☼	8082A	Total/NA
PCB-1260 (2C)	16	J	20	7.7	ug/Kg	1	☼	8082A	Total/NA
Lead	25		1.6	0.66	mg/Kg	1	☼	6010C	Total/NA
Barium	0.52	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	3.5		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.044	J B	0.10	0.021	mg/L	1		6010C	TCLP
Mercury	0.00016	J	0.00020	0.000079	mg/L	1		7470A	TCLP
Total Solids	81		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	8.8		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	6100		720	240	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	6.9		0.01	0.01	S.U.	1		9045D	Soluble

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12
(Continued)

Lab Sample ID: 410-58999-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	92	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	92	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	68	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	36	J	350	28	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	330	J	710	99	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	1600		350	35	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	410		350	140	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	500		350	28	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	610		350	35	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	12	J	20	7.7	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	22		20	7.7	ug/Kg	1	✳	8082A	Total/NA
Lead	33		1.7	0.67	mg/Kg	1	✳	6010C	Total/NA
Barium	0.44	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	2.6		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.11	B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	81		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	6.3		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3500		720	240	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.6		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	1.9	J ! B	5.4	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	73	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	73	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	35	J !	75	25	mg/L	1		410.4	ASTM Leach
Ammonia as N	0.061	J !	0.10	0.050	mg/L	1		EPA 350.1	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 03:08	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 03:08	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 03:08	20
4-Bromofluorobenzene (Surr)	95		80 - 120		10/20/21 03:08	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 03:08	20
Toluene-d8 (Surr)	104		80 - 120		10/20/21 03:08	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 14:53	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 14:53	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	66		10 - 150	10/19/21 17:40	10/20/21 14:53	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 14:53	1
2-Fluorophenol (Surr)	22		10 - 78	10/19/21 17:40	10/20/21 14:53	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 14:53	1
p-Terphenyl-d14 (Surr)	76		31 - 119	10/19/21 17:40	10/20/21 14:53	1
Phenol-d5 (Surr)	19		10 - 67	10/19/21 17:40	10/20/21 14:53	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:30	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:30	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:30	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:30	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:30	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:30	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:30	10

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	88		21 - 130	10/19/21 17:27	10/20/21 09:30	10
DCB Decachlorobiphenyl (Surr) (2C)	91		21 - 130	10/19/21 17:27	10/20/21 09:30	10
Tetrachloro-m-xylene (Surr) (1C)	75		39 - 139	10/19/21 17:27	10/20/21 09:30	10
Tetrachloro-m-xylene (Surr) (2C)	68		39 - 139	10/19/21 17:27	10/20/21 09:30	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/21/21 23:25	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/21/21 23:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136	10/20/21 00:20	10/21/21 23:25	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136	10/20/21 00:20	10/21/21 23:25	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 14:59	1
Barium	0.74	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:59	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:59	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 14:59	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 14:59	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 14:59	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 14:59	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 14:59	1
Zinc	3.0		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 14:59	1
Nickel	0.022	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 14:59	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	87		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	33		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	87	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	57	19	mg/Kg		10/15/21 07:55	10/15/21 15:00	1
Sulfide, Reactive	ND	!	150	51	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	22.8	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	100	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	100	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	45	J !	75	25	mg/L			10/19/21 12:47	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 10:55	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Toluene	ND		390	47	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Ethylbenzene	36	J	390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Xylenes, Total	250	J	780	110	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2,4-Trimethylbenzene	890		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Naphthalene	370	J	390	160	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Isopropylbenzene	490		390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,3,5-Trimethylbenzene	370	J	390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2-Dibromoethane	ND		390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Methyl tertiary butyl ether	ND		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2-Dichloroethane	ND		390	47	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		54 - 135				10/14/21 11:18	10/18/21 14:27	50
4-Bromofluorobenzene (Surr)	105		50 - 131				10/14/21 11:18	10/18/21 14:27	50
Dibromofluoromethane (Surr)	94		50 - 141				10/14/21 11:18	10/18/21 14:27	50
Toluene-d8 (Surr)	105		52 - 141				10/14/21 11:18	10/18/21 14:27	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1221 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1232 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1242 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1248 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1254 (2C)	21	J	22	8.3	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1260 (2C)	32		22	8.3	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	99	^c	45 - 143				10/18/21 18:09	10/19/21 08:52	1
DCB Decachlorobiphenyl (Surr) (2C)	91		45 - 143				10/18/21 18:09	10/19/21 08:52	1
Tetrachloro-m-xylene (1C)	61		53 - 140				10/18/21 18:09	10/19/21 08:52	1
Tetrachloro-m-xylene (2C)	58		53 - 140				10/18/21 18:09	10/19/21 08:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	45		1.4	0.58	mg/Kg	⊛	11/09/21 19:12	11/16/21 12:26	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3600	FH	760	250	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 03:54	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 03:54	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 03:54	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 03:54	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 03:54	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 03:54	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:21	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:21	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	85		10 - 150	10/19/21 17:40	10/20/21 15:21	1
2-Fluorobiphenyl (Surr)	69		35 - 100	10/19/21 17:40	10/20/21 15:21	1
2-Fluorophenol (Surr)	43		10 - 78	10/19/21 17:40	10/20/21 15:21	1
Nitrobenzene-d5 (Surr)	77		22 - 117	10/19/21 17:40	10/20/21 15:21	1
p-Terphenyl-d14 (Surr)	89		31 - 119	10/19/21 17:40	10/20/21 15:21	1
Phenol-d5 (Surr)	34		10 - 67	10/19/21 17:40	10/20/21 15:21	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:41	10

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:41	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:41	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:41	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:41	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:41	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	78		21 - 130	10/19/21 17:27	10/20/21 09:41	10
DCB Decachlorobiphenyl (Surr) (2C)	83		21 - 130	10/19/21 17:27	10/20/21 09:41	10
Tetrachloro-m-xylene (Surr) (1C)	69		39 - 139	10/19/21 17:27	10/20/21 09:41	10
Tetrachloro-m-xylene (Surr) (2C)	61		39 - 139	10/19/21 17:27	10/20/21 09:41	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 00:00	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 00:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	99		26 - 136	10/20/21 00:20	10/22/21 00:00	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	87		26 - 136	10/20/21 00:20	10/22/21 00:00	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:08	1
Barium	0.28	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:08	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:08	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:08	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:08	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:08	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:08	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:08	1
Zinc	0.069	J	0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:08	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:08	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	89		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.2		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	89	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:32	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND	! FL	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	10.8	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.3		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.2	1.5	mg/L			10/19/21 20:36	1
Total Solids	130	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	130	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	39	J !	75	25	mg/L			10/19/21 12:49	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:01	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Toluene	ND		310	37	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Ethylbenzene	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Xylenes, Total	ND		610	86	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2,4-Trimethylbenzene	63	J	310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Naphthalene	ND		310	120	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Isopropylbenzene	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,3,5-Trimethylbenzene	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2-Dibromoethane	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Methyl tertiary butyl ether	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2-Dichloroethane	ND		310	37	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		54 - 135	10/14/21 11:18	10/18/21 14:48	50
4-Bromofluorobenzene (Surr)	101		50 - 131	10/14/21 11:18	10/18/21 14:48	50
Dibromofluoromethane (Surr)	84		50 - 141	10/14/21 11:18	10/18/21 14:48	50
Toluene-d8 (Surr)	103		52 - 141	10/14/21 11:18	10/18/21 14:48	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1221 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1232 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1242 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1248 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1254 (2C)	9.1	J	19	7.1	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1260 (2C)	10	J	19	7.1	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	79	^c	45 - 143	10/15/21 09:45	10/15/21 19:17	1
DCB Decachlorobiphenyl (Surr) (2C)	68		45 - 143	10/15/21 09:45	10/15/21 19:17	1
Tetrachloro-m-xylene (1C)	65		53 - 140	10/15/21 09:45	10/15/21 19:17	1
Tetrachloro-m-xylene (2C)	60		53 - 140	10/15/21 09:45	10/15/21 19:17	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	19		1.5	0.62	mg/Kg	☆	11/09/21 19:12	11/16/21 12:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1600		670	220	mg/Kg	☆	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 04:17	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 04:17	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 04:17	20
4-Bromofluorobenzene (Surr)	95		80 - 120		10/20/21 04:17	20
Dibromofluoromethane (Surr)	103		80 - 120		10/20/21 04:17	20
Toluene-d8 (Surr)	102		80 - 120		10/20/21 04:17	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:50	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:50	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 15:50	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	56		10 - 150	10/19/21 17:40	10/20/21 15:50	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 15:50	1
2-Fluorophenol (Surr)	11		10 - 78	10/19/21 17:40	10/20/21 15:50	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 15:50	1
p-Terphenyl-d14 (Surr)	89		31 - 119	10/19/21 17:40	10/20/21 15:50	1
Phenol-d5 (Surr)	11		10 - 67	10/19/21 17:40	10/20/21 15:50	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:53	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:53	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:53	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:53	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:53	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:53	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:53	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	90		21 - 130	10/19/21 17:27	10/20/21 09:53	10
DCB Decachlorobiphenyl (Surr) (2C)	92		21 - 130	10/19/21 17:27	10/20/21 09:53	10
Tetrachloro-m-xylene (Surr) (1C)	64		39 - 139	10/19/21 17:27	10/20/21 09:53	10
Tetrachloro-m-xylene (Surr) (2C)	58		39 - 139	10/19/21 17:27	10/20/21 09:53	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 00:36	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 00:36	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	86		26 - 136	10/20/21 00:20	10/22/21 00:36	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:11	1
Barium	0.43	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:11	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:11	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:11	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:11	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:11	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:11	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:11	1
Zinc	0.86		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:11	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:11	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:39	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	14		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	97		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	14	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:39	1
Sulfide, Reactive	ND	!	160	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	11.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.5		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.1	J ! B	5.2	1.5	mg/L			10/19/21 20:36	1
Total Solids	56	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	56	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	63	J !	75	25	mg/L			10/19/21 12:51	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:03	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Toluene	ND		300	37	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Ethylbenzene	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Xylenes, Total	ND		610	85	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2,4-Trimethylbenzene	50	J	300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Naphthalene	ND		300	120	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Isopropylbenzene	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,3,5-Trimethylbenzene	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2-Dibromoethane	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Methyl tertiary butyl ether	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2-Dichloroethane	ND		300	37	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		54 - 135				10/14/21 11:18	10/18/21 15:08	50
4-Bromofluorobenzene (Surr)	99		50 - 131				10/14/21 11:18	10/18/21 15:08	50
Dibromofluoromethane (Surr)	89		50 - 141				10/14/21 11:18	10/18/21 15:08	50
Toluene-d8 (Surr)	102		52 - 141				10/14/21 11:18	10/18/21 15:08	50

