

PUBLICATION:

Posted at City Hall, Margaret W. Carpenter Recreation Center, and Thornton Active Adult Center after first and second readings.

Published on the City's official website after first reading on September 11, 2019, and after second and final reading on September 25, 2019.



ORDINANCE NO.: 3569
INTRODUCED BY: Sandgren

AN ORDINANCE MAKING APPROPRIATIONS FOR THE CITY, FOR THE FISCAL YEAR 2021 FOR ALL OPERATING FUNDS AND MAKING APPROPRIATIONS FOR ALL CAPITAL IMPROVEMENT PROJECTS FOR THE CITY, FOR THE FISCAL YEAR BEGINNING JANUARY 1, 2021 AND ENDING DECEMBER 31, 2021, AND CONTINUING FOR EACH PROJECT UNTIL THAT PROJECT IS COMPLETED OR CANCELLED, AND REGULATING THE PAYMENT OF MONEY OUT OF THE CITY TREASURY.

WHEREAS, the City Council is required to adopt a budget for fiscal year 2021; and

WHEREAS, the City Council has adopted a budget for fiscal year 2021 and desires to appropriate the funds.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF THORNTON, COLORADO, AS FOLLOWS:

- 1. That there is hereby appropriated for the provision of services and capital projects for the City for the fiscal year beginning January 1, 2021 and ending December 31, 2021, the following amounts as follows:

Fund	2021 Expenditures
GENERAL GOVERNMENTAL FUNDS	
General	\$148,153,305
Governmental Capital	22,101,304
Subtotal	\$170,254,609
INTERNAL SERVICE FUNDS	
Risk Management	\$7,621,032
Subtotal	\$7,621,032
SPECIAL REVENUE FUNDS	
Adams County Road and Bridge	\$4,615,858
Adams County Open Space	2,300,030
Conservation Trust	1,803,800
Parks	-
Open Space	3,796,771
Parks and Open Space	17,120,896
Cash In Lieu	-
Subtotal	\$29,637,355

Fund (Continued)	2021 Expenditures
ENTERPRISE FUNDS	
Water	\$203,624,918
Sewer	15,853,547
Stormwater	3,812,696
Environmental Services	6,249,586
Subtotal	\$229,540,747
Grand Total	\$437,053,743


2. That appropriations for individual capital projects in the above mentioned funds for fiscal year 2021 shall not lapse at year end but continue until the project is completed or cancelled.
3. That the City Manager, or designee, shall have the authority to cancel projects and shall have the authority to transfer funds within each fund and project and such transfers shall be entered on the books respective to each affected fund.
4. That all purchases and disbursements will be made in accordance with the Purchasing Ordinance, Purchasing Manual, and generally accepted purchasing policies and all revenues will be recorded in accordance with generally accepted accounting principles. The City Manager, or designee, is authorized to enter into and sign all contracts, leases, change orders, and other such documents as may be required to implement the budget. The City Manager shall have full authority to revise or promulgate policies, procedures, and/or administrative directives to administer the budget.
5. That the sums appropriated and set forth in the detailed schedule of personnel services shall be paid in accordance with the Pay Plans adopted by City Council for Career Service and Excluded personnel. All positions, position titles, incorporated herein for Career Service and Excluded personnel are authorized and approved. The City Manager is authorized to change positions, position titles, classifications and reclassifications, and reassignments for Career Service and Excluded personnel for all positions authorized in the budget, but no new positions shall be added without the approval of the City Council.
6. That the following Departments, which are under the supervision and control of the City Manager, are established as follows: Economic Development, City Development, City Manager's Office, Community Services, Fire, Infrastructure, Management Services, and Police.
7. That all sums received by the City of Thornton from any source whatsoever, unless by law designated for some special fund or purpose, may be used in meeting the appropriation set out in Section 1 above.

8. That the City Manager is authorized to approve grant applications for projects and to expend funds necessary to meet the terms and obligations of the grant award so long as funds for such projects are within the approved budget.
9. That this ordinance is effective January 1, 2021.

INTRODUCED, READ, PASSED on first reading, ordered posted in full, and title ordered published by the City Council of the City of Thornton, Colorado, on October 27, 2020.


PASSED AND ADOPTED on second and final reading on November 17, 2020.

CITY OF THORNTON, COLORADO



Jan Kulmann, Mayor


ATTEST:



Kristen N. Rosenbaum, City Clerk

THIS ORDINANCE IS ON FILE IN THE CITY CLERK'S OFFICE FOR PUBLIC INSPECTION.

APPROVED AS TO LEGAL FORM:



Luis A. Corchado, City Attorney

PUBLICATION:

Posted at City Hall, Margaret W. Carpenter Recreation Center, and Thornton Active Adult Center after first and second readings.

Published on the City's official website after first reading on October 28, 2020, and after second and final reading on November 18, 2020.

Appendix I – Natural and Cultural Resources Assessment



Consultants in Natural Resources and the Environment

Natural and Cultural Resources Assessment Thornton Water Project—Segment A Adams County, Colorado

Prepared for—

City of Thornton
12450 Washington Street
Thornton, Colorado 80241

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188
ERO Project #5241

December 23, 2021

Contents

Overview of the Proposed Project 1
 Project Corridor Description 2
 Environmental Impact Analysis.....2
 Open Waters, Wetlands, and Riparian Areas 2
Description 2
Open Waters, Wetlands, and Riparian Impacts 7
 Terrestrial and Aquatic Animals and Habitat 7
Federal Threatened, Endangered, and Candidate Animal Species..... 8
State Animal Species of Concern 10
Raptors and Other Migratory Birds 17
Big Game/Large Mammals 18
Other Game and Nongame Species 19
Aquatic Species and Habitat 20
 Terrestrial and Aquatic Plant Life 20
Vegetation Communities 21
Federally Threatened, Endangered, and Candidate Plant Species 22
Rare and Sensitive Plant Species 24
 Areas of Historic or Archaeological Importance 25
Description 25
Impacts 25
 Areas of Paleontological Importance 26
Description 26
Impacts 27
 Hazardous Materials.....28
 Monitoring and Mitigation Plan.....28
 Open Waters, Wetlands, and Riparian Areas 29
 Terrestrial and Aquatic Animals and Habitat 29
 Terrestrial and Aquatic Plant Life 29
 Noxious Weed Management 30
 Areas of Historic or Archaeological Importance 30
 Areas of Paleontological Importance 31
 References 31

Tables

Table 1. Federally threatened, endangered, and candidate wildlife species potentially found in Adams County or potentially affected by projects in Adams County.8
 Table 2. State animal species of concern potentially found in the Segment A impact area or with potential to be affected by Segment A..... 11
 Table 3. Raptor nest locations in or near the Segment A impact area..... 18
 Table 4. Total acreages of vegetation communities in the Segment A impact area and work limits..... 22

Table 5. Federally threatened and endangered plant species potentially found in Adams County or potentially affected by projects in Adams County.....	23
Table 6. Plant species considered rare or imperiled by the CNHP that potentially occur in the Segment A impact area.	24
Table 7. Previously Recorded Fossil Localities Within the Same Townships as Segment A	27

Figures

Figure 1. Vicinity Map	
Figure 2. Map Index	
Figures 3.01–3.09. Vegetation Communities.	
Figure 4. Special Status Wildlife Overview	
Figures 5.01–5.09. Wildlife	
Figure 6. General Wildlife Overview	
Figure 7. Big Game Overview	
Figure 8. OAHP File Search Results	

Appendices

Appendix A Photo Log	
Appendix B Summary of Water Features in the Segment A Impact Area and Work Limits	
Appendix C Cultural Resources in the Segment A Impact Area	
Appendix D Figures	

Natural and Cultural Resources Assessment Thornton Water Project—Segment A Adams County, Colorado

December 23, 2021

Overview of the Proposed Project

The city of Thornton (Thornton) retained ERO Resources Corporation (ERO) to provide a natural and cultural resources assessment to assist Thornton's planning for the Thornton Water Project (TWP), a proposed domestic water transmission pipeline project. This report is intended to support the Areas and Activities of State Interest Permit that Thornton is seeking from Adams County and to aid in the future development of the final alignment for the water pipeline by detailing the natural and cultural resources found along the proposed work limits of the TWP alignment in Adams County. The section of the TWP within Adams County, designated as Segment A, is from 168th Avenue to just south of 88th Avenue, generally between Colorado Boulevard and the South Platte River, with the northern portion paralleling Quebec Street (Figure 1).

ERO assessed an impact area along the Segment A alignment, which is an average of 0.20 mile wide and approximately 12 miles long in Adams County. The impact area was developed to typically include 500 feet either side of the permanent and temporary construction easements for the water pipeline. The typical permanent easement width is 50 feet wide, and the typical temporary construction easement is an additional 40 feet wide. Work limits are defined as the area where construction activities are anticipated to occur and include the permanent and temporary construction easements and any Thornton or Adams County approved right-of-way (ROW). ERO conducted surveys in the Segment A impact area in October and December 2020 and January and February 2021 (2020/2021 site visits) adjacent to public roads, on Thornton-owned property, or where access had been granted, and assessed natural resources via aerial imagery for areas that were inaccessible. For this report, the Segment A impact area is limited to the areas in Adams County. ERO also conducted a Class I File Search and Literature Review for cultural resources for the Segment A impact area. This report provides information on existing site conditions, including natural and cultural resources in the Segment A impact area, anticipated impacts from Segment A, and a list of monitoring and mitigation measures to minimize or eliminate potential impacts. This report includes an environmental impact analysis and a monitoring and mitigation plan for the following five resources: (1) open waters, wetlands, and riparian areas; (2) terrestrial and aquatic animals and habitat; (3) terrestrial and aquatic plant life; (4) areas of historic or archaeological importance; and (5) hazardous materials.

Project Corridor Description

The Segment A impact area and work limits presented in this document are in Adams County, Colorado (Figure 1). Segment A is from 168th Avenue to just south of 88th Avenue, generally between Colorado Boulevard and the South Platte River, with the northern portion paralleling Quebec Street, in Adams County, Colorado (Figure 1 and Figure 2). Segment A is in Sections 4, 5, 8, 17, 20, 28, 29, 32, and 33, Township 1 South, Range 67 West; and Sections 5, 8, 17, 18, 19, 20, and 30, Township 2 South, Range 67 West of the 6th Principal Meridian in Adams County, Colorado. Photos of the Segment A impact area are in Appendix A. Most of the Segment A impact area is located along municipal and county roads and contains upland vegetation (Photo 1). Sections of the Segment A impact area are in undeveloped grasslands, agricultural fields, and housing subdivisions and along ponds, reservoirs, and wetlands.

Environmental Impact Analysis

Open Waters, Wetlands, and Riparian Areas

Description

The information on waters and wetlands presented in this report focuses on waters and wetlands subject to the Corps' jurisdiction under Section 404 of the Clean Water Act. These waters and wetlands are referred to as "jurisdictional," "waters of the U.S.," "potential waters of the U.S.," or "potential wetlands" in this report.

ERO conducted jurisdictional wetland delineations to define the boundaries of the wetlands and open water identified in this report. An approved jurisdictional determination from the Corps is needed to clarify each feature's jurisdictional status.

The Clean Water Act (CWA) protects the chemical, physical, and biological quality of waters of the U.S. The U.S Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the CWA. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other waters of the U.S (streams, ponds, and other waterbodies). On June 22, 2020, the Environmental Protection Agency (EPA) and Corps' Navigable Waters Protection Rule (NWPR) to define "waters of the United States" became effective in 49 states and in all U.S. territories. A preliminary injunction was granted for Colorado. On March 2, 2021, the United States Court of Appeals for the 10th Circuit vacated the stay on the NWPR in Colorado, thereby ruling the NWPR effective in Colorado. After April 23, 2021, jurisdiction of wetlands and other potential WOTUS in Colorado was to be determined using the NWPR. However, on August 30, 2021 the Arizona District Court remanded and vacated the NWPR. In response, the EPA and Corps have halted implementation of the NWPR and, until further notice, are interpreting waters of the U.S consistent with the pre-2015 regulatory regime (also referred to as the "Rapanos" guidelines). As such, the identification of waters of the U.S in this report follows the Rapanos guidelines. Potential rulings and guidance in the future could change the results of this report regarding the jurisdictional status of waters and wetlands in the project area. While ERO may provide its

opinion on the likely jurisdictional status of wetlands and waters, the Corps will make the final determination of jurisdiction based on the current rulings.

Based on the 2020/2021 site visits, ERO mapped broad vegetation communities within the Segment A impact area, including the general boundaries of potential isolated wetlands, jurisdictional wetlands, and other waters of the U.S. Near the Segment A work limits, where access was allowed, ERO conducted jurisdictional wetland delineations along the Segment A impact area. The formally delineated wetlands and open water areas are labeled on Figures 3.01 through 3.09. Prior to the 2020/2021 site visits, ERO reviewed National Wetland Inventory mapping and the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) within the Segment A impact area, as well as aerial photographs and Google Earth imagery, to identify mapped streams and areas of open water that could indicate wetlands or waters of the U.S. The determination on whether a wetland or open water area is a potential water of the U.S. was based on reviewing NHD mapping to determine if the area has a possible connection to any known waters of the U.S.

ERO mapped 48 potential waters of the U.S. (24 wetlands, 11 open water areas and 13 ditches and canals) in the Segment A impact area, which includes incorporated and unincorporated areas of Adams County. A total of about 15.47 acres of potential wetlands and 42.23 acres of potential other waters of the U.S. (39.07 acres of open water areas and 3.16 acres of ditches and canals) were mapped inside the Segment A impact area in Adams County, including within the work limits. Exclusively inside the work limits, about 0.76 acres of potential wetlands and 0.27 acres of potential other waters of the U.S. (0.06 acres of open water areas and 0.21 acre of ditches and canals) were mapped. Below are descriptions of the potential waters of the U.S. found in the Segment A impact area. The general boundaries of the wetlands and waters with the potential to be jurisdictional are shown on Figures 3.01 through 3.09.

Appendix B provides a summary of wetland and water features in incorporated and unincorporated areas of Adams County, including potential waters of the U.S., identified during the 2020/2021 site visits, with general descriptions, proximity to traditional navigable waters (TNWs), locations, acreages in the Segment A impact area and work limits, and determined jurisdictional statuses. Information on proximity is important in determining the jurisdictional status of a water or wetland. The NWPR outlines four categories of waters of the U.S.: (1) territorial seas and TNWs; (2) tributaries; (3) lakes, ponds, and impoundments of jurisdictional waters; and (4) adjacent wetlands. Under the NWPR, tributaries include perennial and intermittent rivers and streams that contribute surface flow to TNWs in a typical year. Ditches are considered tributaries only where they satisfy the flow conditions of the perennial and intermittent tributary definition and either were constructed in or relocate a tributary or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a TNW in a typical year (EPA 2020). Adjacent wetlands are generally defined under the NWPR as those physically touching other jurisdictional waters; separated from a water of the U.S. by only a natural berm, bank, or dune; inundated by flooding from a water of the U.S.; or wetlands that are physically separated by certain artificial structures so long as the structure allows for a direct hydrologic surface connection between the wetlands and the jurisdictional water in a typical year.

Intermittent Streams

Todd Creek and eight unnamed intermittent streams enter the Segment A impact area at several locations and are discussed in detail below (Figures 3.01 through 3.09). Additionally, the known jurisdictional status and potential connections of the intermittent and ephemeral drainages to known waters of the U.S. are summarized in Appendix B.

AP1 Wetland 1 and Todd Creek (AP1 Wetland 2) generally flow from west to east in the Segment A impact area (Figure 3.02). Based on conditions during the 2020/2021 site visits, both the unnamed tributary (AP1 Wetland 1; Photo 2) and Todd Creek (AP1 Wetland 2; Photo 3) consisted solely of wetlands within the Segment A impact area. AP1 Wetland 1 was dominated by narrowleaf cattail (*Typha angustifolia*) with some common sunflower (*Helianthus annuus*) and Canada thistle (*Cirsium arvense*). Todd Creek (AP1 Wetland 2) was dominated by narrowleaf cattail and sandbar willow (*Salix exigua*). Both features extend under Quebec Street via separate culverts and each appear to flow into Smith Reservoir. Smith Reservoir is dammed and, based on aerial imagery (GoogleEarth 2020), appears to lack a direct hydrologic surface connection to Todd Reservoir or the downriver portion of Todd Creek, with man-made structures, including a golf green, between these areas inhibiting flows. AP1 Wetland 1 occurs within the Talon Pointe property, located north of 152nd Avenue and west of Quebec Street. Previously, the landowner of Talon Pointe requested an approved jurisdictional determination for AP1 Wetland 1 and received a response from the Corps on February 27, 2019, determining this feature was isolated and not jurisdictional (Corps File No. NWO-2019-00091-DEN).

The NHD shows an unnamed intermittent drainage (AP2 Wetland 2) flowing east across the Segment A impact area, south of 120th Avenue and west of Quebec Street (Figure 3.06). Based on conditions during the 2020/2021 site visits, AP2 Wetland 2 consisted solely of wetlands within the Segment A impact area and was dominated by spikerush (*Eleocharis palustris*), with some narrowleaf cattail and Fuller's teasel (*Dipsacus fullonum*) (Figure 3.06; Photo 4). Based on aerial imagery, AP2 Wetland 2 appears to go to the southeast into a retention basin with a culvert that extends under the Colorado Agricultural Canal (previously determined nonjurisdictional, Corps File No. NWO-2019-02108-DEN; Corps 2019) and Riverdale Road and terminates in a depressional wetland area. There does not appear to be any outflow from the depressional wetland area southeast of Riverdale Road.

AP2 OHWM 1 and associated AP2 Wetland 3 occur in a stormwater facility west of Riverdale Road (Figure 3.06; Photo 5). The stormwater facility consists of concrete-lined ditches and appears to receive water from the nearby residential developments. AP2 Wetland 3 consists of emergent wetlands that have established in the stormwater facility and was dominated by Baltic rush (*Juncus arcticus*). Based on aerial imagery, an overflow culvert outfalls to the east and flows into a detention pond that abuts the Colorado Agricultural Canal. There does not appear to be any outflow from the detention pond. AP2 OHWM 1 and AP2 Wetland 3 do not appear on the NHD; however, the detention pond outside of the Segment A impact area is shown and appears to be isolated.

Potential Wetland 1, AP1 OHWM 1, and AP1 OHWM 2 consist of intermittent drainage channels with fringe wetlands that transect the Segment A proposed alignment. Potential Wetland 1 and AP1 OHWM

1 and its associated wetland (AP1 Wetland 5) are north of 130th Avenue, along Quebec Street, and converge east of the Segment A impact area (Figures 3.04; Photo 6). AP1 OHWM 2 and associated AP1 Wetland 6 flows under Quebec Street north of 124th Avenue (Figure 3.05; Photo 7). Emergent wetlands were delineated at AP1 Wetland 5 along the banks of AP1 OHWM 1 and at AP1 Wetland 5 abutting AP1 OHWM 2 and were dominated by narrowleaf cattail. Based on the NHD and aerial imagery, Potential Wetland 1, AP1 OHWM 1, and AP1 OHWM 2 generally flow to the east and have downstream hydraulic connections to the Mann-Nyholt Lake, approximately 1.70 to 1.90 river miles away. The Mann-Nyholt Lake occurs just west of the South Platte River; however, based on the NHD and aerial imagery, the lake does not appear to have a downstream hydrologic surface connection to the river or to be flooded by the South Platte River in a typical year.

A wetland and open water complex occurs east and west of McKay Road, north of 104th Avenue and includes AP2 OHWM 2, AP2 Wetland 6, AP2 Wetland 7, AP2 Wetland 8, and AP2 Ditches 1 through 4 (Figure 3.07; Photos 7 through 12). The vegetation at these wetlands were dominated by sandbar willow and reed canarygrass (*Phalaris arundinacea*). Based on the 2020/2021 site visits and NHD, these wetlands occur along Grange Hall Creek, which continues east where it appears to flow into the South Platte River. AP2 Ditches 1 through 4 appear to be man-made and excavated in uplands, and feed into the wetland and open water areas that have formed on either side of McKay Road. The water source for the ditches and wetland and open water complex may be associated with the agricultural operations in the vicinity. It is unclear if in a typical year the open water areas in the Segment A impact area support intermittent or perennial flows or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.

AP2 OHWM 7 and its associated wetlands (AP2 Wetland 14) and AP2 Wetland 15 are tributaries just west of Colorado Boulevard and flow into the South Platte River within the Segment A impact area (Figure 3.09; Photo 13). AP2 Wetland 14 was dominated by reed canarygrass with some sandbar willow and AP2 Wetland 15 was dominated by narrowleaf cattail (Photo 14). AP2 OHWM 7 is visible on both USGS topographic maps and in the NHD, but AP2 Wetland 15 is not visible on the topographic maps or in the NHD. Based on the site conditions during the 2020/2021 site visits, AP2 OHWM 7 and AP2 Wetland 15 each generally flow from west to east and appear to have hydrological connections to the South Platte River.

Canals and Ditches

Approximately 13 ditches and canals occur in the Segment A impact area. Named ditches include Signal Ditch, the Colorado Agricultural Canal, and the Lower Clear Creek Canal. Signal Ditch, the Colorado Agricultural Canal, and the Lower Clear Creek Canal were determined nonjurisdictional by the Corps (Corps File No. NWO-2019-02108-DEN; Corps 2019). All of the other ditches in the Segment A impact area are roadside ditches or irrigation ditches and appear to lack intermittent or perennial flows in a typical year, were created in uplands, or do not appear to have hydrologic connections to known waters of the U.S. Potential wetland fringes or patches occur along several of the ditches, and wetland vegetation in these areas typically consists of reed canarygrass (Photo 15). The Corps considers canals

and ditches that convey water from a water of the U.S. to a water of the U.S., or that intercept a water of the U.S., jurisdictional. The approved jurisdictional status and potential connections of the canals and ditches to any known waters of the U.S. are discussed in Appendix B.

Reservoirs and Ponds

Seven excavated reservoirs and two ponds occur in the Segment A impact area. The excavated reservoirs include the eastern portion of the A-20 Reservoir (Figure 3.01) and six open water and/or wetland areas, that occur west of the South Platte River and south of 100th Avenue in the Segment A impact area (Figures 3.08 and 3.09; Photos 16 through 18). The two ponds include Potential Wetland 1, consisting of a stormwater detention facility, and Potential Wetland 2, which appears to be an old stock pond. Wetland vegetation in the reservoirs and ponds consist primarily of narrowleaf cattail, common threesquare (*Schoenoplectus pungens*), creeping bentgrass (*Agrostis stolonifera*), crack willow (*Salix fragilis*), and Emory's sedge (*Carex emoryii*). The Corps typically does not consider artificial lakes or ponds created by excavating or diking dry land to collect and retain water, and which are used exclusively for purposes such as stock watering, irrigation, settling basins, or rice growing, jurisdictional. Previously, Thornton requested an approved jurisdictional determination for the West Spratt Platte Reservoir (AP2 OHWM 3) and received a response from the Corps on June 6, 2012 and September 3, 2014, determining the reservoir and its associated wetlands were nonjurisdictional (Corps File No. NWO-2011-01409-DEN).

The jurisdictional status and potential connections of the ponds, lakes, and reservoirs to any known waters of the U.S. are discussed in Appendix B.

Wetlands

ERO mapped 24 potential wetlands in the Segment A impact area (Figures 3.01 through 3.09). Wetlands occur along several of the water features identified above, and vegetation in the wetlands largely consists of narrowleaf cattail, Baltic rush, and reed canarygrass. Of the 24 potential wetlands in the Segment A impact area, 5 consist of depressional wetland areas that do not appear to have downstream surface connections to known waters of the U.S., including AP1 Wetland 3, AP1 Wetland 4, AP2 Wetland 1, AP2 Wetland 4, and AP2 Wetland 5, and are described in detail below. More details on wetland vegetation observed in the remainder of the Segment A impact area are provided in the *Vegetation Communities* section of this report, and the known jurisdictional status and potential connections of wetlands to any known waters of the U.S. are discussed in Appendix B.

AP1 Wetland 3 and AP1 Wetland 4 are freshwater emergent depressional wetland areas that occur in the Segment A impact area between E-470 and 136th Avenue west of Quebec Street (Figures 3.03 and 3.04). AP1 Wetland 3 and AP1 Wetland 4 consist of emergent wetlands and are dominated by dock-leaf smartweed (*Persicaria lapathifolia*), with some prickly lettuce (*Lactuca serriola*) (Photo 19). On USGS topographic maps and the NHD, AP1 Wetland 3 is shown to have a downstream connection with AP1 Wetland 4, and then a drainage line is shown continuing to the south. Based on aerial imagery, the property to the south has been graded and there are no downstream flows through the area. Field

conditions during the 2020/2021 site visits showed both AP1 Wetland 3 and AP1 Wetland 4 as occurring in localized geomorphic depressions with berms at their downstream limits.

AP2 Wetland 1 is a small depressional wetland just south of 120th Avenue, west of Quebec Street (Figures 3.01–3.09. Vegetation Communities.; Photo 20). AP2 Wetland 1 is dominated by Baltic rush, with a shrub layer of sandbar willow and an overstory of plains cottonwood (*Populus deltoides*). No inflow or outflow was observed from the wetland during the 2020/2021 site visits. The wetlands do not appear to have downstream surface connections to known waters of the U.S.

AP2 Wetland 4 is a freshwater emergent depressional wetland area that occurs immediately north of 112th Avenue, west of Riverdale Road (Figure 3.06). Vegetation in AP2 Wetland 4 was dominated by common threesquare during the 2021/2021 site visits (Photo 21; Figure 3.06). Based on site conditions, the wetlands terminate in an upland vegetated swale that parallels 112th Avenue. AP2 Wetland 4 is not shown on USGS topographic maps or in the NHD.

AP2 Wetland 5 is a very small depressional wetland located along a vegetated swale just east of McKay Road, southeast of the intersection with Riverdale Road (Figure 3.07). Vegetation at AP2 Wetland 5 was dominated by reed canarygrass during the 2021/2021 site visits (Photo 22). Outside of the wetland area, the swale was dominated by uplands and lacked a defined channel bed and bank.

Open Waters, Wetlands, and Riparian Impacts

The proposed water pipeline would cross several open waters, wetlands, and riparian areas; however, construction of Segment A has been designed to minimize impacts on wetlands and waters as much as possible. Open waters and wetlands and any riparian areas would be temporarily impacted by open-cut trenching activities. During construction, the trench would be as narrow as safely practicable when crossing waters and wetlands or any riparian areas. All temporary impacts would be returned to pre-project conditions after completion of the proposed activities. Thornton is requesting authorization from the Corps for all impacts to jurisdictional wetlands and waters of the U.S. under one or more Nationwide Permits. Nationwide Permits are for activities that are similar in nature and have been determined to have minimal adverse effects on aquatic resources.

Best management practices (BMPs) would be implemented during construction, which would help minimize or eliminate impacts on the Segment A impact area. These BMPs include installing temporary fencing to deter access to sensitive areas outside the Segment A impact area limits, placing staging areas in previously disturbed upland areas, and installing sediment- and erosion-control devices to minimize surface runoff in disturbed areas. All temporarily disturbed areas would be returned to preconstruction grades, planted with native seed mixes or as reasonably specified by the property owner, and mulched.

Terrestrial and Aquatic Animals and Habitat

Information on terrestrial and aquatic animals was obtained from various sources including Colorado Parks and Wildlife (CPW), CPW All Species Activity Mapping data, the Colorado Natural Heritage Program (CNHP), the U.S. Fish and Wildlife Service (Service), published literature, and 2020/2021 site

visits. ERO visited the Segment A impact area, where accessible, to assess potential wildlife habitat during the 2020/2021 site visits. The following sections discuss species likely to occur in the Segment A impact area and the potential effects of Segment A.

Federal Threatened, Endangered, and Candidate Animal Species

ERO assessed the Segment A impact area for potential habitat for federally threatened, endangered, and candidate species protected under the ESA. The Service lists several threatened and endangered species with potential habitat in Adams County, or with the potential to be affected by projects in Adams County (Table 1). Only species with potentially suitable habitat in the Segment A impact area and species affected by water depletions from the South Platte River are discussed in more detail below.

Table 1. Federally threatened, endangered, and candidate wildlife species potentially found in Adams County or potentially affected by projects in Adams County.

Common Name	Scientific Name	Status*	County	Habitat	Suitable Habitat Present
Mammals					
Black-footed ferret**	<i>Mustela nigripes</i>	FE, SE	Adams	Grasslands or shrublands that support prairie dogs; eastern plains, mountain parks, and western valleys of Colorado	No—the Segment A impact area does not contain any experimental populations
Preble’s meadow jumping mouse	<i>Zapus hudsonius preblei</i>	FT, ST	Adams	Shrub riparian/wet meadows	No
Birds					
Piping plover***	<i>Charadrius melodus</i>	FT, ST	Adams	Sandy lakeshore beaches and river sandbars	No
Whooping crane***	<i>Grus americana</i>	FE, SE	Adams	Mudflats around reservoirs and in agricultural areas	No
Fish					
Pallid sturgeon***	<i>Scaphirhynchus albus</i>	FE	—	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No

*FE = Federally Endangered Species; FT = Federally Threatened Species; SE = State Endangered Species; ST = State Threatened Species.

**The black-footed ferret is listed as federally endangered throughout most of its range; however, the Segment A impact area is located in a block clearance zone (Service 2009). As of 2019, CPW has released ferrets at six different sites in Baca, Denver, Larimer, Prowers, and Pueblo Counties (CPW 2021a); none of these sites occur in or near the Segment A impact area.

***Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: Service 2021a.

Black-Footed Ferret

Species Background

The black-footed ferret (*Mustela nigripes*) was listed as endangered in 1967 under a precursor to the ESA. The Service listed several factors in the ferret declines (67 Code of Federal Regulations (CFR) 57558, 1988) including significant reduction in prairie dog numbers and distribution, conversion of native prairie to farmland, and outbreaks of sylvatic plague and canine distemper. By 1987, the species was considered extinct in the wild. As of early 2015, there are thought to be 295 wild born individuals distributed among several reestablished populations. The black-footed ferret is endangered in the state

of Colorado (CPW 2021b). CPW joined with the Utah Division of Wildlife Resources, Bureau of Land Management, and Service to restore the ferret to their native range, which includes remote scrubland in Rio Blanco and Moffat Counties in northwest Colorado.

The Service, in coordination with the CPW, has block-cleared all black-tailed prairie dog habitat in eastern Colorado (Service 2009) after determining that these areas no longer contain any wild free-ranging black-footed ferrets. Block clearance means that activities in the areas that result in the removal of black-tailed prairie dogs (*Cynomys ludovicianus*) or their habitat will no longer be required to meet the Service survey guidelines for black-footed ferrets, or undergo consultation under Section 7 of the ESA. This clearance does not include white-tailed and Gunnison's prairie dog habitats that may occur in the mapped block clearance areas.

Potential Habitat

No critical habitat has been designated for this species. Because the entire Segment A impact area is in a block clearance zone, the black-footed ferret is assumed to be absent from the Segment A impact area and the potential occurrence of this species in the Segment A impact area or impacts on this species will not be addressed further.

Impacts

No impacts on black-footed ferrets or its habitat are anticipated to occur from Segment A.

Preble's Meadow Jumping Mouse

Species Background

Preble's meadow jumping mouse (*Zapus hudsonius preblei*; Preble's) was listed as a threatened species on May 13, 1998, under the ESA (FR Vol. 63, No. 232:66777–66784, December 3, 1998). Under existing regulations, either a habitat assessment or a full presence/absence survey for Preble's is required for any habitat-disturbing activity in areas determined to be potential Preble's habitat (generally stream and riparian habitats along the Colorado Front Range and in southeastern Wyoming). Typically, Preble's occurs below 7,600 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams and canals (Meaney et al. 1997). Preble's occurs in low undergrowth consisting of grasses and forbs, in open wet meadows, in riparian corridors near forests, or where tall shrubs and low trees provide adequate cover (Service 1999; Meaney et al. 1997). Preble's typically inhabits areas characterized by well-developed plains riparian vegetation with relatively undisturbed grassland and a water source nearby (Service 2014).

Potential Habitat

ERO reviewed the Segment A impact area for potential Preble's habitat. None of the drainages that occur in the Segment A impact area have been identified by the Service as areas essential to the recovery of Preble's (75 FR 78429, December 15, 2010). In addition, Segment A impact area is in an area designated by the Service as the Preble's Denver Metro Block Clearance Zone, within which Preble's is assumed to be absent. In designating a block clearance zone, the Service eliminated the need for

individuals or agencies to coordinate with the Service prior to conducting activities in habitats that otherwise would be deemed to have potential to support Preble's (Service 2021b).

Impacts

No impacts on Preble's or its habitat are anticipated to occur from Segment A.

Platte River Species

Species Background

The piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*, see the *Terrestrial and Aquatic Plant Life* section below) are species that rely heavily on habitat provided by the South Platte River system. The piping plover and whooping crane may migrate through Colorado or may occasionally nest on wide, sandy shores of reservoirs, typically in eastern Colorado. The Segment A impact area consists primarily of semiarid grassland and residential/commercial development habitat that is unsuitable for these species. The pallid sturgeon is a fish found in the Missouri and middle Mississippi Rivers.

Potential Habitat

Suitable habitat for the piping plover, whooping crane, and pallid sturgeon is not found in the Segment A impact area.

Impacts

The Service has determined that federal actions that cause new depletions or that would allow historic depletions to continue to the South Platte River system would adversely affect the piping plover, whooping crane, and pallid sturgeon and their habitats. The continued diversion of the water to be conveyed by Segment A would be considered a historic depletion to the South Platte River system. Thornton is a member of the South Platte Water Related Activities Program (SPWRAP). SPWRAP serves as the vehicle by which Colorado water users participate in the South Platte River Recovery Implementation Program in central Nebraska and obtain regulatory benefits provided by that program.

State Animal Species of Concern

ERO assessed the Segment A impact area for potential habitat for Colorado threatened and endangered species and species of special concern, as well as species that have been described as rare, vulnerable, or imperiled in the state by the CNHP. The Segment A impact area contains suitable or potentially suitable habitat for several state-listed and sensitive wildlife species (Table 2; Figures 4 and 5.01 through 5.09), which are described in more detail below.

Table 2. State animal species of concern potentially found in the Segment A impact area or with potential to be affected by Segment A.

Common Name	Scientific Name	State Status*	CNHP Rank**	Habitat	Suitable Habitat Present
Amphibians and Reptiles					
Common gartersnake	<i>Thamnophis sirtalis</i>	SC	G5, S3	Limited to the floodplain of the South Platte River and its tributaries, in Colorado	Yes—tributaries to the South Platte River in the Segment A impact area
Northern leopard frog	<i>Rana pipiens</i>	SC	G5, S3	Wetlands, streams, beaver ponds, stock ponds, wet meadows, and floodplains; typically clear streams with sandy soils	Unlikely—no recent presence along the Segment A impact area
Mammals					
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	SC	G4, S3	Shortgrass prairie	Yes—active prairie dog colonies observed in the Segment A impact area
Birds					
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC	G5, S1/S3	Typically nests in trees near rivers and lakes; along the Colorado Front Range, may occasionally nest in upland trees with a nearby food source (prairie dogs); forages in open water, at times in prairie dog towns	Yes—suitable nesting habitat in the Segment A impact area; winter roosts and potential foraging areas in the Segment A impact area
Burrowing owl	<i>Athene cunicularia</i>	ST	G4, S4	Shortgrass prairie with prairie dog colonies	Yes—prairie dog burrows located in the Segment A impact area
Ferruginous hawk	<i>Buteo regalis</i>	SC	G4, S3/S4	Shortgrass prairie	Yes—nests in Adams County, may winter along the entire Segment A impact area
Mountain plover	<i>Charadrius montanus</i>	SC	G3, S2	Open, flat tablelands and shortgrass prairie vegetation less than 6 inches high; breeds in areas with 30 percent bare ground, including grazed grasslands, fallow fields, and prairie dog towns	Unlikely—very little suitable habitat in the Segment A impact area; plovers are vulnerable to human and vehicle disturbance

*SE = State Endangered Species; ST = State Threatened Species; SC = State Species of Concern.

**CNHP Ranking: G1 = Critically imperiled globally, G2 = Imperiled globally, G3= Vulnerable throughout its range, G4 = Apparently secure globally, G5 = Demonstrably secure globally, S1 = Critically imperiled in state, S2 = Imperiled in state, S3 = Vulnerable in state, S4 = Apparently secure in state.

Sources: CNHP 2021; CPW 2020a, 2020c, 2021a, 2021b; Service 2021a.

Common Garter Snake

Species Background

The common garter snake (*Thamnophis sirtalis*) occurs only in the South Platte River drainage below 6,000 feet in elevation in northeastern Colorado (Hammerson 1999) and is listed as a state species of concern (CPW 2021b). This snake is restricted to aquatic and riparian habitats in floodplains and inhabits marshes, ponds, irrigation ditches, and stream edges in Colorado.

Potential Habitat

No common garter snakes were seen during the 2020/2021 site visits. However, the entire Segment A impact area occurs within the species' overall range (CPW 2021a; Figure 4). Intermittent streams and ponds in the Segment A impact area provide potential habitat for this species, and this species would be expected to occur in suitable habitat.

Impacts

Impacts from Segment A construction activities on wetlands, open water, or floodplains of the South Platte River tributaries could adversely affect the common garter snake and temporarily disturb suitable habitat. The project has been designed to minimize impacts to wetlands and open water as much as possible and all impacts to wetlands and open water would be temporary. Because impacts to aquatic resources would be temporary and all areas would be restored to pre-construction elevations, long-term adverse impacts on the common garter snake and its habitat would be minimal; therefore, Segment A would not adversely affect the overall population of common garter snake.

Northern Leopard Frog

Species Background

The northern leopard frog (*Rana pipiens*) is a state species of concern (CPW 2021b) that prefers the banks and shallow portions of marshes, wet meadows, ponds, lakes, and streams, particularly where rooted aquatic vegetation is present (Hammerson 1999). The northern leopard frog prefers permanent water bodies and is a wide-ranging species known to elevations of up to 11,000 feet. Northern leopard frogs can range up to 3 miles and feed on insects, spiders, and worms. Northern leopard frog tadpoles are herbivorous scavengers (U.S. Forest Service 1997). Worldwide and locally in Colorado, amphibian populations have declined for reasons not well known.

Potential Habitat

No northern leopard frogs were observed during the 2020/2021 site visits and no recent presence of the northern leopard frog is documented in the Segment A impact area (CPW 2020a); however, suitable habitat typically exists along the drainages and open water areas.

Impacts

The proposed Segment A would not likely directly affect the northern leopard frog. The project has been designed to minimize impacts to wetlands and open water as much as possible and all impacts to wetlands and open water would be temporary. Because impacts to aquatic resources would be temporary and all areas would be restored to pre-construction elevations, long-term adverse impacts on the northern leopard frog and its habitat would be minimal; therefore, Segment A would not adversely affect the overall population of the northern leopard frog.

Black-Tailed Prairie Dog

Species Background

The black-tailed prairie dog (*Cynomys ludovicianus*) is listed as a state species of concern (CPW 2021b). Black-tailed prairie dogs are important components of the short and mesic grasslands systems. They are

commonly considered a keystone species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species and have a large effect on community structure and ecosystem function (Power et al. 1996). Prairie dogs help provide habitat for other species by creating an environment that is inviting to other animals. Species such as burrowing owl (*Athene cunicularia*), prairie rattlesnake (*Crotalus viridis*), and mountain plover (*Charadrius montanus*) are closely linked to prairie dog burrow systems for food and cover. Prairie dogs provide an important prey resource for numerous mammalian predators including the American badger (*Taxidea taxus*), coyote (*Canis latrans*), and red fox (*Vulpes vulpes*), as well as bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), and other raptors.

Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter for wildlife (Whicker and Detling 1988). Prairie dogs also can denude the surface by clipping aboveground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958; Smith 1967). Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared with nonoccupied sites (Whicker and Detling 1988; Witmer et al. 2002).

Potential Habitat

During the 2020/2021 site visits, ERO observed active black-tailed prairie dog burrows dispersed in primarily two areas of the Segment A impact area. All observed and potential (based on aerial imaging) prairie dog colonies are shown on Figures 5.05 and 5.06.

Impacts

The construction limits of disturbance would be narrowed as feasible through prairie dog towns to minimize disturbance; however, construction of Segment A would temporarily affect a small portion of the prairie dog colonies in the Segment A impact area. If needed, Thornton could use passive dispersal before and during construction.

If feasible, passive dispersal would be initiated before the pupping season (March and April). Several standard agricultural practices, such as irrigation, tilling the soil, and planting tall crops that limit visibility, discourage prairie dogs from occupying a site. This passive dispersal protocol is a nonlethal land management activity designed to encourage prairie dogs to relocate to areas outside of the disturbance footprint and thus prevent any direct impact or mortality from construction activities. The passive dispersal plan is a multistep approach that is designed to begin low-level earth-disturbing activities within the construction footprint to encourage prairie dogs to relocate on their own volition. Heavy construction activities would then be conducted in a second phase after prairie dogs have moved out of the construction zones. Burrowing owls seasonally inhabit prairie dog colonies, and prairie dog control efforts need to consider potential effects on burrowing owls (see *Burrowing Owl*).

Bald Eagle

Species Background

Although the Service removed the bald eagle (*Haliaeetus leucocephalus*) from the list of threatened and endangered species in July 2007 (due to population recovery), it continues to be federally protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). In addition, the bald eagle is listed as a state species of concern (CPW 2021b). Bald eagles are primarily winter residents in Colorado, although nesting along the Colorado Front Range has increased in recent years. Typical bald eagle nesting habitat consists of forests or wooded areas that contain tall, aged, dying, and dead trees (Martell 1992). Along the Colorado Front Range, bald eagles generally nest in trees near rivers and lakes, although individual pairs may occasionally nest in upland trees with a nearby food source (prairie dogs). Bald eagles typically seek aquatic habitat for foraging and prefer fish, although they also feed on birds, mammals, and carrion, particularly in winter (Buehler 2000; Sharps and Uresk 1990). Prairie dogs provide a major food resource for bald eagles in Colorado (Environmental Science and Engineering 1988; Kingery 1998). In the winter, bald eagles communally roost in large trees for warmth and protection (Buehler 2000).

Potential Habitat

There are two known bald eagle nest sites along the Segment A impact area (Figure 4): one active nest west of the Segment A impact area just south of 160th Avenue (Figures 5.01 and 5.02) and one active nest along the South Platte River, north of 104th Avenue (Figures 4 and 5.06; CPW 2020b). CPW recommends seasonal restrictions for human activities within a ½-mile radius of active nests from December 1 through July 31. The buffers for the nests discussed above do not overlap the Segment A impact area (Figures 4, 5.01, 5.02, and 5.06). The Segment A impact area overlaps bald eagle winter range, winter concentration areas, and winter and summer forage areas south of 120th Avenue and between 96th Avenue and 88th Avenue (Figure 4). The rest of the Segment A impact area provides some suitable habitat for cottontail rabbits and small rodents that would provide prey for bald eagles. Prairie dogs provide potential prey, and numerous poles and structures provide perching opportunities for eagles and other raptors.

Impacts

Many sections of the Segment A impact area experience consistent human activity (e.g., farming and local traffic), and construction of Segment A is unlikely to appreciably increase the level of disturbance. Thus, construction activities would not likely impact eagles because recommended seasonal restrictions and buffers would be followed. Thornton will review the status of known eagle nests and roosts prior to construction. If any active bald eagle nests are located, Thornton would comply with CPW seasonal restrictions to surface activity within recommended buffers (½ mile) around active nest sites during construction and would coordinate with CPW to determine and implement any BMPs that would minimize or eliminate impacts on active bald eagle nests.

Burrowing Owl

Species Background

The western burrowing owl (*Athene cunicularia*; burrowing owl) is a small migrant owl listed by the state of Colorado as a threatened species and is federally protected under the MBTA. Primary threats to the burrowing owl include habitat loss and fragmentation, anthropogenic sources of mortality such as vehicular collisions, and loss of wintering grounds, largely in Mexico (McDonald et al. 2004). In general, burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground (Gillihan and Hutchings 2000).

In Colorado, burrowing owls are usually associated with black-tailed prairie dog colonies (Colorado Breeding Bird Atlas (COBBA) II 2016; Andrews and Righter 1992). More than 70 percent of sightings reported in Colorado Breeding Bird Atlases were in prairie dog colonies (COBBA II 2016). Burrowing owls usually arrive at their breeding grounds around mid-March to early April and remain until September (Haug and Oliphant 1990). Burrowing owls are present in Colorado between March 15 and October 31, with breeding from mid-April to early/mid-August (Andrews and Righter 1992; COBBA II 2016).

Potential Habitat

The prairie dog burrows in the Segment A impact area are potential habitat for burrowing owls (Figures 5.05 and 5.06).

Impacts

Since prairie dog burrows are present in the Segment A impact area, burrowing owls could be directly affected by project activities. CPW recommends a buffer of $\frac{1}{8}$ mile (660 feet) surrounding active burrowing owl nests (CPW 2020d). CPW also recommends conducting burrowing owl clearance surveys in prairie dog towns that are subject to prairie dog poisoning or construction projects from March 15 through October 31 (CPW 2020d). Construction occurring between November 1 and March 14 would not require clearance surveys. If burrowing owls are found within the construction footprint, individual nest burrows and a 660-foot buffer around the burrow would be left undisturbed until the owls have moved or migrated from the site, which would be determined through monitoring (CPW 2020d). Additionally, prairie dogs could be controlled (see *Black-Tailed Prairie Dog*) before construction between November 1 and March 14 and burrows closed to discourage nesting by burrowing owls before construction. Thornton would follow the CPW guidelines so that impacts on nesting burrowing owls from Segment A would be minimized.

Ferruginous Hawk

Species Background

The ferruginous hawk (*Buteo regalis*) is the largest hawk in North America and is listed as a state species of concern (CPW 2021b). This species is also protected under the MBTA. This species inhabits open prairie and desert habitats and is strongly associated with primary prey species such as ground squirrels and jackrabbits. Ferruginous hawks are relatively common winter residents in eastern Colorado, particularly in association with black-tailed prairie dogs (Preston and Beane 1996). Preferred habitat for

this species consists of expansive grasslands and shrublands (Preston 1998). Conversion of native shortgrass prairie to urban development or heavily grazed rangeland has posed a significant threat to populations of this species in Colorado.

Potential Habitat

Ferruginous hawks are known to breed in eastern Adams County (COBBA II 2016). Although ERO did not find any active or inactive nests of ferruginous hawks in the Segment A impact area during the 2020/2021 site visits, ferruginous hawks may occasionally forage in the Segment A impact area during migration and winter.

Impacts

Temporary disturbance and displacement could occur during construction activities; however, the proposed Segment A would not adversely affect the ferruginous hawk over the long term. If an active ferruginous hawk nest were found before or during construction, Thornton would comply with CPW seasonal restrictions (February 1 through July 15) within recommended buffers (½-mile) around active nest sites during construction to minimize impacts (CPW 2020d).

Mountain Plover

Species Background

The mountain plover (*Charadrius montanus*) is a state species of concern that inhabits dry tablelands and the Colorado Plateau. This species nests primarily in shortgrass prairie sites used historically by prairie dogs, bison, and pronghorn. The mountain plover breeds from northern Montana, Wyoming, and Colorado to central New Mexico. The winter range of this species extends from central California to southern Arizona into northern Mexico. The mountain plover's habitat requirements generally consist of open, flat tablelands and short, intensively grazed grasslands. Typically, plovers nest in areas that maintain about 30 percent bare ground and are often found in disturbed habitats, burned prairie, fallow agricultural fields, and prairie dog colonies (Knopf and Wunder 2006). This species avoids vegetation more than 6 inches high and hillsides.

Potential Habitat

Mountain plovers have been recorded breeding in shortgrass habitat and fallow agricultural fields in eastern Adams County (Kingery 1998; COBBA II 2016); however, little suitable habitat for the mountain plover exists in the Segment A impact area due to human disturbance, and there are no recent records of breeding mountain plovers in the Segment A impact area (COBBA II 2016).

Impacts

The proposed Segment A would not likely adversely affect the mountain plover.

Raptors and Other Migratory Birds

Background

Raptors

Raptors are protected under the MBTA (see *Other Migratory Birds* below). In addition, CPW has published recommended buffer zones and seasonal restrictions for raptors in Colorado to minimize the effects of disturbance (CPW 2020d). The recommended buffers are ⅓ mile for red-tailed hawks and ¼ to ½ mile for other raptors, including bald and golden eagles. CPW has recommended buffers for nesting raptors as well, depending on the species (generally ⅓ or ¼ mile) (CPW 2020d).

Like bald eagles (addressed in the *State Animal Species of Concern* section of this report), golden eagles are protected by the BGEPA. Golden eagles nest in a variety of habitats—most often on cliffs and occasionally in large trees. They typically forage over vast areas in search of prey that includes small rodents, rabbits, hares, and carrion, particularly in winter (Kingery 1998). Breeding bird surveys found golden eagle nesting areas over the western two-thirds of Colorado (Kingery 1998).

Other Migratory Birds

Migratory birds, as well as their eggs and nests, are protected under the MBTA. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal (Service 2003). The regulatory definition of a take is to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that takes, at a minimum, 8 to 12 weeks. The best way to comply with the MBTA is to remove vegetation in construction areas outside of the active breeding season, which typically falls between March and August, depending on the species. Public awareness of the MBTA has grown in recent years, and most MBTA enforcement actions are the result of a concerned member of the community reporting noncompliance.

Potential Habitat

Raptors

Four raptor nests were identified along the Segment A impact area by ERO either during the 2020/2021 site visits or during previous evaluations along the Segment A impact area, with two occurring in the Segment A impact area and two occurring near the Segment A impact area; the buffers for these four nests overlap the Segment A impact area (Figures 4, 5.01, 5.04, and 5.05). Two of the nests were identified as red-tailed hawk nests, one was identified as a Swainson's hawk nest, and one nest was unknown (Table 3).

Table 3. Raptor nest locations in or near the Segment A impact area.

Raptor Type	Status	Source	Latitude	Longitude	Figure Number(s)	Location Relative to Segment A Impact Area	Location within Unincorporated or Incorporated Adams County
Red-tailed hawk	Unknown	ERO	39.91062705	-104.902581	5.05	Outside Segment A Impact Area	Unincorporated
Swainson's hawk	Unknown	ERO	39.94401633	-104.9043641	5.04	In Segment A Impact Area	Unincorporated
Unknown raptor	Unknown	ERO	39.98485593	-104.9054541	5.01	In Segment A Impact Area	Unincorporated
Red-tailed hawk	Active	ERO	39.9848559349	-104.90545407	5.01	Outside Segment A Impact Area	Unincorporated

Other Migratory Birds

No migratory bird nests were observed during the 2020/2021 site visits; however, suitable nesting habitat is present throughout the Segment A impact area for a variety of bird species. Ground-nesting and other birds could nest in the grasslands and trees in and near the Segment A impact area. The cattails and other wetland and riparian vegetation along the Segment A impact area offer potential habitat for a variety of songbirds. The breeding season for most birds in Colorado is between March and August, with the exception of a few species that start in February, such as great horned owls.

Impacts

Physical disturbance, displacement, and clearing of upland and wetland habitats could affect raptors and other migratory birds during construction. However, these impacts would be temporary, and many habitats would recover quickly after construction. If feasible based on property owner operations, preferences, and requirements, Thornton plans to clear vegetation in construction areas before the nesting season to minimize impacts on nesting birds. Thornton would review the CPW raptor nest data and perform nest surveys for raptors before the nesting season to identify potential active raptor nests before construction. Thornton would coordinate with CPW regarding any potential conflicts between scheduled construction and potential raptor nests and develop measures acceptable to CPW to minimize impacts on nesting raptors.

Big Game/Large Mammals

Big game wildlife species such as deer and pronghorn are considered economically important species in Colorado. According to CPW, mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) are the big game species with potential habitat in or near the Segment A impact area (Figure 7). Summaries describing these species and their potential habitat in the Segment A impact area are provided below.

Mule Deer

In Colorado, mule deer occupy all ecosystems from grasslands to alpine tundra. Mule deer generally migrate seasonally, spending the summer months at higher altitudes and moving to lower elevations

during winter. Mule deer are primarily browsers, feeding mostly on shrubs, although forbs and grasses make up a significant portion of their diet, especially in spring and summer. This species reaches its greatest densities in shrublands that provide abundant forage and cover. Mule deer breed from November through December with fawning occurring in May and June (Fitzgerald et al. 1994). Mule deer habitat is fragmented in areas with high levels of urban development, grazing, and agriculture.

Mule deer are widespread throughout northeastern Colorado. The Segment A impact area is within the overall range for mule deer; however, the Segment A impact area does not overlap any winter range, summer range, winter concentration areas, or migration corridors. Segment A could temporarily impede movement of individual deer and result in the displacement of some individuals during construction activities. During construction, wildlife crossovers (trench plugs) with ramps on each side of the trench could be installed at well-defined game trails. The water pipeline would not create a substantial barrier to deer movement over the long term because the pipeline would be buried. In addition, habitat is fragmented in areas of urban and suburban development. Mule deer typically adapt to development and should not be substantially impacted by Segment A.

White-Tailed Deer

In Colorado, the white-tailed deer is less widespread and more secretive than the mule deer. Like mule deer, white-tailed deer occupy shrublands that provide plentiful forage and cover; however, white-tailed deer are most often seen in riparian areas bordering larger streams and rivers. Although this species does not migrate in large numbers like elk, white-tailed deer will move seasonally up and down river corridors in small numbers (Fitzgerald et al. 1994).

Similar to mule deer, the white-tailed deer is common throughout northeastern Colorado, especially along riparian corridors (Fitzgerald et al. 1994). The Segment A impact area is within the overall range for white-tailed deer and near concentration areas and winter range along the South Platte River near 104th Avenue (Figure 7). White-tailed deer concentration areas are considered critical habitat for white-tailed deer and occur in corridors of riparian habitat that support higher populations of white-tailed deer or serve as travel corridors. The CPW does not designate winter or summer concentration areas or severe winter range for white-tailed deer. Segment A could temporarily impede movement of individual deer and result in the displacement of some individuals during construction activities. During construction, wildlife crossovers (trench plugs) with ramps on each side of the trench could be installed at well-defined game trails. The water pipeline would not create a substantial barrier to deer movement over the long term because the pipeline would be buried. In addition, white-tailed deer habitat is fragmented in areas with high levels of urban and suburban development. While Segment A would result in short-term impacts on white-tailed deer, long-term effects are not expected.

Other Game and Nongame Species

Canada Goose

Canada geese (*Branta canadensis*) are widespread throughout north-central Colorado. The southern section of the Segment A impact area occurs within Canada goose production areas (part of the overall

range used by nesting and brooding Canada geese) and winter concentration areas (part of the winter range occupied by loafing or resting Canada geese where densities are significantly greater than the surrounding winter range density) where the Segment A impact area is close to the South Platte River (Figure 6). In addition, this species is known to breed in scattered locations in western Adams County (COBBA II 2016). Segment A could disrupt and displace individuals during construction activities; however, Segment A would not adversely impact Canada geese or Canada goose habitat over the long term.

Wild Turkey

The Segment A impact area occurs within wild turkey (*Meleagris gallopavo*) overall range where the Segment A impact area is close to the South Platte River in the southern portion of the alignment. Although ERO did not observe this species in the Segment A impact area during the 2020/2021 site visits, wild turkeys may occur in or near the Segment A impact area. Segment A could disrupt and displace individuals during construction activities; however, Segment A would not adversely impact wild turkeys or wild turkey habitat over the long term.

Other Wildlife

Areas in the Segment A impact area provide potential habitat for other animals including coyotes, red foxes, and raccoons (*Procyon lotor*). Smaller animals such as cottontail rabbits (*Sylvilagus* spp.), deer mice (*Peromyscus maniculatus*), prairie voles (*Microtus pennsylvanicus*), plains pocket gophers (*Geomys bursarius*), and ground squirrels (*Ictidomys tridecemlineatus* and *Xerospermophilus spilosoma*) may also use the habitat in the Segment A impact area (Armstrong et al. 2011). Bull snakes (*Pituophis catenifer*), western terrestrial garter snakes (*Thamnophis elegans*), and other eastern plains reptiles may occur in the Segment A impact area. The plains spadefoot toad (*Spea bombifrons*) and Woodhouse's toad (*Anaxyrus woodhousii*) likely occur in the Segment A impact area, especially near permanent water sources. None of these species were observed during the 2020/2021 site visits. Segment A could displace some individuals during construction but would not have a significant long-term negative impact on these animals because these species are common and widespread throughout Adams County.

Aquatic Species and Habitat

Several intermittent streams, ephemeral streams, lakes, ponds, wetlands, ditches, and canals occur in the Segment A impact area. These water bodies provide habitat for aquatic invertebrates that play an important role in the food chain to support larger species, including mammals and birds. Many of these areas would not be impacted and the project has been designed to minimize impacts to wetlands and open water as much as possible. Any impacts on aquatic habitat would be temporary, and there would be no long-term effects on aquatic species or aquatic habitat.

Terrestrial and Aquatic Plant Life

Information on terrestrial and aquatic plants was obtained from various sources including CPW, the CNHP, the Service, published literature, and the 2020/2021 site visits.

Vegetation Communities

Description

Based on the 2020/2021 site visits and Google Earth imagery, ERO identified six broad vegetation communities in the Segment A impact area, in addition to the open water and ditch areas described in the *Open Waters, Wetlands, and Riparian Areas* section above. These vegetation communities include mixed upland, nonnative upland, riparian, wetlands, agricultural lands, and developed/disturbed areas. These communities are described below and are shown in Figures 3.01 through 3.09.

Mixed Upland

The mixed upland community occurs primarily in generally undisturbed uplands in the Segment A impact area. Kentucky bluegrass (*Poa pratensis*) and western wheatgrass (*Pascopyrum smithii*) dominate this community. Other common species include wildrye (*Elymus elymoides*), common wheat (*Triticum aestivum*), sand dropseed (*Sporobolus cryptandrus*), blue gramma (*Bouteloua gracilis*), common sunflower (*Helianthus annuus*), and foxtail barley (*Hordeum jubatum*). Some soapweed yucca (*Yucca glauca*), rubber rabbitbrush (*Ericameria nauseosa*), and other shrubs are scattered throughout this community, as well as intermittent patches of plains cottonwood trees. Noxious weeds such as cheatgrass (*Bromus tectorum*) and field bindweed (*Convolvulus arvensis*) also occur in this vegetation community type. Mixed uplands in the Segment A impact area are of moderate quality because they have been grazed or mildly disturbed in the past and contain some weeds.

The mixed upland community primarily occurs around stream channels, drainages, and isolated wetlands that have an abrupt transition to uplands and lack a riparian corridor (Figures 3.01 through 3.09; Photos 1, 7, and 21).

Nonnative Upland

The nonnative upland community occurs throughout the Segment A impact area and includes areas that have been historically disturbed by heavy grazing, tilling, and hay production or along roadsides and other disturbed areas throughout the Segment A impact area. In many cases, introduced species and pasture grasses dominate the community. The nonnative upland community is dominated by species such as smooth brome (*Bromus inermis*), kochia (*Bassia scoparia*), Canada thistle (*Cirsium arvense*), and field bindweed (Photos 3, 6, and 12). Noxious weed species such as common mullein (*Verbascum thapsis*) and cheatgrass also occur in this vegetation community type.

Riparian

The riparian community includes moist areas surrounding wetland depressions, the excavated reservoirs in the southern portion of the Segment A impact area, and in the floodplain of the South Platte River in the Segment A impact area (Photos 17 and 19). Some areas mapped remotely as riparian may also include potential wetlands (see *Wetlands* discussion below). Depending on the site, plains cottonwood (*Populus deltoides*) and crack willow (*Salix fragilis*) trees form the overstory with a shrub layer of sandbar willow. Smooth brome, Kentucky bluegrass, and reed canarygrass dominate the understory.

Wetlands

Wetlands occur along several of the potential waters of the U.S. identified in the *Open Waters, Wetlands, and Riparian Areas* section of this report (Photos 2 through 21). Wetlands occur within drainages; as fringes or wide benches along open water channels, roadside swales, and excavated reservoirs; and as isolated depressions. Many of the potential wetlands within the Segment A impact area transition abruptly to uplands. Vegetation in the wetlands is dominated by plains cottonwood, sandbar willow, narrowleaf cattail, Baltic rush, Emory's sedge, common threesquare, common spikerush, reed canarygrass, and fowl bluegrass (*Poa palustris*).

Agricultural Lands

Tilled or managed agricultural lands are common throughout the Segment A impact area (Photo 23). Agricultural lands are characterized by crops such as alfalfa, corn, small grains, and soy, as well as fallow ground and disturbed areas associated with agriculture.

Developed/Disturbed Areas

Developed/disturbed areas occur throughout the Segment A impact area (Photo 24). Developed/disturbed areas have received heavy human use, including livestock concentration areas; buildings and surrounding disturbed areas; and roads, trails, and other developed areas. Developed/disturbed areas in the Segment A impact area are either bare or dominated by annual and noxious weed species such as kochia, smooth brome, cheatgrass, and Canada thistle.

Impacts

Error! Reference source not found. lists the total acreages of each community in the Segment A impact area and work limits. The majority of the impacts on vegetation would be temporary. All temporarily disturbed areas would be returned to pre-construction grades and seeded with native vegetation, or as reasonably specified by the property owner, once construction is complete. Because most of the impacts on vegetation would be temporary, there would be no long-term adverse effects on vegetation.

Table 4. Total acreages of vegetation communities in the Segment A impact area and work limits.

Vegetation Community	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acres (Work Limits/Segment A Impact Area)
Mixed Upland	2.29 / 25.30	2.84 / 74.58	5.13 / 99.87
Nonnative Upland	22.69 / 221.62	17.55 / 161.14	40.24 / 382.76
Riparian	0.20 / 21.88	0.06 / 11.44	0.26 / 33.32
Wetlands	0.34 / 7.03	0.42 / 8.44	0.76 / 15.47
Agricultural Lands	12.48 / 151.11	16.83 / 211.21	29.31 / 362.32
Developed/Disturbed Areas	9.67 / 210.75	8.07 / 390.45	17.74 / 601.20
Total	47.66 / 637.68	45.77 / 857.26	93.44 / 1,494.94

Federally Threatened, Endangered, and Candidate Plant Species

Two plant species listed as threatened or endangered have the potential to occur in Adams County or be affected by projects occurring in Adams County (Table 5). The Segment A impact area was assessed for

suitable habitat for these two species. Only species with suitable habitat present in the Segment A impact area are described in further detail below.

Table 5. Federally threatened and endangered plant species potentially found in Adams County or potentially affected by projects in Adams County.

Common Name	Scientific Name	Status*	County	Habitat	Suitable Habitat Present
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	FT	Adams	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 7,800 feet in elevation	No
Western prairie fringed orchid**	<i>Platanthera praeclara</i>	FT	—	Moist to wet prairies and meadows	No—see <i>Platte River Species</i> section above

*FT = Federally Threatened Species.

**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: Service 2021a.

Ute Ladies'-Tresses Orchid

Species Background

Ute ladies'-tresses orchid (*Spiranthes diluvialis*; ULTO) is federally listed as threatened. This species occurs at elevations below 7,800 feet in moist to wet alluvial meadows, in floodplains of perennial streams, and around springs and lakes where the soil is seasonally saturated within 18 inches of the surface. Generally, the species occurs where the vegetative cover is relatively open and not overly dense or overgrazed. Once thought to be fairly common in low-elevation riparian areas in the interior western United States, ULTO is now considered rare (Service 1992a).

In Colorado, the Service requires surveys in areas of suitable habitat on the 100-year floodplains of the South Platte River, Fountain Creek, and Yampa River, and their perennial tributaries; or in any area with suitable habitat in Boulder and Jefferson Counties (Service 1992b). ULTO does not bloom until late July to early September (depending on the year), and the timing of surveys must be synchronized with blooming (Service 1992b).

Potential Habitat

No perennial streams occur in the Segment A impact area and the project is in Adams County; therefore, no potential habitat is present in the Segment A impact area. In addition, all the wetland vegetation present in the Segment A impact area is dominated by species not usually associated with ULTO. No ULTO populations have been identified previously within or near the Segment A impact area.

Impacts

No impacts on ULTO would occur from Segment A and no further action is necessary regarding ULTO.

Rare and Sensitive Plant Species

Description

The CNHP maintains a list of plant species considered rare or imperiled in Colorado by county. These species are not formally protected but are considered rare or imperiled by the CNHP. Rare or imperiled plant species potentially found in Adams County with potentially suitable habitat in the Segment A impact area are summarized in Table 6.

Table 6. Plant species considered rare or imperiled by the CNHP that potentially occur in the Segment A impact area.

Common Name	Scientific Name	Ranking*	Habitat	Suitable Habitat Present
Colorado butterfly plant	<i>Gaura neomexicana</i> ssp. <i>Coloradensis</i>	G3, S1	Subirrigated alluvial soils on level floodplains and drainage bottoms between 5,000 and 6,400 feet in elevation	Yes

*CNHP Ranking: G3= Vulnerable throughout its range, S1 = Critically imperiled in state.
 Source: CNHP 2021.

Colorado Butterfly Plant

Species Background

The Colorado butterfly plant (*Gaura neomexicana* ssp. *Coloradensis*; CBP) is a short-lived perennial herb found in moist areas of floodplains. It occurs on subirrigated alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations between 5,000 and 6,400 feet. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels that are periodically disturbed. Historically, the main cause of disturbance was probably flooding (Service 2004). CBP flowers from June to September and produces fruit from July to October (Spackman et al. 1997).

Potential Habitat

ERO reviewed the Segment A impact area for potential CBP habitat. The Segment A impact area does not cross any designated critical habitat for CBP, and most of the Segment A impact area was eliminated as potential habitat because it is not within an active floodplain. Of the drainage crossings in the Segment A impact area, ERO identified Todd Creek and the other intermittent streams as potential CBP habitat. The other drainages in the Segment A impact area do not contain suitable CBP habitat because of their topography or lack of wetland vegetation.

Impacts

No impacts on CBP are likely to occur from Segment A. The project has been designed to minimize impacts to wetlands, open water, and floodplains as much as possible and all impacts to wetlands and open water would be temporary. Because impacts to aquatic resources would be temporary and all areas would be restored to pre-project conditions, long-term adverse impacts on CBP and its habitat would be minimal.

Areas of Historic or Archaeological Importance

ERO archaeologist Katherine Mayo conducted a file search for the Segment A impact area (1,549 acres) in Adams County with the Office of Archaeology and Historic Preservation (OAHP). The OAHP provided file search results on September 8, 2021 (File Search No. 24007). The OAHP records indicate less than 5 percent of the Segment A impact area has been previously surveyed and that the Segment A impact area intersects the boundaries of four previously documented cultural resources. Of the previously documented resources, one is a precontact Native American open camp, two are historical structures, and one is a historic building. All four previously documented resources are either destroyed or do not intersect the proposed work limits. No previously documented resources overlap unincorporated Adams County property.

Description

The OAHP records identified 16 previously conducted cultural resource surveys in the Segment A impact area (Appendix C, Table C-1). Four of the previous surveys do not have GIS data. Most of the previously documented surveys were completed in relationship to utility and transportation development projects more than 10 years ago. Approximately 5 percent of the Segment A impact area has been previously surveyed; this overlaps about 2 percent of the work limits. Previous surveys overlap about 20 acres of unincorporated Adams County property within the Segment A impact area (Figure 8.01-8.04).

The file search identified four previously documented cultural resources in the Segment A impact area (Appendix C, Table C-2). The previously documented resources include a precontact Native American open camp (5AM40; needs data) as well as a historical trail (5AM130, field not eligible), building (5AM265; officially delisted), and Rullo/Roullo Ditch segment (5AM1867.1; officially not eligible). The historical trail (5AM130), residence (5AM265), and ditch (5AM1867.1) are destroyed. The open camp is located outside of the work limits. Only the no longer extant Rullo/Roullo Ditch intersected the proposed work limits.

In addition to a file search with the OAHP, ERO reviewed existing literature, including historical maps, tax assessor records, and the Colorado Water Conservation Board's Colorado Decision Support Systems, to determine if unevaluated cultural resources are located in the Segment A impact area. This review identified properties in the Segment A impact area that may contain cultural resources 50 years old or older (i.e., constructed prior to 1970) (Appendix C, Table C-3). The majority of these resources are historical rural or agricultural properties and irrigation-related landscape features.

Impacts

Current designs indicate that Segment A has little or no potential to result in any adverse effects on known sites, structures, or buildings that are currently considered historic properties (i.e., cultural resources that are eligible, needs data, or listed in the State or National Register of Historic Places). All four previously documented resources are either destroyed or do not intersect the proposed work limits. No previously documented resources overlap unincorporated Adams County property.

Compliance with Section 106 (54 United States Code § 306108) of the National Historic Preservation Act (54 United States Code § 300101 et seq.) or the Colorado State Historic Act (Colorado Revised Statute 24-80) is necessary only when state or federal permits, funding, or lands are involved. For instance, if a drainage, canal, or ditch is determined jurisdictional and the project requires a CWA Section 404 permit the Corps may require a pedestrian survey and State Historic Preservation Officer consultation for the permitted area, associated work limits, and potentially a 100 ft buffer. If a historical ditch or canal requires a CWA Section 404 permit the effects on the ditch would have to be assessed and consulted on through formal documentation. Open trench construction across a canal or ditch, however, would not necessarily result in an adverse effect, provided that the ditch is returned to pre-construction contours.

Areas of Paleontological Importance

Thornton and ERO consulted with Paleo Solutions, Inc. (Paleo Solutions) regarding the potential impact of Segment A on areas of paleontological importance. Paleo Solutions collected and evaluated existing paleontological data for the Segment A impact area. Existing paleontological data analyzed in the assessment are combined from geologic maps, the Bureau of Land Management's (BLM) Potential Fossil Yield Classification (PFYC) (BLM, 2008; 2016) of the geologic units underlying the Segment A impact area (Murphey et al., 2015), published and unpublished literature, and the results of museum records searches. The evaluation assessed the paleontological importance of the geologic units within the Segment A impact area by researching their known fossil potential and paleontological significance and identified the number and significance of previously recorded fossil localities in the same geologic units within the Segment A impact area and elsewhere.

Description

Based on published geologic mapping (Trimble and Machette, 1979), the Segment A impact area is underlain by five surficial sedimentary deposits: Post-Piney Creek and Piney Creek Alluvium, colluvium, loess, Louviers Alluvium, and Slocum Alluvium; and one sedimentary bedrock geologic unit, the Denver Formation which is synonymized with the Dawson and Arapahoe Formations (undivided). The Denver Formation is Upper Cretaceous to Lower Paleocene in age and has very high paleontological potential (PFYC 5). Loess, Louviers Alluvium, and Slocum Alluvium are Pleistocene in age, and have moderate paleontological potential (PFYC 3). Post-Piney Creek and Piney Creek Alluvium and Colluvium are Holocene in age and have low paleontological potential (PFYC 2).

According to the Denver Museum of Nature and Science there are nine fossil localities within the same Townships and geologic units as the Segment A impact area (Table 7). The University of Colorado Museum (UCM) has no records of fossil localities within the same geologic units and Townships as the Segment A impact area (UCM, 2021). The OAHP Compass database records two fossil localities within 0.5 mile of the Segment A impact (OAHP, 2021). The Paleobiology Database (PBDB 2021) has 14 occurrences from the Denver Formation and four occurrences from the Arapahoe Formation within Adams County consisting of vertebrates including dinosaurs and turtles. For the full taxonomic list of fossils from the PBDB in Adams County, refer to PBDB.org.

Table 7. Previously Recorded Fossil Localities Within the Same Townships as Segment A

Locality Number	Data Provided By	Data Collected By	Fossils	Age	Formation
5AM1871	OAHP	S. Wallace	Plants	Maastrichtian	Denver Formation
5AM1872	OAHP	S. Wallace	Plants	Maastrichtian	Denver Formation
2830	DMNS	Data not provided	<i>Triceratops</i> sp., Testudines indet.	Late Cretaceous	Denver Formation
2843	DMNS	Data not provided	<i>Triceratops</i> sp.	Late Cretaceous	Denver Formation
4144	DMNS	Data not provided	<i>Triceratops</i> sp., crocodile, fish	Late Cretaceous	Denver Formation
7261	DMNS	Data not provided	<i>Torosaurus</i> sp.	Maastrichtian	Denver Formation
3010	DMNS	Data not provided	Plants	Maastrichtian	Denver Formation
3012	DMNS	Data not provided	Plants	Maastrichtian	Denver Formation
1446	DMNS	Data not provided	<i>Mammuthus columbi</i>	Pleistocene	Unreported
3009	DMNS	Data not provided	Plants	Maastrichtian	Denver Formation
3011	DMNS	Data not provided	<i>Erlingdorfia</i> sp., ferns	Maastrichtian	Denver Formation

Impacts

To facilitate the identification of scientifically significant paleontological resources that might be encountered during construction in unincorporated Adams County, a qualified paleontologist will monitor construction where open cut construction methods are used within 200 yards of any previously recorded fossil locality where Denver Formation bedrock is expected to be encountered during construction.

The location of previously recorded, scientifically significant fossil localities is known to Thornton's paleontological consultant, but not published in this report in an effort to preserve the resource and in accordance with best practices and standard operating procedures.

Where open cut construction methods will be used in unincorporated Adams County, areas in which Denver Formation bedrock is expected to be encountered would be determined prior to construction by evaluation of geotechnical reports prepared for design of Segment A.

In addition, Thornton will have the contractor complete a pre-construction training provided by the paleontologist prior to construction on how to identify important paleontological resources if encountered during construction, and appropriate steps to take to preserve and collect the resource.

If any subsurface bones or other potentially significant paleontological resource is unearthed in an area that is not monitored by the paleontologist, Thornton will consult with the paleontologist to evaluate its significance and determine the appropriate steps to take to preserve and collect the resource and associated data.

With these mitigation measures, Segment A would not significantly degrade areas of paleontological importance.

Hazardous Materials

Hazardous, toxic, and explosive substances are not anticipated to be used, stored, transported, disturbed or produced after Segment A construction.

Construction, operation, and maintenance activities involving Thornton or the Segment A contractors bringing any hazardous materials onto the site will comply with applicable federal, state, and local laws and regulations regarding the handling, storage, disposal, transportation, and use of hazardous substances. In its contract with the Segment A contractors, Thornton will require that the Segment A contractors comply with applicable laws.

Segment A includes the installation of a buried steel water pipeline, associated water pipeline appurtenances including precast vaults to house pipeline control valves. The pipeline will be installed with open-cut trench-type construction and some tunneled installations. Hazardous, toxic and explosive substances anticipated to be used, stored, and transported includes typical general infrastructure construction type materials including: fuels, lubricants, and hydraulic fluids to power and operate construction equipment and tools; cast-in-place concrete related materials such as form release agents and concrete curing compound; pipe tunneling drillings fluids; paints and solvents to paint miscellaneous smaller water pipeline appurtenances. There are no foreseeable impacts to the environment from the substances used for the construction of Segment A.

A Materials Management Plan would be prepared to address any contamination identified prior to or during construction. The plan would be prepared in accordance with applicable Occupational Safety and Health Administration requirements for construction and applicable Colorado solid and hazardous waste regulations.

BMPs will be implemented during construction.

Monitoring and Mitigation Plan

Extensive monitoring and mitigation measures would be employed during the construction and operation phases of Segment A. Construction mitigation measures could include, but are not limited to, the following resources.

Open Waters, Wetlands, and Riparian Areas

- A site-specific Stormwater Management Plan and Erosion and Sediment Control Plan will be developed.
- The areas of construction will be accessed using existing roads to the maximum extent possible. Any temporary access roads will be removed upon completion of Segment A and the area restored to pre-construction conditions. During construction, open-cut trenches will be as narrow as safely practicable when crossing waters and wetlands.
- Areas temporarily impacted during construction will be returned to preconstruction conditions following completion of the proposed construction activities.
- BMPs will be implemented during construction, which will help minimize impacts in the Segment A work limits. These BMPs could include installing temporary fencing to deter access to sensitive areas, placing staging areas in previously disturbed upland areas, and installing sediment- and erosion-control devices to minimize surface runoff in disturbed areas.
- Topsoil will be salvaged and used on disturbed areas, which would be revegetated where practicable.
- All temporarily disturbed areas will be planted with native seed mixes, or as reasonably specified by the property owner, and mulched.

Terrestrial and Aquatic Animals and Habitat

- Segment A will have no effect on any federally listed threatened, endangered, or candidate wildlife species. A site assessment has been completed and determined no potential or suitable habitat for federally listed threatened, endangered, or candidate wildlife species is not present in Segment A impact area. A habitat assessment has been submitted to the Service and the Service confirmed that Segment A would have no effect on federally listed wildlife species (Service 2021c).
- Should construction occur between February and August, a pre-construction nesting bird survey will be conducted by a biologist prior to any clearing or tree removal. Where feasible, Thornton plans to clear vegetation in construction areas prior to the nesting season to minimize impacts on nesting birds. Thornton will review the CPW raptor nest data and perform nest surveys for raptors prior to the nesting season to identify potential active raptor nests prior to construction. Thornton will coordinate with CPW regarding any potential conflicts between scheduled construction and potential raptor nests and develop measures acceptable to CPW to minimize impacts on nesting raptors.
- Where feasible, in areas where construction is scheduled to occur in prairie dog colonies during times when they may be occupied by burrowing owls, prairie dogs will be controlled prior to construction between November 1 and March 14 and burrows closed to discourage nesting by burrowing owls prior to construction. Thornton will follow CPW guidelines so that impacts on nesting burrowing owls from Segment A will be minimized.

Terrestrial and Aquatic Plant Life

- Segment A will have no effect on any federally listed threatened, endangered, or candidate plant species.
- Areas temporarily impacted during construction will be returned to pre-construction conditions after completion of the proposed construction activities.

- BMPs will be implemented during construction, which will help minimize impacts in the Segment A work limits. These BMPs could include installing temporary fencing to deter access to sensitive areas, placing staging areas in previously disturbed upland areas, and installing sediment- and erosion-control devices to minimize surface runoff in disturbed areas.
- All temporarily disturbed areas will be planted with native seed mixes, or as reasonably specified by the property owner, and mulched.
- Topsoil will be salvaged and used on disturbed areas, which would be revegetated where practicable.

Noxious Weed Management

Several noxious weed species were observed in the Segment A impact area during the 2020/2021 site visits, including cheatgrass, Canada thistle, field bindweed, and kochia. Noxious weeds within the Segment A work limits will be controlled using the following Integrated Pest Management methods as described by the Colorado Department of Agriculture. The following methods have been developed to control noxious weeds in a manner that prevents harm to human health and to environmentally sensitive areas such as waterways and desirable vegetation including native trees.