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1221 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1232 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1242 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1248 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1254 (2C)	13	J p	19	7.2	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1260 (2C)	47		19	7.2	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	155	S1+ ^c	45 - 143	10/15/21 09:45	10/15/21 19:28	1
DCB Decachlorobiphenyl (Surr) (2C)	136		45 - 143	10/15/21 09:45	10/15/21 19:28	1
Tetrachloro-m-xylene (1C)	71		53 - 140	10/15/21 09:45	10/15/21 19:28	1
Tetrachloro-m-xylene (2C)	68		53 - 140	10/15/21 09:45	10/15/21 19:28	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	21		1.6	0.64	mg/Kg	☼	11/09/21 13:56	11/10/21 10:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2900		670	220	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 04:40	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 04:40	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 04:40	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 04:40	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 04:40	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 04:40	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:19	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:19	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	72		10 - 150	10/19/21 17:40	10/20/21 16:19	1
2-Fluorobiphenyl (Surr)	69		35 - 100	10/19/21 17:40	10/20/21 16:19	1
2-Fluorophenol (Surr)	16		10 - 78	10/19/21 17:40	10/20/21 16:19	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 16:19	1
p-Terphenyl-d14 (Surr)	90		31 - 119	10/19/21 17:40	10/20/21 16:19	1
Phenol-d5 (Surr)	13		10 - 67	10/19/21 17:40	10/20/21 16:19	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:04	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:04	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:04	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:04	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:04	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:04	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	82		21 - 130	10/19/21 17:27	10/20/21 10:04	10
DCB Decachlorobiphenyl (Surr) (2C)	86		21 - 130	10/19/21 17:27	10/20/21 10:04	10
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139	10/19/21 17:27	10/20/21 10:04	10
Tetrachloro-m-xylene (Surr) (2C)	54		39 - 139	10/19/21 17:27	10/20/21 10:04	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 01:11	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 01:11	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	83		26 - 136	10/20/21 00:20	10/22/21 01:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:30	1
Barium	0.37	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:30	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:30	1
Chromium	0.018	J	0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:30	1
Lead	0.35	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:30	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 6010C - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:30	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:30	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:30	1
Zinc	2.3		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:30	1
Nickel	0.057	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:30	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	89		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.3		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	89	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:41	1
Sulfide, Reactive	ND	!	160	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	8.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.6	1.6	mg/L			10/19/21 20:36	1
Total Solids	110	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	110	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	ND	!	75	25	mg/L			10/19/21 12:52	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:05	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Toluene	ND		300	36	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Ethylbenzene	63	J	300	24	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Xylenes, Total	620		600	83	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
1,2,4-Trimethylbenzene	6000		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Naphthalene	2900		300	120	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Isopropylbenzene	150	J	300	24	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
1,3,5-Trimethylbenzene	1700		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		300	24	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50
Methyl tertiary butyl ether	ND		300	30	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50
1,2-Dichloroethane	ND		300	36	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		54 - 135	10/14/21 11:18	10/18/21 15:29	50
4-Bromofluorobenzene (Surr)	105		50 - 131	10/14/21 11:18	10/18/21 15:29	50
Dibromofluoromethane (Surr)	92		50 - 141	10/14/21 11:18	10/18/21 15:29	50
Toluene-d8 (Surr)	100		52 - 141	10/14/21 11:18	10/18/21 15:29	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1221 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1232 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1242 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1248 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1254 (2C)	8.6	J	18	6.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1260 (2C)	7.9	J	18	6.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	89	^c	45 - 143	10/15/21 09:45	10/15/21 19:38	1
DCB Decachlorobiphenyl (Surr) (2C)	78		45 - 143	10/15/21 09:45	10/15/21 19:38	1
Tetrachloro-m-xylene (1C)	62		53 - 140	10/15/21 09:45	10/15/21 19:38	1
Tetrachloro-m-xylene (2C)	63		53 - 140	10/15/21 09:45	10/15/21 19:38	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	21		1.2	0.49	mg/Kg	☼	11/09/21 19:12	11/16/21 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	6500		650	220	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:03	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:03	20

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 05:03	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 05:03	20
Dibromofluoromethane (Surr)	104		80 - 120		10/20/21 05:03	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 05:03	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:48	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:48	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	67		10 - 150	10/19/21 17:40	10/20/21 16:48	1
2-Fluorobiphenyl (Surr)	55		35 - 100	10/19/21 17:40	10/20/21 16:48	1
2-Fluorophenol (Surr)	17		10 - 78	10/19/21 17:40	10/20/21 16:48	1
Nitrobenzene-d5 (Surr)	56		22 - 117	10/19/21 17:40	10/20/21 16:48	1
p-Terphenyl-d14 (Surr)	74		31 - 119	10/19/21 17:40	10/20/21 16:48	1
Phenol-d5 (Surr)	15		10 - 67	10/19/21 17:40	10/20/21 16:48	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:15	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:15	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:15	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:15	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:15	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:15	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:15	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	80		21 - 130	10/19/21 17:27	10/20/21 10:15	10
DCB Decachlorobiphenyl (Surr) (2C)	90		21 - 130	10/19/21 17:27	10/20/21 10:15	10
Tetrachloro-m-xylene (Surr) (1C)	92		39 - 139	10/19/21 17:27	10/20/21 10:15	10
Tetrachloro-m-xylene (Surr) (2C)	82		39 - 139	10/19/21 17:27	10/20/21 10:15	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 01:47	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	99		26 - 136	10/20/21 00:20	10/22/21 01:47	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8151A - Herbicides (GC) - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (2C)	95		26 - 136	10/20/21 00:20	10/22/21 01:47	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:15	1
Barium	0.27	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:15	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:15	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:15	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:15	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:15	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:15	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:15	1
Zinc	1.9		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:15	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:15	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	93		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.9		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	93	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:42	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	6.2	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.1	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	100	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	100	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	25	J !	75	25	mg/L			10/19/21 12:53	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:07	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 93.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Toluene	ND		280	34	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Ethylbenzene	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Xylenes, Total	ND		570	80	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2,4-Trimethylbenzene	76	J	280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Naphthalene	ND		280	110	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Isopropylbenzene	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,3,5-Trimethylbenzene	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2-Dibromoethane	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Methyl tertiary butyl ether	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2-Dichloroethane	ND		280	34	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		54 - 135				10/14/21 11:18	10/18/21 15:50	50
4-Bromofluorobenzene (Surr)	98		50 - 131				10/14/21 11:18	10/18/21 15:50	50
Dibromofluoromethane (Surr)	80		50 - 141				10/14/21 11:18	10/18/21 15:50	50
Toluene-d8 (Surr)	99		52 - 141				10/14/21 11:18	10/18/21 15:50	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1221 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1232 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1242 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1248 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1254 (1C)	ND		18	6.8	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1260 (2C)	9.2	J	18	6.8	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	121	^c	45 - 143				10/16/21 09:07	10/18/21 11:03	1
DCB Decachlorobiphenyl (Surr) (2C)	102		45 - 143				10/16/21 09:07	10/18/21 11:03	1
Tetrachloro-m-xylene (1C)	73		53 - 140				10/16/21 09:07	10/18/21 11:03	1
Tetrachloro-m-xylene (2C)	69		53 - 140				10/16/21 09:07	10/18/21 11:03	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	20		1.4	0.54	mg/Kg	☼	11/09/21 19:12	11/16/21 12:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	950		630	210	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:26	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:26	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 05:26	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 05:26	20
Dibromofluoromethane (Surr)	101		80 - 120		10/20/21 05:26	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 05:26	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:17	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:17	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	95		10 - 150	10/19/21 17:40	10/20/21 17:17	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 17:17	1
2-Fluorophenol (Surr)	49		10 - 78	10/19/21 17:40	10/20/21 17:17	1
Nitrobenzene-d5 (Surr)	77		22 - 117	10/19/21 17:40	10/20/21 17:17	1
p-Terphenyl-d14 (Surr)	82		31 - 119	10/19/21 17:40	10/20/21 17:17	1
Phenol-d5 (Surr)	39		10 - 67	10/19/21 17:40	10/20/21 17:17	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:26	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:26	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:26	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:26	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:26	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:26	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:26	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	63		21 - 130	10/19/21 17:27	10/20/21 10:26	10
DCB Decachlorobiphenyl (Surr) (2C)	69		21 - 130	10/19/21 17:27	10/20/21 10:26	10
Tetrachloro-m-xylene (Surr) (1C)	83		39 - 139	10/19/21 17:27	10/20/21 10:26	10

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr) (2C)	77		39 - 139	10/19/21 17:27	10/20/21 10:26	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 02:22	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 02:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	91		26 - 136	10/20/21 00:20	10/22/21 02:22	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	81		26 - 136	10/20/21 00:20	10/22/21 02:22	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:18	1
Barium	0.40	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:18	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:18	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:18	1
Lead	0.15	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:18	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:18	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:18	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:18	1
Zinc	1.5		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:18	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:18	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	87		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	12		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	87	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:43	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	18.1	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.0	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	120	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	120	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	68	J !	75	25	mg/L			10/19/21 12:54	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:09	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Toluene	ND		360	43	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Ethylbenzene	ND		360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Xylenes, Total	ND		720	100	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2,4-Trimethylbenzene	230	J	360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Naphthalene	650		360	140	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Isopropylbenzene	39	J	360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,3,5-Trimethylbenzene	75	J	360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2-Dibromoethane	ND		360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Methyl tertiary butyl ether	ND		360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2-Dichloroethane	ND		360	43	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		54 - 135				10/14/21 11:18	10/18/21 16:11	50
4-Bromofluorobenzene (Surr)	103		50 - 131				10/14/21 11:18	10/18/21 16:11	50
Dibromofluoromethane (Surr)	100		50 - 141				10/14/21 11:18	10/18/21 16:11	50
Toluene-d8 (Surr)	106		52 - 141				10/14/21 11:18	10/18/21 16:11	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1221 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1232 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1242 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1248 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1254 (2C)	23		21	7.8	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1260 (1C)	ND		21	7.8	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	97	^c	45 - 143				10/16/21 09:07	10/18/21 11:14	1
DCB Decachlorobiphenyl (Surr) (2C)	86		45 - 143				10/16/21 09:07	10/18/21 11:14	1
Tetrachloro-m-xylene (1C)	58		53 - 140				10/16/21 09:07	10/18/21 11:14	1
Tetrachloro-m-xylene (2C)	57		53 - 140				10/16/21 09:07	10/18/21 11:14	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	32		1.8	0.72	mg/Kg	✳	11/09/21 19:12	11/16/21 12:30	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3300		710	240	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:49	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:49	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120					10/20/21 05:49	20
4-Bromofluorobenzene (Surr)	93		80 - 120					10/20/21 05:49	20
Dibromofluoromethane (Surr)	104		80 - 120					10/20/21 05:49	20
Toluene-d8 (Surr)	103		80 - 120					10/20/21 05:49	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:46	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:46	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 17:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	90		10 - 150				10/19/21 17:40	10/20/21 17:46	1
2-Fluorobiphenyl (Surr)	69		35 - 100				10/19/21 17:40	10/20/21 17:46	1
2-Fluorophenol (Surr)	41		10 - 78				10/19/21 17:40	10/20/21 17:46	1
Nitrobenzene-d5 (Surr)	77		22 - 117				10/19/21 17:40	10/20/21 17:46	1
p-Terphenyl-d14 (Surr)	83		31 - 119				10/19/21 17:40	10/20/21 17:46	1
Phenol-d5 (Surr)	34		10 - 67				10/19/21 17:40	10/20/21 17:46	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:37	10

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:37	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:37	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:37	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:37	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:37	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	95		21 - 130	10/19/21 17:27	10/20/21 10:37	10
DCB Decachlorobiphenyl (Surr) (2C)	100		21 - 130	10/19/21 17:27	10/20/21 10:37	10
Tetrachloro-m-xylene (Surr) (1C)	94		39 - 139	10/19/21 17:27	10/20/21 10:37	10
Tetrachloro-m-xylene (Surr) (2C)	88		39 - 139	10/19/21 17:27	10/20/21 10:37	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 02:57	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 02:57	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	82		26 - 136	10/20/21 00:20	10/22/21 02:57	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:27	1
Barium	0.54	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:27	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:27	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:27	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:27	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:27	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:27	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:27	1
Zinc	7.3		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:27	1
Nickel	0.11	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:27	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	80		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	8.7		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	80	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:45	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND	!	150	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	18.2	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	110	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	110	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	37	J !	75	25	mg/L			10/19/21 12:48	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:18	1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Toluene	ND		360	43	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Ethylbenzene	57	J	360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Xylenes, Total	430	J	710	100	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2,4-Trimethylbenzene	2100		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Naphthalene	570		360	140	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Isopropylbenzene	770		360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,3,5-Trimethylbenzene	770		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2-Dibromoethane	ND		360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Methyl tertiary butyl ether	ND		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2-Dichloroethane	ND		360	43	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		54 - 135	10/14/21 11:18	10/18/21 16:31	50
4-Bromofluorobenzene (Surr)	108		50 - 131	10/14/21 11:18	10/18/21 16:31	50
Dibromofluoromethane (Surr)	92		50 - 141	10/14/21 11:18	10/18/21 16:31	50
Toluene-d8 (Surr)	107		52 - 141	10/14/21 11:18	10/18/21 16:31	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1221 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1232 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1242 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1248 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1254 (2C)	11	J	21	7.8	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1260 (1C)	13	J	21	7.8	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	95	^c	45 - 143	10/16/21 09:07	10/18/21 11:24	1
DCB Decachlorobiphenyl (Surr) (2C)	84		45 - 143	10/16/21 09:07	10/18/21 11:24	1
Tetrachloro-m-xylene (1C)	63		53 - 140	10/16/21 09:07	10/18/21 11:24	1
Tetrachloro-m-xylene (2C)	61		53 - 140	10/16/21 09:07	10/18/21 11:24	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	28		1.6	0.64	mg/Kg	☆	11/09/21 13:56	11/10/21 11:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	5000		710	240	mg/Kg	☆	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 06:12	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 06:12	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/20/21 06:12	20
4-Bromofluorobenzene (Surr)	93		80 - 120		10/20/21 06:12	20
Dibromofluoromethane (Surr)	103		80 - 120		10/20/21 06:12	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 06:12	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:15	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:15	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 18:15	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		10 - 150	10/19/21 17:40	10/20/21 18:15	1
2-Fluorobiphenyl (Surr)	70		35 - 100	10/19/21 17:40	10/20/21 18:15	1
2-Fluorophenol (Surr)	37		10 - 78	10/19/21 17:40	10/20/21 18:15	1
Nitrobenzene-d5 (Surr)	74		22 - 117	10/19/21 17:40	10/20/21 18:15	1
p-Terphenyl-d14 (Surr)	82		31 - 119	10/19/21 17:40	10/20/21 18:15	1
Phenol-d5 (Surr)	30		10 - 67	10/19/21 17:40	10/20/21 18:15	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:49	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:49	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:49	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:49	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:49	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:49	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	99		21 - 130	10/19/21 17:27	10/20/21 10:49	10
DCB Decachlorobiphenyl (Surr) (2C)	103		21 - 130	10/19/21 17:27	10/20/21 10:49	10
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139	10/19/21 17:27	10/20/21 10:49	10
Tetrachloro-m-xylene (Surr) (2C)	56		39 - 139	10/19/21 17:27	10/20/21 10:49	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 03:33	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 03:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136	10/20/21 00:20	10/22/21 03:33	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136	10/20/21 00:20	10/22/21 03:33	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:33	1
Barium	0.52	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:33	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:33	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:33	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:33	1
Selenium	ND	**	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:33	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:33	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:33	1
Zinc	3.5		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:33	1
Nickel	0.044	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:33	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00016	J	0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:54	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	81		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	8.8		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	81	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:46	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	17.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	92	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	92	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	68	J !	75	25	mg/L			10/19/21 12:52	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:20	1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Toluene	55	J	350	42	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Ethylbenzene	160	J	350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Xylenes, Total	1300		700	99	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2,4-Trimethylbenzene	3300		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Naphthalene	790		350	140	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Isopropylbenzene	1400		350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,3,5-Trimethylbenzene	1200		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2-Dibromoethane	ND		350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Methyl tertiary butyl ether	ND		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2-Dichloroethane	ND		350	42	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		54 - 135				10/14/21 11:18	10/18/21 16:52	50
4-Bromofluorobenzene (Surr)	127		50 - 131				10/14/21 11:18	10/18/21 16:52	50
Dibromofluoromethane (Surr)	95		50 - 141				10/14/21 11:18	10/18/21 16:52	50
Toluene-d8 (Surr)	111		52 - 141				10/14/21 11:18	10/18/21 16:52	50

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1221 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1232 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1242 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1248 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1254 (2C)	11	J	20	7.7	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1260 (2C)	16	J	20	7.7	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	92	^c	45 - 143	10/16/21 09:07	10/18/21 11:35	1
DCB Decachlorobiphenyl (Surr) (2C)	89		45 - 143	10/16/21 09:07	10/18/21 11:35	1
Tetrachloro-m-xylene (1C)	65		53 - 140	10/16/21 09:07	10/18/21 11:35	1
Tetrachloro-m-xylene (2C)	63		53 - 140	10/16/21 09:07	10/18/21 11:35	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	25		1.6	0.66	mg/Kg	☼	11/09/21 19:12	11/16/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	6100		720	240	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 06:35	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 06:35	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 06:35	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 06:35	20
Dibromofluoromethane (Surr)	104		80 - 120		10/20/21 06:35	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 06:35	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:44	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:44	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 18:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	77		10 - 150				10/19/21 17:40	10/20/21 18:44	1
2-Fluorobiphenyl (Surr)	70		35 - 100				10/19/21 17:40	10/20/21 18:44	1
2-Fluorophenol (Surr)	35		10 - 78				10/19/21 17:40	10/20/21 18:44	1
Nitrobenzene-d5 (Surr)	78		22 - 117				10/19/21 17:40	10/20/21 18:44	1
p-Terphenyl-d14 (Surr)	84		31 - 119				10/19/21 17:40	10/20/21 18:44	1
Phenol-d5 (Surr)	29		10 - 67				10/19/21 17:40	10/20/21 18:44	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 11:00	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 11:00	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 11:00	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 11:00	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 11:00	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 11:00	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 11:00	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	86		21 - 130				10/19/21 17:27	10/20/21 11:00	10
DCB Decachlorobiphenyl (Surr) (2C)	93		21 - 130				10/19/21 17:27	10/20/21 11:00	10
Tetrachloro-m-xylene (Surr) (1C)	82		39 - 139				10/19/21 17:27	10/20/21 11:00	10
Tetrachloro-m-xylene (Surr) (2C)	78		39 - 139				10/19/21 17:27	10/20/21 11:00	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 04:08	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 04:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136				10/20/21 00:20	10/22/21 04:08	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136				10/20/21 00:20	10/22/21 04:08	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:52	1
Barium	0.44	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:52	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:52	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:52	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:52	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 6010C - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:52	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:52	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:52	1
Zinc	2.6		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:52	1
Nickel	0.11	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:52	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	81		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	6.3		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	81	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	57	19	mg/Kg		10/15/21 07:55	10/15/21 14:48	1
Sulfide, Reactive	ND	!	150	51	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	17.5	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1.9	J ! B	5.4	1.5	mg/L			10/19/21 20:36	1
Total Solids	73	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	73	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	35	J !	75	25	mg/L			10/19/21 12:45	1
Ammonia as N	0.061	J !	0.10	0.050	mg/L			11/02/21 12:49	1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Toluene	ND		350	42	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Ethylbenzene	36	J	350	28	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Xylenes, Total	330	J	710	99	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
1,2,4-Trimethylbenzene	1600		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Naphthalene	410		350	140	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Isopropylbenzene	500		350	28	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
1,3,5-Trimethylbenzene	610		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		350	28	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50
Methyl tertiary butyl ether	ND		350	35	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50
1,2-Dichloroethane	ND		350	42	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		54 - 135	10/14/21 11:18	10/18/21 17:13	50
4-Bromofluorobenzene (Surr)	109		50 - 131	10/14/21 11:18	10/18/21 17:13	50
Dibromofluoromethane (Surr)	98		50 - 141	10/14/21 11:18	10/18/21 17:13	50
Toluene-d8 (Surr)	108		52 - 141	10/14/21 11:18	10/18/21 17:13	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1221 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1232 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1242 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1248 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1254 (2C)	12	J	20	7.7	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1260 (2C)	22		20	7.7	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	97	^c	45 - 143	10/16/21 09:07	10/18/21 11:45	1
DCB Decachlorobiphenyl (Surr) (2C)	87		45 - 143	10/16/21 09:07	10/18/21 11:45	1
Tetrachloro-m-xylene (1C)	63		53 - 140	10/16/21 09:07	10/18/21 11:45	1
Tetrachloro-m-xylene (2C)	62		53 - 140	10/16/21 09:07	10/18/21 11:45	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	33		1.7	0.67	mg/Kg	⊛	11/09/21 13:56	11/10/21 11:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3500		720	240	mg/Kg	⊛	10/18/21 23:57	10/20/21 10:30	1

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (54-135)	BFB (50-131)	DBFM (50-141)	TOL (52-141)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	103	105	94	105
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	107	101	84	103
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	105	99	89	102
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2 021-10-12	106	105	92	100
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2 021-10-12	103	98	80	99
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2 021-10-12	108	103	100	106
410-58999-7	Hartranft-10TH-RB44062-RT-1- 2021-10-12	104	108	92	107
410-58999-8	Hartranft-10TH-RB44062-RT-2- 2021-10-12	104	127	95	111
410-58999-9	Hartranft-10TH-RB44062-RT-3- 2021-10-12	105	109	98	108
LCS 410-183894/4	Lab Control Sample	95	94	95	94
LCS 410-183894/5	Lab Control Sample Dup	96	95	94	95
MB 410-183894/7	Method Blank	97	92	93	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
LCS 410-184674/4	Lab Control Sample	102	96	103	104
MB 410-184674/6	Method Blank	103	93	105	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	104	95	102	104
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	105	94	102	103
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	104	95	103	102

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Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2	105	94	102	103
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2	105	94	104	103
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	104	94	101	103
410-58999-7	021-10-12 Hartranft-10TH-RB44062-RT-1-	106	93	104	103
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	103	93	103	103
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	105	94	104	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2				

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-150)	FBP (35-100)	2FP (10-78)	NBZ (22-117)	TPHd14 (31-119)	PHL (10-67)
LCS 410-184616/2-A	Lab Control Sample	100	77	52	85	91	41
LCSD 410-184616/3-A	Lab Control Sample Dup	98	73	54	82	92	43
MB 410-184616/14-A	Method Blank	91	64	47	74	88	38

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-150)	FBP (35-100)	2FP (10-78)	NBZ (22-117)	TPHd14 (31-119)	PHL (10-67)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	66	71	22	76	76	19
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	85	69	43	77	89	34
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	56	71	11	76	89	11
410-58999-4	021-10-12 Hartranft-10TH-CONF-SOIL-4-2	72	69	16	76	90	13
410-58999-5	021-10-12 Hartranft-10TH-CONF-SOIL-5-2	67	55	17	56	74	15
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	95	71	49	77	82	39
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	90	69	41	77	83	34
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	82	70	37	74	82	30
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	77	70	35	78	84	29

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
LCS 410-184649/2-A	Lab Control Sample	68	77	58	60
LCS 410-184649/2-A - RA	Lab Control Sample	85	77	84	81
LCSD 410-184649/3-A	Lab Control Sample Dup	61	69	60	63
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	78	72	86	84
MB 410-184649/14-A	Method Blank	26	28	44	44
MB 410-184649/1-A	Method Blank	32	36	52	54

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	88	91	75	68
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	78	83	69	61
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	90	92	64	58
	021-10-12				

Eurofins Lancaster Laboratories Env, LLC

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2	82	86	60	54
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2	80	90	92	82
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	63	69	83	77
410-58999-7	021-10-12 Hartranft-10TH-RB44062-RT-1-	95	100	94	88
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	99	103	60	56
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	86	93	82	78