- Major equipment (e.g., truck equipment and backhoes) will be cleaned by high-pressure air or water spray before being delivered to the Segment A work area to avoid introducing undesirable plants and noxious weeds.
- If practicable, topsoil shall not be salvaged in any area densely infested with noxious weeds.
- For areas where removal is not practicable or only a small area of noxious weeds is present, all noxious weed populations in the topsoil will be pretreated.
- Fertilizer or other soil amendments will not be used unless recommended by a revegetation specialist based on site-specific conditions. The use of fertilizers will be restricted because they can promote noxious weeds and can be detrimental to native species in the revegetation mix.
- After construction is complete, all disturbed areas will be properly revegetated as quickly as possible. Prompt revegetation with appropriate species is essential for preventing the spread of noxious weeds.
- Certified weed-free seed and mulch will be used for revegetation. Weed-free straw bales will be used for sediment barriers.
- If stands of noxious weeds become established, weed control will be implemented following an integrated approach specific to the weed species present.
- Because new control methods are continually being developed, particularly for herbicide applications, any control methods used will follow the Colorado Department of Agriculture, Thornton, and Adams County recommendations as appropriate at the time of implementation.

Areas of Historic or Archaeological Importance

- The project as currently designed will avoid known historic properties. Compliance with Section 106 NHPA or the Colorado State Historic Act is necessary only when state or federal permits, funding, or lands are involved. For instance, if a drainage, canal, or ditch is determined jurisdictional and the project requires a CWA Section 404 permit, the Corps may require a pedestrian survey and State Historic Preservation Officer consultation for the permitted area, associated construction limits, and potentially a 100 ft buffer. If a historical ditch or canal requires a CWA Section 404 permit the effects on the ditch would have to be assessed and consulted on through formal documentation. Open trench construction across a canal or ditch,

however, would not necessarily result in an adverse effect, provided that the ditch is returned to pre-construction contours.

Areas of Paleontological Importance

- To facilitate the identification of scientifically significant paleontological resources that might be encountered during construction in unincorporated Adams County, a qualified paleontologist will monitor construction where open cut construction methods are used within 200 yards of any previously recorded fossil locality where Denver Formation bedrock is expected to be encountered during construction.
- Where open cut construction methods will be used in unincorporated Adams County, areas in which Denver Formation bedrock is expected to be encountered would be determined prior to construction by evaluation of geotechnical reports prepared for design of Segment A. In addition, Thornton will have the contractor complete a pre-construction training provided by the paleontologist prior to construction on how to identify important paleontological resources if encountered during construction and appropriate steps to take to preserve and collect the resource.
- If any subsurface bones or other potential paleontological resource is unearthed in an area that is not monitored by the paleontologist, Thornton will consult with the paleontologist to evaluate its significance and determine the appropriate steps to take to preserve and collect the resource and associated data.

References

- Andrews, R. and R. Righter. 1992. Colorado Birds. Denver Museum of Natural History. Denver.
- Armstrong, D.M., J.P. Fitzgerald, and C.A. Meaney. 2011. Mammals of Colorado. Second Edition. Denver Museum of Nature & Science and University Press of Colorado. Boulder, CO.
- Buehler, D.A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). In The Birds of North America, No. 506 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Bureau of Land Management, 2008, Assessment and Mitigation of Potential Impacts to Paleontological Resources: BLM Instruction Memorandum No. 2009-011.
- Bureau of Land Management, 2016, Potential Fossil Yield Classification System: BLM Instruction Memorandum No. 2008-009 (PFYC revised from USFS, 1996).
- Colorado Breeding Bird Atlas II (COBBA II). 2016. Breeding bird survey results. <http://www.cobreedingbirdatlasii.org/>. Last accessed January 14, 2021.
- Colorado Department of Public Health and Environment (CDPHE). 2009. Reporting Environmental Releases in Colorado. <http://www.colorado.gov/cs/Satellite/CDPHE-HM/CBON/1251619320624>.
- Colorado Natural Heritage Program (CNHP). 2021. Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within the ERO Corridor of Interest in Adams County, Colorado. Report generated April 13, 2021. Colorado State University.
- Colorado Parks and Wildlife (CPW). 2020a. CPW Wildlife Shapefile Download. From: Species Activity Mapping (SAM). Redlands, CA: ESRI.

- <http://www.arcgis.com/home/group.html?owner=rsacco&title=Colorado%20Parks%20and%20Wildlife%20-%20Species%20Activity%20Data>.
- Colorado Parks and Wildlife (CPW). 2020b. Raptor Nest Database provided to ERO Resources Corporation under Non-disclosure Agreement to keep nest location information confidential.
- Colorado Parks and Wildlife (CPW). 2020c. Maps Library.
<http://cpw.state.co.us/learn/Pages/Maps.aspx/>. Last accessed January 14, 2021.
- Colorado Parks and Wildlife (CPW). 2020d. Recommended buffer zone and seasonal restrictions for Colorado Raptors. May.
- Colorado Parks and Wildlife (CPW). 2021a. Species Profiles.
<http://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx>.
- Colorado Parks and Wildlife (CPW). 2021b. Colorado listing of endangered, threatened and wildlife species of special concern. <http://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx>.
- Environmental Protection Agency (EPA). 2020. Navigable Waters Protection Rule Overview. August 27.
- Environmental Science and Engineering. 1988. Bald Eagle Study Winters 1986-1987, 1987-1988 Final Report. Prepared for the Office of the Program Manager, Rocky Mountain Arsenal Contamination Cleanup.
- Fitzgerald, J.P., C.A. Meaney, and D.M. Armstrong. 1994. Mammals of Colorado. University Press of Colorado and Denver Museum of Natural History.
- Gillihan, S.C. and S.W. Hutchings. 2000. Best management practices for shortgrass prairie birds: a landowner's guide. Rocky Mountain Bird Observatory. Brighton, CO.
- GoogleEarth. 2020. Map showing location of Smith Reservoir near the TWP Segment.
earth.google.com/web/.
- Hammerson, G.A. 1999. Amphibians and reptiles in Colorado. 2nd ed. Niwot, Colo.: [Colorado]: University Press of Colorado.
- Haug, E.A. and L.W. Oliphant. 1990. Movements, activity patterns, and habitat use of burrowing owls in Saskatchewan. *Journal of Wildlife Management* 54:27-35.
- Kingery, H.E. 1998. Colorado Breeding Bird Atlas. Colorado Breeding Bird Atlas Partnership and Colorado Division of Wildlife.
- Knopf, F.L. and M.B. Wunder. 2006. Mountain Plover (*Charadrius montanus*). The Birds of North America Online (A. Poole, ed.). Ithaca: Cornell Lab of Ornithology.
<http://bna.birds.cornell.edu/bna/species/211>.
- Kuford, C.C. 1958. Prairie dogs, whitefaces, and blue grama. *Wildlife Monograph* 1-78.
- Martell, M. 1992. Bald Eagle Winter Management Guidelines. SERVICE, Reg. 3, Minneapolis, MN.
- McDonald, D., N.M. Korfanta, and S.J. Lantz. 2004. The burrowing owl (*Athene cunicularia*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region.
<http://www.fs.fed.us/r2/projects/scp/assessments/burrowingowl.pdf>.
- Meaney, C.A., A. Deans, N.W. Clippenger, M. Rider, N. Daly, and M. O'Shea-Stone. 1997. Third year survey for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) in Colorado. Under contract to Colorado Division of Wildlife. Boulder, CO.

- Murphey, P.C., Zubin-Stathopoulos, K.D., Richards, C.D., and Fontana, M.A., 2015, Paleontological resource overview of the Royal Gorge Field Office Planning Area, Colorado: U.S. Department of Interior Bureau of Land Management Report, 178 p., and standalone confidential fossil locality geodatabase.
- Office of Archaeology and Historic Preservation (OAHP), 2021, Paleontological Records Search Report. Received September 20, 2021.
- Paleobiology Database (PBDB), 2021: Available at <https://paleobiodb.org/#/>. Accessed September 20, 2021.
- Paleo Solutions, Inc. 2021. Paleontological Technical Study, Thornton Water Project, Adams County, Colorado. Prepared for City of Thornton. December 1.
- Power, M.E., D. Tilman, J.A. Estes, B.A. Menge, W.T. Bond, L.S. Mills, G. Daily, J.C. Castilla, J. Lutchonco, and R.T. Paine. 1996. Challenges in the Quest for Keystone Species. *BioScience* 46:609-620.
- Preston, C.R. 1998. Ferruginous Hawk. *In* Kingery, H.E. (ed.). Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and Colorado Division of Wildlife, Denver.
- Preston, C.R. and R.D. Beane. 1996. Occurrence and distribution of diurnal raptors in relation to human activity and other factors at Rocky Mountain Arsenal, Colorado. Pp. 365-374 in D.M. Bird, D.E. Varland, and J.J. Negro (eds.). *Raptors in human landscapes*. Academic Press, London.
- Sharps, J.C. and D.W. Uresk. 1990. Ecological review of black-tailed prairie dogs and associated species in western South Dakota. *The Great Basin Naturalist* 50:339-345.
- Smith, R.E. 1967. Natural History of the Prairie Dog in Kansas. University of Kansas Museum of Natural History Misc. Publication No. 49.
- Spackman, S., B. Jennings, J. Coles, C. Dawson, M. Minton, A. Kratz, and C. Spurrier. 1997. Colorado Rare Plant Field Guide. Prepared for the Bureau of Land Management, the U.S. Forest Service, and the U.S. Fish and Wildlife Service by the Colorado Natural Heritage Program.
- Trimble, D.E., and Machette, M.N., 1979, Geologic map of the greater Denver area, Front Range urban corridor, Colorado: U.S. Geological Survey Miscellaneous Geologic Map, I-856-H, scale 1:100,000, 1 sheet.
- University of Colorado, Boulder, Museum of Natural History (UCM), 2021, Paleontological Records Search Report. Received September 21, 2021.
- U.S. Army Corps of Engineers (Corps). 2018. Approved Jurisdictional Determination, Thornton Water Project. Corps File No. NWO-2018-00759-DEN.
- U.S. Army Corps of Engineers (Corps). 2019. Approved Jurisdictional Determination, Thornton Water Project. Corps File No. NWO-2019-02108-DEN.
- U.S. Army Corps of Engineers (Corps). 2020. Approved Jurisdictional Determination, Thornton Water Project. Corps File No. NWO-2018-00759-DEN.
- U.S. Fish and Wildlife Service (Service). 1992a. Endangered and Threatened Wildlife and Plants: Final Rule to List the Plant *Spiranthes diluvialis* (Ute ladies'-tresses) as a Threatened Species. Federal Register 50 CFR Part 17, Vol. 57, No. 12, pp. 2048-2054. January 17.
- U.S. Fish and Wildlife Service (Service). 1992b. Interim Survey Requirements for *Spiranthes diluvialis*.

- U.S. Fish and Wildlife Service (Service). 1999. Survey Guidelines for Preble's Meadow Jumping Mouse. Service, Colorado Field Office. Revised: April 2004.
- U.S. Fish and Wildlife Service (Service). 2003. Migratory Bird Permit Memorandum. April 15.
- U.S. Fish and Wildlife Service (Service). 2004. Endangered and Threatened Wildlife and Plants: Designated Critical Habitat for Colorado butterfly plant, Proposed Rule. Federal Register, Vol. 79, No. 151. August 6.
- U.S. Fish and Wildlife Service (Service). 2009. Black-footed ferret; Colorado statewide block clearance map. <https://www.fws.gov/mountain-prairie/es/species/mammals/blackfootedferret/>.
- U.S. Fish and Wildlife Service (Service). 2014. Preble's Meadow Jumping Mouse. Endangered Species—Mountain-Prairie Region. <https://www.fws.gov/mountain-prairie/es/preblesMeadowJumpingMouse.php>.
- U.S. Fish and Wildlife Service (Service). 2021a. Endangered, Threatened, Proposed and Candidate Species, Colorado Counties. <http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action>.
- U.S. Fish and Wildlife Service (Service). 2021b. Preble's Meadow Jumping Mouse, Block Clearance. https://www.fws.gov/mountain-prairie/es/species/mammals/preble/9-2016_USFWS_Preble's_map_Denver_Metro_Area.pdf.
- U.S. Fish and Wildlife Service (Service). 2021c. Thornton Water Project Segment A. Email from George San Miguel, U.S. Fish and Wildlife Service, to Courtney Marne, ERO Resources. August 31.
- U.S. Forest Service. 1997. Final environmental impact statement for Arapaho and Roosevelt National Forests and Pawnee National Grasslands. Fort Collins, CO.
- Whicker, A.D. and J.K. Detling. 1988. Ecological consequences of prairie dog disturbances. *BioScience* 38:778-785.
- Witmer, G.W., K.C. VerCauteren, K.M. Mancini, and D.M. Dees. 2002. Urban-suburban prairie dog management opportunities and challenges. Proceedings of 19th Vertebrate Pest Conference 19:439-444.

Appendix A Photo Log

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 1 - Overview of uplands generally observed within the TWP study buffer. View is to the west.



Photo 2 - Overview of unnamed tributary at AP1 Wetland 1. View is to the west.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 3 - Overview of AP1 Wetland 2 along Todd Creek. View is to the west.



Photo 4 - Overview of AP2 Wetland 2 south of 120th Avenue. View is to the northwest.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 5 - Overview of the stormwater facility including AP2 OHWM 1 and AP2 Wetland 3. View is to the northeast.



Photo 6 - Overview of uplands adjacent to AP1 OHWM 1 and AP1 Wetland 5. View is to the east.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 7 - AP1 Wetland 6 east of Quebec Street. View is to the north.



Photo 8 - Overview of AP2 Wetland 6 east of McKay Road. View is to the east.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 9 - Overview of the wetland complex along McKay Road (AP2 Wetland 7). View is to the east.



Photo 10 - Overview of wetlands east of McKay Road (AP2 Wetland 7). View is to the northeast.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 11 - Overview of AP2 OHWM 2 and AP2 Wetland 8 east of McKay Road. View is to the northeast.



Photo 12 - Overview of AP2 Ditch 4 east of McKay Road. View is to the north.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 13 - Overview of AP2 Wetland 14 along AP2 OHWM 7. View is to the east.



Photo 14 - Overview of AP2 Wetland 15 west of the South Platte River. View is to the east.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 15 - Overview of AP2 Ditch 6 paralleling the north side of 104th Avenue. View is to the east.



Photo 16 - Overview of AP2 Wetland 9 along AP2 OHWM 4. View is to the east.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 17 - Overview of AP2 Wetland 11. View is to the north.



Photo 18 - Overview of AP2 Wetland 13 along AP2 OHWM 6. View is to the southwest.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 19 - AP1 Wetland 4 northwest of Quebec Street and 136th Avenue. View is to the northeast.



Photo 20 - Overview of depressional AP2 Wetland 1. View is to the north.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 21 - Overview of AP2 Wetland 4 north of 112th Avenue. View is to the north.



Photo 22 - Overview of small depressional wetland area (AP2 Wetland 5). View is to the west.

PHOTO LOG
NATURAL AND CULTURAL RESOURCES ASSESSMENT
THORNTON WATER PROJECT—SEGMENT A
ADAMS COUNTY, COLORADO
OCTOBER 29 AND DECEMBER 12, 21, AND 22, 2020 AND JANUARY 14 AND FEBRUARY 1, 2021



Photo 23 - Overview of agricultural lands, which are common throughout the TWP study buffer. View is to the northeast.



Photo 24 - Overview of a developed/disturbed area in the TWP study buffer. View is to the northeast.

Appendix B Summary of Water Features in the Segment A Impact Area and Work Limits

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
Open Water									
A-20 Reservoir	An excavated reservoir that intermittently holds water with a potential connection to the German Reservoir No. 12, which connects to Big Dry Creek. German Reservoir was previously determined jurisdictional (NWO-2018-00759-DEN; Corps 2020).	Artificially constructed reservoir with potential wetlands	Determination yet to be completed	-104.904486	39.995625	0 / 4.05	0 / 0	0 / 4.05	3.01
AP1 OHWM 1	Generally, flows to the east and has downstream hydraulic connections to the Mann-Nyholt Lake. The Mann-Nyholt Lake occurs just west of the South Platte River; however, based on the NHD and aerial imagery, the lake does not appear to have a downstream hydrologic surface connection to the river or to be flooded by the South Platte River in a typical year.	Intermittent drainage channel with fringe wetlands (AP1 Wetland 5)	Determination yet to be completed	-104.90231	39.9338073	0 / 0	0.01 / 0.06	0.01 / 0.06	3.04

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP1 OHWM 2 (Brantner Gulch)	Generally, flows to the east and has downstream hydraulic connections to the Mann-Nyholt Lake. The Mann-Nyholt Lake occurs just west of the South Platte River; however, based on the NHD and aerial imagery, the lake does not appear to have a downstream hydrologic surface connection to the river or to be flooded by the South Platte River in a typical year.	Intermittent drainage channel with fringe wetlands (AP1 Wetland 6)	Determination yet to be completed	-104.90481	39.9216488	0.01 / 0.18	0 / 0.12	0.01 / 0.31	3.05
AP2 OHWM 1	Overflow culvert outfalls to the east and flows into a detention pond that abuts the Colorado Agricultural Canal (previously determined nonjurisdictional; NWO-2019-02108-DEN). The detention pond appears to be isolated.	Stormwater facility with concrete-lined ditches	Determination yet to be completed	-104.91288	39.9044403	0 / 0	0 / 0.12	0 / 0.13	3.06
AP2 OHWM 2	Drainage occurs along Grange Hall Creek, which continues east where it appears to flow into the South Platte River. It is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Wetland and open water complex east and west of McKay Road; associated wetlands AP2 Wetland 6, AP2 Wetland 7, and AP2 Wetland 8	Determination yet to be completed	-104.91806	39.8890979	0 / 0	0.02 / 0.2	0.02 / 0.2	3.07

Natural and Cultural Resources Assessment
Thornton Water Project—Segment A
Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 OHWM 3	A lined reservoir that lacks a surface connection to the South Platte River or any other waters of the U.S.	Excavated gravel pit along the west bank of the South Platte River	Previously, determined nonjurisdictional in 2012 and 2014 (Corps File No. NWO-2011-01409-DEN); current determination for TWP yet to be completed	-104.92092	39.8723853	0 / 0	0.01 / 10.77	0.01 / 10.77	3.08
AP2 OHWM 4	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Excavated gravel pit along the west bank of the South Platte River	Determination yet to be completed	-104.92393	39.8700602	0 / 2.61	0 / 0	0 / 2.61	3.08
AP2 OHWM 5	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Excavated gravel pit along the west bank of the South Platte River	Determination yet to be completed	-104.9319	39.8641372	0 / 0	0 / 0.56	0 / 0.56	3.09
AP2 OHWM 6	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Excavated gravel pit along the west bank of the South Platte River	Determination yet to be completed	-104.92731	39.8633247	0 / 1.74	0 / 0	0 / 1.74	3.09
AP2 OHWM 7	Tributary that appears to have a direct hydrological connection to the South Platte River.	Intermittent tributary with fringe wetlands (AP2 Wetland 14)	Likely jurisdictional – flows into known jurisdictional waters of the U.S.	-104.93146	39.8601828	0 / 0	0.02 / 0.12	0.02 / 0.12	3.09

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
South Platte River	TNW.	100- to 220-foot-wide river	Known jurisdictional water of the U.S.	-104.928409	39.864337	0 / 7.69	0 / 10.83	0 / 18.53	3.08, 3.09
Wetlands									
AP1 Wetland 1	Unnamed intermittent drainage that connects to Smith Reservoir. Smith Reservoir is dammed and appears to lack a direct hydrologic surface connection to a known water of the U.S.	Consists solely of wetlands dominated by narrowleaf cattail	An approved jurisdictional determination was previously requested by the landowner and the Corps determined this feature was not jurisdictional (Corps File No. NWO-2019-00091-DEN); determination for TWP yet to be completed	-104.90387	39.9761395	0 / 0	0.1 / 0.55	0.1 / 0.55	3.02
AP1 Wetland 2 (Todd Creek)	Unnamed intermittent drainage that connects to Smith Reservoir. Smith Reservoir is dammed and appears to lack a direct hydrologic surface connection to a known water of the U.S.	Consists solely of wetlands dominated by narrowleaf cattail and sandbar willow	Determination yet to be completed	-104.90383	39.9708595	0 / 0	0.15 / 1.33	0.15 / 1.33	3.02

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP1 Wetland 3	Downstream connection with AP1 Wetland 4 and then a drainage line is shown continuing to the south. Based on aerial imagery, the property to the south has been graded and there are no downstream flows through the area. Field conditions during the 2020/2021 site visits showed both AP1 Wetland 3 and AP1 Wetland 4 as occurring within localized geomorphic depressions with berms at their downstream limits.	Freshwater emergent depressional wetland dominated by dock-leaf smartweed	Determination yet to be completed	-104.90533	39.9485047	0 / 0	0.08 / 1.1	0.08 / 1.1	3.03, 3.04
AP1 Wetland 4	Drainage line is shown continuing to the south. Based on aerial imagery, the property to the south has been graded and there are no downstream flows through the area. Field conditions during the 2020/2021 site visits showed both AP1 Wetland 3 and AP1 Wetland 4 as occurring within localized geomorphic depressions with berms at their downstream limits.	Freshwater emergent depressional wetland dominated by dock-leaf smartweed	Determination yet to be completed	-104.90529	39.9441046	0 / 0	0 / 1.98	0 / 1.98	3.04
AP1 Wetland 5	A wetland that abuts AP1 OHWM 1, an intermittent channel.	Fringe wetlands dominated by narrowleaf cattail	Determination yet to be completed	-104.9014	39.9336034	0 / 0	0.05 / 0.47	0.05 / 0.47	3.04
AP1 Wetland 6	A wetland that abuts AP1 OHWM 2, an intermittent channel.	Fringe wetlands dominated by narrowleaf cattail	Determination yet to be completed	-104.9026	39.9215288	0.01 / 0.25	0 / 0.04	0.01 / 0.3	3.05

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Wetland 1	Wetland does not appear to have a downstream surface connection to a known water of the U.S.	Freshwater emergent depressional wetland area dominated by Baltic rush and sandbar willow, and an overstory of plains cottonwood	Determination yet to be completed	-104.91257	39.9045348	0 / 0	0 / 0.07	0 / 0.07	3.05, 3.06
AP2 Wetland 2	Unnamed intermittent drainage that appears to flow to the southeast into a retention basin with a culvert that extends under the Colorado Agricultural Canal (previously determined nonjurisdictional; Corps File No. NWO-2019-02108-DEN) and Riverdale Road and terminates in a depressional wetland area. There does not appear to be any outflow from the depressional wetland area southeast of Riverdale Road.	Consists solely of wetlands dominated by common spikerush.	Determination yet to be completed	-104.91293	39.9102402	0.15 / 0.68	0 / 0.43	0.15 / 1.11	3.06
AP2 Wetland 3	Overflow culvert from the stormwater detention facility outfalls to the east and flows into a detention pond that abuts the Colorado Agricultural Canal (previously determined nonjurisdictional; NWO-2019-02108-DEN). The detention pond appears to be isolated.	Wetlands dominated by Baltic rush associated with a stormwater facility	Determination yet to be completed	-104.91341	39.904097	0 / 0	0 / 0	0 / 0	3.06

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Wetland 4	Wetland does not appear to have a downstream surface connection to a known water of the U.S.	Freshwater emergent depressional wetland area dominated by Baltic rush and sandbar willow, and an overstory of plains cottonwood	Determination yet to be completed	-104.91723	39.9004388	0 / 0.01	0 / 0.16	0 / 0.17	3.06
AP2 Wetland 5	Wetland does not appear to have a downstream surface connection to a known water of the U.S.	Small depressional wetland dominated by common threesquare	Determination yet to be completed	-104.9182	39.8925742	0 / 0	0 / 0	0 / 0	3.07
AP2 Wetland 6	Wetland occurs along Grange Hall Creek, which continues east where it appears to flow into the South Platte River. It is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Wetland and open water complex east and west of McKay Road. Associated with AP2 OHWM 2; wetlands dominated by dense sandbar willow	Determination yet to be completed	-104.91757	39.8914748	0 / 0.07	0 / 0	0 / 0.07	3.07
AP2 Wetland 7	Wetland occurs along Grange Hall Creek, which continues east where it appears to flow into the South Platte River. It is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Wetland and open water complex east and west of McKay Road; associated with AP2 OHWM 2; wetlands dominated by sandbar willow and reed canarygrass	Determination yet to be completed	-104.91566	39.8907519	0.04 / 0.77	0 / 0.57	0.04 / 1.33	3.07

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Wetland 8	Wetland within AP2 Ditch 4. Connects to a drainage along Grange Hall Creek, which continues east where it appears to flow into the South Platte River. It is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Wetlands associated with AP2 Ditch 4, dominated by sandbar willow and reed canarygrass	Determination yet to be completed	-104.918	39.8890498	0 / 0	0 / 0.04	0 / 0.04	3.07
AP2 Wetland 9	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Wetland associated with excavated open water area AP2 OHWM 4; dominated by narrowleaf cattail and common threesquare	Determination yet to be completed	-104.92414	39.86969	0 / 1.15	0 / 0	0 / 1.15	3.08
AP2 Wetland 10	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Wetland associated with excavated open water area AP2 OHWM 5; dominated by creeping bentgrass	Determination yet to be completed	-104.93205	39.8639238	0 / 0	0 / 0.4	0 / 0.4	3.09
AP2 Wetland 11	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Wetland associated with excavated open water area AP2 OHWM 6; dominated by crack willow	Determination yet to be completed	-104.9312	39.8652703	0.15 / 2.51	0 / 0	0.15 / 2.51	3.08, 3.09

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Wetland 12	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Wetland associated with excavated area dominated by Emory's sedge	Determination yet to be completed	-104.93105	39.8617378	0 / 0.14	0 / 0	0 / 0.14	3.09
AP2 Wetland 13	No outflow observed and the USGS topographic maps and NHD indicate the feature is discrete with no surface connections to the South Platte River or any other waters of the U.S.	Wetland associated with excavated area dominated by narrowleaf cattail	Determination yet to be completed	-104.93021	39.8591877	0 / 0.98	0 / 0	0 / 0.98	3.09
AP2 Wetland 14	Fringe wetlands along a tributary that appears to have a direct hydrological connection to the South Platte River.	Fringe wetlands along a tributary (AP2 OHWM 7); vegetation is dominated by reed canarygrass and sandbar willow	Likely jurisdictional – connection to known jurisdictional waters of the U.S.	-104.9384	39.8574285	0 / 0	0.01 / 0.05	0.01 / 0.05	3.09
AP2 Wetland 15	Wetlands that appear to have a direct hydrological connection to the South Platte River.	Wetlands within a tributary; vegetation is dominated by narrowleaf cattail	Likely jurisdictional – connection to known jurisdictional waters of the U.S.	-104.93876	39.8551013	0 / 0	0.03 / 0.32	0.03 / 0.32	3.09
Signal Ditch Wetlands	Signal Ditch is an extension of the Farmers High Line Canal, which diverts from Clear Creek; however, Signal Ditch appears to terminate at Stouffer Reservoir Number 3 and in uplands near Havana Street and East 160th Avenue.	3- to 6-foot-wide ditch with a small wetland fringe on either side	Nonjurisdictional (NWO-2019-02108-DEN)	-104.9049133	39.98605583	0 / 0.47	0 / 0	0 / 0.47	3.01

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
Potential Wetland 1	Unnamed intermittent drainage that connects to Smith Reservoir. Smith Reservoir is dammed and appears to lack a direct hydrologic surface connection to a known water of the U.S.	Unnamed intermittent drainage consisting of wetlands	Determination yet to be completed	-104.9019678	39.93784813	0 / 0	0 / 0.68	0 / 0.68	3.04
Potential Wetland 2	Stormwater detention facility appears to be excavated from uplands and does not appear to have a downstream surface connection to a known water of the U.S.	Stormwater detention facility consisting of wetlands	Determination yet to be completed	-104.9046533	39.93610136	0 / 0	0 / 0.22	0 / 0.22	3.04
Ditches									
AP2 Ditch 1	Agricultural ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Agricultural Ditch	Determination yet to be completed	-104.9165927	39.8909777	0 / 0.02	0 / 0	0 / 0.02	3.07
AP2 Ditch 2	Agricultural ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Agricultural Ditch	Determination yet to be completed	-104.9191429	39.89076076	0 / 0.03	0 / 0	0 / 0.03	3.07

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Ditch 3	Agricultural ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Agricultural Ditch	Determination yet to be completed	-104.9191193	39.89028702	0 / 0	0 / 0.03	0 / 0.03	3.07
AP2 Ditch 4	Agricultural ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Agricultural Ditch	Determination yet to be completed	-104.9175995	39.88894616	0 / 0	0 / 0.02	0 / 0.02	3.07
AP2 Ditch 5	Agricultural ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Agricultural Ditch	Determination yet to be completed	-104.9190372	39.88617828	0 / 0	0 / 0.04	0 / 0.04	3.07
AP2 Ditch 6	Roadside ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Roadside ditch	Determination yet to be completed	-104.9167694	39.88538561	0 / 0	0 / 0.01	0 / 0.01	3.07
AP2 Ditch 7	Roadside ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Roadside ditch	Determination yet to be completed	-104.921933	39.8811032	0 / 0	0.04 / 0.07	0.04 / 0.07	3.07

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
AP2 Ditch 8	Roadside ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Roadside ditch	Determination yet to be completed	-104.9212802	39.88069189	0 / 0.03	0 / 0	0 / 0.03	3.07, 3.08
AP2 Ditch 9	Roadside ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Roadside ditch	Determination yet to be completed	-104.9201848	39.87808778	0 / 0	0 / 0.04	0 / 0.04	3.08
AP2 Ditch 10	Roadside ditch - it is unclear if in a typical year the flows are intermittent or perennial or if the wetland features have a direct hydrologic surface connection to a known water of the U.S.	Roadside ditch	Determination yet to be completed	-104.9216619	39.8778896	0 / 0.01	0 / 0.03	0 / 0.04	3.08
Colorado Agricultural Canal	The canal connects to Brantner Ditch, which appears to terminate in Little Dry Creek near County Road 23 and County Road 14 ½ in Fort Lupton, Colorado.	8- to 10-foot-wide canal with wetland fringes	Nonjurisdictional (NWO-2019-02108-DEN)	-104.913709	39.90162	0.02 / 1.14	0.09 / 0.16	0.11 / 1.3	3.06, 3.07
Lower Clear Creek Canal	The canal appears to connect to Brantner Ditch near 126th Avenue, which appears to terminate in Little Dry Creek near County Road 23 and County Road 14 ½ in Fort Lupton, Colorado.	8- to 10-foot-wide canal with wetland fringes	Nonjurisdictional (NWO-2019-02108-DEN)	-104.917563	39.897061	0.04 / 1.22	0 / 0	0.04 / 1.22	3.06, 3.07

Natural and Cultural Resources Assessment
 Thornton Water Project—Segment A
 Adams County, Colorado

Water/Wetland ID*	Proximity to TNW, RPW, Isolated, or Non-RPW	Feature Description	Jurisdictional Status	Longitude	Latitude	Acres in Unincorporated Adams County (Work Limits/Segment A Impact Area)	Acres in Incorporated Adams County (Work Limits/Segment A Impact Area)	Total Acreage (Work Limits/Segment A Impact Area)	Figure Number(s)
Signal Ditch	Signal Ditch is an extension of the Farmers High Line Canal, which diverts from Clear Creek; however, Signal Ditch appears to terminate at Stouffer Reservoir Number 3 and in uplands near Havana Street and East 160th Avenue.	3- to 6-foot-wide ditch with a small wetland fringe on either side	Nonjurisdictional (NWO-2019-02108-DEN)	-104.90219	39.989272	0.02 / 0.32	0 / 0	0.02 / 0.32	3.01
<i>Total Open Water*</i>						0.01 / 16.28	0.05 / 22.79	0.06 / 39.07	-
<i>Total Wetlands*</i>						0.34 / 7.03	0.42 / 8.44	0.76 / 15.47	-
<i>Total Ditches*</i>						0.08 / 2.77	0.13 / 0.40	0.21 / 3.16	-
Grand Total*						0.43 / 26.08	0.59 / 31.63	1.03 / 57.70	-

*Slight discrepancies due to rounding.

Appendix C Cultural Resources in the Segment A Impact Area

Table C-1. Previous cultural resource surveys intersecting the Segment A Impact Area.

OAHPS Survey No.	Report Title (year)	Lead Agency
AM.AE.NR2	Brantner Gulch 404 Permit Area, Adams County, Colorado (1998)	Golder Associates Inc.
AM.AE.R22	Mayfield Project Section 404 Permit, Adams County, Colorado, Cultural Resources Inventory (2013)	U.S. Army Corps of Engineers
AM.CH.NR20	Cultural Resource Investigations for the 120 th Avenue Extension Project, Adams County, Colorado(1994)	URS Corporation (Consultants)
AM.CH.NR43	A Cultural Resources Inventory for Proposed Intersection Improvements at East 88 th Avenue and Colorado Boulevard in Thornton, Adams County, CO (2013)	Pinyon Environmental
AM.CH.R17	Archaeological Survey of The Colorado Boulevard Alternatives Between 88 th Avenue and Welby Road, Adams County: M 0002(7) (1991)	Colorado Department of Highways (CDOT)
AM.CH.R20	Cultural Resource Inventory Along Tower Road, 104th Avenue, And 120th Avenue In Adams County, Colorado (1993)	CDOT
AM.CH.R23	East 120th Avenue Extension From North Quebec Street to U.S. 85, Adams County, Colorado (1994)	CDOT
AM.CH.R27	Colorado Boulevard, 88 th to Welby Road [M 0002(7)] (1991)	CDOT
AM.CH.R32	Monaco South of 96th Realignment (HOS 0006(86)) (1995)	CDOT
AM.CH.R59	120th Avenue Expansion, Holly Street to Quebec Street: Cultural Resource Inventory, Adams County, Colorado (STU M286-015) (22238252.00001) (2005)	URS Corporation (Consultants)
AM.CH.R86	120th Avenue Extension Quebec Street to U.S. 85: Cultural Resources Inventory, Adams County, Colorado (2003)	CDOT
AM.LG.R17	Class III Cultural Resource Inventory of the Adams County LTE Broadband Network, Thornton, Colorado (2012)	Adams County
MC.CH.R157	Historic Resources Survey Report: E-470 Segment IV, 120 th Ave to I-25 N (1998)	Hermesen Consultants
MC.CH.R3	Final Report of Cultural Resource Inventory for the Proposed E-470 Corridor, Douglas, Arapahoe, Denver, Broomfield, and Adams Counties, CO (1988)	Colorado Department of Highways (CDOT)
MC.CH.R6	E-470 Beltway Survey Report: Historic Resources, Douglas, Arapahoe, Denver, Broomfield, And Adams Counties, Colorado (1987)	CDOT
MC.CPO.R27	Survey Report, Weld County, Colorado Farm And Ranch Inventory, Weld And Broomfield Counties (1989)	Western Historical Studies, Inc.

Table C-2. Previously identified cultural resources in the Segment A impact area.

Resource Number	Resource Name / Type	NRHP Eligibility (year)
5AM.40	Precontact open camp	Needs data
5AM.130	Platte River Trail	Field not eligible
5AM.265	David Wolpert House	Officially delisted 1976
5AM.1867.1	Rullo/Roulo Ditch # 1 - Segment	Officially not eligible 2007

Table C-3. Cultural resources in the Segment A impact area that have not been previously documented or evaluated.

Location/Assessor Reception #	Built	Cultural Resource Type
12970 Quebec St, Brighton, Colorado 80602; R0009253	1909	Historical residence
13955 Quebec St, Brighton, Colorado 80602; R0009045	1971	Historical residence
13895 Quebec St, Brighton, Colorado 80602; R0009056	1968	Historical residence
13781 Quebec St, Brighton, Colorado 80602; R0009057	1965	Historical residence
13731 Quebec St, Thornton, Colorado 80602; R0009058	1965	Historical residence
13671 Quebec St, Brighton, Colorado 80602; R0009059	1964	Historical residence
13890 Quebec St, Brighton, Colorado 80602; R0131941	1961	Historical residence
12355 Quebec St, Brighton, Colorado 80602; R0013058	1971	Historical residence
7135 E 120 th Ave, Brighton, Colorado 80602; R0013063	1944	Historical farm property
12610 Quince St, Brighton, Colorado 80602; R0108448	1957	Historical residence
12530 Quince St, Brighton, Colorado 80602; R0013608	1974	Historical residence
12520 Quince St, Brighton, Colorado 80602; R0013586	1963	Historical residence
12510 Quince St, Brighton, Colorado 80602; R0013587	1963	Historical residence
12510 Quebec St, Brighton, Colorado 80602; R0013598	1968	Historical residence
12500 Quince St, Brighton, Colorado 80602; R0161309	1933	Historical residence
11940 Quebec St, Brighton, Colorado 80602; R0150874	1968	Historical residence
11960 Quebec St, Brighton, Colorado 80602; R0150873	1968	Historical residence
11465 Riverdale Rd, Denver, Colorado 80233; R0071394	1959	Historical residence
11330 Riverdale Rd, Thornton, Colorado 80233; R0071407	1948	Historical residence
11291 Riverdale Rd, Denver, Colorado 80223; R0071401	1943	Historical residence
11301 Riverdale Rd, Denver, Colorado 80233; R0071400	1955	Historical residence
11445 Riverdale Rd, Northglenn, Colorado 80233; R0071393	1956	Historical residence
11300 Riverdale Rd, Denver, Colorado 80233; R0071397	1940	Historical farm property
11375 Riverdale Rd, Denver, Colorado 80233; R0071408	1945	Historical residence
11220 Riverdale Rd, Denver, Colorado 80233; R0071402	1911	Historical farm property
11310 Riverdale Rd, Denver, Colorado 80233; R0071398	1944	Historical farm property
11020 Riverdale Rd, Denver, Colorado 80233; R0074961	1971	Historical farm property
6180 E 112 th Ave, Northglenn, Colorado 80233; R0074985	1920	Historical farm property
5800 E 112 th Ave, Denver, Colorado 80233; R0074992	1974	Historical residence
5460 E 104 th Ave, Thornton, Colorado 80229; R0075426	1901	Historical residence
5991 E 100 th Ave, Denver, Colorado 80229; R0075403	1920	Historical residence
5971 E 100 th Ave, Denver, Colorado 80229; R0075402	1967	Historical farm property
5815 E 100 th Ave, Thornton, Colorado 80229; R0075408	1971	Historical residence
11395 Riverdale Rd, Denver, Colorado 80233; R0178398	1904	Historical transient labor cabin

Appendix D Figures

Figure 1. Vicinity Map

Figure 2. Map Index

Figures 3.01–3.09. Vegetation Communities.