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (45-143)	DCB2 (45-143)	TCX1 (53-140)	TCX2 (53-140)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	99 ^c	91	61	58
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	79 ^c	68	65	60
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	155 S1+	136	71	68
410-58999-4	021-10-12 Hartranft-10TH-CONF-SOIL-4-2	89 ^c	78	62	63
410-58999-5	021-10-12 Hartranft-10TH-CONF-SOIL-5-2	121 ^c	102	73	69
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	97 ^c	86	58	57
410-58999-7	Hartranft-10TH-RB44062-RT-1-	95 ^c	84	63	61
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	92 ^c	89	65	63
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	97 ^c	87	63	62
LCS 410-183168/2-A	Lab Control Sample	115	98	99	90
LCS 410-183581/2-A	Lab Control Sample	124	97	107	89
LCS 410-184122/2-A	Lab Control Sample	124	92	108	89
MB 410-183168/1-A	Method Blank	111	91	97	87
MB 410-183581/1-A	Method Blank	122	94	106	89
MB 410-184122/1-A	Method Blank	121	89	107	89

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPAA1 (26-136)	DCPAA2 (26-136)
LCS 410-184800/2-A	Lab Control Sample	97	84
LCSD 410-184800/3-A	Lab Control Sample Dup	89	76
MB 410-184800/1-A	Method Blank	95	82

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: TCLP

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPAA1 (26-136)	DCPAA2 (26-136)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	96	80
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	99	87
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	98	86
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2 021-10-12	98	83
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2 021-10-12	99	95
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2 021-10-12	91	81
410-58999-7	Hartranft-10TH-RB44062-RT-1- 2021-10-12	98	82
410-58999-8	Hartranft-10TH-RB44062-RT-2- 2021-10-12	96	80
410-58999-9	Hartranft-10TH-RB44062-RT-3- 2021-10-12	96	80

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-183894/7
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		250	25	ug/Kg			10/18/21 11:34	50
Toluene	ND		250	30	ug/Kg			10/18/21 11:34	50
Ethylbenzene	ND		250	20	ug/Kg			10/18/21 11:34	50
Xylenes, Total	ND		500	70	ug/Kg			10/18/21 11:34	50
1,2,4-Trimethylbenzene	ND		250	25	ug/Kg			10/18/21 11:34	50
Naphthalene	ND		250	100	ug/Kg			10/18/21 11:34	50
Isopropylbenzene	ND		250	20	ug/Kg			10/18/21 11:34	50
1,3,5-Trimethylbenzene	ND		250	25	ug/Kg			10/18/21 11:34	50
1,2-Dibromoethane	ND		250	20	ug/Kg			10/18/21 11:34	50
Methyl tertiary butyl ether	ND		250	25	ug/Kg			10/18/21 11:34	50
1,2-Dichloroethane	ND		250	30	ug/Kg			10/18/21 11:34	50

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		54 - 135		10/18/21 11:34	50
4-Bromofluorobenzene (Surr)	92		50 - 131		10/18/21 11:34	50
Dibromofluoromethane (Surr)	93		50 - 141		10/18/21 11:34	50
Toluene-d8 (Surr)	94		52 - 141		10/18/21 11:34	50

Lab Sample ID: LCS 410-183894/4
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1000	987		ug/Kg		99	80 - 120
Toluene	1000	983		ug/Kg		98	80 - 120
Ethylbenzene	1000	970		ug/Kg		97	78 - 120
Xylenes, Total	3000	2950		ug/Kg		98	75 - 120
1,2,4-Trimethylbenzene	1000	979		ug/Kg		98	73 - 120
Naphthalene	1000	872		ug/Kg		87	48 - 130
Isopropylbenzene	1000	1000		ug/Kg		100	77 - 120
1,3,5-Trimethylbenzene	1000	978		ug/Kg		98	73 - 120
1,2-Dibromoethane	1000	972		ug/Kg		97	76 - 120
Methyl tertiary butyl ether	1000	930		ug/Kg		93	72 - 120
1,2-Dichloroethane	1000	944		ug/Kg		94	71 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		54 - 135
4-Bromofluorobenzene (Surr)	94		50 - 131
Dibromofluoromethane (Surr)	95		50 - 141
Toluene-d8 (Surr)	94		52 - 141

Lab Sample ID: LCSD 410-183894/5
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	1000	978		ug/Kg		98	80 - 120	1	30
Toluene	1000	984		ug/Kg		98	80 - 120	0	30

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-183894/5
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	1000	967		ug/Kg		97	78 - 120	0	30
Xylenes, Total	3000	2940		ug/Kg		98	75 - 120	0	30
1,2,4-Trimethylbenzene	1000	975		ug/Kg		97	73 - 120	0	30
Naphthalene	1000	879		ug/Kg		88	48 - 130	1	30
Isopropylbenzene	1000	990		ug/Kg		99	77 - 120	1	30
1,3,5-Trimethylbenzene	1000	967		ug/Kg		97	73 - 120	1	30
1,2-Dibromoethane	1000	967		ug/Kg		97	76 - 120	1	30
Methyl tertiary butyl ether	1000	930		ug/Kg		93	72 - 120	0	30
1,2-Dichloroethane	1000	929		ug/Kg		93	71 - 128	2	30

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		54 - 135
4-Bromofluorobenzene (Surr)	95		50 - 131
Dibromofluoromethane (Surr)	94		50 - 141
Toluene-d8 (Surr)	95		52 - 141

Lab Sample ID: MB 410-184674/6
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Chloroform	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
2-Butanone	ND		0.010	0.00050	mg/L			10/19/21 22:55	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Trichloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Vinyl chloride	ND		0.0010	0.00020	mg/L			10/19/21 22:55	1
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/19/21 22:55	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/19/21 22:55	1
Dibromofluoromethane (Surr)	105		80 - 120		10/19/21 22:55	1
Toluene-d8 (Surr)	103		80 - 120		10/19/21 22:55	1

Lab Sample ID: LCS 410-184674/4
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0200	0.0171		mg/L		85	80 - 120
1,1-Dichloroethene	0.0200	0.0171		mg/L		85	80 - 131
2-Butanone	0.250	0.205		mg/L		82	59 - 135
Trichloroethene	0.0200	0.0174		mg/L		87	80 - 120
Vinyl chloride	0.0200	0.0163		mg/L		81	56 - 120

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-184674/4
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0200	0.0190		mg/L		95	73 - 124
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	102		80 - 120				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Dibromofluoromethane (Surr)	103		80 - 120				
Toluene-d8 (Surr)	104		80 - 120				

Lab Sample ID: 410-58999-1 MS
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.400	0.379		mg/L			
1,1-Dichloroethene	ND		0.400	0.403		mg/L			
2-Butanone	ND		5.00	3.97		mg/L			
Trichloroethene	ND		0.400	0.385		mg/L			
Vinyl chloride	ND		0.400	0.403		mg/L			
1,2-Dichloroethane	ND		0.400	0.398		mg/L			
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)									
4-Bromofluorobenzene (Surr)									
Dibromofluoromethane (Surr)									
Toluene-d8 (Surr)									

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-184616/14-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184616

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 11:30	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 11:30	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 11:30	1
Surrogate									
	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol (Surr)	91		10 - 150	10/19/21 17:40	10/20/21 11:30	1			

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-184616/14-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184616

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl (Surr)	64		35 - 100	10/19/21 17:40	10/20/21 11:30	1
2-Fluorophenol (Surr)	47		10 - 78	10/19/21 17:40	10/20/21 11:30	1
Nitrobenzene-d5 (Surr)	74		22 - 117	10/19/21 17:40	10/20/21 11:30	1
p-Terphenyl-d14 (Surr)	88		31 - 119	10/19/21 17:40	10/20/21 11:30	1
Phenol-d5 (Surr)	38		10 - 67	10/19/21 17:40	10/20/21 11:30	1

Lab Sample ID: LCS 410-184616/2-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.250	0.234		mg/L		94	66 - 120
2,4,6-Trichlorophenol	0.250	0.234		mg/L		94	63 - 120
2,4-Dinitrotoluene	0.250	0.238		mg/L		95	71 - 120
2-Methylphenol	0.250	0.212		mg/L		85	51 - 120
4-Methylphenol	0.250	0.197		mg/L		79	44 - 120
Hexachlorobenzene	0.250	0.219		mg/L		88	65 - 120
Hexachlorobutadiene	0.250	0.165		mg/L		66	24 - 120
Hexachloroethane	0.250	0.160		mg/L		64	22 - 120
Nitrobenzene	0.250	0.217		mg/L		87	59 - 120
Pentachlorophenol	0.500	0.433		mg/L		87	48 - 123
Pyridine	0.500	0.242		mg/L		48	23 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	100		10 - 150
2-Fluorobiphenyl (Surr)	77		35 - 100
2-Fluorophenol (Surr)	52		10 - 78
Nitrobenzene-d5 (Surr)	85		22 - 117
p-Terphenyl-d14 (Surr)	91		31 - 119
Phenol-d5 (Surr)	41		10 - 67

Lab Sample ID: LCSD 410-184616/3-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	0.250	0.236		mg/L		94	66 - 120	1	30
2,4,6-Trichlorophenol	0.250	0.236		mg/L		94	63 - 120	1	30
2,4-Dinitrotoluene	0.250	0.233		mg/L		93	71 - 120	2	30
2-Methylphenol	0.250	0.214		mg/L		86	51 - 120	1	30
4-Methylphenol	0.250	0.201		mg/L		81	44 - 120	2	30
Hexachlorobenzene	0.250	0.215		mg/L		86	65 - 120	2	30
Hexachlorobutadiene	0.250	0.158		mg/L		63	24 - 120	4	30
Hexachloroethane	0.250	0.149		mg/L		59	22 - 120	8	30
Nitrobenzene	0.250	0.213		mg/L		85	59 - 120	2	30
Pentachlorophenol	0.500	0.449		mg/L		90	48 - 123	4	30

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-184616/3-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pyridine	0.500	0.246		mg/L		49	23 - 120	1	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
2,4,6-Tribromophenol (Surr)	98		10 - 150						
2-Fluorobiphenyl (Surr)	73		35 - 100						
2-Fluorophenol (Surr)	54		10 - 78						
Nitrobenzene-d5 (Surr)	82		22 - 117						
p-Terphenyl-d14 (Surr)	92		31 - 119						
Phenol-d5 (Surr)	43		10 - 67						

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-184649/14-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.00010	0.000040	mg/L		10/19/21 17:27	10/20/21 11:11	1
gamma-BHC (Lindane) (1C)	ND		0.000050	0.000010	mg/L		10/19/21 17:27	10/20/21 11:11	1
Heptachlor (1C)	ND		0.000050	0.000020	mg/L		10/19/21 17:27	10/20/21 11:11	1
Heptachlor epoxide (1C)	ND		0.000050	0.000012	mg/L		10/19/21 17:27	10/20/21 11:11	1
Methoxychlor (1C)	ND		0.000050	0.00015	mg/L		10/19/21 17:27	10/20/21 11:11	1
Toxaphene (1C)	ND		0.015	0.0050	mg/L		10/19/21 17:27	10/20/21 11:11	1
Chlordane (n.o.s.) (1C)	ND		0.0025	0.00080	mg/L		10/19/21 17:27	10/20/21 11:11	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	26		21 - 130				10/19/21 17:27	10/20/21 11:11	1
DCB Decachlorobiphenyl (Surr) (2C)	28		21 - 130				10/19/21 17:27	10/20/21 11:11	1
Tetrachloro-m-xylene (Surr) (1C)	44		39 - 139				10/19/21 17:27	10/20/21 11:11	1
Tetrachloro-m-xylene (Surr) (2C)	44		39 - 139				10/19/21 17:27	10/20/21 11:11	1

Lab Sample ID: MB 410-184649/1-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.00010	0.000040	mg/L		10/19/21 17:27	10/20/21 08:00	1
gamma-BHC (Lindane) (1C)	ND		0.000050	0.000010	mg/L		10/19/21 17:27	10/20/21 08:00	1
Heptachlor (1C)	ND		0.000050	0.000020	mg/L		10/19/21 17:27	10/20/21 08:00	1
Heptachlor epoxide (1C)	ND		0.000050	0.000012	mg/L		10/19/21 17:27	10/20/21 08:00	1
Methoxychlor (1C)	ND		0.000050	0.00015	mg/L		10/19/21 17:27	10/20/21 08:00	1
Toxaphene (1C)	ND		0.015	0.0050	mg/L		10/19/21 17:27	10/20/21 08:00	1
Chlordane (n.o.s.) (1C)	ND		0.0025	0.00080	mg/L		10/19/21 17:27	10/20/21 08:00	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	32		21 - 130				10/19/21 17:27	10/20/21 08:00	1
DCB Decachlorobiphenyl (Surr) (2C)	36		21 - 130				10/19/21 17:27	10/20/21 08:00	1
Tetrachloro-m-xylene (Surr) (1C)	52		39 - 139				10/19/21 17:27	10/20/21 08:00	1

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 410-184649/1-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr) (2C)	54		39 - 139	10/19/21 17:27	10/20/21 08:00	1

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
gamma-BHC (Lindane) (2C)	0.000250	0.000226		mg/L		90	51 - 132	
Heptachlor (1C)	0.000250	0.000217		mg/L		87	24 - 133	
Heptachlor epoxide (2C)	0.000375	0.000366		mg/L		97	56 - 132	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	68		21 - 130
DCB Decachlorobiphenyl (Surr) (2C)	77		21 - 130
Tetrachloro-m-xylene (Surr) (1C)	58		39 - 139
Tetrachloro-m-xylene (Surr) (2C)	60		39 - 139

Lab Sample ID: LCSD 410-184649/3-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
gamma-BHC (Lindane) (2C)	0.000250	0.000200		mg/L		80	51 - 132	12	30
Heptachlor (1C)	0.000250	0.000212		mg/L		85	24 - 133	3	30
Heptachlor epoxide (1C)	0.000375	0.000330		mg/L		88	56 - 132	10	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	61		21 - 130
DCB Decachlorobiphenyl (Surr) (2C)	69		21 - 130
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139
Tetrachloro-m-xylene (Surr) (2C)	63		39 - 139

Method: 8081B - Organochlorine Pesticides (GC) - RA

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) - RA (Continued)

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Surrogate	LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C) - RA	85		21 - 130
DCB Decachlorobiphenyl (Surr) (2C) - RA	77		21 - 130
Tetrachloro-m-xylene (Surr) (1C) - RA	84		39 - 139
Tetrachloro-m-xylene (Surr) (2C) - RA	81		39 - 139

Lab Sample ID: LCSD 410-184649/3-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Methoxychlor (2C) - RA	0.00100	0.00143		mg/L		142	58 - 165	0	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C) - RA	78		21 - 130
DCB Decachlorobiphenyl (Surr) (2C) - RA	72		21 - 130
Tetrachloro-m-xylene (Surr) (1C) - RA	86		39 - 139
Tetrachloro-m-xylene (Surr) (2C) - RA	84		39 - 139

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 410-183168/1-A
Matrix: Solid
Analysis Batch: 183531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1221 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1232 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1242 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1248 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1254 (2C)	ND		17	6.4	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1260 (2C)	ND		17	6.4	ug/Kg		10/15/21 09:45	10/15/21 17:22	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr) (1C)	111		45 - 143	10/15/21 09:45	10/15/21 17:22	1
DCB Decachlorobiphenyl (Surr) (2C)	91		45 - 143	10/15/21 09:45	10/15/21 17:22	1
Tetrachloro-m-xylene (1C)	97		53 - 140	10/15/21 09:45	10/15/21 17:22	1
Tetrachloro-m-xylene (2C)	87		53 - 140	10/15/21 09:45	10/15/21 17:22	1

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 410-183168/2-A
Matrix: Solid
Analysis Batch: 183531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (2C)	167	129		ug/Kg		77	68 - 121
PCB-1260 (2C)	168	157		ug/Kg		94	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	115		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	98		45 - 143
Tetrachloro-m-xylene (1C)	99		53 - 140
Tetrachloro-m-xylene (2C)	90		53 - 140

Lab Sample ID: MB 410-183581/1-A
Matrix: Solid
Analysis Batch: 183928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1260 (1C)	ND		17	6.4	ug/Kg		10/16/21 09:07	10/18/21 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	122		45 - 143	10/16/21 09:07	10/18/21 10:22	1
DCB Decachlorobiphenyl (Surr) (2C)	94		45 - 143	10/16/21 09:07	10/18/21 10:22	1
Tetrachloro-m-xylene (1C)	106		53 - 140	10/16/21 09:07	10/18/21 10:22	1
Tetrachloro-m-xylene (2C)	89		53 - 140	10/16/21 09:07	10/18/21 10:22	1

Lab Sample ID: LCS 410-183581/2-A
Matrix: Solid
Analysis Batch: 183928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (1C)	167	156		ug/Kg		93	68 - 121
PCB-1260 (1C)	168	196		ug/Kg		117	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	124		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	97		45 - 143
Tetrachloro-m-xylene (1C)	107		53 - 140
Tetrachloro-m-xylene (2C)	89		53 - 140

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 410-184122/1-A
Matrix: Solid
Analysis Batch: 184470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184122

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1221 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1232 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1242 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1248 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1254 (2C)	ND		17	6.4	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1260 (2C)	ND		17	6.4	ug/Kg		10/18/21 18:09	10/19/21 07:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	121		45 - 143	10/18/21 18:09	10/19/21 07:39	1
DCB Decachlorobiphenyl (Surr) (2C)	89		45 - 143	10/18/21 18:09	10/19/21 07:39	1
Tetrachloro-m-xylene (1C)	107		53 - 140	10/18/21 18:09	10/19/21 07:39	1
Tetrachloro-m-xylene (2C)	89		53 - 140	10/18/21 18:09	10/19/21 07:39	1

Lab Sample ID: LCS 410-184122/2-A
Matrix: Solid
Analysis Batch: 184470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (2C)	167	122		ug/Kg		73	68 - 121
PCB-1260 (2C)	168	150		ug/Kg		89	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	124		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	92		45 - 143
Tetrachloro-m-xylene (1C)	108		53 - 140
Tetrachloro-m-xylene (2C)	89		53 - 140

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-184800/1-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/21/21 21:04	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/21/21 21:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	95		26 - 136	10/20/21 00:20	10/21/21 21:04	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	82		26 - 136	10/20/21 00:20	10/21/21 21:04	1

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 410-184800/2-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Silvex (2,4,5-TP) (2C)	0.0250	0.0297		mg/L		119	58 - 148
2,4-D (1C)	0.0250	0.0237	J	mg/L		95	42 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid (Surr) (1C)	97		26 - 136
2,4-Dichlorophenylacetic acid (Surr) (2C)	84		26 - 136

Lab Sample ID: LCSD 410-184800/3-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184800

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Silvex (2,4,5-TP) (2C)	0.0250	0.0278		mg/L		111	58 - 148	7	30
2,4-D (1C)	0.0250	0.0222	J	mg/L		89	42 - 147	7	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4-Dichlorophenylacetic acid (Surr) (1C)	89		26 - 136
2,4-Dichlorophenylacetic acid (Surr) (2C)	76		26 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-192546/1-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.5	0.60	mg/Kg		11/09/21 11:21	11/10/21 10:41	1

Lab Sample ID: LCS 410-192546/2-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 192546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	5.00	5.33		mg/Kg		107	80 - 120

Lab Sample ID: LCSD 410-192546/3-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 192546

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Lead	5.00	5.25		mg/Kg		105	80 - 120	2	20

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 410-192756/1-A
Matrix: Solid
Analysis Batch: 195357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192756

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.5	0.60	mg/Kg		11/09/21 19:12	11/16/21 11:54	1

Lab Sample ID: LCS 410-192756/2-A
Matrix: Solid
Analysis Batch: 195357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 192756

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	5.00	5.12		mg/Kg		102	80 - 120

Lab Sample ID: MB 410-183779/1-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 14:50	1
Barium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:50	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:50	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 14:50	1
Lead	ND		0.15	0.071	mg/L		10/18/21 04:53	10/19/21 14:50	1
Selenium	ND		0.50	0.16	mg/L		10/18/21 04:53	10/19/21 14:50	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 14:50	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 14:50	1
Zinc	ND		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 14:50	1
Nickel	ND		0.10	0.021	mg/L		10/18/21 04:53	10/19/21 14:50	1

Lab Sample ID: LCS 410-183779/2-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.00	5.53	^3+	mg/L		111	80 - 120
Barium	5.00	5.04		mg/L		101	80 - 120
Cadmium	0.500	0.518		mg/L		104	80 - 120
Chromium	5.00	5.15		mg/L		103	80 - 120
Lead	0.500	0.530		mg/L		106	80 - 120
Selenium	1.00	1.25	*+	mg/L		125	80 - 120
Silver	0.499	0.534		mg/L		107	80 - 120
Copper	5.00	5.14		mg/L		103	80 - 120
Zinc	5.00	5.12		mg/L		102	80 - 120
Nickel	5.00	5.22		mg/L		104	80 - 120

Lab Sample ID: LCSD 410-183779/3-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	5.00	5.36	^3+	mg/L		107	80 - 120	3	20
Barium	5.00	4.98		mg/L		100	80 - 120	1	20
Cadmium	0.500	0.518		mg/L		104	80 - 120	0	20

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 410-183779/3-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	5.00	5.09		mg/L		102	80 - 120	1	20
Lead	0.500	0.489		mg/L		98	80 - 120	8	20
Selenium	1.00	1.10		mg/L		110	80 - 120	12	20
Silver	0.499	0.529		mg/L		106	80 - 120	1	20
Copper	5.00	5.12		mg/L		102	80 - 120	1	20
Zinc	5.00	5.09		mg/L		102	80 - 120	1	20
Nickel	5.00	5.20		mg/L		104	80 - 120	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-183781/1-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183781

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:29	1

Lab Sample ID: LCS 410-183781/2-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.000957		mg/L		96	80 - 118

Lab Sample ID: LCSD 410-183781/3-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 183781

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00100	0.000976		mg/L		98	80 - 118	2	20

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 410-184745/1
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	1.4	mg/L			10/19/21 20:36	1

Lab Sample ID: LCS 410-184745/2
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	34.4		mg/L		86	78 - 114

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCSD 410-184745/3
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	35.0		mg/L		88	78 - 114	2	13

Lab Sample ID: LB 410-183273/1-B
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Method Blank
Prep Type: ASTM Leach

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.02	J B	5.3	1.5	mg/L			10/19/21 20:36	1

Method: 2540B-2011 - Solids, Total

Lab Sample ID: MB 410-183795/1
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			10/18/21 06:25	1
Residue, Total	ND		42	14	mg/L			10/18/21 06:25	1

Lab Sample ID: LCS 410-183795/2
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	200	199		mg/L		99	91 - 112
Residue, Total	200	199		mg/L		99	91 - 112

Lab Sample ID: LCSD 410-183795/3
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Solids	200	199		mg/L		99	91 - 112	0	3
Residue, Total	200	199		mg/L		99	91 - 112	0	3

Method: 2540G-2011 - Total, Fixed, and Volatile Solids

Lab Sample ID: LCS 410-182808/1
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	10.5	10.6		%		101	94 - 108

Lab Sample ID: 410-58999-2 DU
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	89		87.2		%		2	5

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 2540G-2011 - Total, Fixed, and Volatile Solids (Continued)

Lab Sample ID: 410-58999-2 DU
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD
			Result	Qualifier				Limit
Total Volatile Solids	2.2		2.76	F3	%		24	5
Percent Solids	89	!	87.2		%		2	5

Lab Sample ID: 410-58999-3 DU
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD
			Result	Qualifier				Limit
Total Solids	14		14.3		%		1	5
Total Volatile Solids	97		97.9		%		1	5
Percent Solids	14	!	14.3		%		1	5