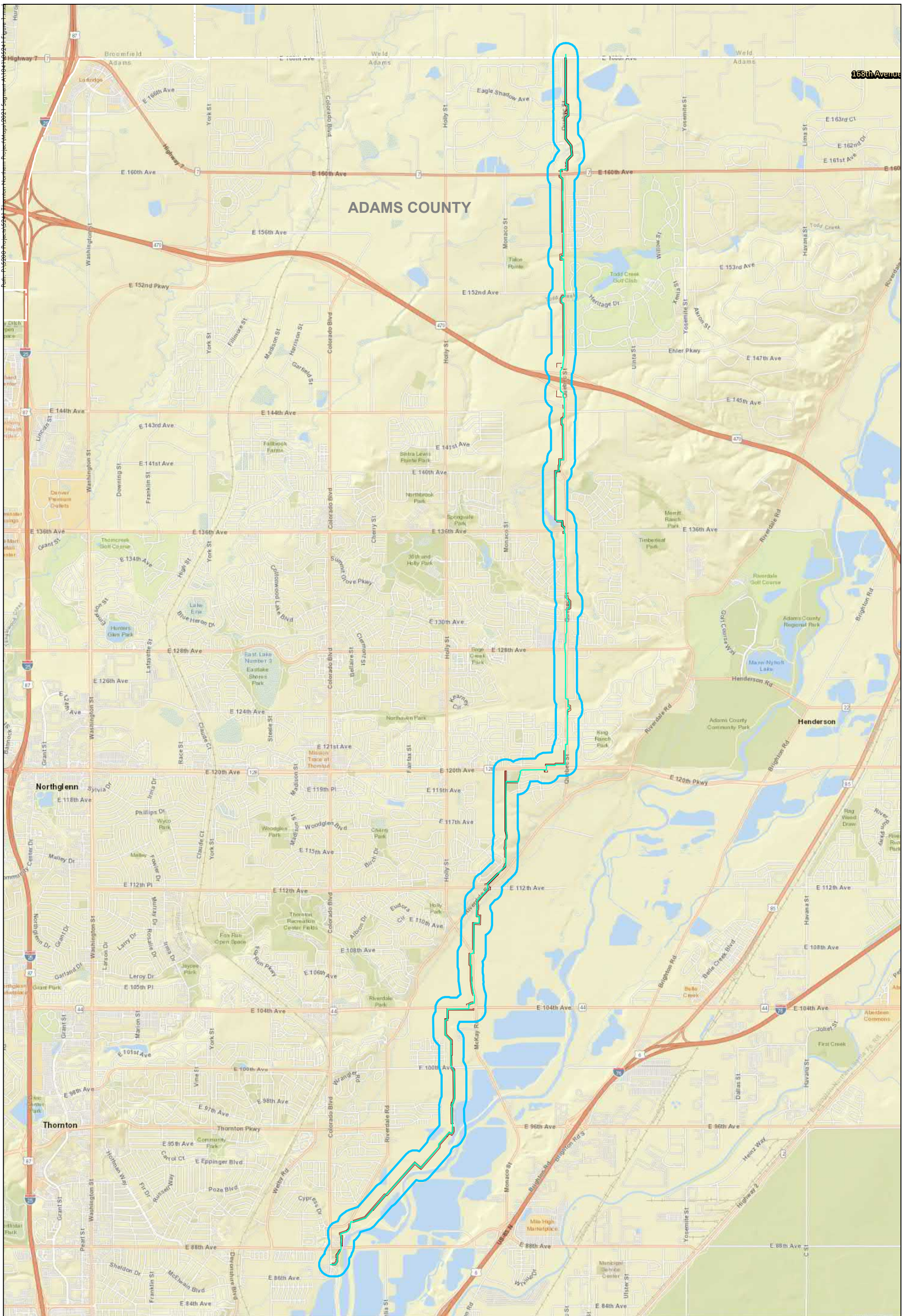
Figure 4. Special Status Wildlife Overview

Figures 5.01–5.09. Wildlife

Figure 6. General Wildlife Overview

Figure 7. Big Game Overview

Figure 8. OAHP File Search Results



Thornton Water Project

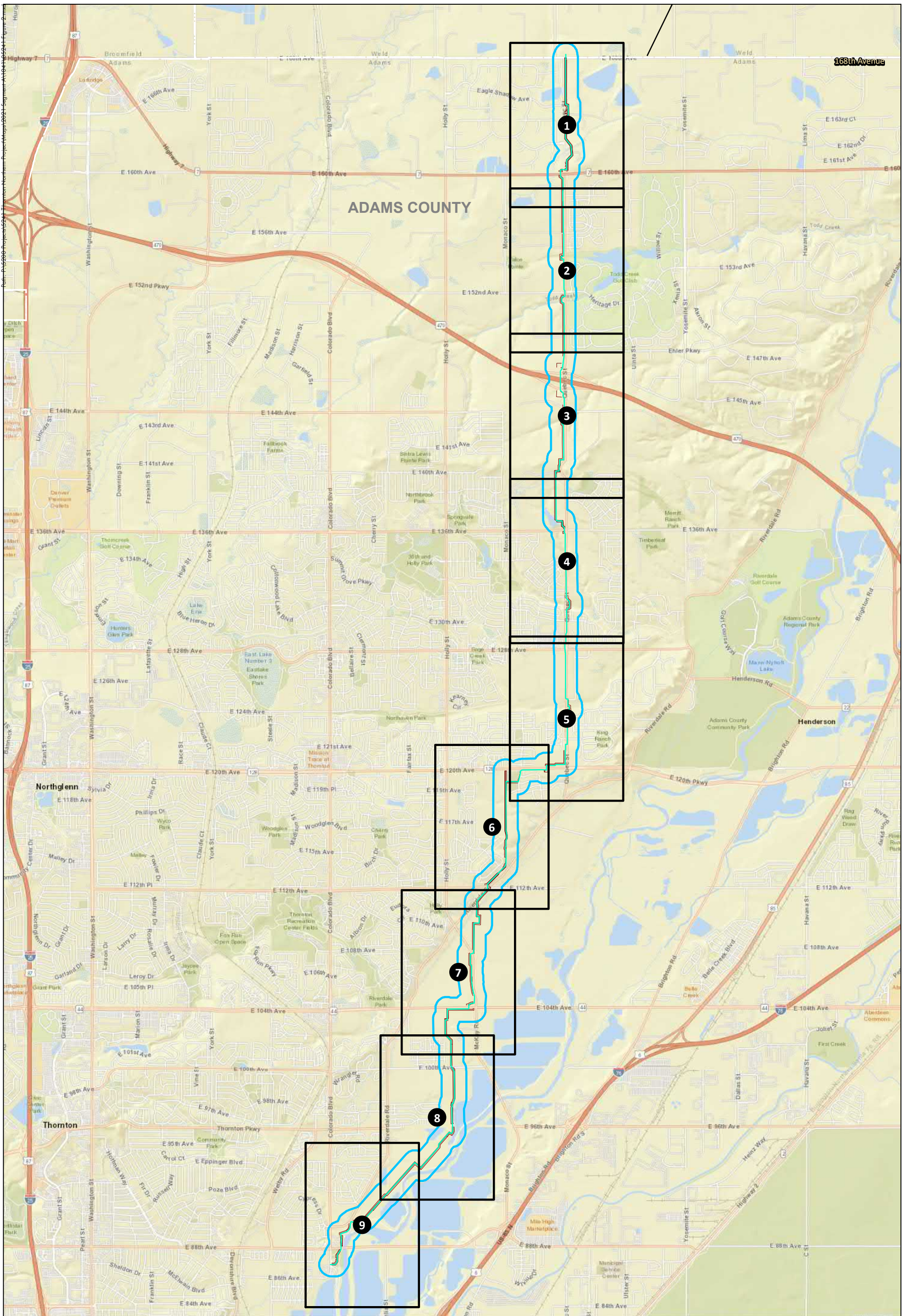
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Figure 1
Vicinity Map

Prepared for: City of Thornton
File: 05241 Figure 1.mxd [dIH]
December 1, 2021

ERO
ERO Resources Corp.



Thornton Water Project

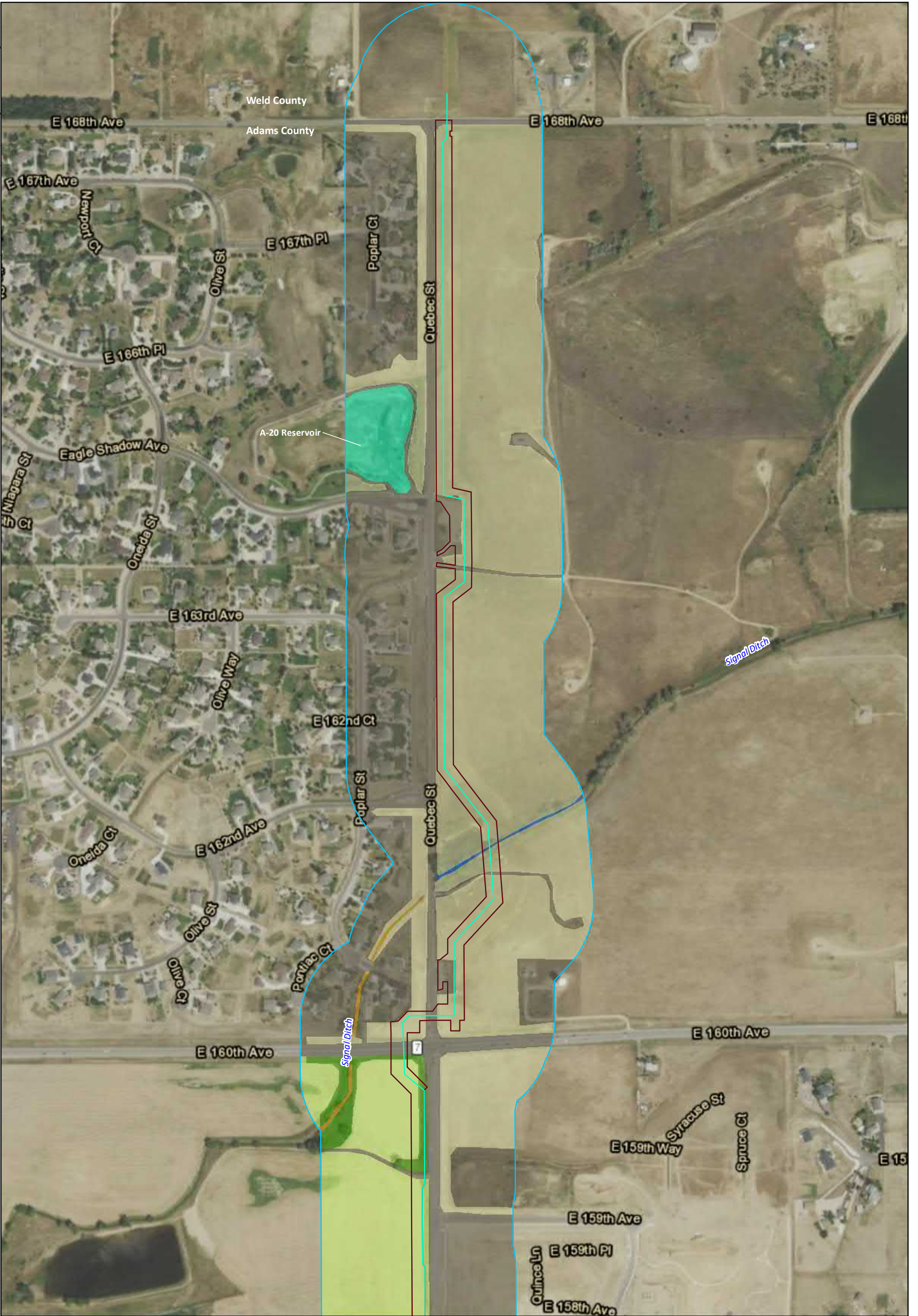
- Map Index Page
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Figure 2
Map Index

Prepared for: City of Thornton
File: 05241 Figure 2.mxd [dIH]
December 1, 2021

ERO
ERO Resources Corp.



Thornton Water Project

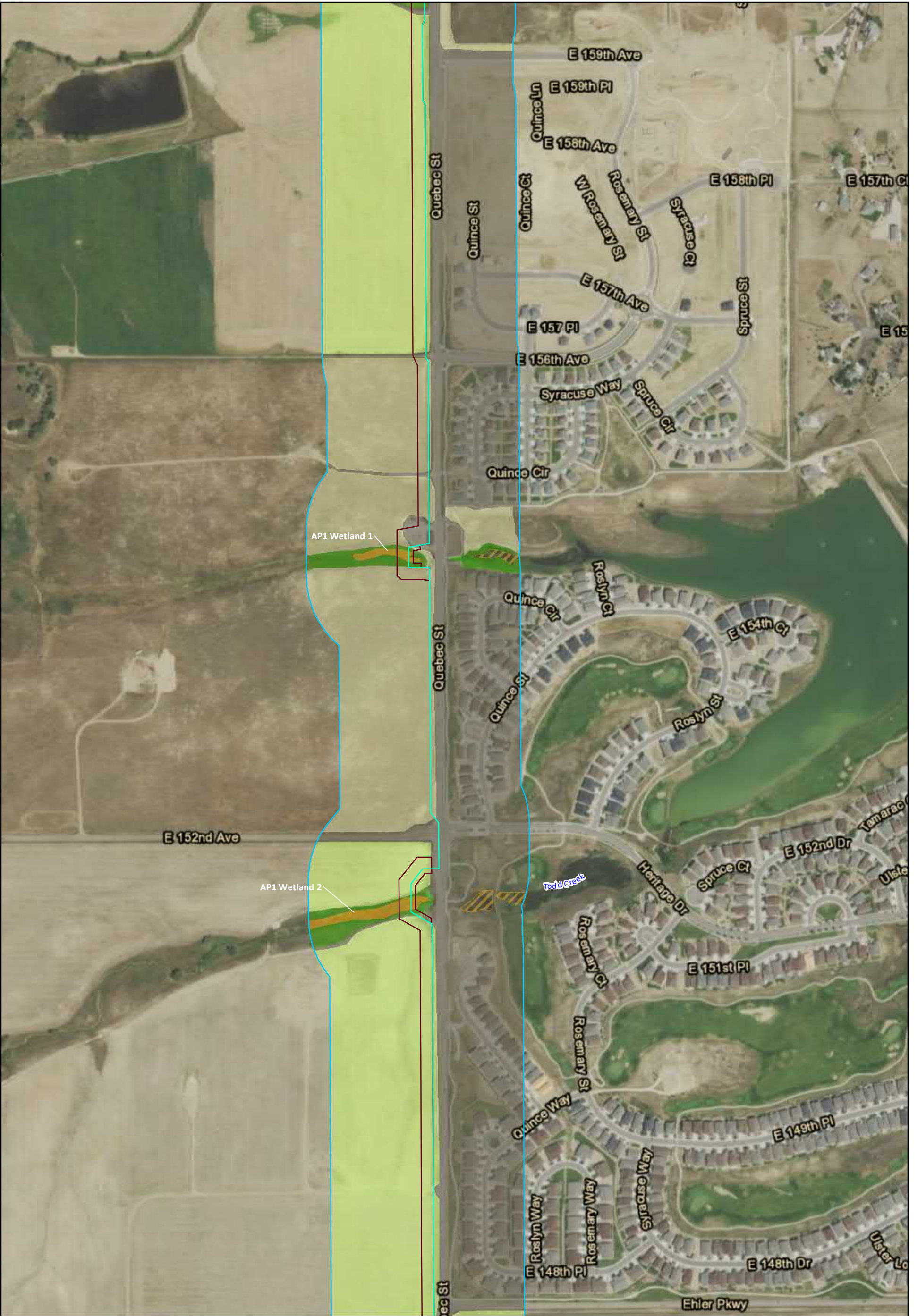
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Ditch
- Open Water
- Wetland
- Potential Wetland
- Riparian
- Mixed Upland
- Agricultural
- Nonnative Upland
- Developed/Disturbed



Figure 3.01
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021





Thornton Water Project

- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Ditch
- Open Water
- Wetland
- Potential Wetland
- Riparian
- Mixed Upland
- Agricultural
- Nonnative Upland
- Developed/Disturbed



Figure 3.02
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021





Thornton Water Project

Segment A Proposed Alignment	Ditch	Mixed Upland
Segment A Work Limit	Open Water	Agricultural
Impact Area (Limit of Delineation)	Wetland	Nonnative Upland
	Potential Wetland	Developed/Disturbed
	Riparian	

Figure 3.03
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021

ERO
ERO Resources Corp.

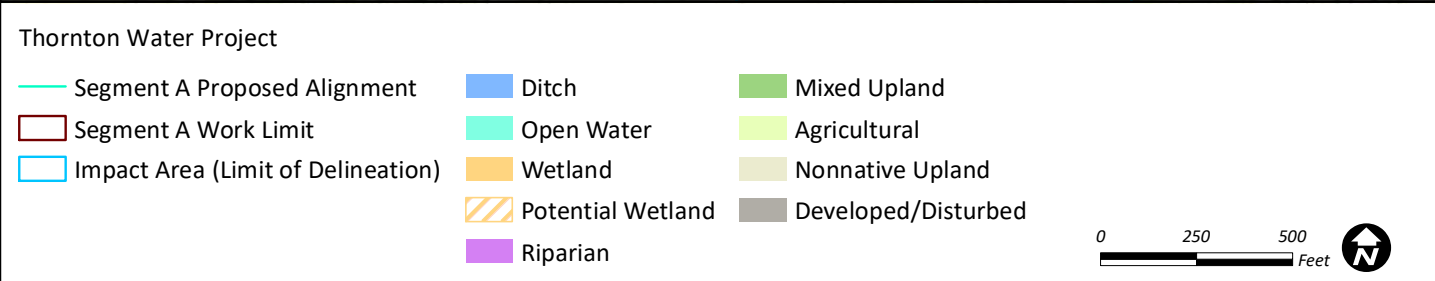
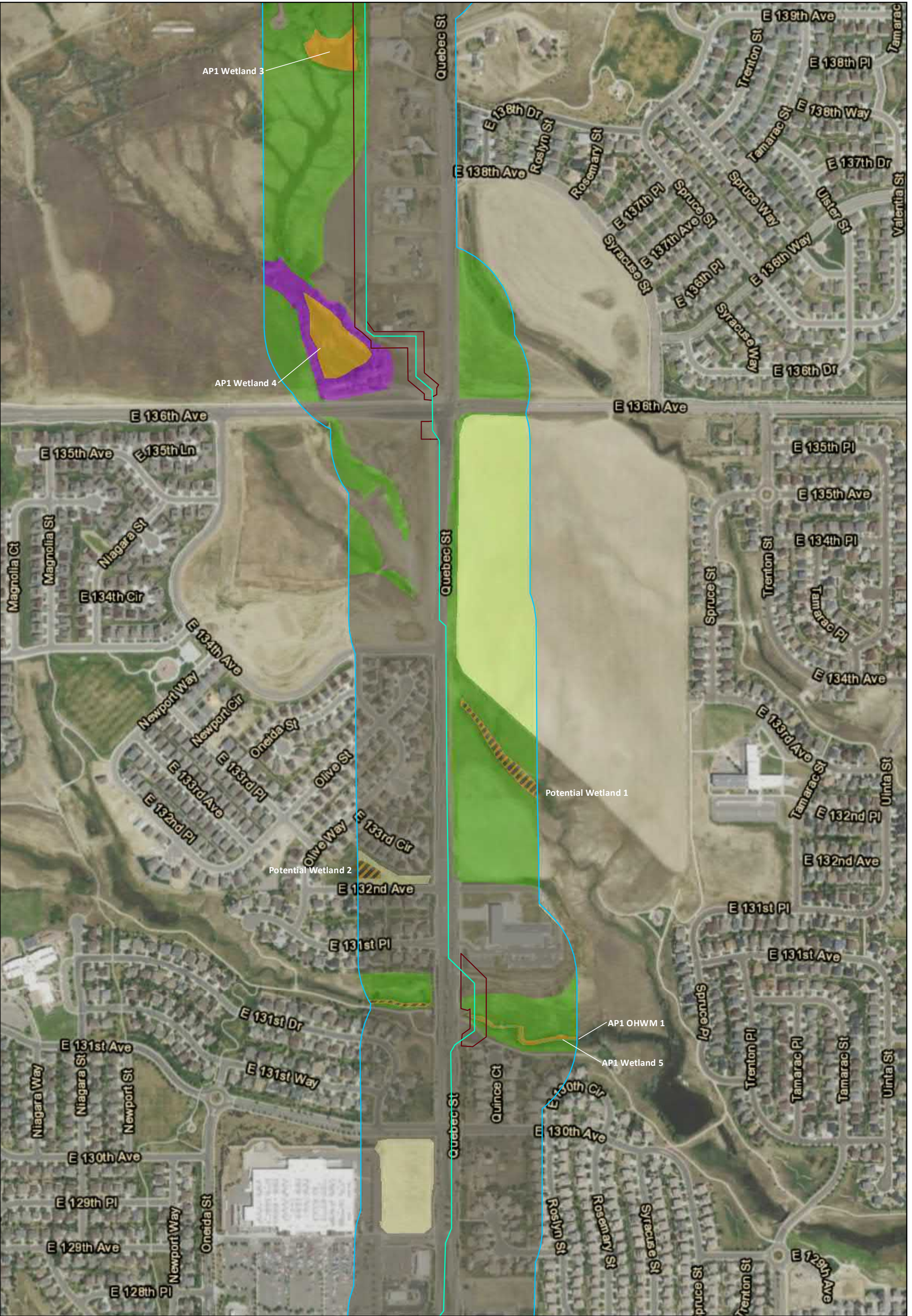
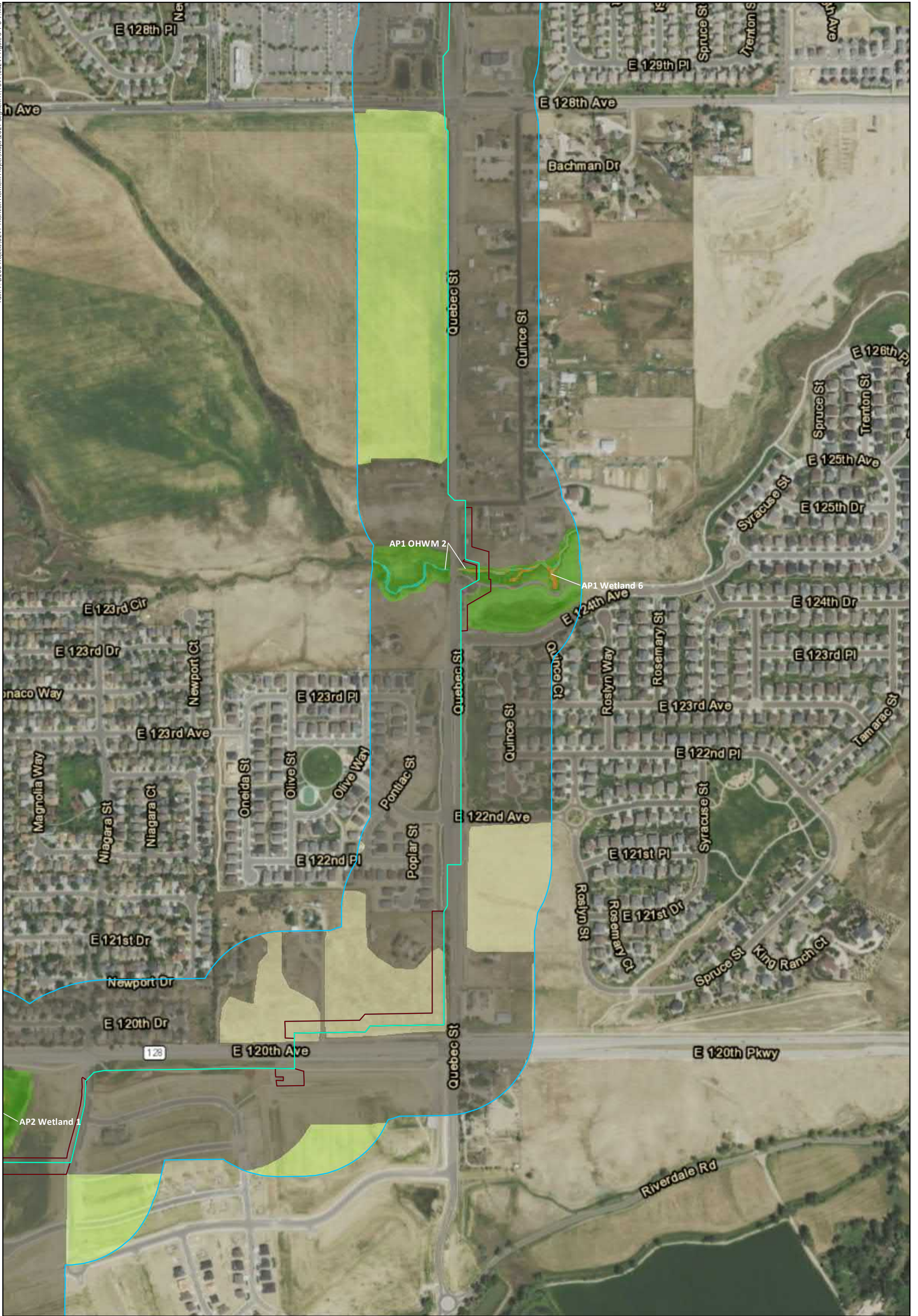


Figure 3.04
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021

ERO Resources Corp.



Thornton Water Project

- | | | |
|------------------------------------|-------------------|---------------------|
| Segment A Proposed Alignment | Ditch | Mixed Upland |
| Segment A Work Limit | Open Water | Agricultural |
| Impact Area (Limit of Delineation) | Wetland | Nonnative Upland |
| | Potential Wetland | Developed/Disturbed |
| | Riparian | |

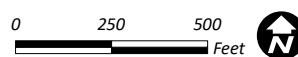


Figure 3.05
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021





Thornton Water Project

- | | | |
|------------------------------------|-------------------|---------------------|
| Segment A Proposed Alignment | Ditch | Mixed Upland |
| Segment A Work Limit | Open Water | Agricultural |
| Impact Area (Limit of Delineation) | Wetland | Nonnative Upland |
| | Potential Wetland | Developed/Disturbed |
| | Riparian | |

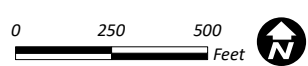
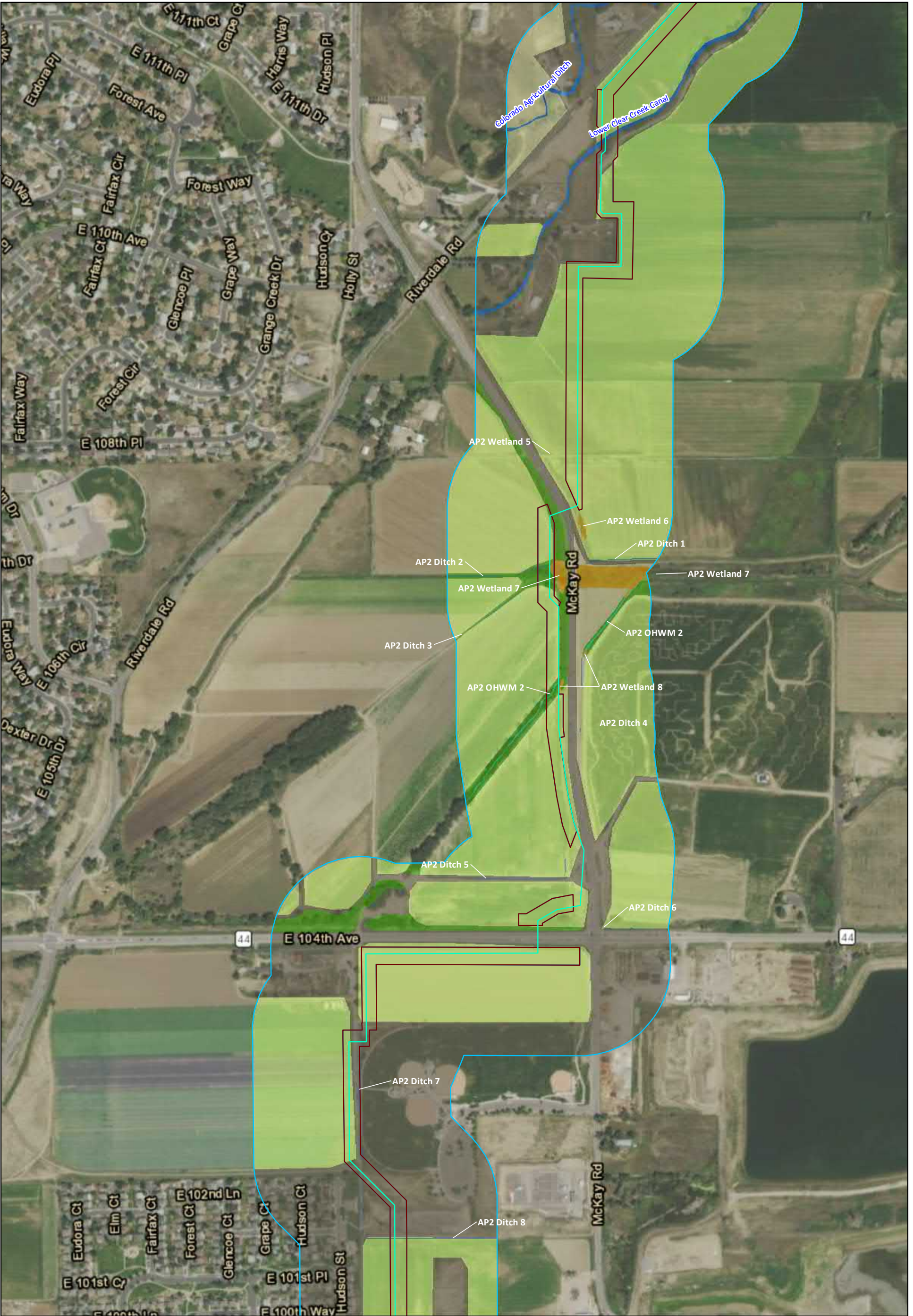







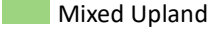
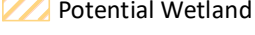
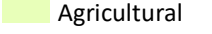
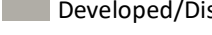
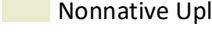



Figure 3.06
Vegetation Communities


Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021





Thornton Water Project			<p>Figure 3.07 Vegetation Communities</p> <p>Prepared for: City of Thornton File: 05241 Figure 3-1 3-9.mxd [dlH] December 6, 2021</p>  <p>ERO Resources Corp.</p>		
	Segment A Proposed Alignment				Ditch
	Segment A Work Limit				Open Water
	Impact Area (Limit of Delineation)				Wetland
	Mixed Upland		Potential Wetland		
	Agricultural		Developed/Disturbed		
	Nonnative Upland		Riparian		

0 250 500 Feet





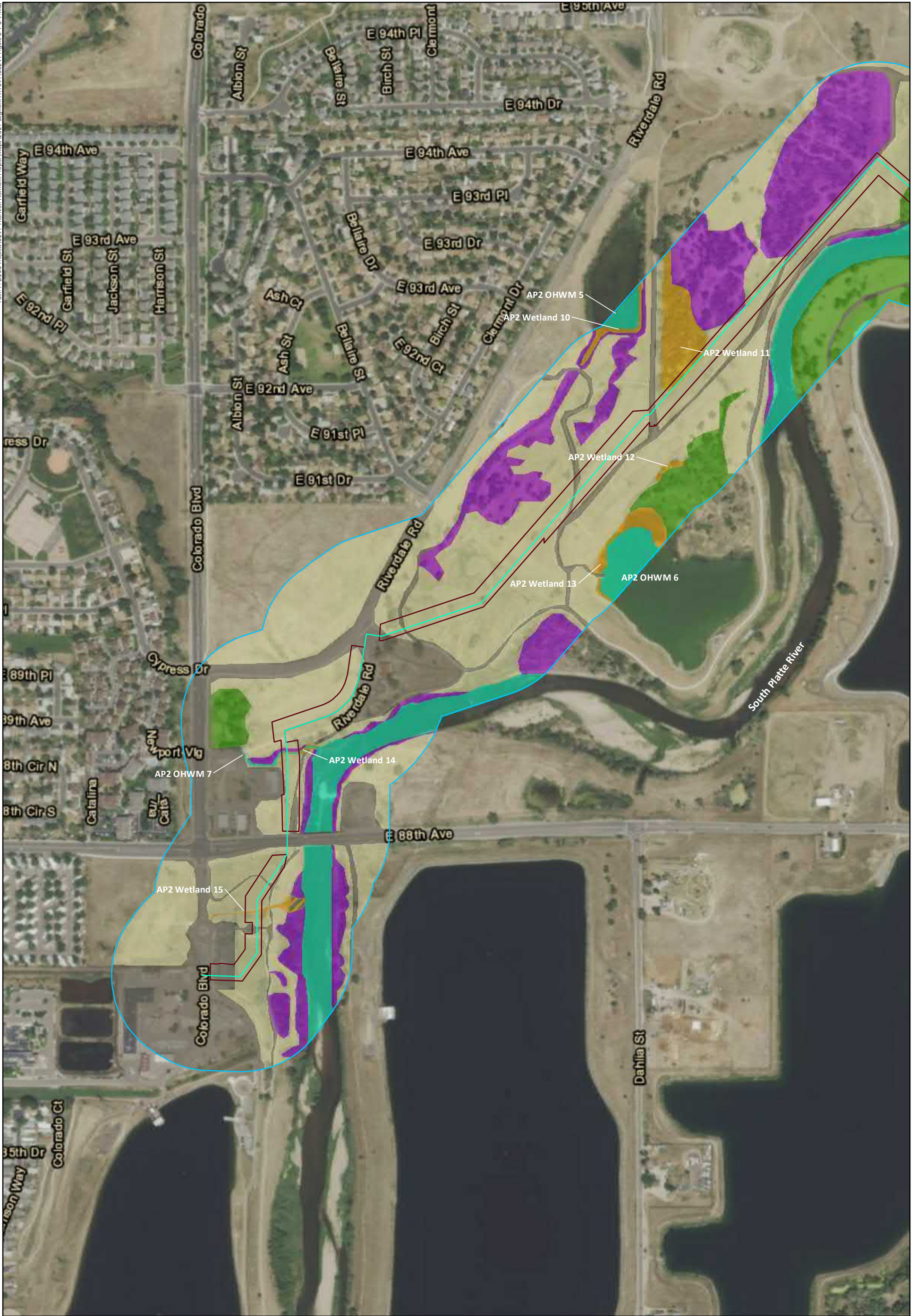
Thornton Water Project

Segment A Proposed Alignment	Ditch	Mixed Upland
Segment A Work Limit	Open Water	Agricultural
Impact Area (Limit of Delineation)	Wetland	Nonnative Upland
	Potential Wetland	Developed/Disturbed
	Riparian	

Figure 3.08
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021

ERO
ERO Resources Corp.



Thornton Water Project

Segment A Proposed Alignment	Ditch	Mixed Upland
Segment A Work Limit	Open Water	Agricultural
Impact Area (Limit of Delineation)	Wetland	Nonnative Upland
	Potential Wetland	Developed/Disturbed
	Riparian	

Figure 3.09
Vegetation Communities

Prepared for: City of Thornton
File: 05241 Figure 3-1 3-9.mxd [dlH]
December 6, 2021

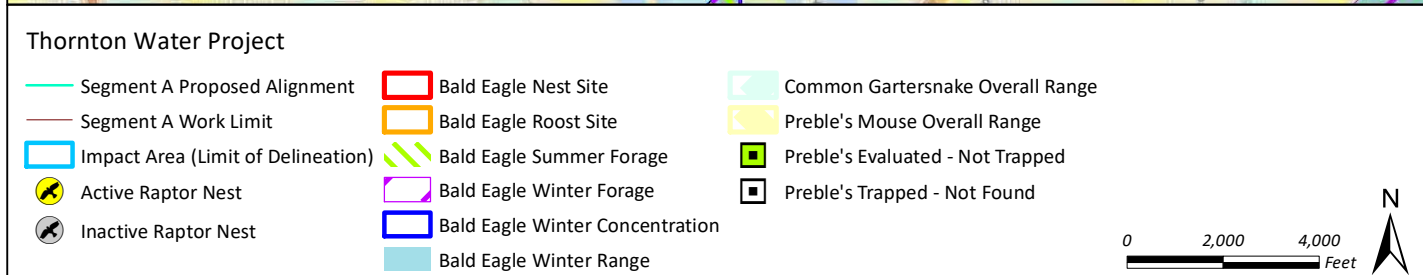
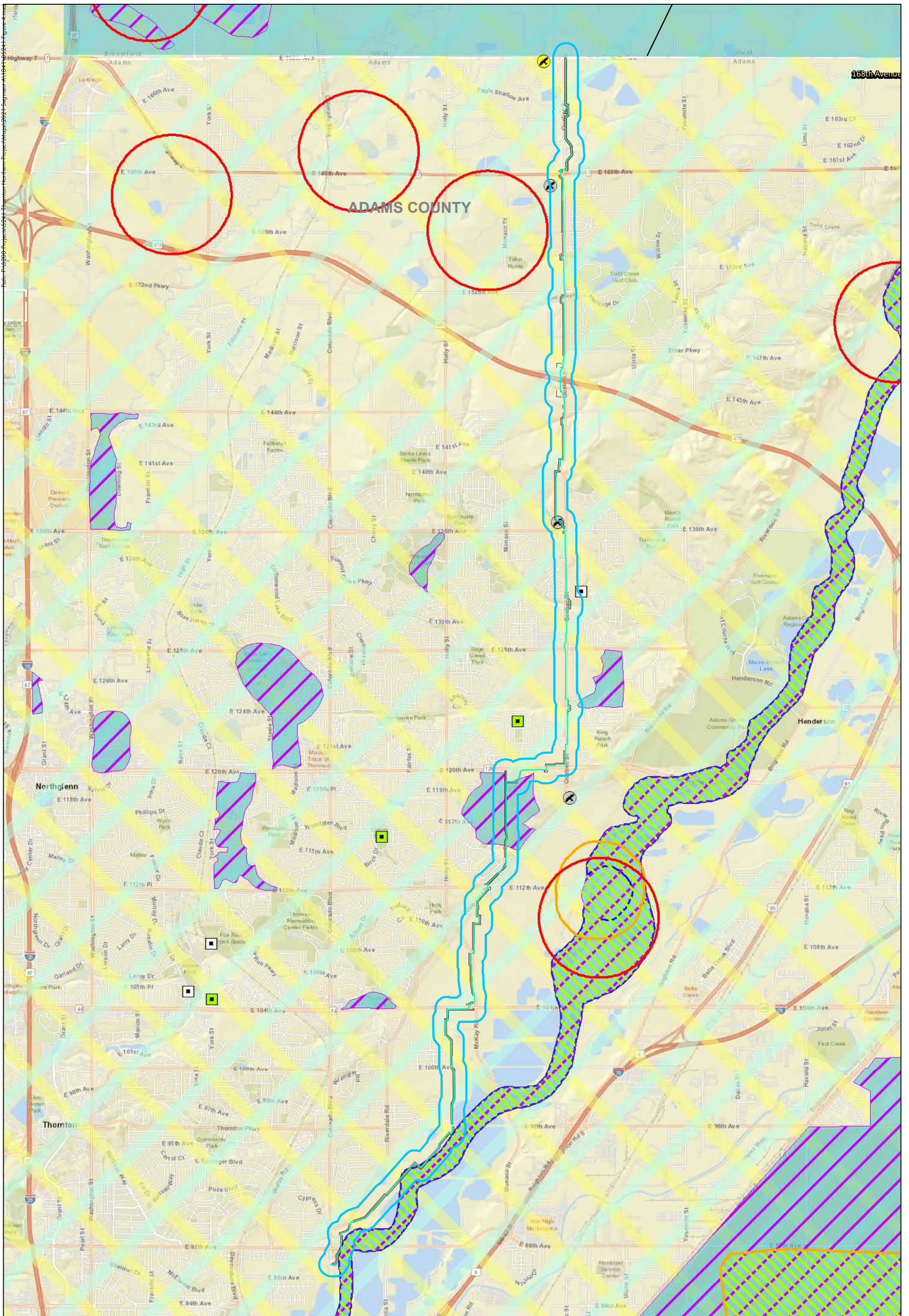
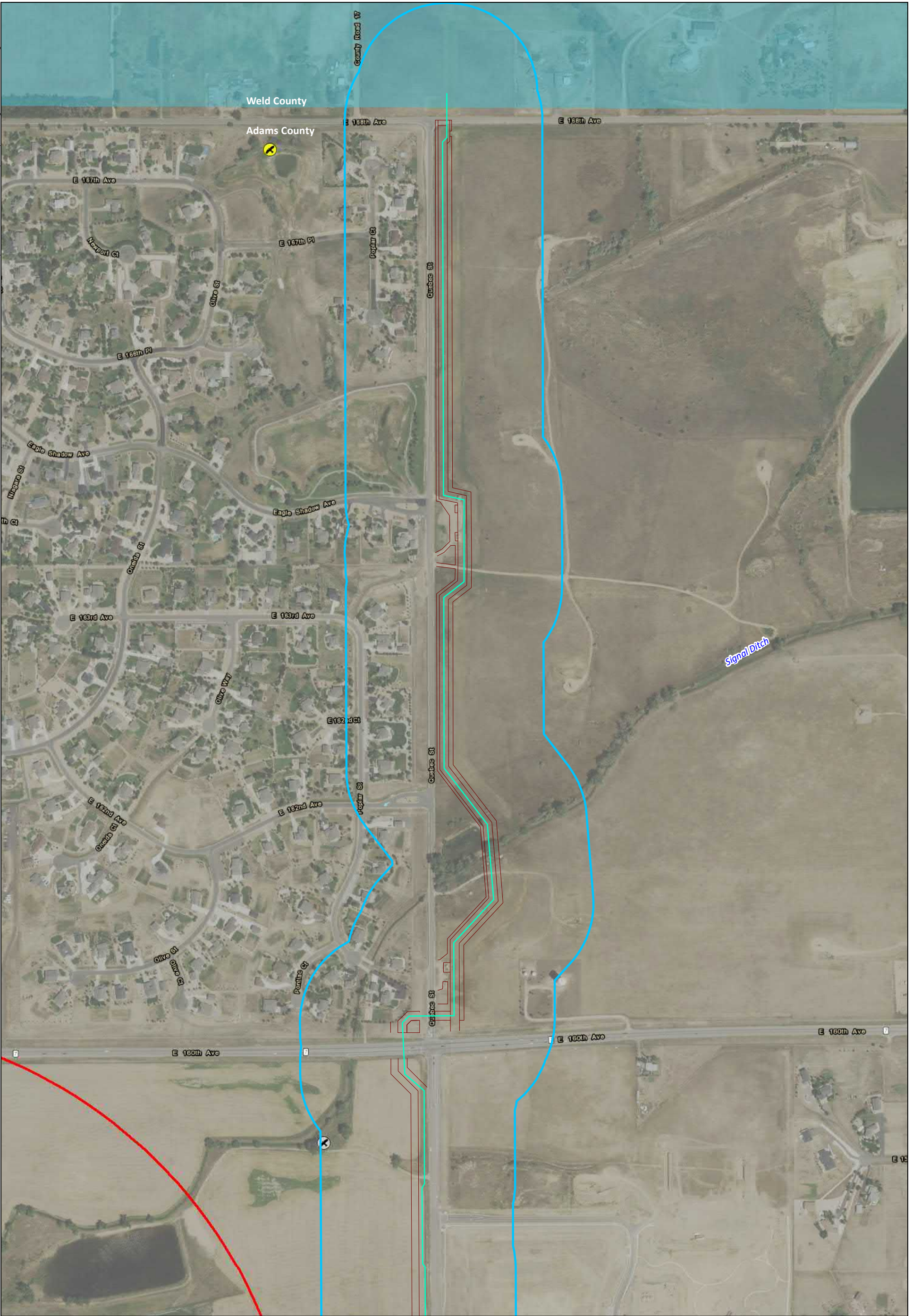


Figure 4
Special Status Wildlife Overview

Prepared for: City of Thornton
File: 05241 Figure 4.mxd [dIH]
December 1, 2021

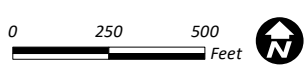
ERO
ERO Resources Corp.