Method: 410.4 - COD

Lab Sample ID: MB 410-184548/4
Matrix: Solid
Analysis Batch: 184548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chemical Oxygen Demand	ND		75	25	mg/L			10/19/21 12:33	1

Lab Sample ID: LCS 410-184548/5
Matrix: Solid
Analysis Batch: 184548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Chemical Oxygen Demand	500	515		mg/L		103	94 - 110

Lab Sample ID: 410-58999-9 MS
Matrix: Solid
Analysis Batch: 184548

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12
Prep Type: ASTM Leach

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Chemical Oxygen Demand	35	J!	400	453		mg/L		104	94 - 110

Lab Sample ID: 410-58999-9 DU
Matrix: Solid
Analysis Batch: 184548

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12
Prep Type: ASTM Leach

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD
			Result	Qualifier				Limit
Chemical Oxygen Demand	35	J!	37.9	J	mg/L		8	9

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 410-183171/1-A
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183171

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cyanide, Reactive	ND		60	20	mg/Kg		10/15/21 07:55	10/15/21 14:26	1

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9012 - Cyanide, Reactive (Continued)

Lab Sample ID: LCS 410-183171/2-A
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cyanide, Reactive	1000	ND	*-	mg/Kg		-0.5	0 - 5.14

Lab Sample ID: 410-58999-2 MS
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cyanide, Reactive	ND	*-	992	ND		mg/Kg		0	0 - 44

Lab Sample ID: 410-58999-2 MSD
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Reactive	ND	*-	986	ND		mg/Kg		0	0 - 44	NC	11

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-183171/1-A
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		10/15/21 07:55	10/15/21 12:20	1

Lab Sample ID: LCS 410-183171/24-A
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Sulfide, Reactive	539	379		mg/Kg		70	56 - 104

Lab Sample ID: 410-58999-2 MS
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Sulfide, Reactive	ND	! FL	535	269	FL	mg/Kg		50	56 - 104

Lab Sample ID: 410-58999-2 MSD
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Sulfide, Reactive	ND	! FL	532	228	FL	mg/Kg		43	56 - 104	16	52

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9045D - pH

Lab Sample ID: LCS 410-183472/1-A
Matrix: Solid
Analysis Batch: 183490

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		S.U.		100	95 - 105

Lab Sample ID: 410-58999-1 DU
Matrix: Solid
Analysis Batch: 183490

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5		7.4		S.U.		0.9	3
Corrosivity	No		No		NONE		NaN	3

Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 410-184235/1-A
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		600	200	mg/Kg		10/18/21 23:57	10/20/21 10:30	1

Lab Sample ID: LCS 410-184235/2-A
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	4980	4860		mg/Kg		98	91 - 111

Lab Sample ID: 410-58999-1 MS
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	3600	FH	6490	11400	FH	mg/Kg	⊛	119	91 - 111

Lab Sample ID: 410-58999-1 MSD
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	3600	FH	6290	11200	FH	mg/Kg	⊛	121	91 - 111	1	26

Lab Sample ID: 410-58999-1 DU
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
HEM (Oil & Grease)	3600	FH	3930		mg/Kg	⊛	9	20

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9095B - Paint Filter

Lab Sample ID: MB 410-184206/1
Matrix: Solid
Analysis Batch: 184206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 410-189848/17
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			11/02/21 10:40	1

Lab Sample ID: LCS 410-189848/15
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	3.00	2.92		mg/L		97	90 - 110

Lab Sample ID: LCSD 410-189848/16
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia as N	3.00	2.97		mg/L		99	90 - 110	2	15

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC/MS VOA

Prep Batch: 182777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	5030C	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	5030C	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	5030C	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	5030C	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	5030C	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	5030C	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	5030C	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	5030C	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	5030C	

Leach Batch: 183239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	

Analysis Batch: 183894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	8260C	182777
MB 410-183894/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-183894/4	Lab Control Sample	Total/NA	Solid	8260C	
LCS 410-183894/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 184674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8260C	183239
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8260C	183239
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8260C	183239
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8260C	183239
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8260C	183239
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8260C	183239
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8260C	183239
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8260C	183239
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8260C	183239
MB 410-184674/6	Method Blank	Total/NA	Solid	8260C	
LCS 410-184674/4	Lab Control Sample	Total/NA	Solid	8260C	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC/MS VOA (Continued)

Analysis Batch: 184674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8260C	183239

GC/MS Semi VOA

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Prep Batch: 184616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3510C	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3510C	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3510C	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3510C	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3510C	183271
MB 410-184616/14-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-184616/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-184616/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 184885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8270D	184616
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8270D	184616
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8270D	184616
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8270D	184616
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8270D	184616
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8270D	184616
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8270D	184616
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8270D	184616
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8270D	184616
MB 410-184616/14-A	Method Blank	Total/NA	Solid	8270D	184616
LCS 410-184616/2-A	Lab Control Sample	Total/NA	Solid	8270D	184616
LCSD 410-184616/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	184616

GC Semi VOA

Prep Batch: 183168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	3546	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	3546	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA (Continued)

Prep Batch: 183168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	3546	
MB 410-183168/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-183168/2-A	Lab Control Sample	Total/NA	Solid	3546	

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Analysis Batch: 183531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	8082A	183168
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	8082A	183168
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	8082A	183168
MB 410-183168/1-A	Method Blank	Total/NA	Solid	8082A	183168
LCS 410-183168/2-A	Lab Control Sample	Total/NA	Solid	8082A	183168

Prep Batch: 183581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	3546	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	3546	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	3546	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	3546	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	3546	
MB 410-183581/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-183581/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 183928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	8082A	183581
MB 410-183581/1-A	Method Blank	Total/NA	Solid	8082A	183581
LCS 410-183581/2-A	Lab Control Sample	Total/NA	Solid	8082A	183581

Prep Batch: 184122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	3546	
MB 410-184122/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-184122/2-A	Lab Control Sample	Total/NA	Solid	3546	

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA

Analysis Batch: 184470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	8082A	184122
MB 410-184122/1-A	Method Blank	Total/NA	Solid	8082A	184122
LCS 410-184122/2-A	Lab Control Sample	Total/NA	Solid	8082A	184122

Prep Batch: 184649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3510C	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3510C	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3510C	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3510C	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3510C	183271
MB 410-184649/14-A	Method Blank	Total/NA	Solid	3510C	
MB 410-184649/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-184649/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCS 410-184649/2-A - RA	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-184649/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	Total/NA	Solid	3510C	

Prep Batch: 184800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8151A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8151A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8151A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8151A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8151A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8151A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8151A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8151A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8151A	183271
MB 410-184800/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 410-184800/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 410-184800/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 184818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8081B	184649
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8081B	184649
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8081B	184649
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8081B	184649
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8081B	184649
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8081B	184649
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8081B	184649
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8081B	184649
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8081B	184649
MB 410-184649/14-A	Method Blank	Total/NA	Solid	8081B	184649
MB 410-184649/1-A	Method Blank	Total/NA	Solid	8081B	184649
LCS 410-184649/2-A	Lab Control Sample	Total/NA	Solid	8081B	184649

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA (Continued)

Analysis Batch: 184818 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-184649/3-A	Lab Control Sample Dup	Total/NA	Solid	8081B	184649

Analysis Batch: 185014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-184649/2-A - RA	Lab Control Sample	Total/NA	Solid	8081B	184649
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	Total/NA	Solid	8081B	184649

Analysis Batch: 185345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8151A	184800
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8151A	184800
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8151A	184800
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8151A	184800
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8151A	184800
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8151A	184800
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8151A	184800
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8151A	184800
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8151A	184800
MB 410-184800/1-A	Method Blank	Total/NA	Solid	8151A	184800
LCS 410-184800/2-A	Lab Control Sample	Total/NA	Solid	8151A	184800
LCSD 410-184800/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	184800

Metals

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Prep Batch: 183779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3005A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3005A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3005A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3005A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3005A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3005A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3005A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3005A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3005A	183271
MB 410-183779/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 410-183779/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
LCSD 410-183779/3-A	Lab Control Sample Dup	Total Recoverable	Solid	3005A	

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Metals

Prep Batch: 183781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	7470A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	7470A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	7470A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	7470A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	7470A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	7470A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	7470A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	7470A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	7470A	183271
MB 410-183781/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 410-183781/2-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 410-183781/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	

Analysis Batch: 184228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	7470A	183781
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	7470A	183781
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	7470A	183781
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	7470A	183781
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	7470A	183781
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	7470A	183781
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	7470A	183781
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	7470A	183781
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	7470A	183781
MB 410-183781/1-A	Method Blank	Total/NA	Solid	7470A	183781
LCS 410-183781/2-A	Lab Control Sample	Total/NA	Solid	7470A	183781
LCSD 410-183781/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	183781

Analysis Batch: 184654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	6010C	183779
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	6010C	183779
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	6010C	183779
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	6010C	183779
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	6010C	183779
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	6010C	183779
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	6010C	183779
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	6010C	183779
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	6010C	183779
MB 410-183779/1-A	Method Blank	Total Recoverable	Solid	6010C	183779
LCS 410-183779/2-A	Lab Control Sample	Total Recoverable	Solid	6010C	183779
LCSD 410-183779/3-A	Lab Control Sample Dup	Total Recoverable	Solid	6010C	183779

Prep Batch: 192546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	3050B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	3050B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	3050B	
MB 410-192546/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 410-192546/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 410-192546/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Metals

Prep Batch: 192756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	3050B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	3050B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	3050B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	3050B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	3050B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	3050B	
MB 410-192756/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 410-192756/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 193090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	6010C	192546
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	6010C	192546
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	6010C	192546
MB 410-192546/1-A	Method Blank	Total/NA	Solid	6010C	192546
LCS 410-192546/2-A	Lab Control Sample	Total/NA	Solid	6010C	192546
LCSD 410-192546/3-A	Lab Control Sample Dup	Total/NA	Solid	6010C	192546

Analysis Batch: 195357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	6010C	192756
MB 410-192756/1-A	Method Blank	Total/NA	Solid	6010C	192756
LCS 410-192756/2-A	Lab Control Sample	Total/NA	Solid	6010C	192756

General Chemistry

Analysis Batch: 182800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	Moisture	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	Moisture	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	Moisture	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	Moisture	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	Moisture	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	Moisture	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	Moisture	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	Moisture	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	Moisture	

Analysis Batch: 182808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	2540G-2011	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 182808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	2540G-2011	
LCS 410-182808/1	Lab Control Sample	Total/NA	Solid	2540G-2011	
410-58999-2 DU	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-3 DU	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	2540G-2011	

Prep Batch: 183171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	7.3.3	
MB 410-183171/1-A	Method Blank	Total/NA	Solid	7.3.3	
LCS 410-183171/24-A	Lab Control Sample	Total/NA	Solid	7.3.3	
LCS 410-183171/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	

Leach Batch: 183273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	
LB 410-183273/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
410-58999-9 MS	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9 DU	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	

Analysis Batch: 183334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9034	183171
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9034	183171
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9034	183171
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9034	183171
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9034	183171
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9034	183171
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9034	183171

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 183334 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9034	183171
MB 410-183171/1-A	Method Blank	Total/NA	Solid	9034	183171
LCS 410-183171/24-A	Lab Control Sample	Total/NA	Solid	9034	183171
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171

Analysis Batch: 183419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9012	183171
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9012	183171
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9012	183171
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9012	183171
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9012	183171
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9012	183171
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9012	183171
MB 410-183171/1-A	Method Blank	Total/NA	Solid	9012	183171
LCS 410-183171/2-A	Lab Control Sample	Total/NA	Solid	9012	183171
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171