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



Thornton Water Project

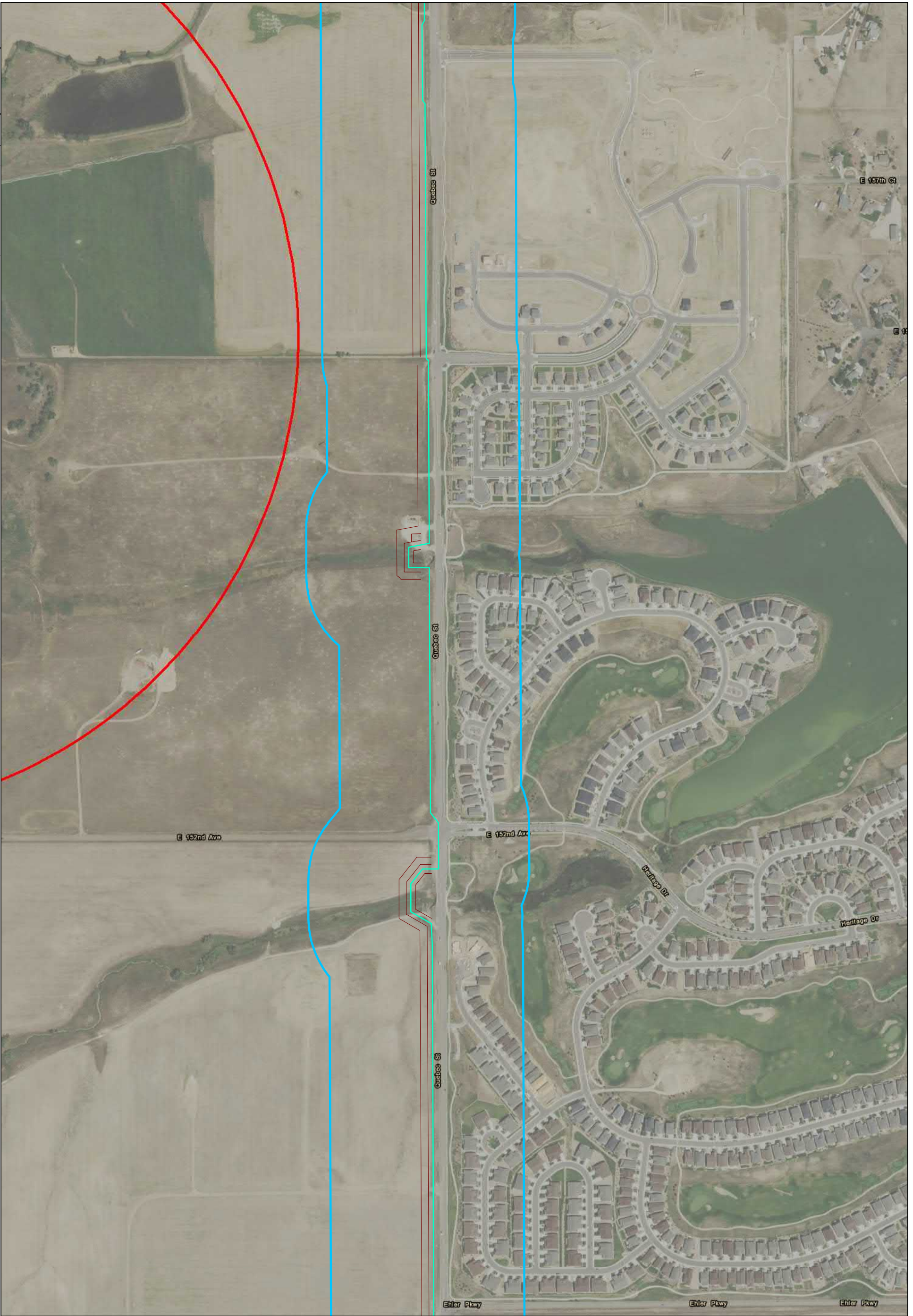
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Active Raptor Nest
- Inactive Raptor Nest
- Bald Eagle Nest Site
- Bald Eagle Roost Site
- Bald Eagle Summer Foraging
- Bald Eagle Winter Foraging
- Bald Eagle Winter Concentration
- Bald Eagle Winter Range
- Preble's Evaluated - Not Trapped
- Preble's Trapped - Not Found
- Prairie Dog Colony



**Figure 5.01
Wildlife**

Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021

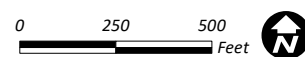




Thornton Water Project

- | | | |
|------------------------------------|---------------------------------|----------------------------------|
| Segment A Proposed Alignment | Bald Eagle Nest Site | Preble's Evaluated - Not Trapped |
| Segment A Work Limit | Bald Eagle Roost Site | Preble's Trapped - Not Found |
| Impact Area (Limit of Delineation) | Bald Eagle Summer Forage | Prairie Dog Colony |
| Active Raptor Nest | Bald Eagle Winter Forage | |
| Inactive Raptor Nest | Bald Eagle Winter Concentration | |
| | Bald Eagle Winter Range | |

**Figure 5.02
Wildlife**



Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dH]
September 24, 2021

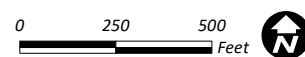




Thornton Water Project

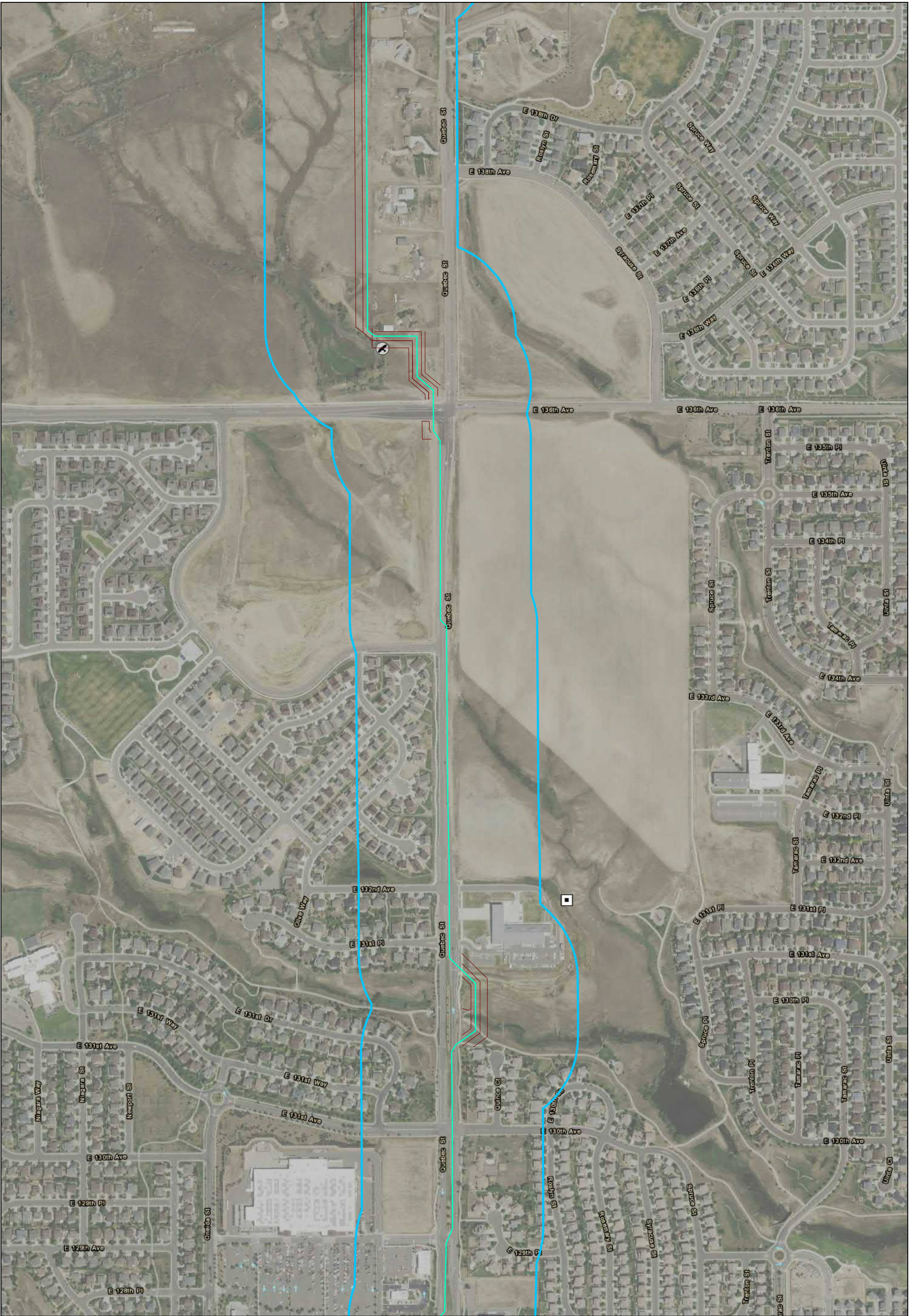
- | | | |
|------------------------------------|---------------------------------|----------------------------------|
| Segment A Proposed Alignment | Bald Eagle Nest Site | Preble's Evaluated - Not Trapped |
| Segment A Work Limit | Bald Eagle Roost Site | Preble's Trapped - Not Found |
| Impact Area (Limit of Delineation) | Bald Eagle Summer Foraging | Prairie Dog Colony |
| Active Raptor Nest | Bald Eagle Winter Foraging | |
| Inactive Raptor Nest | Bald Eagle Winter Concentration | |
| | Bald Eagle Winter Range | |

**Figure 5.03
Wildlife**



Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dH]
September 24, 2021

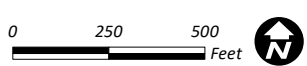




Thornton Water Project

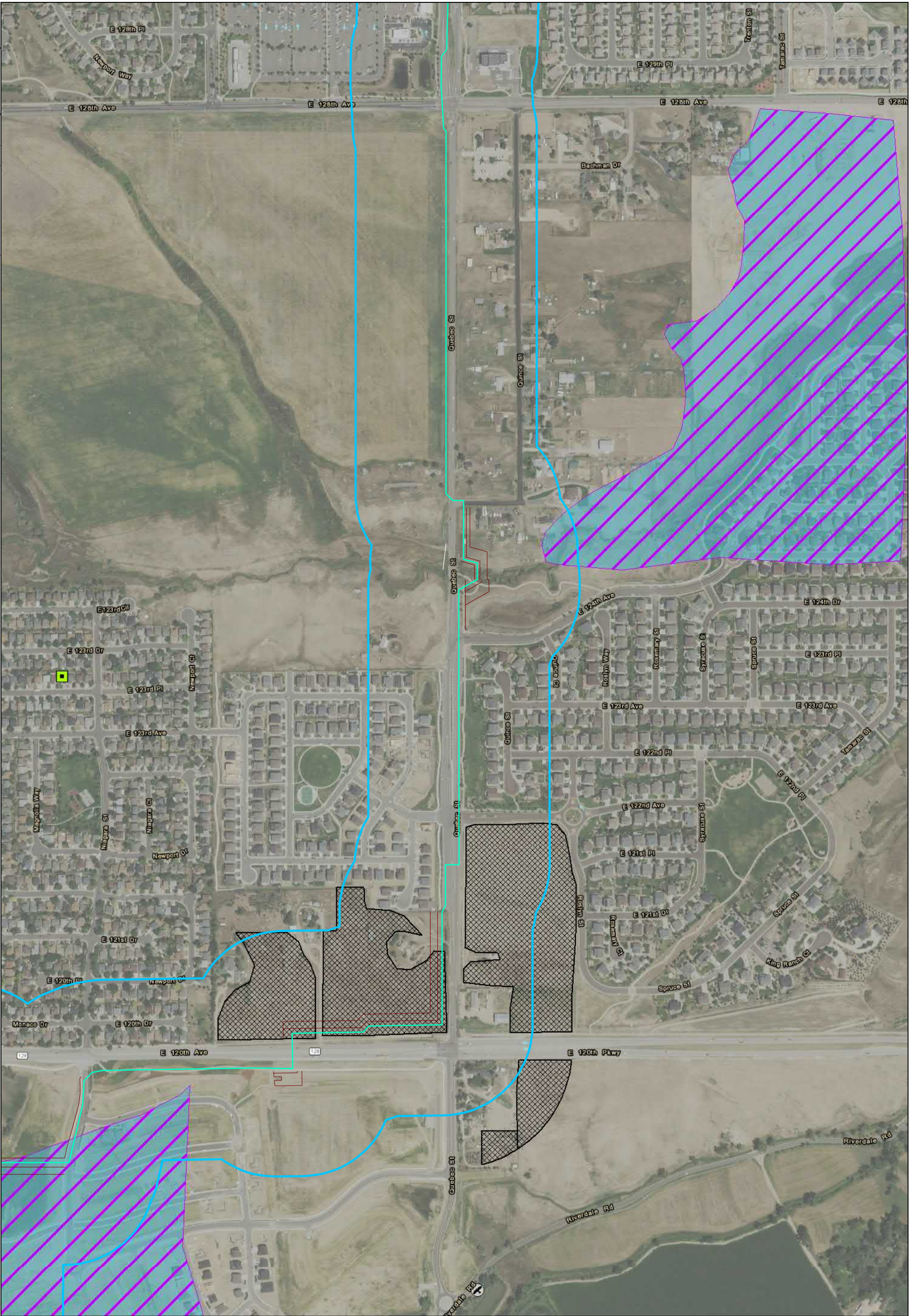
- Segment A Proposed Alignment
- - - Segment A Work Limit
- Impact Area (Limit of Delineation)
- Active Raptor Nest
- Inactive Raptor Nest
- Bald Eagle Nest Site
- Bald Eagle Roost Site
- Bald Eagle Summer Forage
- Bald Eagle Winter Forage
- Bald Eagle Winter Concentration
- Bald Eagle Winter Range
- Preble's Evaluated - Not Trapped
- Preble's Trapped - Not Found
- Prairie Dog Colony

**Figure 5.04
Wildlife**



Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021



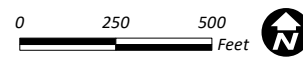


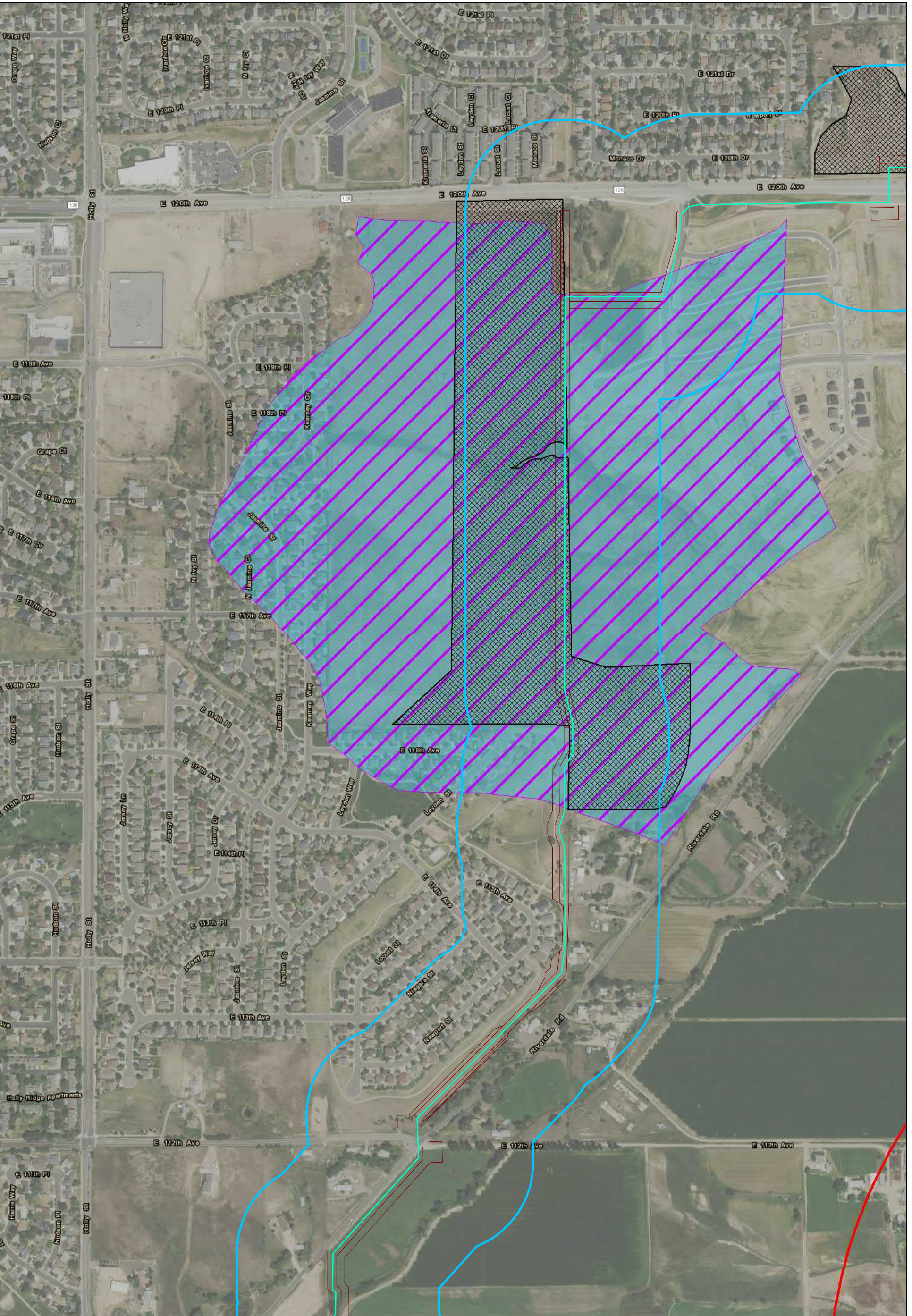
Thornton Water Project

- | | | |
|------------------------------------|---------------------------------|----------------------------------|
| Segment A Proposed Alignment | Bald Eagle Nest Site | Preble's Evaluated - Not Trapped |
| Segment A Work Limit | Bald Eagle Roost Site | Preble's Trapped - Not Found |
| Impact Area (Limit of Delineation) | Bald Eagle Summer Forage | Prairie Dog Colony |
| Active Raptor Nest | Bald Eagle Winter Forage | |
| Inactive Raptor Nest | Bald Eagle Winter Concentration | |
| | Bald Eagle Winter Range | |

**Figure 5.05
Wildlife**

Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021



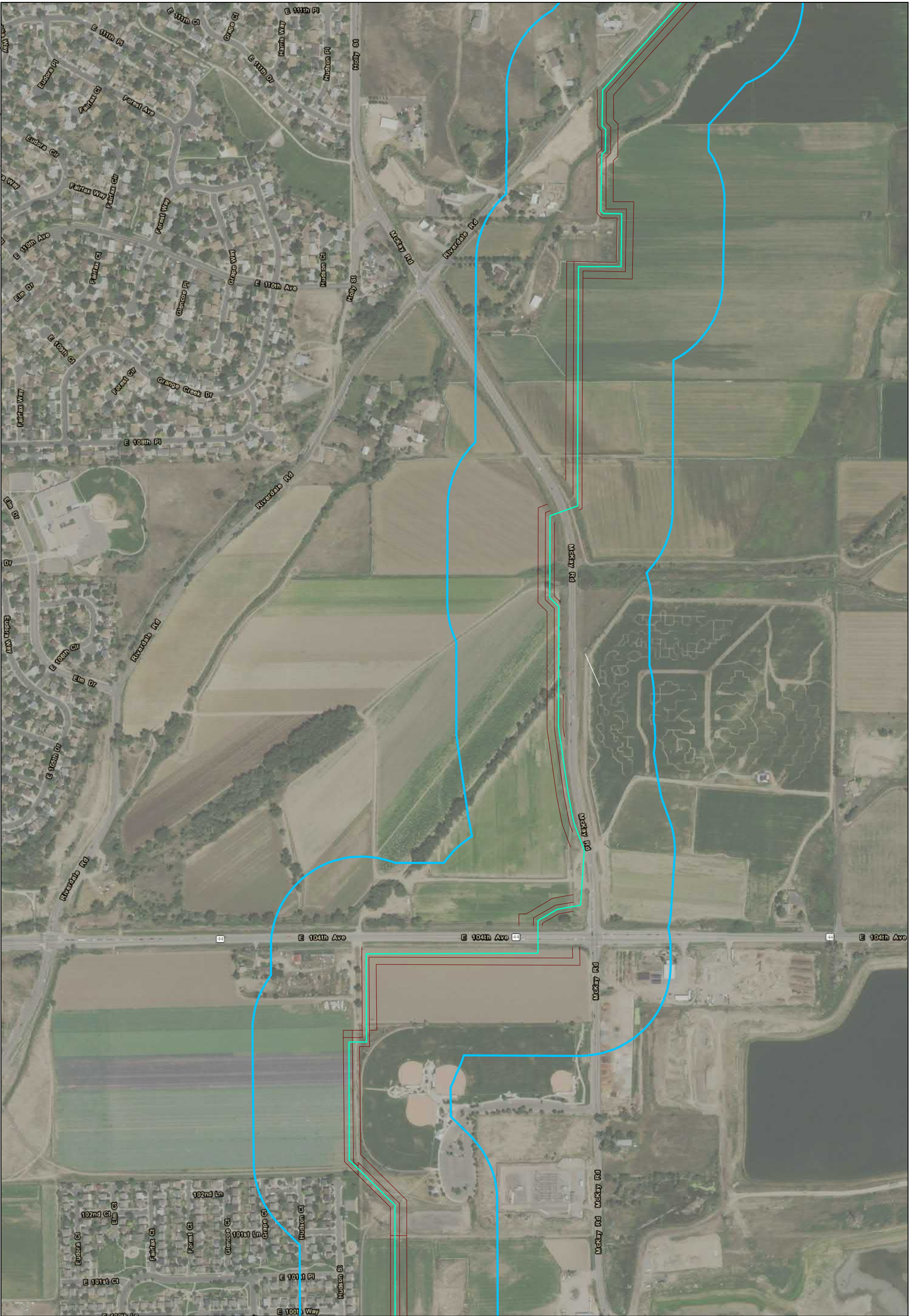


Thornton Water Project

Segment A Proposed Alignment	Bald Eagle Nest Site	Preble's Evaluated - Not Trapped
Segment A Work Limit	Bald Eagle Roost Site	Preble's Trapped - Not Found
Impact Area (Limit of Delineation)	Bald Eagle Summer Forage	Prairie Dog Colony
Active Raptor Nest	Bald Eagle Winter Forage	
Inactive Raptor Nest	Bald Eagle Winter Concentration	
	Bald Eagle Winter Range	

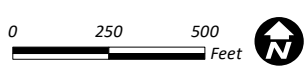
**Figure 5.06
Wildlife**

Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021



Thornton Water Project

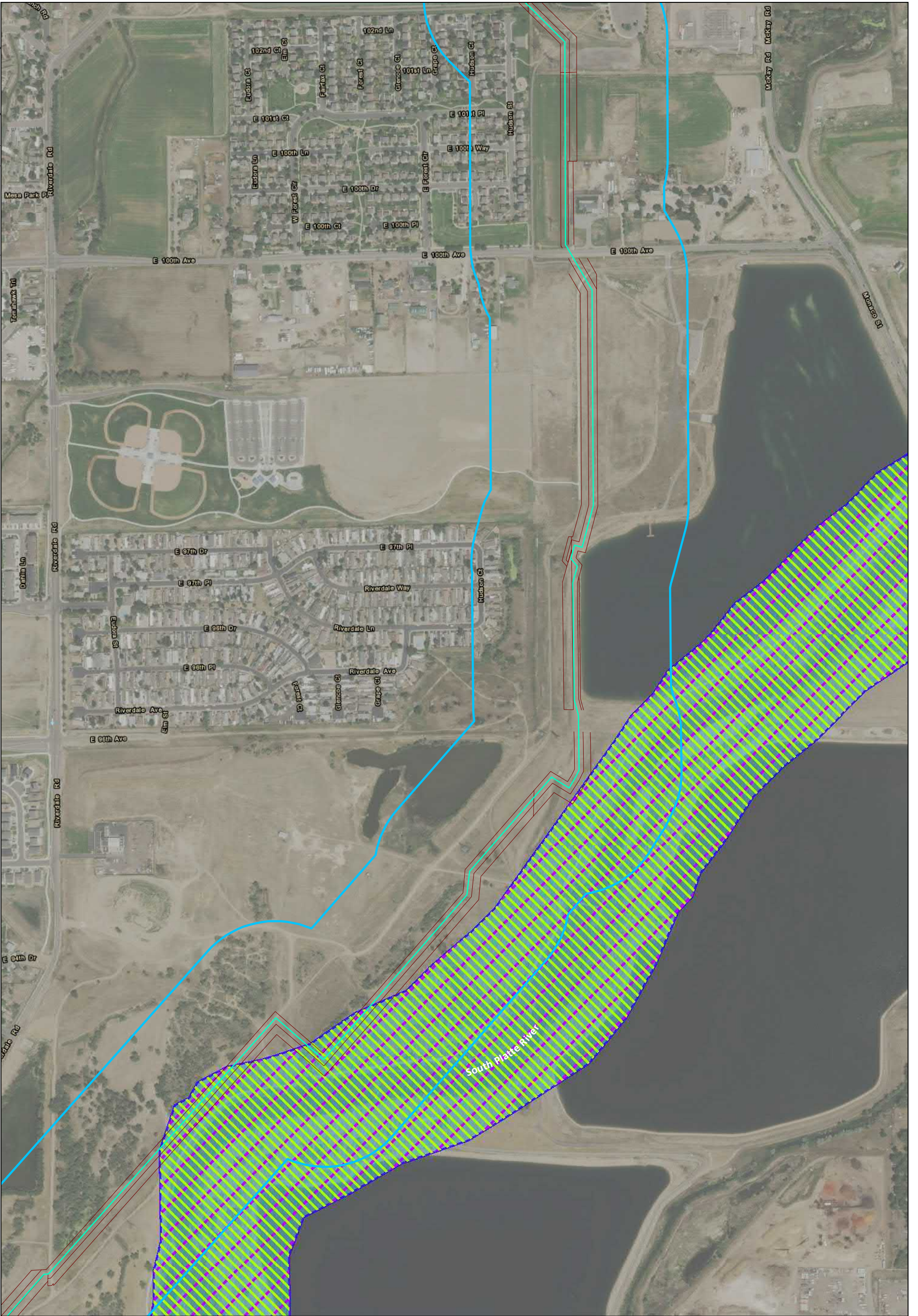
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Active Raptor Nest
- Inactive Raptor Nest
- Bald Eagle Nest Site
- Bald Eagle Roost Site
- Bald Eagle Summer Forage
- Bald Eagle Winter Forage
- Bald Eagle Winter Concentration
- Bald Eagle Winter Range
- Preble's Evaluated - Not Trapped
- Preble's Trapped - Not Found
- Prairie Dog Colony



**Figure 5.07
Wildlife**

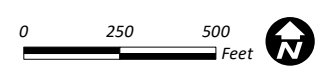
Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dH]
September 24, 2021





Thornton Water Project

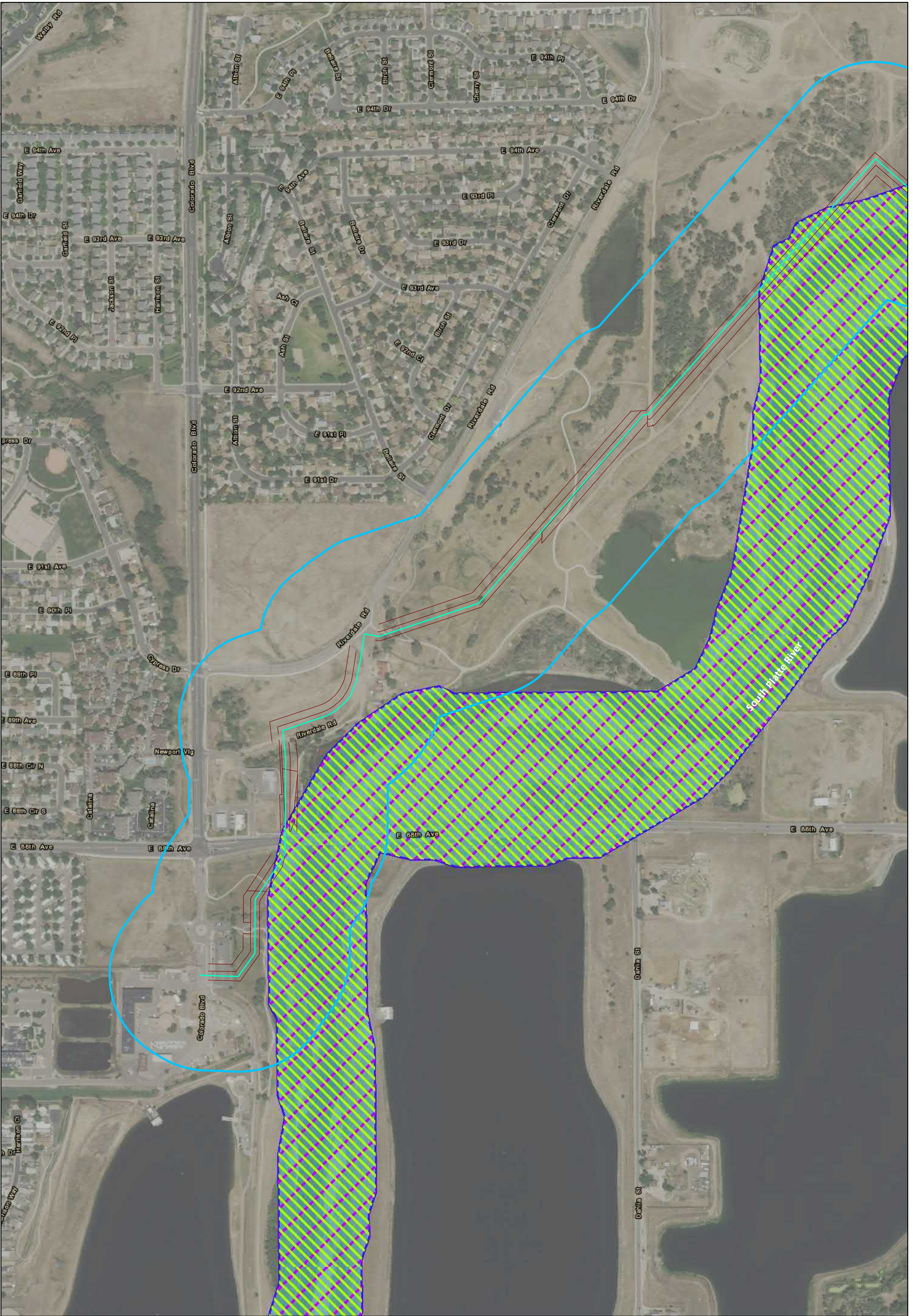
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Active Raptor Nest
- Inactive Raptor Nest
- Bald Eagle Nest Site
- Bald Eagle Roost Site
- Bald Eagle Summer Foraging
- Bald Eagle Winter Foraging
- Bald Eagle Winter Concentration
- Bald Eagle Winter Range
- Preble's Evaluated - Not Trapped
- Preble's Trapped - Not Found
- Prairie Dog Colony



**Figure 5.08
Wildlife**

Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021

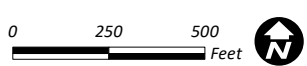




Thornton Water Project

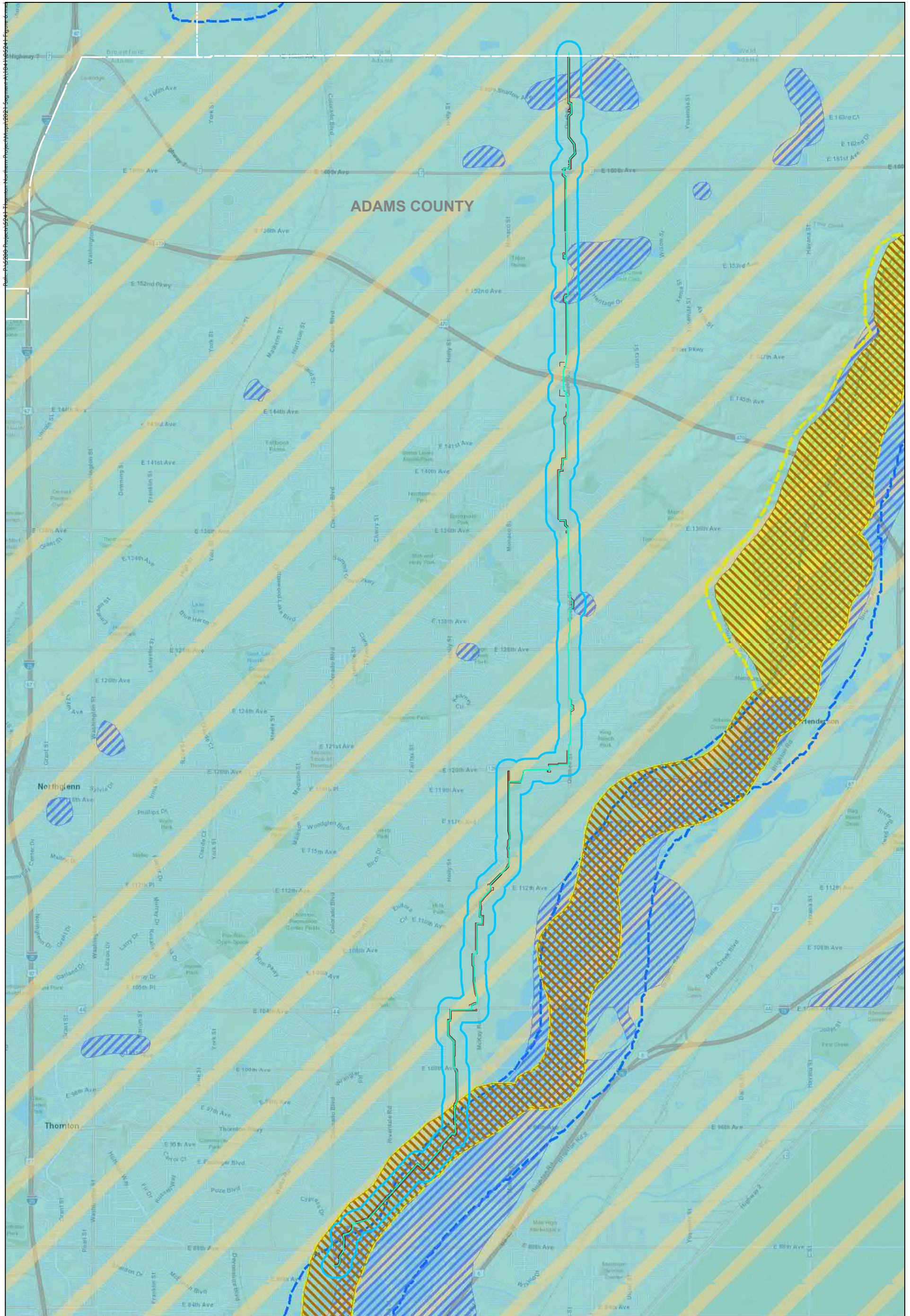
- Segment A Proposed Alignment
- Segment A Work Limit
- Impact Area (Limit of Delineation)
- Active Raptor Nest
- Inactive Raptor Nest
- Bald Eagle Nest Site
- Bald Eagle Roost Site
- Bald Eagle Summer Forage
- Bald Eagle Winter Forage
- Bald Eagle Winter Concentration
- Bald Eagle Winter Range
- Preble's Evaluated - Not Trapped
- Preble's Trapped - Not Found
- Prairie Dog Colony

**Figure 5.09
Wildlife**



Prepared for: City of Thornton
File: 05241 Figure 5-1 5-9.mxd [dlH]
September 24, 2021





Thornton Water Project

Segment A Proposed Alignment	Turkey Production Area	Canada Geese Production Area
Segment A Work Limit	Turkey Winter Range	Canada Geese Winter Concentration Area
Impact Area (Limit of Delineation)	Turkey Overall Range	Canada Geese Foraging Area
		Canada Geese Winter Range

Figure 6
General Wildlife Overview

Prepared for: City of Thornton
File: 05241 Figure 6.mxd [dIH]
December 1, 2021

ERO
ERO Resources Corp.