Leach Batch: 183472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	DI Leach	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Soluble	Solid	DI Leach	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Soluble	Solid	DI Leach	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Soluble	Solid	DI Leach	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Soluble	Solid	DI Leach	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Soluble	Solid	DI Leach	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Soluble	Solid	DI Leach	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Soluble	Solid	DI Leach	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Soluble	Solid	DI Leach	
LCS 410-183472/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	DI Leach	

Analysis Batch: 183490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	9045D	183472
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Soluble	Solid	9045D	183472
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Soluble	Solid	9045D	183472
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Soluble	Solid	9045D	183472
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Soluble	Solid	9045D	183472
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Soluble	Solid	9045D	183472
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Soluble	Solid	9045D	183472
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Soluble	Solid	9045D	183472
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Soluble	Solid	9045D	183472
LCS 410-183472/1-A	Lab Control Sample	Soluble	Solid	9045D	183472
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	9045D	183472

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry

Analysis Batch: 183795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
MB 410-183795/1	Method Blank	Total/NA	Solid	2540B-2011	
LCS 410-183795/2	Lab Control Sample	Total/NA	Solid	2540B-2011	
LCSD 410-183795/3	Lab Control Sample Dup	Total/NA	Solid	2540B-2011	

Analysis Batch: 184206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9095B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9095B	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9095B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9095B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9095B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9095B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9095B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9095B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9095B	
MB 410-184206/1	Method Blank	Total/NA	Solid	9095B	

Analysis Batch: 184207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	261.21	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	261.21	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	261.21	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	261.21	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	261.21	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	261.21	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	261.21	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	261.21	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	261.21	

Prep Batch: 184235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9071B	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9071B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9071B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9071B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9071B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9071B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9071B	
MB 410-184235/1-A	Method Blank	Total/NA	Solid	9071B	
LCS 410-184235/2-A	Lab Control Sample	Total/NA	Solid	9071B	

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Prep Batch: 184235 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-1 MSD	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	

Analysis Batch: 184548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273
MB 410-184548/4	Method Blank	Total/NA	Solid	410.4	
LCS 410-184548/5	Lab Control Sample	Total/NA	Solid	410.4	
410-58999-9 MS	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-9 DU	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273

Analysis Batch: 184745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	1664B	183273
LB 410-183273/1-B	Method Blank	ASTM Leach	Solid	1664B	183273
MB 410-184745/1	Method Blank	Total/NA	Solid	1664B	
LCS 410-184745/2	Lab Control Sample	Total/NA	Solid	1664B	
LCSD 410-184745/3	Lab Control Sample Dup	Total/NA	Solid	1664B	

Analysis Batch: 185016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9071B	184235
MB 410-184235/1-A	Method Blank	Total/NA	Solid	9071B	184235
LCS 410-184235/2-A	Lab Control Sample	Total/NA	Solid	9071B	184235
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-1 MSD	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 185016 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235

Leach Batch: 186751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	

Analysis Batch: 189848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
MB 410-189848/17	Method Blank	Total/NA	Solid	EPA 350.1	
LCS 410-189848/15	Lab Control Sample	Total/NA	Solid	EPA 350.1	
LCSD 410-189848/16	Lab Control Sample Dup	Total/NA	Solid	EPA 350.1	

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 03:08	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 14:53	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:30	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/21/21 23:25	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 14:59	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:35	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:47	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 15:00	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 10:55	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 14:27	USEJ	ELLE
Total/NA	Prep	3546			184122	10/18/21 18:09	QQ3P	ELLE
Total/NA	Analysis	8082A		1	184470	10/19/21 08:52	JC94	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:26	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 03:54	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 15:21	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:41	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 00:00	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:08	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:37	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:49	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:32	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:01	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 14:48	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:17	E9VJ	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:34	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 04:17	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 15:50	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:53	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 00:36	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:11	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:39	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:51	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:39	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:03	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:08	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:28	E9VJ	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 10:53	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 04:40	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 16:19	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:04	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 01:11	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:30	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:47	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:52	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:41	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:05	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:29	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:38	E9VJ	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:18	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:03	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 16:48	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:15	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 01:47	UAMZ	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:15	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:41	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:53	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:42	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:07	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:50	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:03	JC94	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:38	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:26	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 17:17	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:26	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 02:22	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:18	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:43	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:54	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:43	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:09	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:11	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:14	JC94	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:30	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:49	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 17:46	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:37	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 02:57	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:27	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:45	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:48	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:45	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:18	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:31	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:24	JC94	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 11:03	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 06:12	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 18:15	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:49	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 03:33	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:33	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:54	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:52	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:46	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:20	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:52	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:35	JC94	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:22	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 06:35	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 18:44	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 11:00	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 04:08	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:52	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 19:04	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:45	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:48	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 12:49	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 17:13	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:45	JC94	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 11:07	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: NorthStar Contracting Group, Inc.
 Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1664B		Solid	HEM (Oil & Grease)
2540B-2011		Solid	Residue, Total
2540B-2011		Solid	Total Solids
2540G-2011		Solid	Percent Solids
261.21		Solid	Ignitable to Air
261.21		Solid	Ignitable to Flame
261.21		Solid	Ignitable to Friction
261.21		Solid	Ignitable to Water
410.4		Solid	Chemical Oxygen Demand
9034	7.3.3	Solid	Sulfide, Reactive
9045D		Solid	Corrosivity
EPA 350.1		Solid	Ammonia as N
Moisture		Solid	Percent Moisture



Method Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
8081B	Organochlorine Pesticides (GC)	SW846	ELLE
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ELLE
8151A	Herbicides (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
7470A	Mercury (CVAA)	SW846	ELLE
1664B	HEM and SGT-HEM	1664B	ELLE
2540B-2011	Solids, Total	SM	ELLE
2540G-2011	Total, Fixed, and Volatile Solids	SM	ELLE
261.21	Ignitability	40CFR261	ELLE
410.4	COD	MCAWW	ELLE
9012	Cyanide, Reactive	SW846	ELLE
9034	Sulfide, Reactive	SW846	ELLE
9045D	pH	SW846	ELLE
9071B	HEM and SGT-HEM	SW846	ELLE
9095B	Paint Filter	SW846	ELLE
EPA 350.1	Nitrogen, Ammonia	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
1311	TCLP Extraction	SW846	ELLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ELLE
3050B	Preparation, Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
7.3.3	Cyanide, Reactive	SW846	ELLE
7.3.4	Sulfide, Reactive	SW846	ELLE
7470A	Preparation, Mercury	SW846	ELLE
8151A	Extraction (Herbicides)	SW846	ELLE
9071B	Preparation, HEM and SGT-HEM	SW846	ELLE
D3987-85	ASTM Leaching Procedure	ASTM	ELLE
DI Leach	Deionized Water Leaching Procedure	ASTM	ELLE

Protocol References:

1664B = EPA-821-98-002

40CFR261 = 40 CFR Part 261

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Solid	10/12/21 10:00	10/13/21 18:10
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Solid	10/12/21 10:05	10/13/21 18:10
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Solid	10/12/21 10:07	10/13/21 18:10
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Solid	10/12/21 10:11	10/13/21 18:10
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Solid	10/12/21 10:12	10/13/21 18:10
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Solid	10/12/21 10:16	10/13/21 18:10
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Solid	10/12/21 10:30	10/13/21 18:10
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Solid	10/12/21 10:36	10/13/21 18:10
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Solid	10/12/21 10:38	10/13/21 18:10

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QC

CHAIN OF CUSTODY
Page 1 of 1



410-58999 Chain of Custody

MATRIX CODES

702 Electronic Drive Phone: 215-355-3900
Horsham, PA 19044-0962 Fax 215-355-7231

Client/Acct. No. NorthStar Contracting Group, Inc
Address 3144 Passyunk Ave
Philadelphia PA, 19145

City/State/Zip 440-228-1524
Phone/Fax rarmstrong@northstar.com

Client Contact

Bill to/Report to (if different)

Sampling Site Address (if different) Include State

P.O. No. PWSID #

Quote #

e-mail:

___ Ascorbic/HCL Vials # ___ HCl Vials
___ Na₂S₂O₃
___ Na OH/Zn acetate pH
___ HNO₃ pH
___ H₂SO₄ pH
___ NaOH pH
___ Unpreserved
___ HCl # ___ NH₄Cl # ___ MeOH
___ DI Water

- DW: DRINKING WATER
- GW: GROUND WATER
- WW: WASTEWATER
- SO: SOIL
- SL: SLUDGE
- OIL: OIL
- SOL: NON SOIL SOLID
- MI: MISCELLANEOUS
- X: OTHER

PROJECT FIELD ID	Collection		G R A B	C O M P	Matrix Code	Number of Containers													
	Date	Military Time				Total	H 2 S O 4	H C l	V i a l a	H N O 3	N a O H	Z n A c	U N P R E	B A C T					
Harttransf-10TH-CONF-SOIL-1-2021-10-12	10/12/21	1000	X		SO	5											5		
Harttransf-10TH-CONF-SOIL-2-2021-10-12	10/12/21	1005	X		SO	5											5		
Harttransf-10TH-CONF-SOIL-3-2021-10-12	10/12/21	1007	X		SO	5											5		
Harttransf-10TH-CONF-SOIL-4-2021-10-12	10/12/21	1011	X		SO	5											5		
Harttransf-10TH-CONF-SOIL-5-2021-10-12	10/12/21	1012	X		SO	5											5		
Harttransf-10TH-CONF-SOIL-6-2021-10-12	10/12/21	1016	X		SO	5											5		
Harttransf-10TH-RB44062-RT-1-2021-10-12	10/12/21	1030	X		SO	5											5		
Harttransf-10TH-RB44062-RT-2-2021-10-12	10/12/21	1036	X		SO	5											5		
Harttransf-10TH-RB44062PT-3-2021-10-12	10/12/21	1038		X	SO	7											7		

ANALYSIS REQUESTED

Field pH, Temp (°C),
DO, Cl₂, Cond. etc.

Total Benzene
See attached Table A
Parameters

~~Use caution
when working
with these
samples.~~

SAMPLED BY: (Name/Company)
Josh Suboye / North Star

TAT: STANDARD (10 DAY)
or DUE DATE ASAP

Report Format: Standard NJ-RDD SRP-RDD
 Standard + QC Forms EDD

Field Parameters Analyzed By:
Initials _____ Date/Time: _____

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME	DELIVERY: <input type="checkbox"/> EQC COURIER <input type="checkbox"/> CLIENT <input type="checkbox"/> UPS <input type="checkbox"/> FEDEX <input type="checkbox"/> OTHER	Custody Seal Number
1. <i>[Signature]</i>	10.13.21	1225	<i>[Signature]</i>	10/13/21	1225		
2. <i>[Signature]</i>	10/13/21	1810	<i>[Signature]</i>			Rec'd Temp.: 1.3° COMMENTS: 2.3°	Initials: <u>MR</u> Ice <input checked="" type="checkbox"/> N Location: _____
3.							
4.							
5.			<i>[Signature]</i>	10/13/21	1810		