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

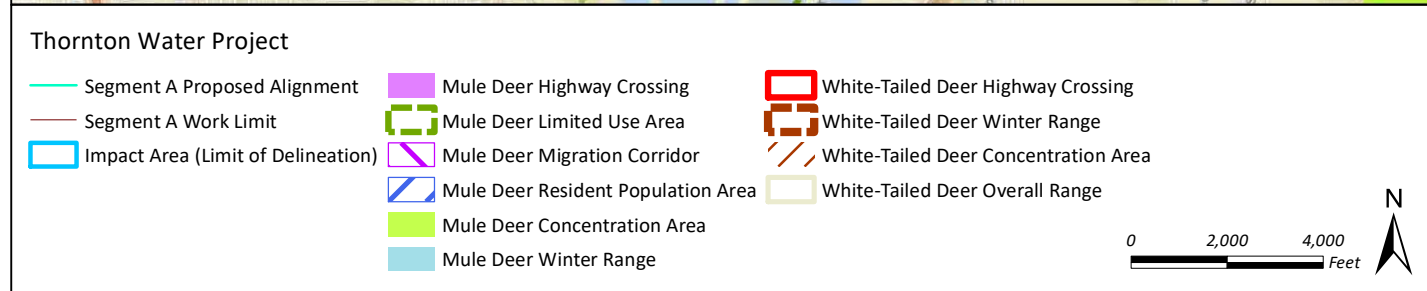
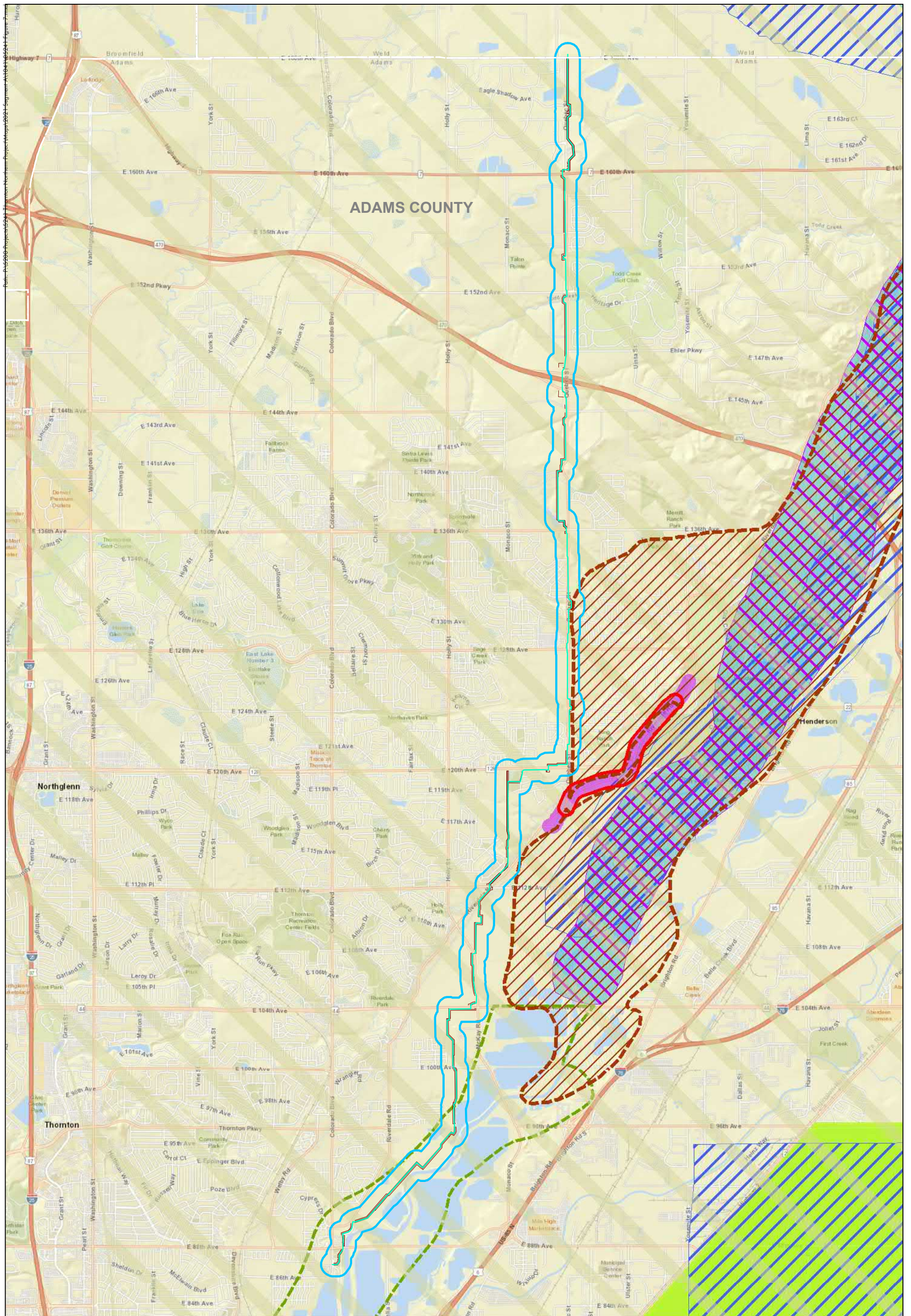
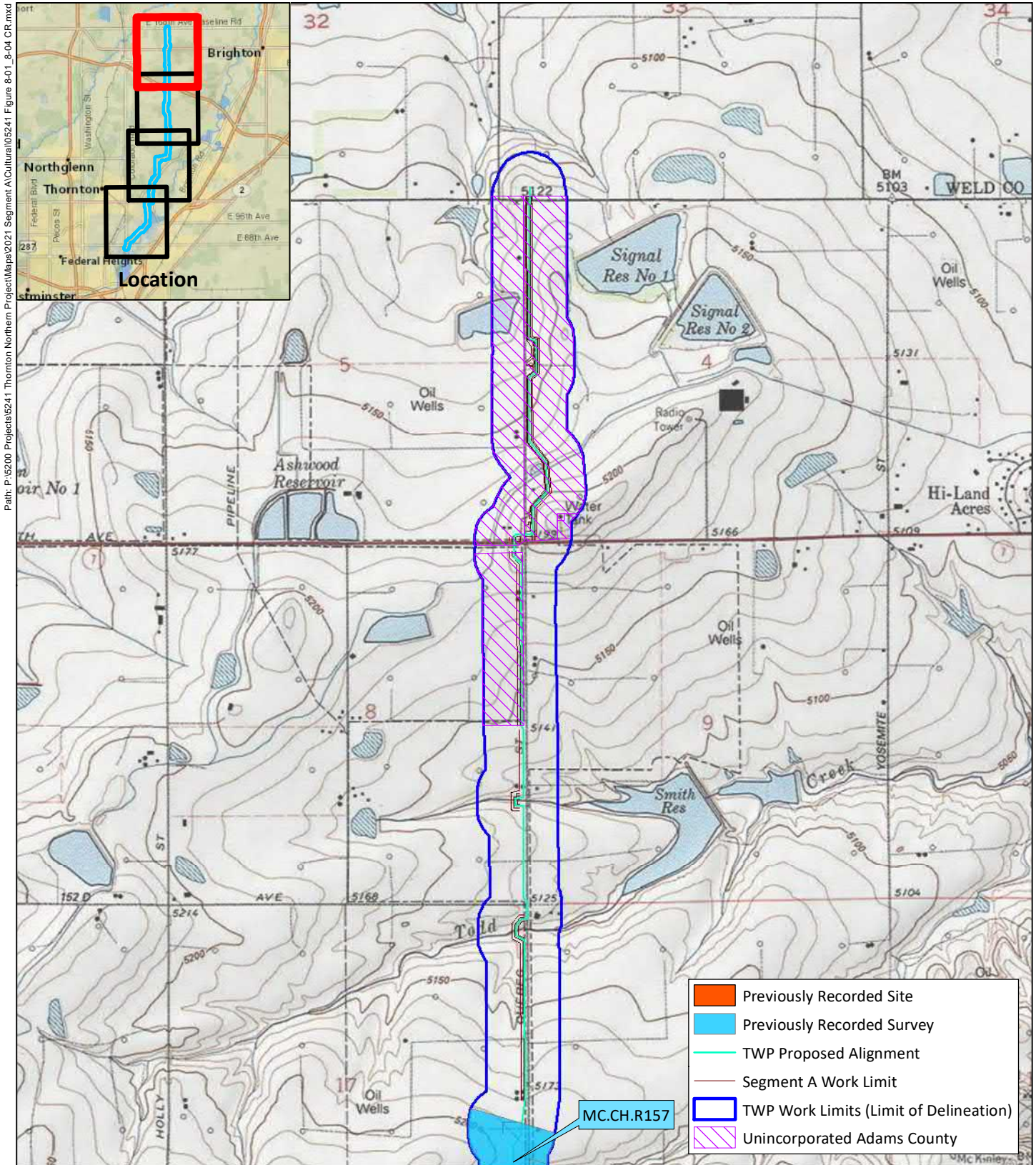


Figure 7
Big Game Overview

Prepared for: City of Thornton
File: 05241 Figure 7.mxd [dIH]
December 1, 2021

ERO Resources Corp.

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



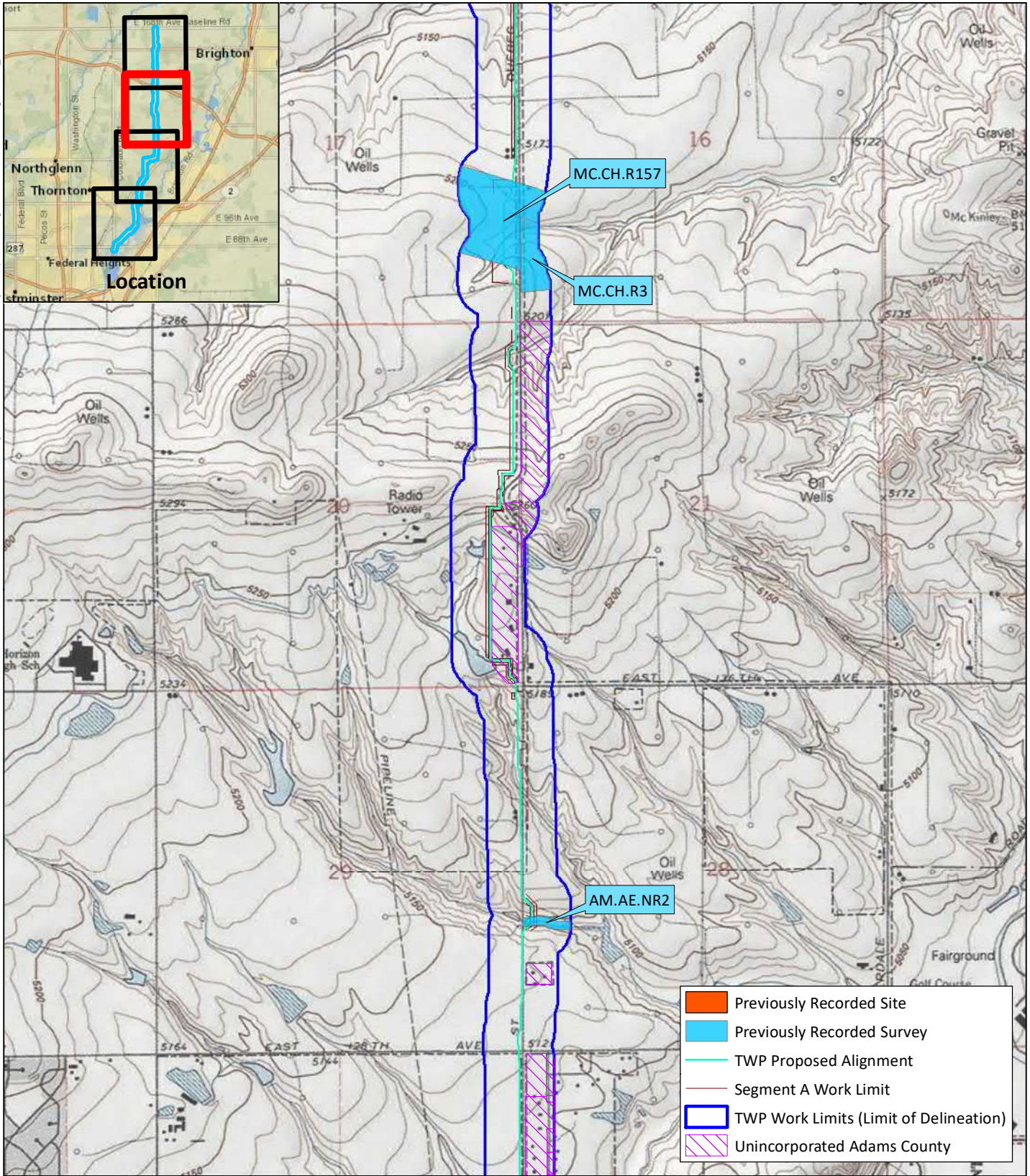
Natural and Cultural Resources Assessment
Thornton Water Project— Segment A
Adams County, Colorado

Section 33, T1N, R 67W; 6th PM
Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, and 33, T1S, R 67W; 6th PM
Sections 24 and 25, T2S, R 68W; 6th PM
USGS Commerce City, CO, Eastlake, CO,
and Frederick, CO Quadrangles (1:24,000; 1980)
Adams County, Colorado

Figure 8.01
OAHF File Search Results

Prepared for: City of Thornton
File: 05241 Figure 8-01_8-04 CR.mxd [dIH]
January 24, 2022





Natural and Cultural Resources Assessment
 Thornton Water Project— Segment A
 Adams County, Colorado

Section 33, T1N, R 67W; 6th PM
 Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, and 33, T1S, R 67W; 6th PM
 Sections 24 and 25, T2S, R 68W; 6th PM
 USGS Commerce City, CO, Eastlake, CO,
 and Frederick, CO Quadrangles (1:24,000; 1980)
 Adams County, Colorado

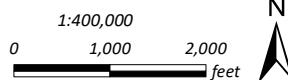
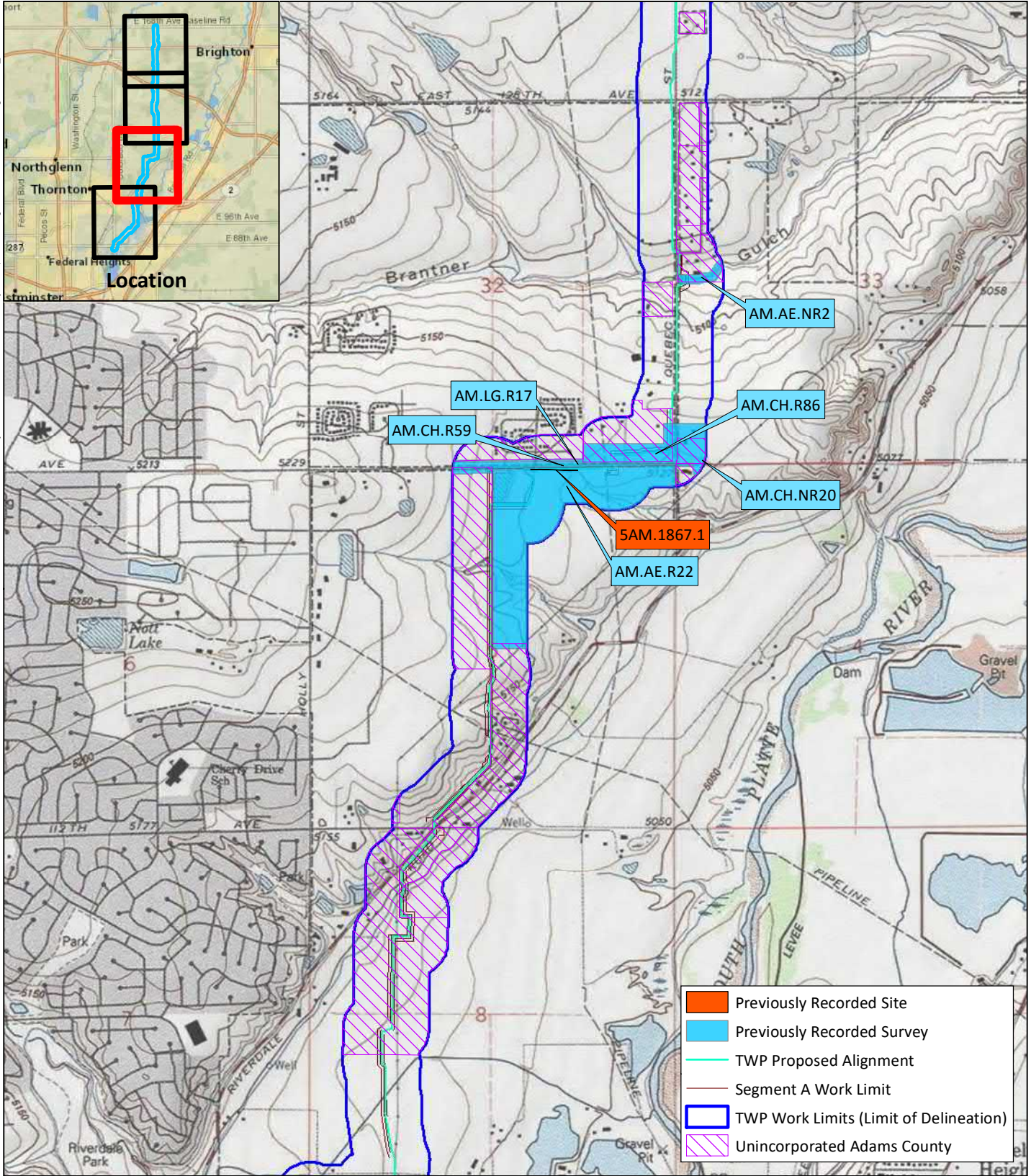


Figure 8.02
 OAHF File Search Results

Prepared for: City of Thornton
 File: 05241 Figure 8-01_8-04 CR.mxd [dlH]
 January 24, 2022





Natural and Cultural Resources Assessment
 Thornton Water Project— Segment A
 Adams County, Colorado

Section 33, T1N, R 67W; 6th PM
 Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, and 33, T1S, R 67W; 6th PM
 Sections 24 and 25, T2S, R 68W; 6th PM
 USGS Commerce City, CO, Eastlake, CO,
 and Frederick, CO Quadrangles (1:24,000; 1980)
 Adams County, Colorado

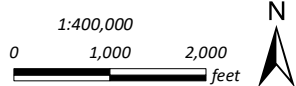
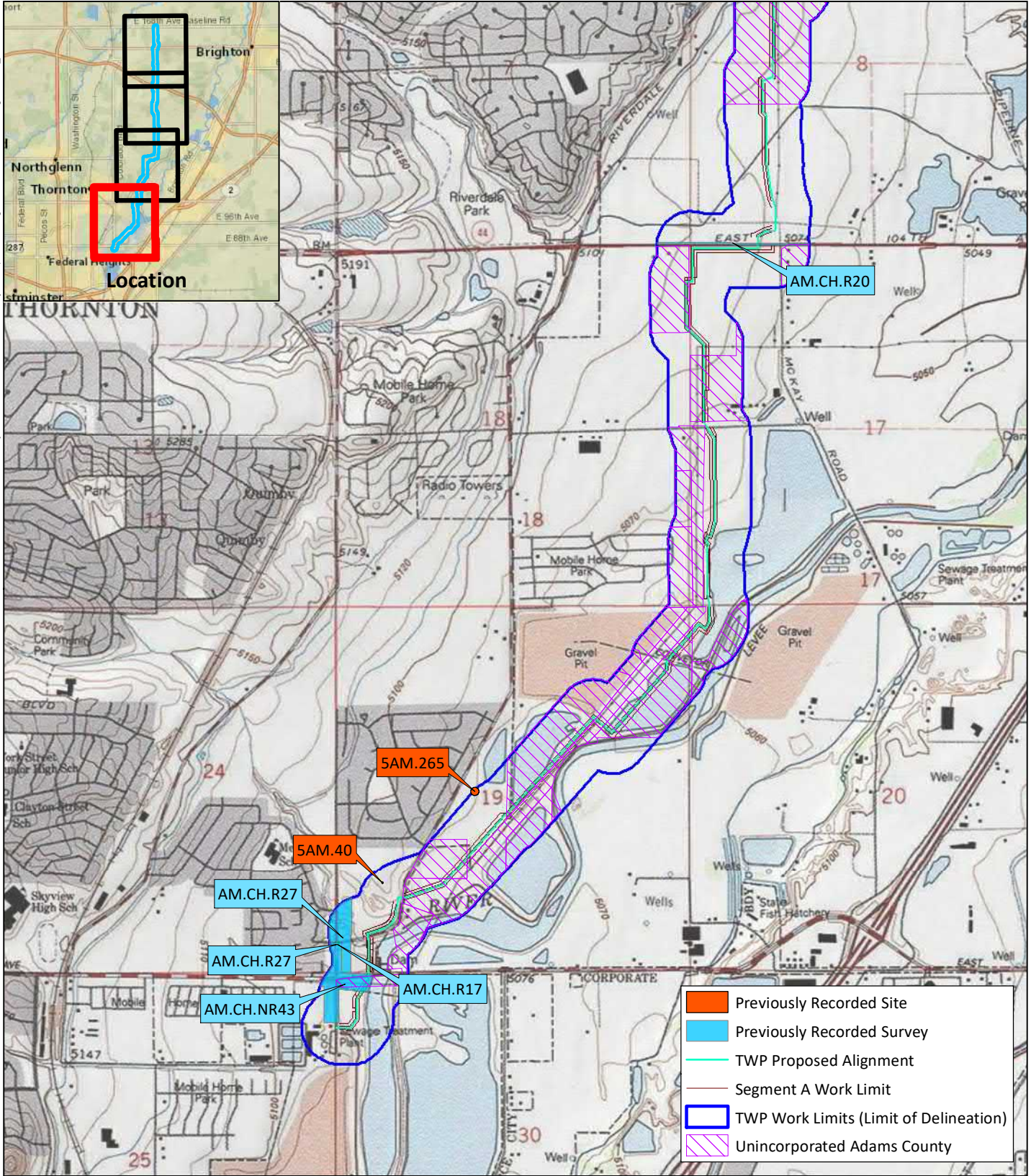


Figure 8.03
 OAH File Search Results

Prepared for: City of Thornton
 File: 05241 Figure 8-01_8-04 CR.mxd [dlH]
 January 24, 2022





Natural and Cultural Resources Assessment
 Thornton Water Project— Segment A
 Adams County, Colorado

Section 33, T1N, R 67W; 6th PM
 Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, and 33, T1S, R 67W; 6th PM
 Sections 24 and 25, T2S, R 68W; 6th PM
 USGS Commerce City, CO, Eastlake, CO,
 and Frederick, CO Quadrangles (1:24,000; 1980)
 Adams County, Colorado

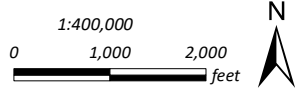
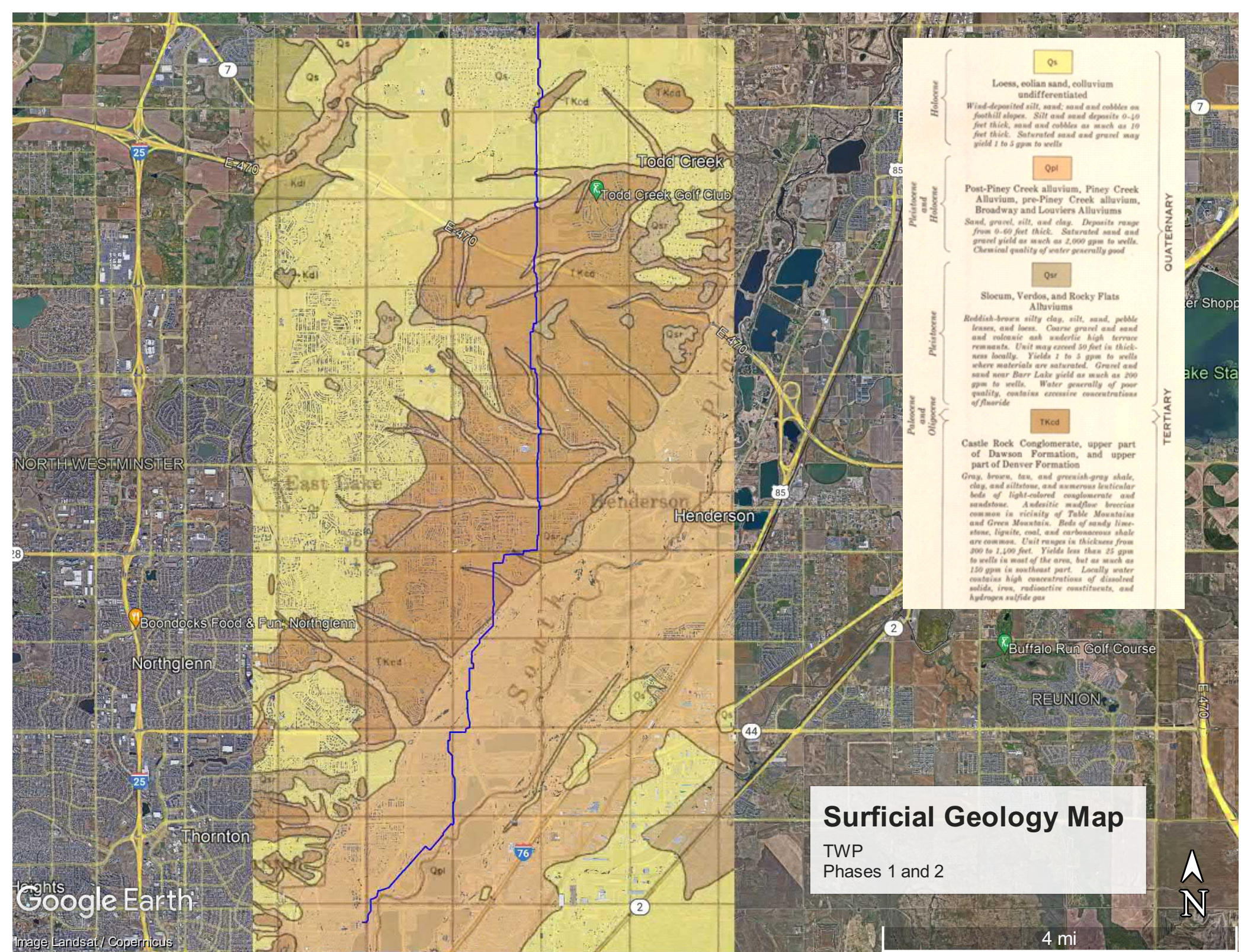


Figure 8.04
 OAH File Search Results

Prepared for: City of Thornton
 File: 05241 Figure 8-01_8-04 CR.mxd [dlH]
 January 24, 2022



Appendix J – Site Geologic Conditions and Natural Hazards



Holocene	Qs	Loess, eolian sand, colluvium undifferentiated <i>Wind-deposited silt, sand, sand and cobbles on foothill slopes. Silt and sand deposits 0-10 feet thick, sand and cobbles as much as 10 feet thick. Saturated sand and gravel may yield 1 to 5 gpm to wells</i>
	Qpl	Post-Piney Creek alluvium, Piney Creek Alluvium, pre-Piney Creek alluvium, Broadway and Louviers Alluviums <i>Sand, gravel, silt, and clay. Deposits range from 0-60 feet thick. Saturated sand and gravel yield as much as 2,000 gpm to wells. Chemical quality of water generally good</i>
Pleistocene and Holocene	Qsr	Slocum, Verdos, and Rocky Flats Alluviums <i>Reddish-brown silty clay, silt, sand, pebble lenses, and loess. Coarse gravel and sand and volcanic ash underlie high terrace remnants. Unit may exceed 50 feet in thickness locally. Yields 1 to 5 gpm to wells where materials are saturated. Gravel and sand near Barr Lake yield as much as 200 gpm to wells. Water generally of poor quality, contains excessive concentrations of fluoride</i>
	TKcd	Castle Rock Conglomerate, upper part of Dawson Formation, and upper part of Denver Formation <i>Gray, brown, tan, and greenish-gray shale, clay, and siltstone, and numerous lenticular beds of light-colored conglomerate and sandstone. Andesitic mudflow breccia common in vicinity of Table Mountain and Green Mountain. Beds of sandy limestone, lignite, coal, and carbonaceous shale are common. Unit ranges in thickness from 300 to 1,100 feet. Yields less than 25 gpm to wells in most of the area, but as much as 150 gpm in southeast part. Locally water contains high concentrations of dissolved solids, iron, radioactive constituents, and hydrogen sulfide gas</i>

QUATERNARY
TERTIARY

Surficial Geology Map
TWP
Phases 1 and 2



4 mi

Google Earth

Image Landsat / Copernicus

Collapsible Soils Map

TWP
Phases 1 and 2

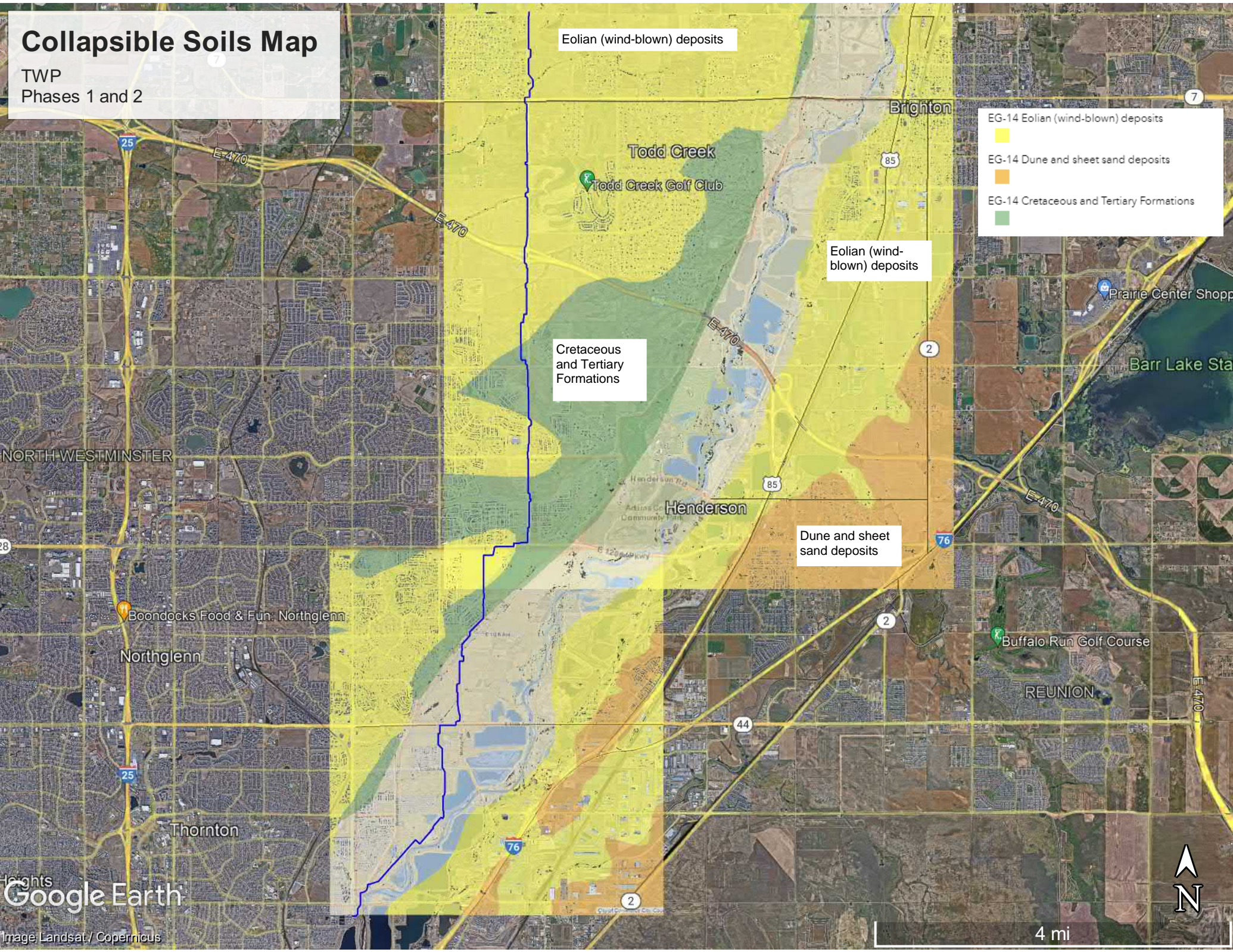
- EG-14 Eolian (wind-blown) deposits
- EG-14 Dune and sheet sand deposits
- EG-14 Cretaceous and Tertiary Formations

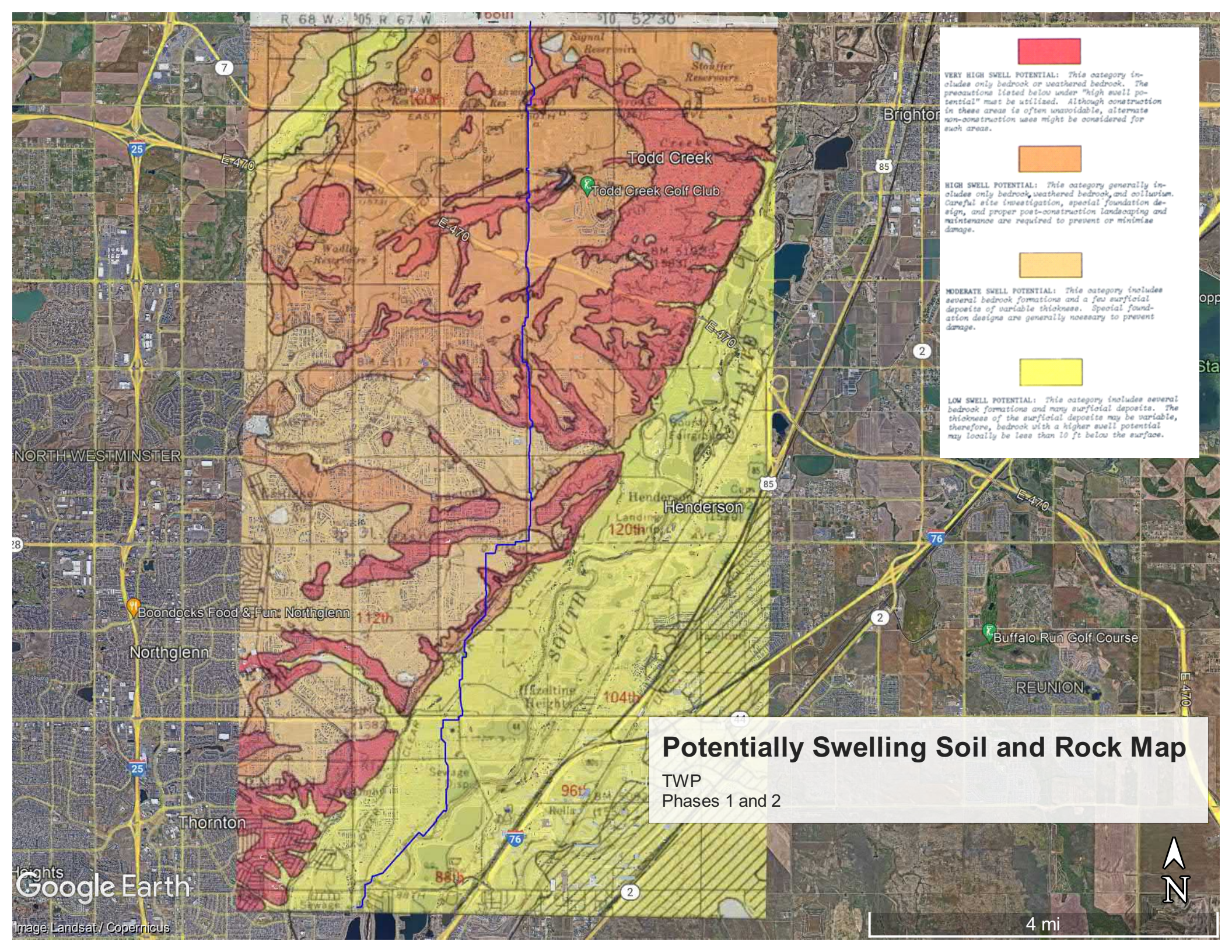
Eolian (wind-blown) deposits

Eolian (wind-blown) deposits

Cretaceous and Tertiary Formations

Dune and sheet sand deposits





VERY HIGH SWELL POTENTIAL: This category includes only bedrock or weathered bedrock. The precautions listed below under "high swell potential" must be utilized. Although construction in these areas is often unavoidable, alternate non-construction uses might be considered for such areas.

HIGH SWELL POTENTIAL: This category generally includes only bedrock, weathered bedrock, and colluvium. Careful site investigation, special foundation design, and proper post-construction landscaping and maintenance are required to prevent or minimize damage.

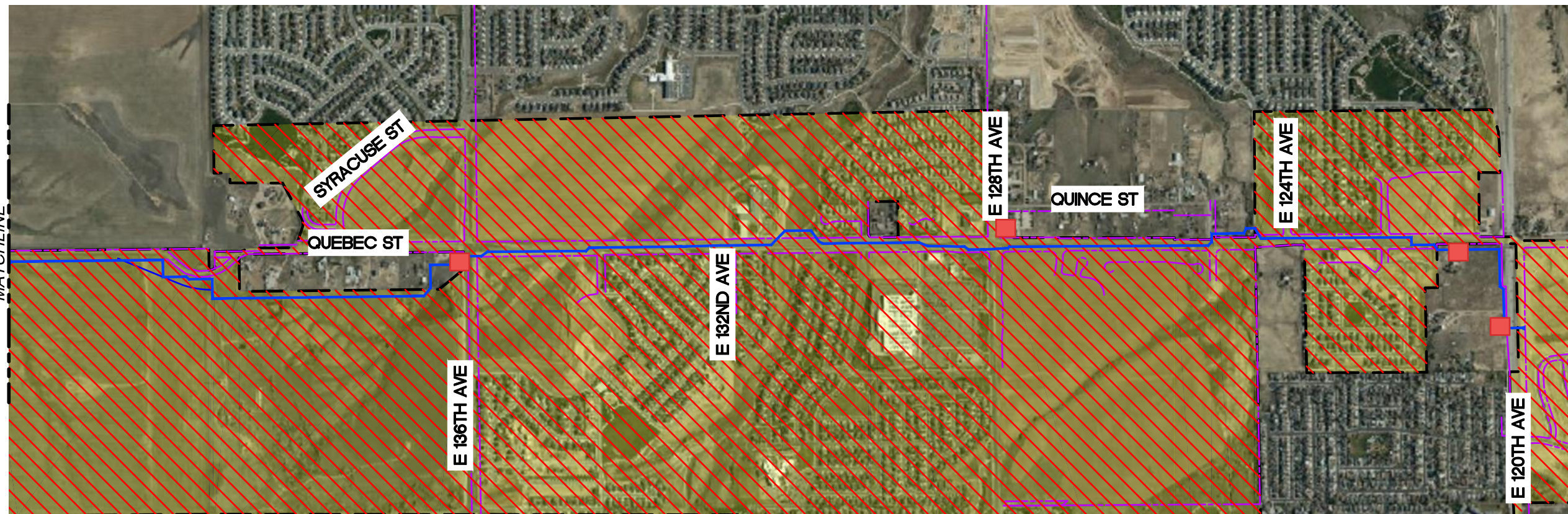
MODERATE SWELL POTENTIAL: This category includes several bedrock formations and a few surficial deposits of variable thickness. Special foundation designs are generally necessary to prevent damage.

LOW SWELL POTENTIAL: This category includes several bedrock formations and many surficial deposits. The thickness of the surficial deposits may be variable, therefore, bedrock with a higher swell potential may locally be less than 10 ft below the surface.

Potentially Swelling Soil and Rock Map
 TWP
 Phases 1 and 2

Appendix K – Roadway Access Points

Last saved by: STEPHEN MULLER(2022-01-21) Last Plotted: 2022-01-21
Filename: C:\PWORKING\AECOM_DS20_NA_2019\STEPHEN.MULLER@AECOM.COM\105070\FIG-ADCO MAPS.DWG



THORNTON REACH
CITY OF THORNTON
Project No.: 12-777H5/60619101
Date: DEC 2021

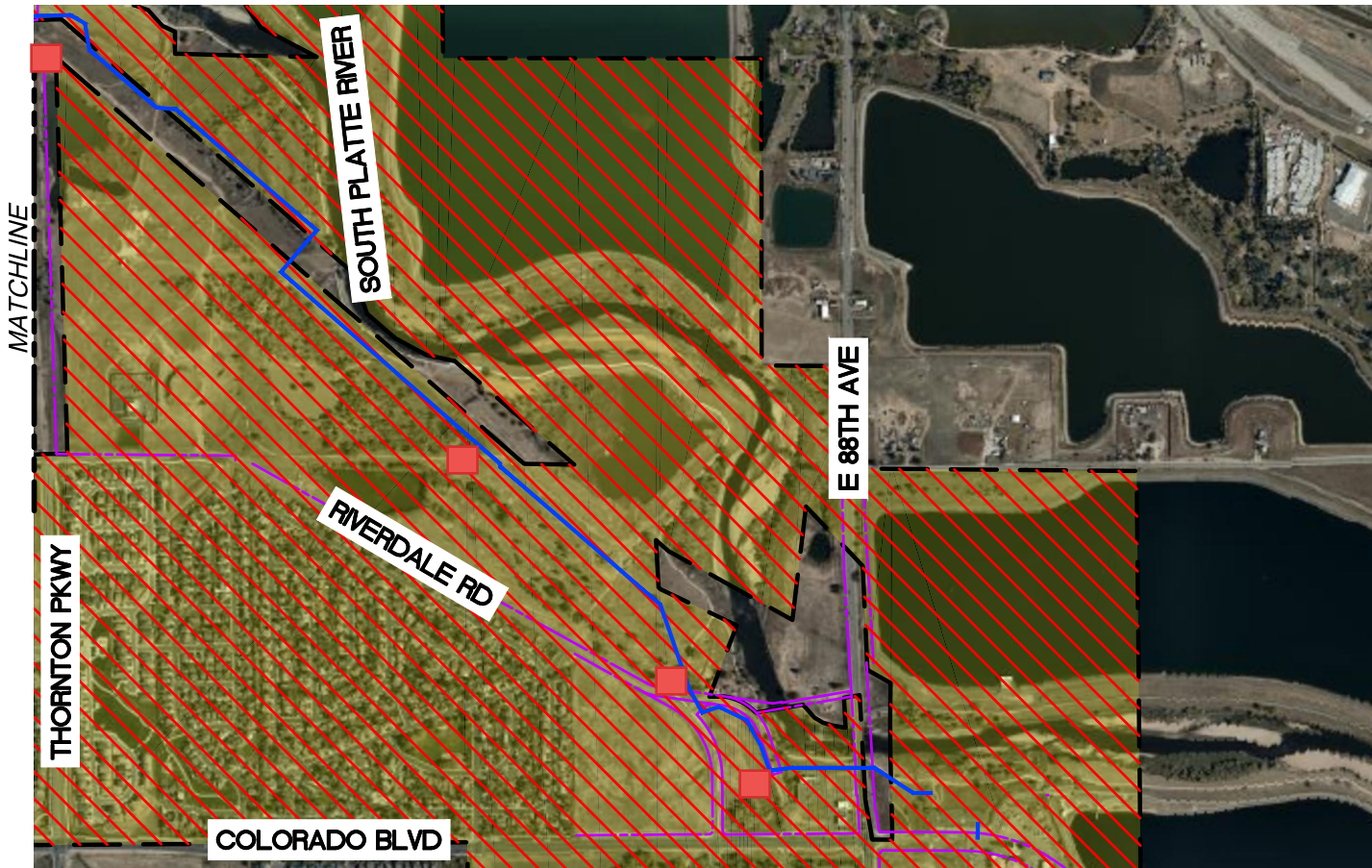
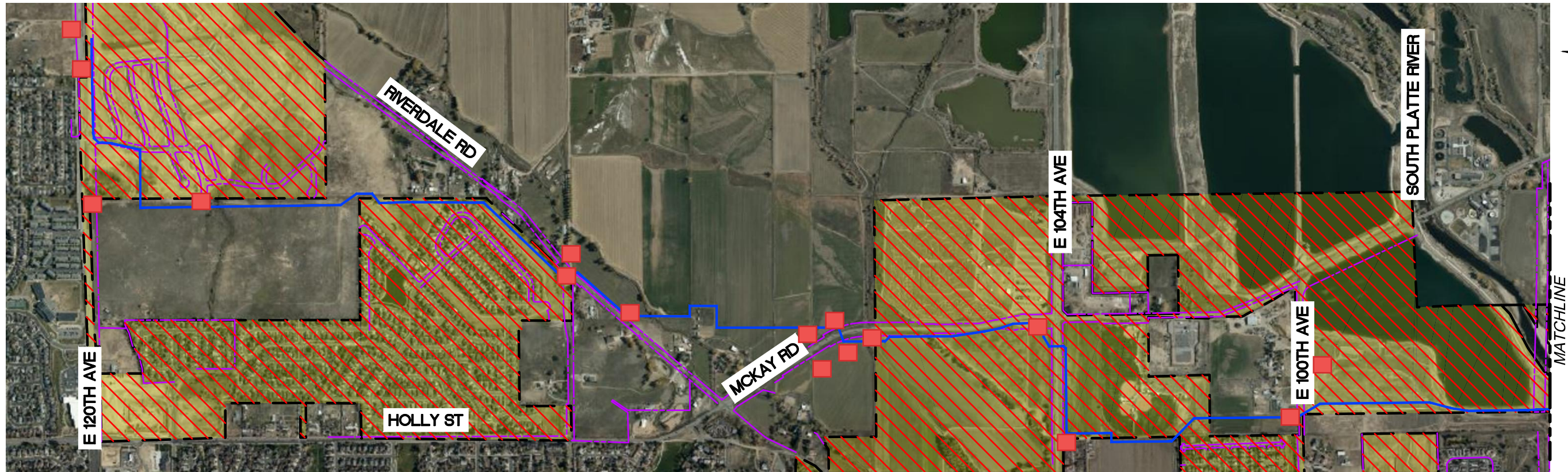


CITY OF THORNTON
SEGMENT A PIPELINE ALIGNMENT
PHASE I - 168TH AVENUE TO 120TH AVENUE
PROPOSED ROAD ACCESS POINTS

LEGEND	
	PROPOSED WATER PIPELINE
	THORNTON/ADAMS COUNTY BOUNDARY LINE
	CITY OF THORNTON JURISDICTION
	ACCESS POINT
	ROW








Last saved by: STEPHEN.MULLER(2022-01-21) Last Plotted: 2022-01-21
 Filename: C:\P\WORKING\AECOM_DS20_NA_2019\STEPHEN.MULLER@AECOM.COM\105070\FIG-ADCO MAPS.DWG



THORNTON REACH
 CITY OF THORNTON
 Project No.: 12-777H5/60619101
 Date: DEC 2021



CITY OF THORNTON
 SEGMENT A PIPELINE ALIGNMENT
 PHASE II - 120TH AVENUE TO 88TH AVENUE
 PROPOSED ROAD ACCESS POINTS

LEGEND	
	PROPOSED WATER PIPELINE
	THORNTON/ADAMS COUNTY BOUNDARY LINE
	ROW
	CITY OF THORNTON JURISDICTION
	ACCESS POINT



Appendix L – ERO Phase II Assessment



Consultants in Natural Resources and the Environment

Phase II Limited Site Investigation
Thornton Water Project CIP 12-777
Segment A – East 88th Avenue to East 168th Avenue
Adams County, Colorado

Draft

Prepared for—

The City of Thornton
9500 Civic Center Drive
Thornton, Colorado 80202

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188
ERO Project #5241

October 3, 2021

Contents

1.0 Introduction and Background	3
1.1 Statement of Objectives	3
1.2 Limitations, Exceptions, and Assumptions	3
1.3 User Reliance	4
1.4 Methods	4
1.4.1 Sample Point Location	4
1.4.2 Property Access	4
1.4.3 Utility Clearance	4
1.4.4 Soil Boring and Well/Soil Vapor Point Installation	4
1.4.5 Soil Sampling	5
1.5 Laboratory Analytes	6
1.6 Standards Comparison	6
1.7 Anticipated Construction Impact	6
2.0 Aylor Mabel 61S67W #20SESE Tank Battery	8
3.0 Zarlengo #14-4 and #4 Tank Battery	12
4.0 KPK Zarlengo-61S67W #NWSW Tank Battery	14
5.0 Pipeline Junction	16
6.0 References	18

Tables

Table 2-1. Aylor Mabel 61S67W #20SESE Tank Battery Area investigation summary.	8
Table 2-2. Detected soil concentrations for Aylor Mabel 61S67W #20SESE Tank Battery Area.	9
Table 3-1. Zarlengo #14-4 and #4 Tank Battery Area investigation summary.....	12
Table 3-2. Detected soil concentrations for Zarlengo #14-4 and #4 Tank Battery Area.....	12
Table 4-1. KPK Zarlengo-61S67W #NWSW Tank Battery Area investigation summary.....	14
Table 4-2. Detected soil concentrations for KPK Zarlengo-61S67W #NWSW Tank Battery Area	14
Table 5-1. Pipeline junction investigation summary.....	16
Table 5-2. Detected soil concentrations for pipeline junction.....	16

Figures

Figure 1-1. Vicinity Map	7
Figure 2-1. Soil boring locations Aylor Mabel 61S67W #20SESE Tank Battery Area.	11
Figure 2-2. Soil boring locations north of the Aylor Mabel 61S67W #20SESE Tank Battery Area.....	11
Figure 3-1. Soil boring locations for Zarlengo #14-4 and #4 Tank Battery.....	13
Figure 4-1. Soil boring locations for KPK Zarlengo-61S67W #NWSW Tank Battery Area.	15
Figure 5-1. Soil boring locations for pipeline junction.	17

Appendices

Appendix A Borehole Logs

Appendix B Laboratory Analytical Reports

Draft

Phase II Limited Site Investigation Thornton Water Project CIP 12-777 Adams County, Colorado

October 3, 2021

1.0 Introduction and Background

The City of Thornton (City) retained ERO Resources Corporation (ERO) conduct site investigations associated with portions of the Thornton Water Project – Segment A located in Adams County, Colorado. ERO previously conducted a January 2021 Environmental Records Review (ERR) of the proposed Segment A pipeline corridor and adjacent buffer study area that identified several oil and gas wells and/or operations areas of concern for potential soil and/or groundwater contamination (ERO 2021). The oil and gas facilities of concern were identified in the ERR as “Areas of Concern” or “AOCs” and included those within the proposed pipeline corridor as well as those within the adjacent buffer study area, thereby identifying more sites than discussed herein. Several of the AOCs identified in the ERR warranted further investigation because contaminated soils and/or groundwater within the project corridor would have worker health and safety, construction materials handling, liability, and scheduling implications on pipeline construction. This report presents the results of ERO’s additional investigations of those AOCs within unincorporated Adams County that warranted additional investigation. Four AOCs associated with the Segment A corridor are located within unincorporated Adams County and were investigated between May through July 2021.

This report presents the rationale for the investigation (above), the methods and procedures used to investigate, sample, and collect data for each area, and presents the evaluation of the data with respect to the proposed construction. Each AOC is discussed individually following this first section.

1.1 Statement of Objectives

The objective of this Limited Site Investigation (LSI) is to evaluate subsurface soil and/or groundwater at each of the AOCs within unincorporated Adams County for indications of release or disposal of petroleum products or hazardous substances that would have a potential impact on construction activities.

1.2 Limitations, Exceptions, and Assumptions

This investigation was conducted in general conformance with the Scope of Work provided to the City of Thornton dated March 16, 2021. This LSI is limited to the investigations conducted by ERO between May and July 2021.

The opinions and conclusions in this report are based on publicly available information and data obtained during the course of conducting the assessment described herein at the time this LSI was

conducted. Future events or changes in publicly available information may alter the findings, opinions, and conclusions of this report. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

1.3 User Reliance

This report is for the use and benefit of City of Thornton and is not to be used by others without the prior written consent of City of Thornton or ERO.

1.4 Methods

1.4.1 Sample Point Location

ERO located each AOC within the pipeline study area using the most recent design drawing available (75% Design Drawings, provided by design engineer AECOM) as of May 2021. Surface features surveyed on the drawing permitting the locating of much of the applicable pipeline alignment. Areas with transitions, turns, angled alignments, or other uncertainties were coordinated with AECOM survey crews to have the centerline and construction easement located and staked in the field. Once field locations of the proposed alignment and construction easement were confirmed, ERO staked proposed drill locations for utility clearance.

Upon completion of site investigation activities, the actual drill locations were staked in the field for ultimate surveying by the project surveyor, and identified on the design drawings.

1.4.2 Property Access

Prior to any on-site activities, private property access was confirmed with City of Thornton and/or the relevant entity to ensure that ERO's activities were permitted.

1.4.3 Utility Clearance

Prior to subsurface investigations, ERO notified Colorado 811 (CO811) and other appropriate entities as directed by CO811 to locate all public and private underground utilities near the proposed subsurface investigation locations.

In many locations near existing oil and gas infrastructure, ERO supervised hydrovac-potholing to clear the proposed boring locations of subsurface utilities. Potholing for utility clearance consisted of using a high-pressure air wand and vacuum truck to excavate the first 5 to 6 feet of soils, creating a hole that was clear of subsurface utilities through which site investigation drilling could occur.

1.4.4 Soil Boring and Well/Soil Vapor Point Installation

Between May and July 2021, ERO contracted with Site Services Drilling, LLC of Golden, Colorado to use a track-mounted Geoprobe 7720 DT direct-push technology (DPT) drill rig or a Central Mine Equipment

(CME) truck-mounted hollow stem auger (HSA) drill rig to continuously core soil borings at each location. A combination of accessibility, subsurface conditions, and rig availability determined the type of rig used. Subsurface soil samples were collected at each site based on the proposed alignment, the maximum depth of anticipated excavation, and extent of contamination, if encountered.

1.4.4.1 Direct Push Drilling

During DPT drilling, continuous core samples were obtained using a 5-foot-long continuous sample barrel sampler placed in the lead drill rod to allow for a continuous core of the subsurface at each well location. Upon completion of each 5-foot interval, the drill string was removed, accessing the lead sample barrel. The liner was removed from the sample barrel and liner opened, revealing the soil core. The soils were logged for lithology, staining, and olfactory indications of contamination, and the core was screened with a photoionization detector (PID) with a 10.6-electronvolt lamp capable of detecting volatile organic compounds (VOCs), including petroleum hydrocarbons. A PID measures total VOCs in parts per million (PPM) of isobutylene equivalents but does not differentiate between specific compounds. The sample barrel and a new liner were then placed back in the lead drill rod and the process was repeated for the next 5-foot length. The drilling equipment was decontaminated between each soil boring using an Alconox-detergent wash followed by a potable water rinse.

1.4.4.2 Hollow Stem Auger Drilling

During HSA drilling, continuous soil cores were obtained using a 5-foot-long continuous sample barrel sampler placed in the lead drill rod to allow for a continuous core of the subsurface at each location. Upon completion of each 5-foot interval, the sample barrel was removed, leaving the outer drill rods in the boring. The sample barrel was then opened, revealing the soil core. The soils were logged in the same manner as described above. The sample barrel was then placed back in the lead drill rod and the process was repeated for the next 5-foot segment. All drilling equipment was decontaminated prior to and between borings. Decontamination procedures consisted of cleaning the rods with a high-pressure steam cleaner. All equipment was allowed to air-dry prior to using it in investigation activities.

1.4.5 Soil Sampling

Soil samples were collected from discrete depths within each borehole. If suspected contamination was encountered, as determined by field observation and screening, samples were collected from the zone of highest contamination. If no contamination was suspected, samples were collected from the base of the borehole to represent the maximum anticipated depth of construction/excavation. Soil samples were collected during drilling by using a nitrile-gloved hand to collect soils directly from the DPT liners or from the HSA core barrel during the core logging process. Soil samples were placed directly in laboratory-provided, certified pre-cleaned glass sample jars, labeled and placed in an iced cooler, and submitted to Pace National Laboratory in Mt. Juliet, Tennessee under chain-of-custody protocol.

1.5 Laboratory Analytes

Soil samples from areas of suspected oil and gas contamination were analyzed for benzene, toluene, ethylbenzene and total xylenes (collectively “BTEX”) by EPA Method 8260 or 8021, Gasoline-Range Organics (GRO) by EPA Method 8260, and Diesel-Range Organics (DRO) by EPA Method 8015.

If field indications of contamination were not encountered, soils were submitted for broad-based soil screening for total volatile organic compounds (VOCs) by EPA Method 8260 and the eight Resource Conservation and Recovery Act (8-RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010B/7471A.

1.6 Standards Comparison

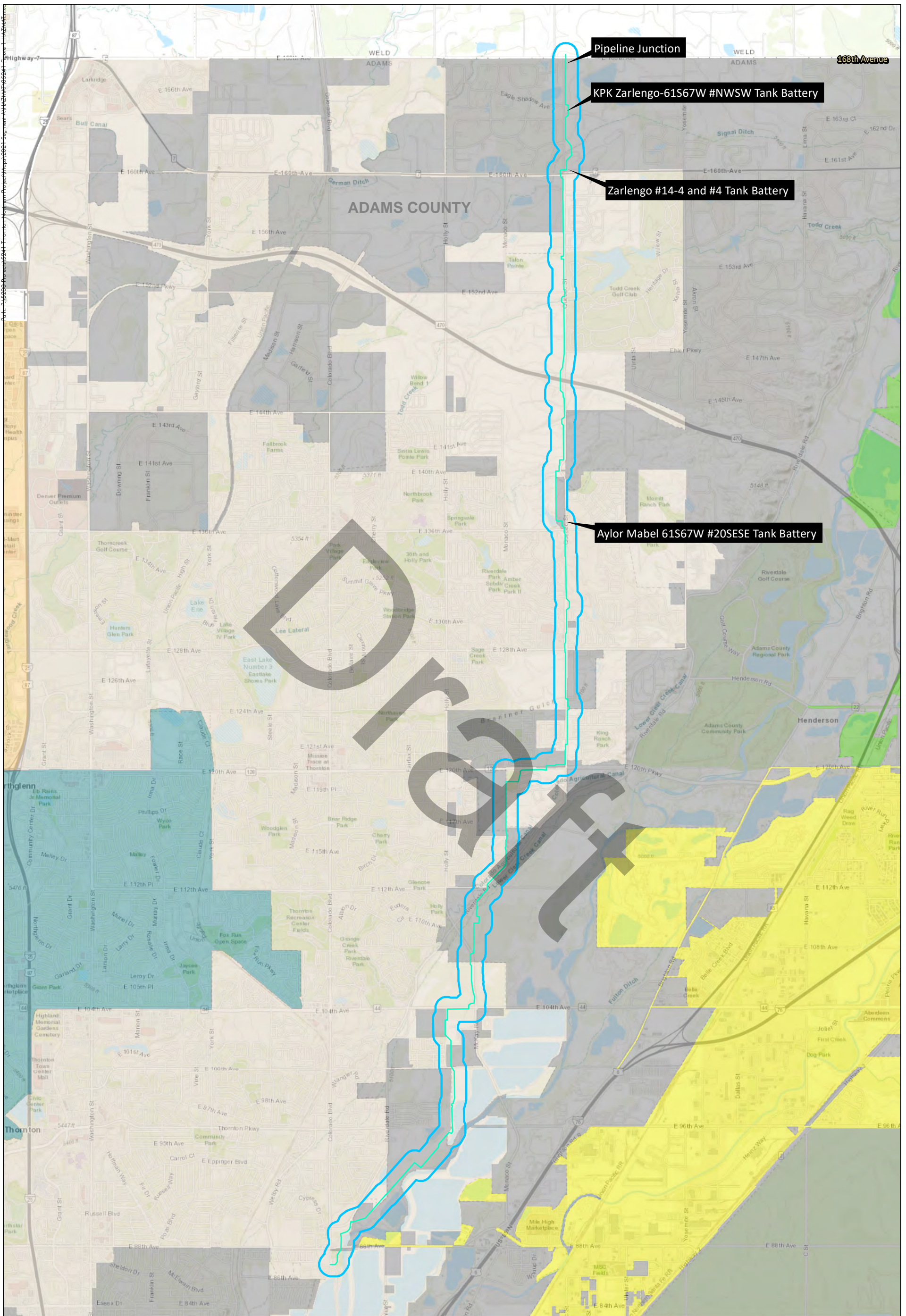
Laboratory analytical results for areas of petroleum contamination are compared against the Colorado Oil and Gas Conservation Commission (COGCC) Table 915-1 Cleanup Standards (COGCC 2021).

Laboratory analytical results for broad screening of non-contaminated areas are against the most recent U.S. EPA Regional Screening Levels (RSLs) for unrestricted residential land use with the exception of arsenic (EPA 2021). Arsenic values in soils are compared to the background concentration range of between 3 and 14 milligrams per kilogram (mg/kg) for agricultural land uses in Colorado as identified by the Colorado Department of Public Health and Environment (CDPHE) (CDPHE 2014).

1.7 Anticipated Construction Impact

Based on the results of this investigation, the AOCs are ranked with respect to the anticipated impact to construction activities with respect to materials handling, personnel safety, and/or special handling requirements according to the criteria outlined below:

Anticipated Construction Impact	Field Indications of Contamination	Laboratory Results	Construction Impacts
<i>Minimal</i>	None	Any detected concentrations were low, qualified by laboratory as estimated, and well below COGCC cleanup standards.	<ul style="list-style-type: none"> • Maintain awareness of contamination potential. • Encountering contamination not expected. • Special materials handling not anticipated.
<i>Moderate</i>	Yes - Staining, odors, or PID readings	Concentrations of contaminants were low, but below COGCC cleanup standards.	<ul style="list-style-type: none"> • Isolated areas may exist. • Maintain health and safety awareness and monitoring of conditions. • Maintain contingency for encountering suspect contamination.
<i>Significant</i>	Yes – Staining, odors, or PID readings.	Contamination exceeds COGCC cleanup standards.	<ul style="list-style-type: none"> • Site-specific health and safety plan must address contamination. • Materials management and handling must be in place prior to construction. • Potential additional characterization may be warranted.



Thornton Water Project Segment A Site Investigation

- TWP Proposed Alignment
- Thornton Water Project Hazardous Materials Study Area
- Area of Concern

<ul style="list-style-type: none"> Brighton Commerce City Northglenn 	<ul style="list-style-type: none"> Thornton Unincorporated Westminster
--	--

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

**Figure 1-1
Vicinity Map**

Prepared for: City of Thornton
File: 05241 Figure 1 HAZMAT.mxd [dIH]
September 21, 2021

ERO
ERO Resources Corp.

2.0 Aylor Mabel 61S67W #20SESE Tank Battery Area

Concern: Former oil and gas tank battery and operations facility for plugged and abandoned oil and gas well is located within the located outside of project corridor and study area. Little to no historical data for the site conditions are available. Designated AOC No. 4 in the ERR (ERO 2021).

Soil Borings: AOC4BH01 through AOCBH20

Investigation Summary: Twenty-one soil borings were drilled to the maximum designed depth of excavation. Borings were drilled during two separate mobilizations to evaluate a realignment that avoids soil contamination identified in the area of the historical tank battery. Both the former flow line and the original well site were also investigated (the well is outside of the project study area). Shallow bedrock presented mechanical refusal to DPT. In areas of refusal to DPT, a solid auger was used to drill to depth and samples were collected using DPT sampler. Because petroleum-contaminated soils were encountered during the original pipeline corridor investigation, multiple samples were often collected from each boring to better characterize the vertical and lateral extent of the petroleum contamination. No groundwater encountered in any boring.

Table 2-1. Aylor Mabel 61S67W #20SESE Tank Battery Area investigation summary.

Sample Location	Soil Sample Analytes	Soil Sample Depths (feet below ground surface (bgs))
AOC04 BH01	BTEX, GRO, DRO	20
AOC04 BH02	BTEX, GRO, DRO	12.5, 20
AOC04 BH03	BTEX, GRO, DRO	20
AOC04 BH04	BTEX, GRO, DRO	13, 20
AOC04 BH05	BTEX, GRO, DRO	20
AOC04 BH06	BTEX, GRO, DRO	16, 20
AOC04 BH07	BTEX, GRO, DRO	15, 20
AOC04 BH08	BTEX, GRO, DRO	20
AOC04 BH09	BTEX, GRO, DRO	15
AOC04 BH10	BTEX, GRO, DRO	15
AOC04 BH11	BTEX, GRO, DRO	25
AOC04 BH12	BTEX, GRO, DRO	14
AOC04 BH13	BTEX, GRO, DRO	14
AOC04 BH14	BTEX, GRO, DRO	14
AOC04 BH15	BTEX, GRO, DRO	13
AOC04 BH16	BTEX, GRO, DRO	13
AOC04 BH17	BTEX, GRO, DRO	15
AOC04 BH18	BTEX, GRO, DRO	13
AOC04 BH19	BTEX, GRO, DRO	17
AOC04 BH20	BTEX, GRO, DRO	11, 19
AOC04 BH21	BTEX, GRO, DRO	11, 19

Investigation Results Summary

Soils. In general, little to no field indications of soil contamination was identified along the original corridor until depths of between 11 and 20 feet below ground surface. Borings Bh01, BH02, BH03 and BH07 contained field and laboratory indications of petroleum soil contamination (staining, odors, elevated PID readings, and laboratory detections). Contamination identified at 20 feet bgs in borings BH02 and BH07 exceed the current COGCC Table 915-1 cleanup levels for TPH (Table 2-2).

The investigation along the realignment corridor, however, did not identify any field indications of contamination. Soil sampling from the realignment did not identify detectable concentrations of petroleum hydrocarbons.

Table 2-2. Detected soil concentrations for Aylor Mabel 61S67W #20SESE Tank Battery Area.

Sample	Depth (bgs)	Analytes					
		Benzene	Toluene	Ethylbenzene	Xylenes	TPH (GRO+DRO)	
Original Alignment	AOC04 BH01-20	20	0.051	ND	ND	0.446 B	276
	AOC04 BH02-12.5	12.5	ND	ND	ND	ND	ND
	AOC04 BH02-20	20	ND	ND	ND	0.0484	2,130
	AOC04 BH03-20	20	0.000511	ND	ND	ND	37.7
	AOC04 BH04-13	13	0.0006	ND	0.00111	0.00629 B	ND
	AOC04 BH04-20	20	ND	ND	ND	ND	ND
	AOC04 BH05-11	11	ND	ND	ND	ND	33.4
	AOC04 BH05-20	20	ND	ND	ND	ND	ND
	AOC04 BH06-16	16	ND	ND	ND	ND	ND
	AOC04 BH06-20	20	0.000692	ND	ND	ND	ND
	AOC04 BH07-15	15	ND	ND	2.57	26.4	2,287
	AOC04 BH07-20	20	ND	ND	ND	ND	ND
	AOC04 BH08-20	20	0.00374	ND	ND	0.00295	ND
	AOC04 BH13-14	14	ND	ND	ND	ND	ND
	AOC04 BH14-13	13	ND	ND	ND	ND	ND
	AOC04 BH15 13	13	ND	ND	ND	ND	ND
	AOC04 BH16-13	13	ND	ND	ND	ND	ND
	AOC04 BH17-15	15	ND	ND	ND	ND	ND
	AOC04 BH18-15	15	ND	ND	ND	ND	ND
	AOC04 BH19-17	17	ND	ND	ND	ND	ND
	AOC04 BH20-11	11	0.000818	ND	ND	ND	ND
AOC04 BH20-19	19	ND	ND	ND	ND	ND	
AOC04 BH21 11	11	ND	ND	ND	ND	ND	
AOC04 BH21 19	19	ND	ND	ND	ND	ND	
Realignment	AOC04 BH09-15	15	ND	ND	ND	ND	ND
	AOC04 BH10-15	15	ND	ND	ND	ND	ND
	AOC04 BH11-25	25	ND	ND	ND	ND	ND
	AOC04 BH12-14	14	ND	ND	ND	ND	ND
<i>COGCC Cleanup Standards</i>			1.2	490	5.8	58	500

Units in milligrams per kilogram (mg/kg) ; **Bold** = exceeds COGCC Table 915-1 Cleanup Standards; **Shaded** = Analyte detected; "ND" = Analyte not detected above laboratory reported detection limit. "B" = analyte detected in method blanks
TPH = Total Petroleum Hydrocarbons (GRO+DRO)

Discussion and Conclusion

Soil data indicates a historical release of petroleum product has occurred at the former tank battery facility with concentration of TPH exceeding COGCC Table 915-1 Cleanup Standards. Defining the nature and extent of the release was beyond the scope of this investigation, but impacts appears to be located near or easterly of the original pipeline alignment. Once notified, it should be assumed that the COGCC Environmental Section will become involved.

Soil data indicates the proposed western realignment avoids the identified soil contamination by locating the pipeline westerly of identified contamination.

Construction Implications. Moderate. Construction activities should be made aware of a documented release near the alignment.

Draft

Figure 2-1. Soil boring locations Aylor Mabel 61S67W #20SESE Tank Battery Area.

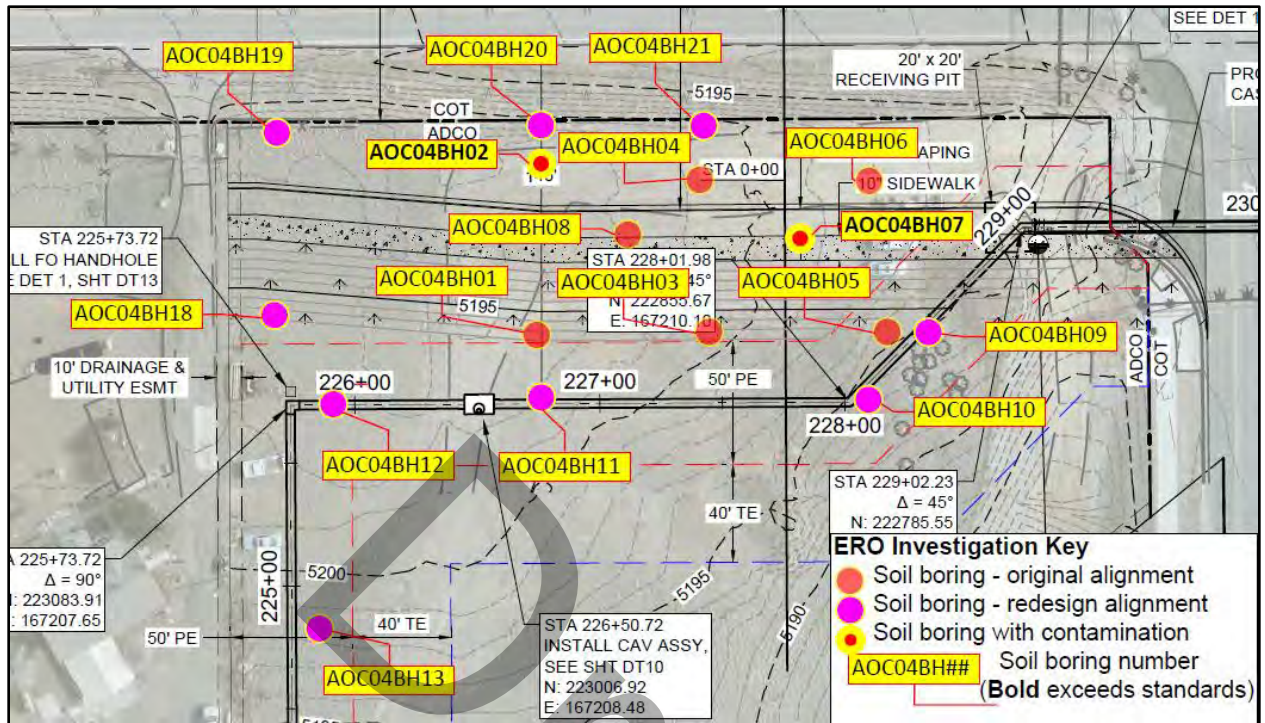
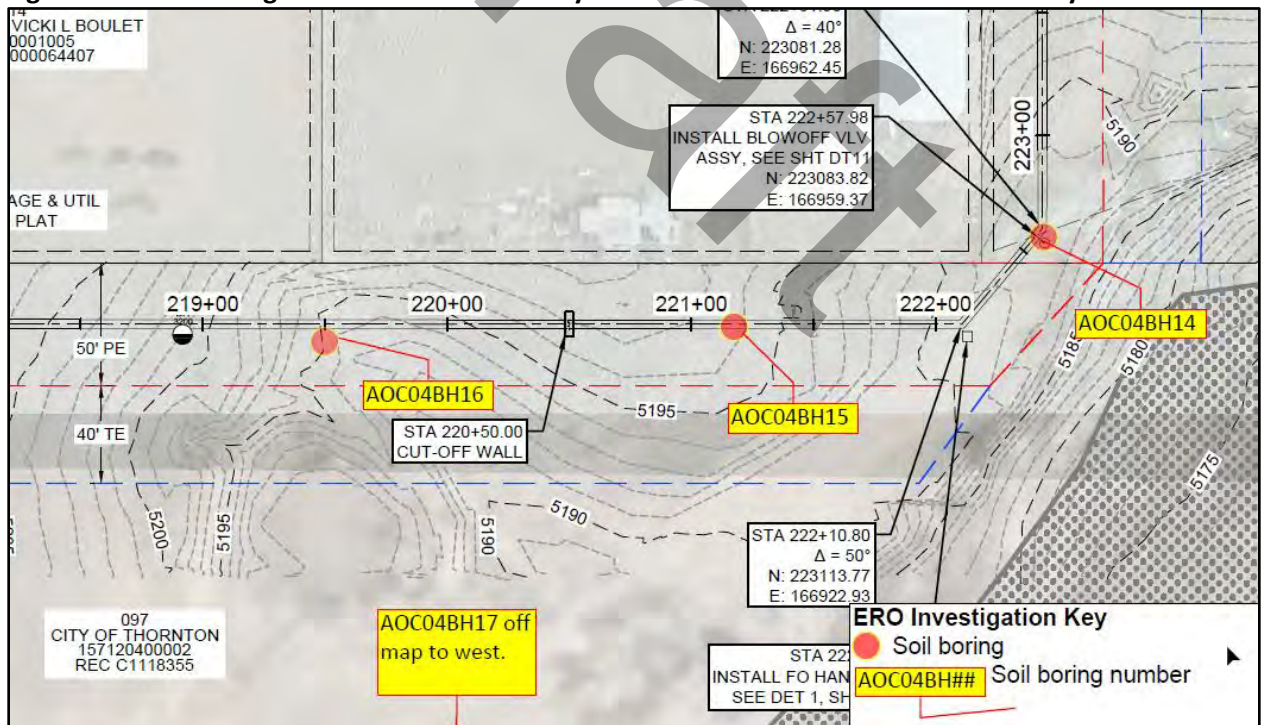


Figure 2-2. Soil boring locations north of the Aylor Mabel 61S67W #20SESE Tank Battery Area.



3.0 Zarlengo #14-4 and #4 Tank Battery Area

Concern: Current tank battery is located adjoining the proposed alignment. Designated AOC No. 12 in the ERR (ERO 2021).

Soil Borings: AOC12 BH01 and AOC12 BH02

Investigation Summary: Two soil borings drilled to maximum depth of design excavation. Borings were installed east of Quebec Street, east of current tank battery and within the proposed pipeline alignment. Due to proximity to live flow lines, both locations were cleared of utilities for the top 6 feet of the boring using a hydro-vac. No field indications of soil contamination were encountered, therefore soil samples were collected from the base of each boring and submitted for broad-based screening criteria as described in Section 1.5. No groundwater encountered in borings drilled in this area.

Table 3-1. Zarlengo #14-4 and #4 Tank Battery Area investigation summary.

Sample Location	Soil Sample Analytes	Soil Sample Depth (feet bgs)
AOC12 BH01	VOC, 8-RCRA	17
AOC12 BH02	VOC, 8-RCRA	17

Investigation Results Summary

Soils. No field indications of soil contamination such as staining, odors, or elevated PID readings, were observed, so only one sample was collected from the maximum depth of each boring. Laboratory results are listed in Table 3-2.

Table 3-2. Detected soil concentrations for Zarlengo #14-4 and #4 Tank Battery Area.

Analyte	Sample Name		Cleanup Level
	AOC12 BH01	AOC12 BH02	
<i>RCRA Metals</i>			
Arsenic	11.6	ND	14
Barium	62.4	200	15,000
Cadmium	ND	ND	71
Chromium	7.03	14.9	120,000
Lead	11.5	9.04	400
Mercury	0.0966	0.0533	11
<i>VOCs</i>			
2-Butanone (MEK)	0.102	0.101	27,000

Units in milligrams per kilogram (mg/kg);

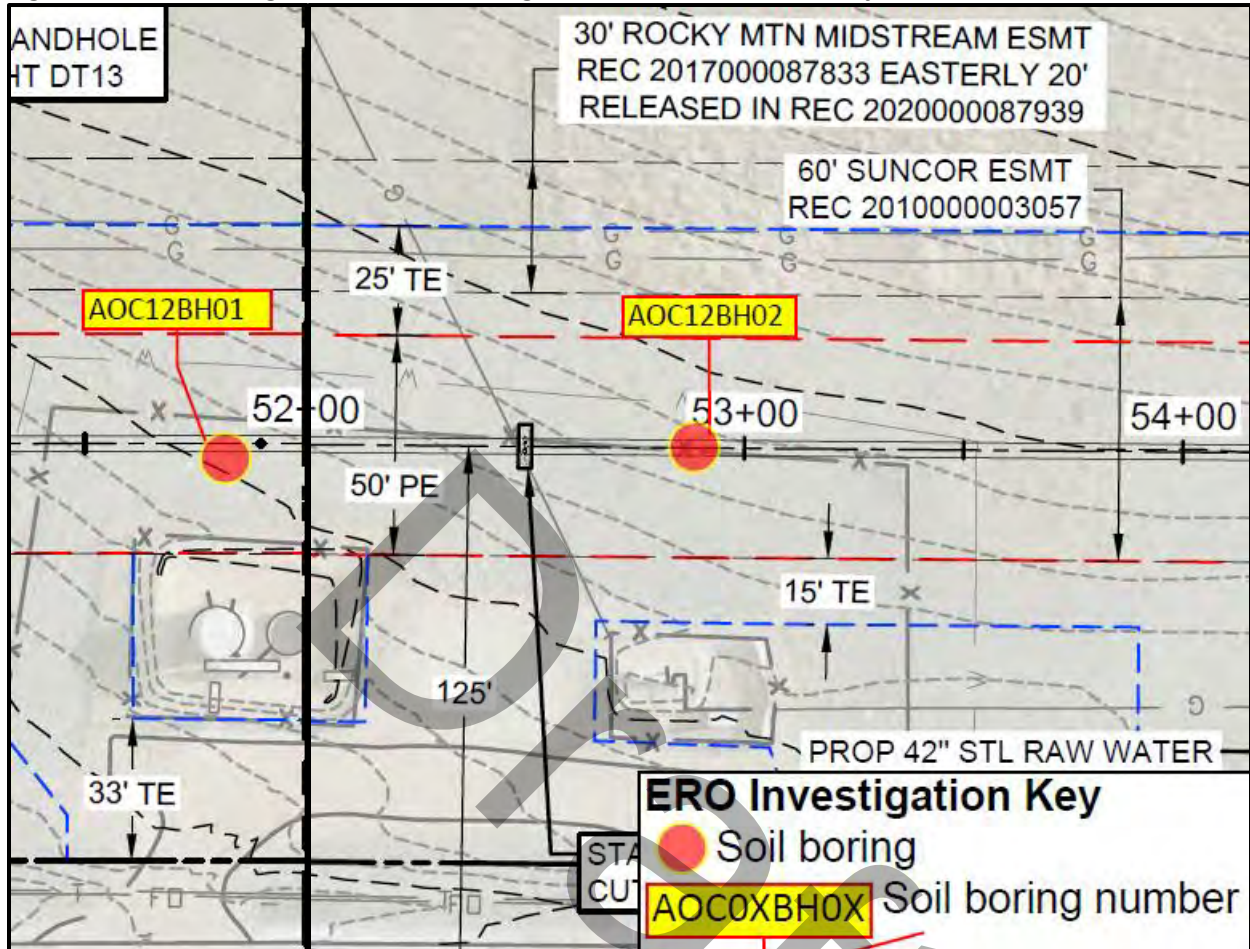
"ND" = Analyte not detected above laboratory reported detection limit.