Hazardous: yes / no



TABLE A PARAMETERS



410-58999-02 Chain of Custody

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Ignitibility	As Received		>140	F	
<input type="checkbox"/>	Oil & Grease	As Received			mg/kg	
<input type="checkbox"/>	Paint Filter Test	As Received		No free liquids		
<input type="checkbox"/>	PCB's	As Received		50		
<input type="checkbox"/>	pH	As Received		2 - 12.5	S.U.	
<input type="checkbox"/>	Reactive Cyanide	As Received		100		
<input type="checkbox"/>	Reactive Sulfide	As Received		500		
<input type="checkbox"/>	Total Solids	As Received				
<input type="checkbox"/>	Total Volatile Solids	As Received				
<input type="checkbox"/>	Ammonia-Nitrogen	ASTM		111111	mg/l	
<input type="checkbox"/>	Chemical Oxygen Demand	ASTM				
<input type="checkbox"/>	Oil & Grease	ASTM		88550	mg/l	
<input type="checkbox"/>	Total Solids	ASTM				
<input type="checkbox"/>	pH	TCLP				
<input type="checkbox"/>	Arsenic	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Barium	TCLP	Metals	100	mg/l	85
<input type="checkbox"/>	Cadmium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Chromium	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Copper	TCLP	Metals	167	mg/l	142
<input type="checkbox"/>	Lead	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Mercury	TCLP	Metals	0.2	mg/l	0.17
<input type="checkbox"/>	Nickel	TCLP	Metals	242	mg/l	206
<input type="checkbox"/>	Selenium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Silver	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Zinc	TCLP	Metals	1875	mg/l	1594
<input type="checkbox"/>	2,4-D	TCLP	Herb	10	mg/l	8.5
<input type="checkbox"/>	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
<input type="checkbox"/>	Chlordane	TCLP	Pest	0.03	mg/l	0.0255
<input type="checkbox"/>	Endrin	TCLP	Pest	0.02	mg/l	0.017
<input type="checkbox"/>	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Lindane	TCLP	Pest	0.4	mg/l	0.34
<input type="checkbox"/>	Methoxychlor	TCLP	Pest	10mg/l	8.5	
<input type="checkbox"/>	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
<input type="checkbox"/>	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
<input type="checkbox"/>	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
<input type="checkbox"/>	m-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	o-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	p-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	Pentachlorophenol	TCLP	Acids	100	mg/l	85
<input type="checkbox"/>	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
<input type="checkbox"/>	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55



TABLE A PARAMETERS

*Volatile Organic Compounds must be taken from discrete samples

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Nitrobenzene	TCLP	Base/Neutral	2	mg/l	1.7
<input type="checkbox"/>	Pyridine	TCLP	Base/Neutral	5	mg/l	4.25
<input type="checkbox"/>	* 1,1-dichloroethyene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	* 1,2-dichloroethane	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* 1,4-dichlorobenzene	TCLP	Volatiles	7.5	mg/l	6.375
<input type="checkbox"/>	* Benzene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Carbon Tetrachloride	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Chlorobenzene	TCLP	Volatiles	100	mg/l	85
<input type="checkbox"/>	* Chloroform	TCLP	Volatiles	8	mg/l	6.8
<input type="checkbox"/>	* Methyl ethyl ketone	TCLP	Volatiles	200	mg/l	170
<input type="checkbox"/>	* Tetrachloroethylene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	* Trichloroethylene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Vinyl Chloride	TCLP	Volatiles	0.2	mg/l	0.17

Login Sample Receipt Checklist

Client: NorthStar Contracting Group, Inc.

Job Number: 410-58999-1

Login Number: 58999

List Source: Eurofins Lancaster Laboratories Env, LLC

List Number: 1

Creator: Renner, Melissa

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Project Name: PES Refinery - 860 Release

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific (PADEP SVOC) analyte list per attached

Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

Date Rec'd in Lab: 11/30/21

ALPHA Job #: L2165357

Report Information Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program Criteria

ANALYSIS

PADEP Shortlist 1-5 (SVOC Portion)	ANALYSIS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE HANDLING
 Filtration
 Done
 Not Needed
 Lab to do
 Preservation
 Lab to do
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
65357-01	Hartranft-10th-CONF-SOIL-1-24-4-24	11/28	1129	S	TS
-02	Hartranft-10th-CONF-SOIL-2-24-11-28	11/28	1020	S	TS
-03	Hartranft-10th-CONF-SOIL-3-24-11-28	11/28	1050	S	TS
-04	Hartranft-10th-CONF-SOIL-4-24-11-28	11/28	1100	S	TS
-05	Hartranft-10th-CONF-SOIL-5-24-11-28	11/28	1105	S	TS
-06	Hartranft-10th-CONF-SOIL-6-24-11-28	11/28	1115	S	TS

Container Type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	11/29	<i>[Signature]</i>	11/29/21 1650
<i>[Signature]</i>	11/29/2021	<i>[Signature]</i>	11/29/21
<i>[Signature]</i>	11/30/21 1050	<i>[Signature]</i>	11/30/21 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Appendix F

Detection Limit Evaluation



Detection Limit Evaluation

The PADEP non-residential soil-to-groundwater (S-GW) medium specific concentration (MSC) for ethylene dibromide (EDB) is 5 ug/kg. Also, the PADEP non-residential soil vapor intrusion screening levels (VISLs) for EDB and 1,2-dichloroethane (DCA) are 1.3 ug/kg and 100 ug/kg, respectively. Soil sampling in the area consisted of analyzing six soil samples for volatile organic compounds (VOCs) via USEPA Method 8260C which includes EDB and 1,2-DCA. Method 8260C has standard method detection limits (MDL) and reporting limits (RLs) that are less than the applicable MSCs and VISLs. Labs, including Alpha Analytical and Eurofins, the PADEP certified laboratory who have analyzed the soil samples collected from the Site, are able via Method 8260C to meet these target MSCs and screening levels unless there are interferences from other VOCs (i.e., non-target analytes) in the sample.

8260C MDLs and RLs for EDB and 1,2-DCA (as communicated by Alpha Analytical¹)

Chemical	Low Vial		High Vial	
	MDL (ug/kg)	RL (ug/kg)	MDL (ug/kg)	RL (ug/kg)
EDB	0.3	0.5	15	25
1,2-DCA	0.3	1	13	50

Assumes 100% solids factor and no dilutions.
 Indicates that analytical limit **meets** chemical specific MSC/SLs.
 Indicates that analytical limit **does not meet** chemical specific MSC/SLs.

8260C MDLs and RLs for EDB and 1,2-DCA (as communicated by Eurofins²)

Chemical	Low Vial		High Vial	
	MDL (ug/kg)	RL (ug/kg)	MDL (ug/kg)	RL (ug/kg)
EDB	0.4	5	20	250
1,2-DCA	0.6	5	30	250

Assumes 100% solids factor and no dilutions.
 Indicates that analytical limit **meets** chemical-specific MSC/SLs.
 Indicates that analytical limit **does not meet** chemical-specific MSC/SLs.

As explained by Eurofins in their analytical report (Appendix E of the Final Report), each of the samples was diluted “due to the abundance of non-target analytes”. Additionally, Method 8260 provides laboratories with the ability to run the analysis via high-level and low-level vials. The samples from this release area were run via the high-level vial. Analysis of the low-level vial was not possible due to the abundance of non-target analytes³. Because the lab needed to dilute the samples and was able to analyze only the high-level vial, the MDLs and RLs for EDB and 1,2-DCA were greater than applicable MSCs/VISLs.

¹ Personal communication with Alpha Analytical, 5/26/2022

² Personal communication with Eurofins, 5/26/2022

³ Personal communication with Eurofins, 5/27/2022



The following tables provide a summary of the analytical results including the sample-specific MDLs and RLs.

Soil Analytical Results for EDB

SampleID	LabSample ID	Result (ug/kg)	Qual	MDL (ug/kg)	RL (ug/kg)	Dilution
CONF-SOIL-1-2021-10-12	410-58999-1		U	31	390	50
CONF-SOIL-2-2021-10-12	410-58999-2		U	25	310	50
CONF-SOIL-3-2021-10-12	410-58999-3		U	24	300	50
CONF-SOIL-4-2021-10-12	410-58999-4		U	24	300	50
CONF-SOIL-5-2021-10-12	410-58999-5		U	23	280	50
CONF-SOIL-6-2021-10-12	410-58999-6		U	29	360	50

Soil Analytical Results for 1,2-DCA

SampleID	LabSample ID	Result (ug/kg)	Qual	MDL (ug/kg)	RL (ug/kg)	Dilution
CONF-SOIL-1-2021-10-12	410-58999-1		U	47	390	50
CONF-SOIL-2-2021-10-12	410-58999-2		U	37	310	50
CONF-SOIL-3-2021-10-12	410-58999-3		U	37	300	50
CONF-SOIL-4-2021-10-12	410-58999-4		U	36	300	50
CONF-SOIL-5-2021-10-12	410-58999-5		U	34	280	50
CONF-SOIL-6-2021-10-12	410-58999-6		U	43	360	50

Because the higher RLs are due to field conditions, resampling and reanalyzing soil for these compounds is unlikely to result in a different outcome.

The interferences from non-target analytes in the 860 Unit Hartranft Pipeline release soil samples represent a technical issue that results in limits of quantitation for EDB and 1,2-DCA that are greater than the relevant MSC/screening levels. The PADEP (2021) *Land Recycling Program Technical Guidance Manual* (TGM) explains that if a “laboratory’s RL value is above a constituent’s corresponding MSC value due to a technical issue, remediators should contact their regional project officer to discuss how to proceed”. No further guidance is provided in the TGM.

USEPA’s (1989) *Risk Assessment Guidance for Superfund, Volume 1 Human Health Evaluation Manual (Part A)* provides specific guidance on how to account for elevated quantitation limits⁴ for non-detect results when assessing exposure:

“If there is reason to believe that the chemical is present in a sample at a concentration below the SQL, use one-half of the SQL as a proxy concentration. [...] Unless site-specific information indicates that a chemical is not likely to be present in a sample, do not substitute the value zero in place of the SQL.” – emphasis added.

⁴ USEPA used the terminology sample specific quantitation limits (SQLs) in their guidance, but they are analogous to what is referred to as sample-specific RLs in this discussion.



“If the SQLs cannot be reduced by re-analyzing the sample [...], exclude the samples from the quantitative risk assessment if they cause the calculated exposure concentrations [...] to exceed the maximum detected concentration for a particular sample set.”

With consideration for USEPA’s guidance, in evaluating whether EDB and 1,2-DCA could be present in soil in an area at concentrations below the respective RL, additional lines of evidence should be considered before presuming that a chemical is present in an environmental media. These additional lines of evidence include: (1) information regarding the known release (e.g., what was released and what is its composition); (2) whether other samples of the same environmental media collected from the release area exhibited detectable levels of the chemical; and (3) whether the sample or other samples in the area indicate the presence of other chemicals in the media such that a potentially significant release to the environment may have occurred.

The 860 Unit Hartranft Pipeline release occurred during the removal of overhead pipelines within a pipe rack. The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks in the Point Breeze South Yard (i.e., PB 840 and PB 843). Both aboveground storage tanks were formerly used to store crude oil, which is not associated with EDB or 1,2-DCA.

EDB was historically used as a scavenger for lead in anti-knock gasoline mixtures⁵. Up until the ban of leaded gasoline in the 1990s, 1,2-DCA was also used as a lead scavenger⁶. After the ban 1,2-DCA has been used in leaded fuel for aircrafts, racing vehicles, marine engines, and farm equipment. Neither EDB nor 1,2-DCA, would be expected to be present in crude oil or in water that was in contact with crude oil. Also, the soil analytical results did not identify elevated concentrations of any other chemical that would be expected to be present in soil at higher concentrations as a result of this release (see Table 1 of the Final Report).

Based upon these two additional lines of evidence, EDB and 1,2-DCA are unlikely to be present in soil impacted by this release and should be considered absent from soil for attainment demonstration and in the Final Report.

The results of this evaluation demonstrate that USEPA Method 8260C is the appropriate analytical method to use to characterize soil VOC concentrations at the Site. Absent any interferences from non-target analytes the method has adequate MDLs and RLs to meet the applicable MSCs and screening levels necessary to support investigation and remedial decision-making. Due to sample-specific conditions, resampling and reanalyzing soil to assess whether these compounds are present in soil is not a viable solution. As a result, lines of evidence should be used to determine the likelihood of EDB and 1,2-DCA being present in soil and when non-detect results should not be considered results exceeding the non-residential MSCs or non-residential soil VISLs.

⁵ <https://www.atsdr.cdc.gov/toxprofiles/tp37.pdf>

⁶ <https://www.atsdr.cdc.gov/ToxProfiles/tp38.pdf>