Discussion. Detected VOC concentrations in soils are well below EPA RSLs for unrestricted/residential land use, and in ERO's professional opinion, not indicative of site contamination. Low metal concentrations appear to be representative of background concentrations with arsenic detected within range of background concentrations.

Conclusions. ERO's investigation did not identify any indication of soil impacts within the surveyed area that may be attributable to historical activities associated with this AOC.

Anticipated Construction Impact: None.

Figure 3-1. Soil boring locations for Zarlengo #14-4 and #4 Tank Battery.



4.0 KPK Zarlengo-61S67W #NWSW Tank Battery Area

Concern: Current tank battery is located adjoining to the west of the proposed alignment. Designated AOC No. 13 in the ERR (ERO 2021).

Soil Borings: AOC13 BH01 through AOC13 BH03

Investigation Summary: Three soil borings were drilled to the design depth of excavation east of Quebec Street and east of tank battery operations. Due to proximity to live flow lines, all locations were cleared of utilities for the top 6 feet of the boring using a hydro-vac. No field indications of soil contamination were encountered, therefore soil samples were collected from the base of each boring and submitted for broad-based screening criteria as described in Section 1.5. No groundwater encountered in borings drilled in this area.

Table 4-1. KPK Zarlengo-61S67W #NWSW Tank Battery Area investigation summary.

Sample Location	Soil Sample Analytes	Soil Sample Depth (feet bgs)
AOC13 BH01	VOC, 8-RCRA	17
AOC13 BH02	VOC, 8-RCRA	17
AOC13 BH03	VOC, 8-RCRA	17

Investigation Results Summary

Soils. No field indications of soil contamination such as staining, odors, or elevated PID readings, were observed. Laboratory results are listed in Table 4-2.

Table 4-2. Detected soil concentrations for KPK Zarlengo-61S67W #NWSW Tank Battery Area

Analytes	Sample Name			Cleanup Levels
	AOC13 BH01	AOC13 BH02	AOC13 BH03	
<i>RCRA Metals</i>				
Arsenic	ND	5.48	ND	14
Barium	9.85	19.4	14.3	15,000
Cadmium	ND	ND	ND	71
Chromium	3.73	6.26	4.09	120,000
Lead	3.56	3.55	4.79	400
<i>VOCs</i>				
2-Butanone (MEK)	ND	0.104 B	ND	27,000

Units in milligrams per kilogram (mg/kg); "B" = Analyte detected in laboratory method blank.

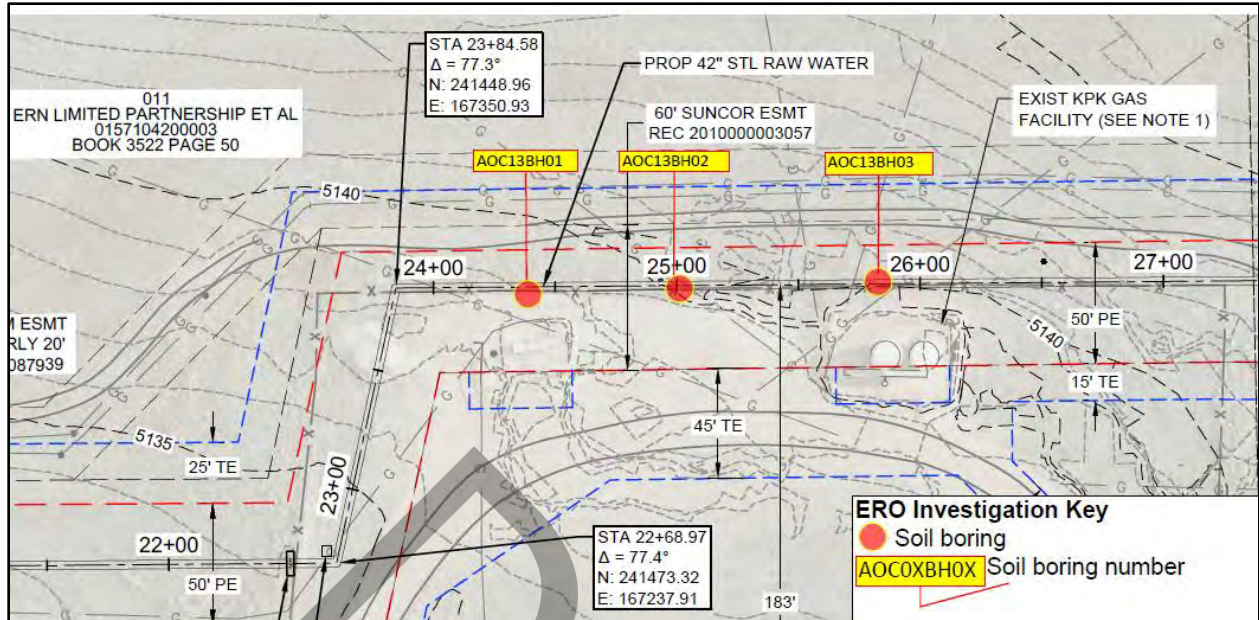
"ND" = Analyte not detected above laboratory reported detection limit.

Discussion. VOC compound concentrations in soils are well below EPA cleanup levels for unrestricted/residential land use, and in ERO's professional opinion, not indicative of a contaminant source within the alignment. Low metal concentrations appear to be representative of background concentrations.

Conclusions. ERO's investigation did not identify any indication of soil impacts within the surveyed area that may be attributable to historical activities associated with this AOC.

Anticipated Construction Impact: None.

Figure 4-1. Soil boring locations for KPK Zarlengo-61S67W #NWSW Tank Battery Area.



5.0 Pipeline Junction

Concern: Discovery DJ Services Pipeline Junction and Valve Station is located adjacent to the east of the pipeline corridor and proposed bore launch pit.

Soil Borings: AOC17BH01

Investigation Summary: One boring was installed east of Quebec Street and adjacent to the Discovery DJ Services Pipeline easement and surface valve station located east of the proposed alignment and launch pit area. No field indications of soil contamination were encountered, therefore soil samples were collected from the base of each boring and submitted for broad-based screening criteria as described in Section 1.5. No groundwater encountered in borings drilled in this area.

Table 5-1. Pipeline junction investigation summary.

Sample Location	Soil Sample Analytes	Soil Sample Depth (feet bgs)
AOC17 BH01	VOC, 8-RCRA	26

Investigation Results Summary

Soils. No field indications of soil contamination such as staining, odors, or elevated PID readings, were observed. Mechanical refusal was encountered at 14 feet bgs and a solid stem auger was used from 14 to 23 feet bgs. The soil sample was taken at 26 feet bgs using DPT. No groundwater was encountered. Laboratory results are listed in Table 5-2.

Table 5-2. Detected soil concentrations for pipeline junction.

Analytes	Sample Name	Cleanup Level
	AOC17 BH01	
<i>RCRA Metals</i>		
Arsenic	5.01	14
Barium	42.1	15,000
Chromium	40.2	120,000
Lead	10.8	400

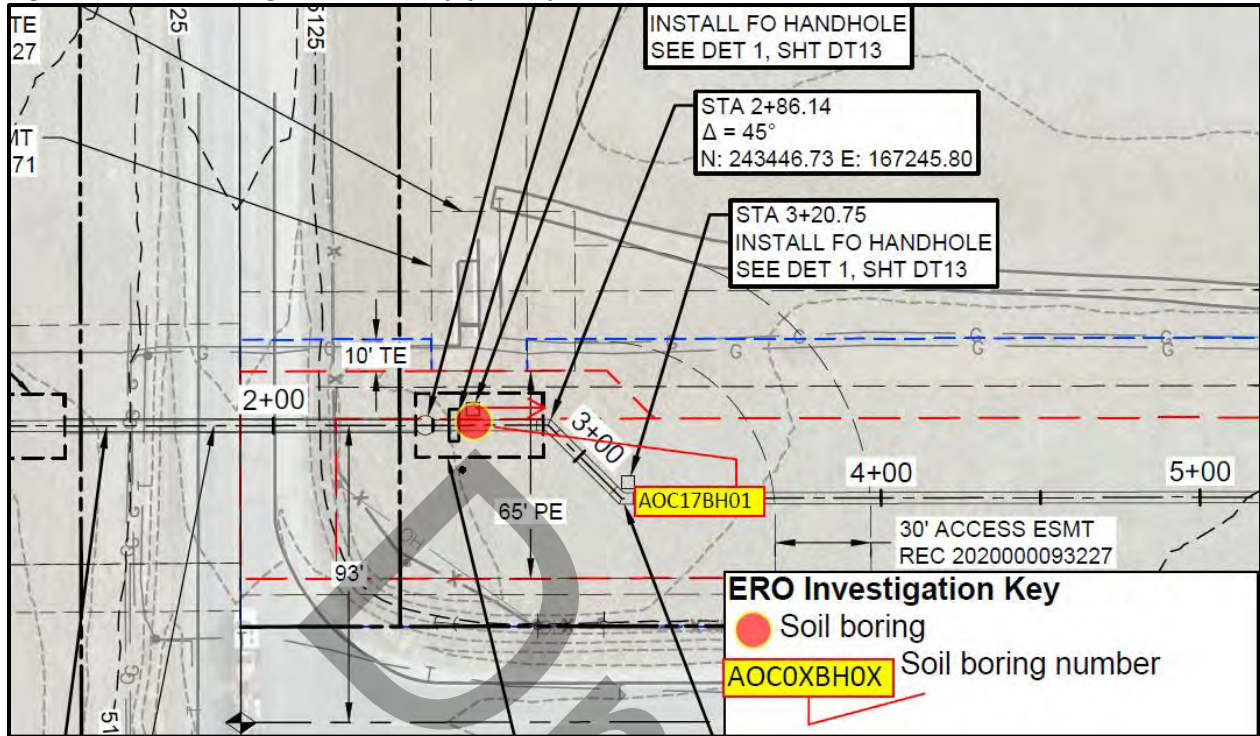
Units in milligrams per kilogram (mg/kg).

Discussion. No VOC compound were detected above laboratory detection limits and low metal concentrations appear to be representative of background concentrations.

Conclusions. ERO's investigation did not identify any indication of soil impacts within the surveyed area that may be attributable to historical activities associated with this AOC.

Anticipated Construction Impact: None.

Figure 5-1. Soil boring locations for pipeline junction.



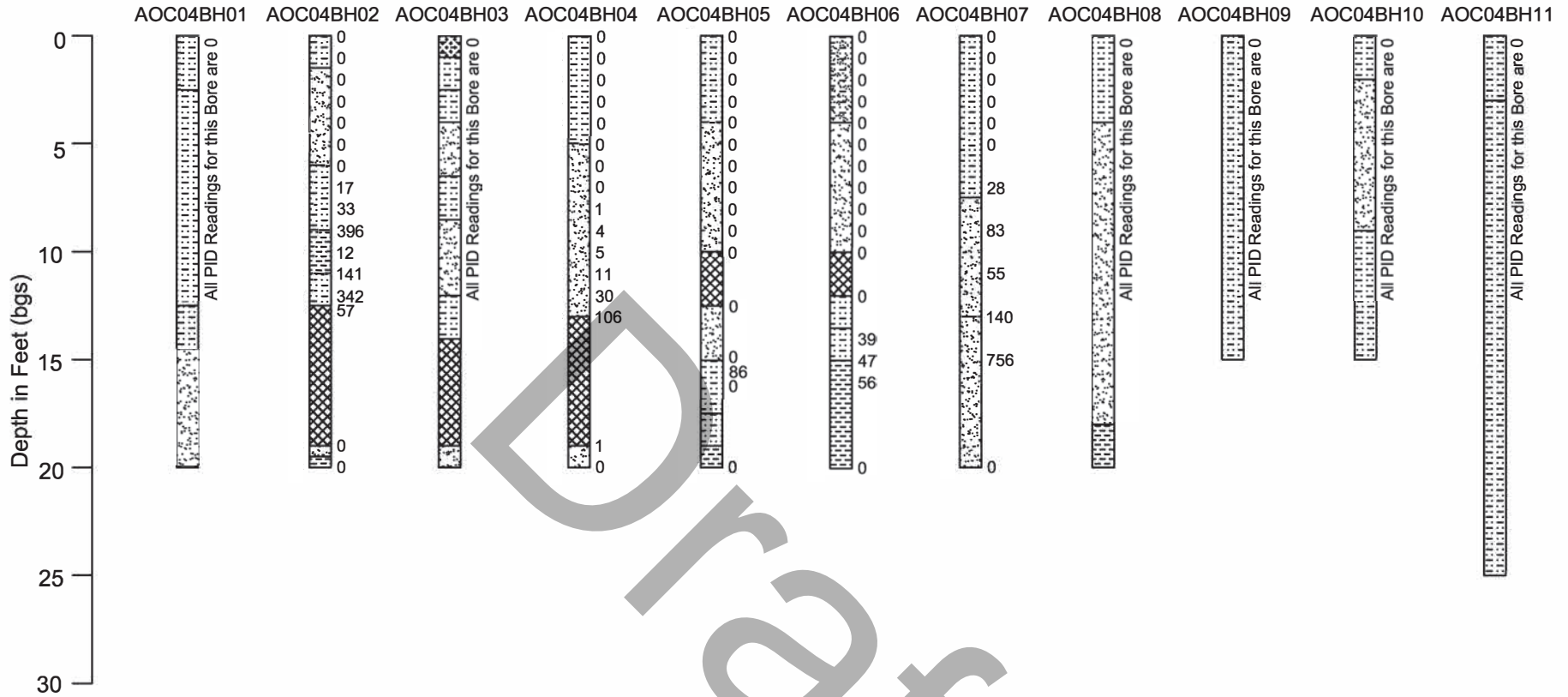
6.0 References







- Colorado Oil and Gas Conservation Commission (COGCC). 2021. COGCC 900 Series Rules – Environmental Impact Prevention. January 15.
- Colorado Department of Public Health and Environment (CDPHE). 2014. Risk Management Guidance for evaluating Arsenic Concentrations in Soil. July.
- ERO Resources Corporation. 2021. Draft Environmental Records Review Thornton Water Project – Segment A, Phase I Quebec Street from East 120th Avenue to East 168th Avenue Adams County, Colorado. January 31.
- U.S. Environmental Protection Agency (EPA). 2021. Regional Screening Levels. <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>. May.

Draft

Appendix A Borehole Logs

Draft




-  Topsoil
-  Sandy clay, light to dark brown or light to medium grey, fine to medium grain, occasional mottling, generally nonplastic, mostly dry
-  Clayey sand, light to dark brown with occasional red tinges, fine to medium grain, occasional mottling, mostly dry
-  Clay, medium to dark brown or grey, occasional mottling, generally nonplastic, mostly dry
-  Sand, light tan to reddish-brown, poorly- to well-sorted, very fine to large grain, often moist or wet
-  No lithology (solid stem augered or potholed)

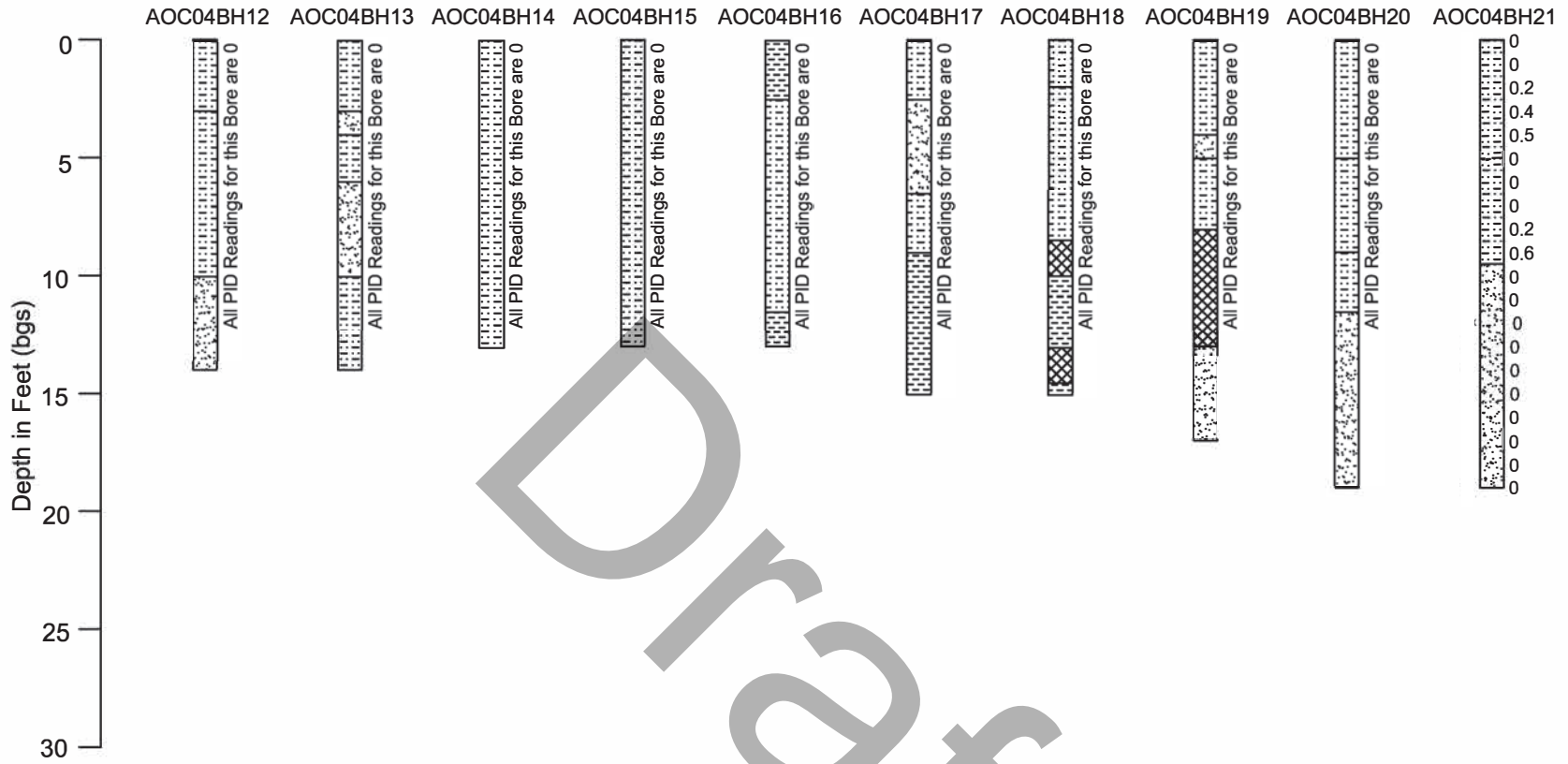
0 Photoionization Detector (PID) readings in parts per million (ppm)







**City of Thornton, Thornton
 Water Project Segment A
 Boring Log AOC 4**

Produced for: City of Thornton
 File: 5241 AOC04BH01-11.dwg (GS)
 September 24, 2021



ERO Resources Corp.



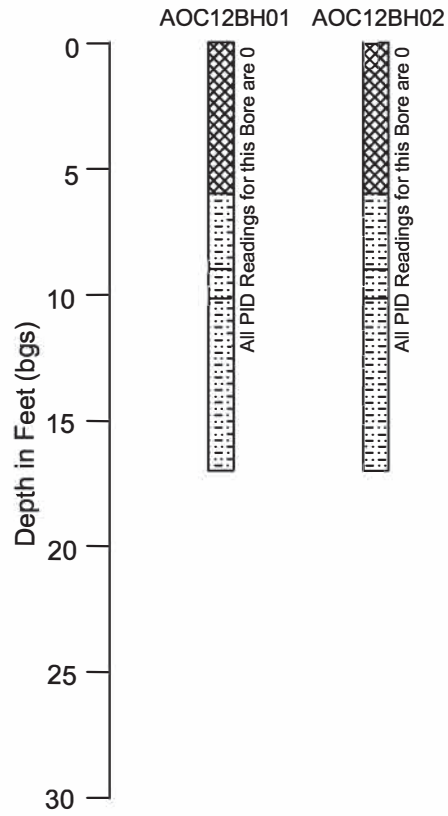
-  Topsoil
-  Sandy clay, light to dark brown or light to medium grey, fine to medium grain, occasional mottling, generally nonplastic, mostly dry
-  Clayey sand, light to dark brown with occasional red tinges, fine to medium grain, occasional mottling, mostly dry
-  Clay, medium to dark brown or grey, occasional mottling, generally nonplastic, mostly dry
-  Sand, light tan to reddish-brown, poorly- to well-sorted, very fine to large grain, often moist or wet
-  No lithology (solid stem augered or potholed)

0 Photoionization Detector (PID) readings in parts per million (ppm)







City of Thornton, Thornton
Water Project Segment A
Boring Log AOC 4

Produced for: City of Thornton
File: 5241 AOC04BH12-21.dwg (GS)
September 24, 2021






Draft

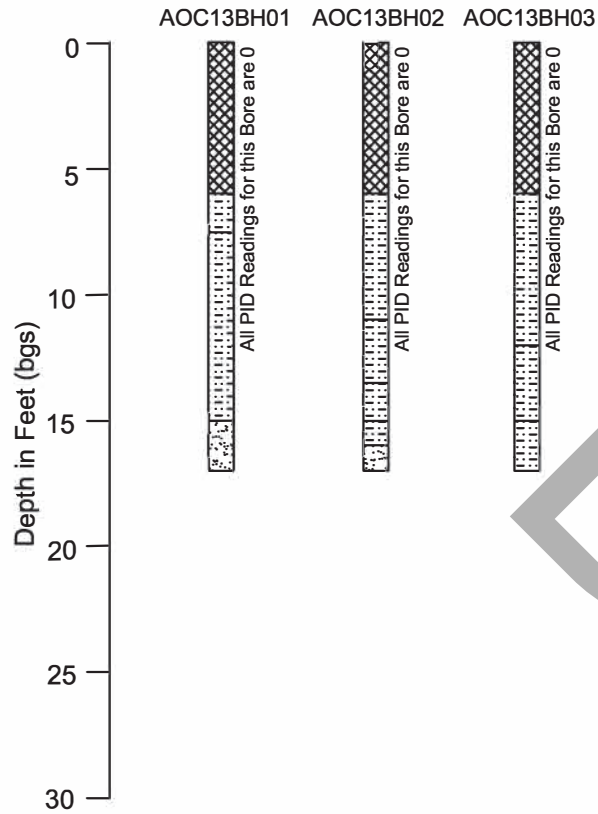
-  Topsoil
-  Sandy clay, light to dark brown or light to medium grey, fine to medium grain, occasional mottling, generally nonplastic, mostly dry
-  Clayey sand, light to dark brown with occasional red tinges, fine to medium grain, occasional mottling, mostly dry
-  Clay, medium to dark brown or grey, occasional mottling, generally nonplastic, mostly dry
-  Sand, light tan to reddish-brown, poorly- to well-sorted, very fine to large grain, often moist or wet
-  No lithology (solid stem augered or potholed)







0 Photoionization Detector (PID) readings in parts per million (ppm)

**City of Thornton, Thornton
Water Project Segment A
Boring Log AOC 12**

Produced for: City of Thornton File:
5241 AOC12BH01-02.dwg (GS)
September 24, 2021





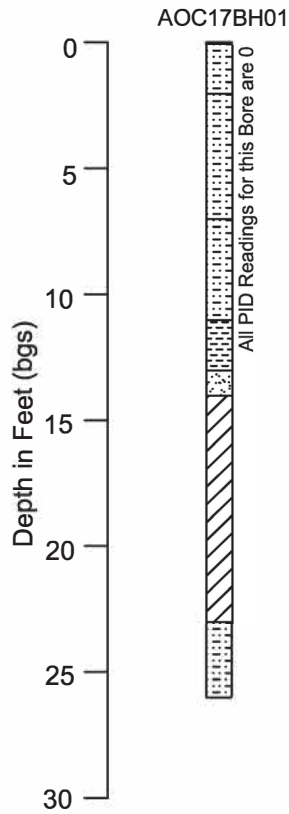
-  Topsoil
-  Sandy clay, light to dark brown or light to medium grey, fine to medium grain, occasional mottling, generally nonplastic, mostly dry
-  Clayey sand, light to dark brown with occasional red tinges, fine to medium grain, occasional mottling, mostly dry
-  Clay, medium to dark brown or grey, occasional mottling, generally nonplastic, mostly dry
-  Sand, light tan to reddish-brown, poorly- to well-sorted, very fine to large grain, often moist or wet
-  No lithology (solid stem augered or potholed - see boring log notes)

0 Photoionization Detector (PID) readings in parts per million (ppm)







City of Thornton, Thornton
Water Project Segment A
Boring Log AOC 13

Produced for: City of Thornton
File: 5241 AOC13BH01-03.dwg (GS)
September 24, 2021






Draft

-  Topsoil
-  Sandy clay, light to dark brown or light to medium grey, fine to medium grain, occasional mottling, generally nonplastic, mostly dry
-  Clayey sand, light to dark brown with occasional red tinges, fine to medium grain, occasional mottling, mostly dry
-  Clay, medium to dark brown or grey, occasional mottling, generally nonplastic, mostly dry
-  Sand, light tan to reddish-brown, poorly- to well-sorted, very fine to large grain, often moist or wet
-  No lithology (solid stem augered or potholed)

0 Photoionization Detector (PID) readings in parts per million (ppm)

City of Thornton, Thornton
 Water Project Segment A
 Boring Log AOC 17

Produced for: City of Thornton
 File: 5241 AOC17BH01.dwg (GS)
 September 24, 2021



Appendix B Laboratory Analytical Reports

Draft

ERO Resources

Sample Delivery Group: L1353753
Samples Received: 05/15/2021
Project Number: 5241
Description: TWP

Report To: Adam Backsmeier
1842 Clarkson Street
Denver, CO 80218

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	7
Sr: Sample Results	8
AOC17 BH01 L1353753-01	8
AOC08 BH01 L1353753-02	10
AOC07 BH01 L1353753-03	12
AOC07 BH02 L1353753-04	14
AOC07 BH03 L1353753-05	16
AOC13 BH01 L1353753-06	18
AOC13 BH02 L1353753-07	20
AOC06 BH01 L1353753-08	23
AOC06 BH02 L1353753-09	25
AOC06 BH03 L1353753-10	27
AOC06 BH04 L1353753-11	29
AOC12 BH01 L1353753-12	31
AOC12 BH02 L1353753-13	33
AOC13 BH03 L1353753-14	35
AOC03 BH01 L1353753-15	37
AOC03 BH02 L1353753-16	39
AOC03 BH03 L1353753-17	41
AOC03 BH04 L1353753-18	43
AOC02 BH01 L1353753-19	45
AOC02 BH02 L1353753-20	47
AOC02 BH03 L1353753-21	49
Qc: Quality Control Summary	51
Mercury by Method 7471A	51
Metals (ICP) by Method 6010B	54
Volatile Organic Compounds (GC/MS) by Method 8260B	56
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	77
Gl: Glossary of Terms	86
Al: Accreditations & Locations	87
Sc: Sample Chain of Custody	88

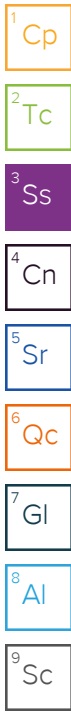
¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

AOC17 BH01 L1353753-01 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 09:30 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:03	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:15	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1674146	1	05/18/21 21:25	05/20/21 20:17	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672814	1	05/18/21 19:39	05/19/21 07:01	LEA	Mt. Juliet, TN



AOC08 BH01 L1353753-02 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 11:00 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:05	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:19	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1674146	1	05/18/21 21:25	05/20/21 20:38	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 11:45	LEA	Mt. Juliet, TN

AOC07 BH01 L1353753-03 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 12:20 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:12	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:22	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1674146	1	05/18/21 21:25	05/20/21 20:58	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 11:55	LEA	Mt. Juliet, TN

AOC07 BH02 L1353753-04 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 12:45 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:14	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:30	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1674146	1	05/18/21 21:25	05/20/21 21:18	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 12:05	LEA	Mt. Juliet, TN

AOC07 BH03 L1353753-05 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 13:20 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:17	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:33	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1674146	1	05/18/21 21:25	05/20/21 21:39	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 12:34	LEA	Mt. Juliet, TN

AOC13 BH01 L1353753-06 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 15:45 Received date/time 05/15/21 09:30

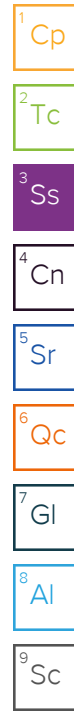
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:19	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:36	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1675056	1	05/18/21 21:25	05/21/21 19:56	ADM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 12:44	LEA	Mt. Juliet, TN

SAMPLE SUMMARY

AOC13 BH02 L1353753-07 Solid

Collected by A. Backsmeier Collected date/time 05/07/21 15:00 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:22	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:39	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1675438	1	05/18/21 21:25	05/21/21 23:19	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676340	1	05/18/21 21:25	05/24/21 18:35	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1672818	1	05/19/21 23:45	05/20/21 12:54	LEA	Mt. Juliet, TN



AOC06 BH01 L1353753-08 Solid

Collected by A. Backsmeier Collected date/time 05/10/21 09:50 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:24	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:42	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 09:51	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1674401	1	05/20/21 23:01	05/21/21 10:08	AO	Mt. Juliet, TN

AOC06 BH02 L1353753-09 Solid

Collected by A. Backsmeier Collected date/time 05/10/21 10:20 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:26	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:45	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 10:11	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1674401	1	05/20/21 23:01	05/21/21 10:26	AO	Mt. Juliet, TN

AOC06 BH03 L1353753-10 Solid

Collected by A. Backsmeier Collected date/time 05/10/21 11:30 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:29	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:48	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 10:31	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1674401	1	05/20/21 23:01	05/21/21 10:44	AO	Mt. Juliet, TN

AOC06 BH04 L1353753-11 Solid

Collected by A. Backsmeier Collected date/time 05/10/21 10:50 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1671676	1	05/20/21 15:40	05/21/21 11:31	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:51	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 10:51	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1674401	1	05/20/21 23:01	05/21/21 11:02	AO	Mt. Juliet, TN

AOC12 BH01 L1353753-12 Solid

Collected by A. Backsmeier Collected date/time 05/12/21 09:20 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:03	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:53	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 11:11	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 01:38	LEA	Mt. Juliet, TN

SAMPLE SUMMARY

AOC12 BH02 L1353753-13 Solid

Collected by A. Backsmeier
 Collected date/time 05/12/21 09:45
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:10	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:56	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 11:32	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 01:55	LEA	Mt. Juliet, TN

AOC13 BH03 L1353753-14 Solid

Collected by A. Backsmeier
 Collected date/time 05/12/21 11:15
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:13	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:05	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 11:52	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 02:12	LEA	Mt. Juliet, TN

AOC03 BH01 L1353753-15 Solid

Collected by A. Backsmeier
 Collected date/time 05/12/21 12:30
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:15	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:08	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 12:12	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 02:30	LEA	Mt. Juliet, TN

AOC03 BH02 L1353753-16 Solid

Collected by A. Backsmeier
 Collected date/time 05/12/21 13:05
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:17	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 19:02	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 12:31	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 02:47	LEA	Mt. Juliet, TN

AOC03 BH03 L1353753-17 Solid

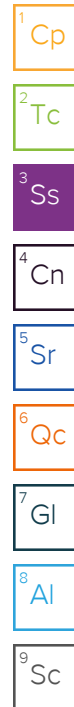
Collected by A. Backsmeier
 Collected date/time 05/12/21 13:55
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:20	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:11	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 12:51	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 03:05	LEA	Mt. Juliet, TN

AOC03 BH04 L1353753-18 Solid

Collected by A. Backsmeier
 Collected date/time 05/12/21 13:40
 Received date/time 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:22	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:14	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 13:11	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 03:22	LEA	Mt. Juliet, TN



SAMPLE SUMMARY

AOC02 BH01 L1353753-19 Solid

Collected by: A. Backsmeier
 Collected date/time: 05/12/21 15:00
 Received date/time: 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:25	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:16	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 13:31	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 03:40	LEA	Mt. Juliet, TN

AOC02 BH02 L1353753-20 Solid

Collected by: A. Backsmeier
 Collected date/time: 05/12/21 15:30
 Received date/time: 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1673288	1	05/19/21 15:02	05/20/21 11:27	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672643	1	05/21/21 23:07	05/22/21 20:19	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 13:51	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 03:57	LEA	Mt. Juliet, TN

AOC02 BH03 L1353753-21 Solid

Collected by: A. Backsmeier
 Collected date/time: 05/12/21 15:50
 Received date/time: 05/15/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1672803	1	05/18/21 13:40	05/18/21 18:46	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1672571	1	05/19/21 10:30	05/20/21 23:24	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1676133	1	05/18/21 21:25	05/24/21 14:12	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1675861	1	05/23/21 19:20	05/24/21 04:14	LEA	Mt. Juliet, TN

Draft

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Draft

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0315	J	0.0180	0.0400	1	05/21/2021 11:03	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	5.01		0.518	2.00	1	05/22/2021 19:15	WG1672643
Barium	42.1		0.0852	0.500	1	05/22/2021 19:15	WG1672643
Cadmium	0.356	J	0.0471	0.500	1	05/22/2021 19:15	WG1672643
Chromium	40.2		0.133	1.00	1	05/22/2021 19:15	WG1672643
Lead	10.8		0.208	0.500	1	05/22/2021 19:15	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:15	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:15	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/20/2021 20:17	WG1674146
Acrylonitrile	U		0.00361	0.0125	1	05/20/2021 20:17	WG1674146
Benzene	U		0.000467	0.00100	1	05/20/2021 20:17	WG1674146
Bromobenzene	U		0.000900	0.0125	1	05/20/2021 20:17	WG1674146
Bromodichloromethane	U		0.000725	0.00250	1	05/20/2021 20:17	WG1674146
Bromoform	U		0.00117	0.0250	1	05/20/2021 20:17	WG1674146
Bromomethane	U		0.00197	0.0125	1	05/20/2021 20:17	WG1674146
n-Butylbenzene	U		0.00525	0.0125	1	05/20/2021 20:17	WG1674146
sec-Butylbenzene	U		0.00288	0.0125	1	05/20/2021 20:17	WG1674146
tert-Butylbenzene	U		0.00195	0.00500	1	05/20/2021 20:17	WG1674146
Carbon tetrachloride	U		0.000898	0.00500	1	05/20/2021 20:17	WG1674146
Chlorobenzene	U		0.000210	0.00250	1	05/20/2021 20:17	WG1674146
Chlorodibromomethane	U		0.000612	0.00250	1	05/20/2021 20:17	WG1674146
Chloroethane	U		0.00170	0.00500	1	05/20/2021 20:17	WG1674146
Chloroform	U		0.00103	0.00250	1	05/20/2021 20:17	WG1674146
Chloromethane	U		0.00435	0.0125	1	05/20/2021 20:17	WG1674146
2-Chlorotoluene	U		0.000865	0.00250	1	05/20/2021 20:17	WG1674146
4-Chlorotoluene	U		0.000450	0.00500	1	05/20/2021 20:17	WG1674146
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/20/2021 20:17	WG1674146
1,2-Dibromoethane	U		0.000648	0.00250	1	05/20/2021 20:17	WG1674146
Dibromomethane	U		0.000750	0.00500	1	05/20/2021 20:17	WG1674146
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/20/2021 20:17	WG1674146
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/20/2021 20:17	WG1674146
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/20/2021 20:17	WG1674146
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/20/2021 20:17	WG1674146
1,1-Dichloroethane	U		0.000491	0.00250	1	05/20/2021 20:17	WG1674146
1,2-Dichloroethane	U		0.000649	0.00250	1	05/20/2021 20:17	WG1674146
1,1-Dichloroethene	U		0.000606	0.00250	1	05/20/2021 20:17	WG1674146
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/20/2021 20:17	WG1674146
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/20/2021 20:17	WG1674146
1,2-Dichloropropane	U		0.00142	0.00500	1	05/20/2021 20:17	WG1674146
1,1-Dichloropropene	U		0.000809	0.00250	1	05/20/2021 20:17	WG1674146
1,3-Dichloropropane	U		0.000501	0.00500	1	05/20/2021 20:17	WG1674146
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/20/2021 20:17	WG1674146
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/20/2021 20:17	WG1674146
2,2-Dichloropropane	U		0.00138	0.00250	1	05/20/2021 20:17	WG1674146
Di-isopropyl ether	U		0.000410	0.00100	1	05/20/2021 20:17	WG1674146
Ethylbenzene	U		0.000737	0.00250	1	05/20/2021 20:17	WG1674146
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/20/2021 20:17	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/20/2021 20:17	WG1674146
p-Isopropyltoluene	U		0.00255	0.00500	1	05/20/2021 20:17	WG1674146
2-Butanone (MEK)	0.0995	B J	0.0635	0.100	1	05/20/2021 20:17	WG1674146
Methylene Chloride	U		0.00664	0.0250	1	05/20/2021 20:17	WG1674146
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/20/2021 20:17	WG1674146
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/20/2021 20:17	WG1674146
Naphthalene	U		0.00488	0.0125	1	05/20/2021 20:17	WG1674146
n-Propylbenzene	U		0.000950	0.00500	1	05/20/2021 20:17	WG1674146
Styrene	U		0.000229	0.0125	1	05/20/2021 20:17	WG1674146
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/20/2021 20:17	WG1674146
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/20/2021 20:17	WG1674146
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/20/2021 20:17	WG1674146
Tetrachloroethene	U		0.000896	0.00250	1	05/20/2021 20:17	WG1674146
Toluene	U		0.00130	0.00500	1	05/20/2021 20:17	WG1674146
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/20/2021 20:17	WG1674146
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/20/2021 20:17	WG1674146
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/20/2021 20:17	WG1674146
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/20/2021 20:17	WG1674146
Trichloroethene	0.000842	I U	0.000584	0.00100	1	05/20/2021 20:17	WG1674146
Trichlorofluoromethane	U		0.000827	0.00250	1	05/20/2021 20:17	WG1674146
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/20/2021 20:17	WG1674146
1,2,4-Trimethylbenzene	0.00225	I U	0.00158	0.00500	1	05/20/2021 20:17	WG1674146
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 20:17	WG1674146
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/20/2021 20:17	WG1674146
Vinyl chloride	U		0.00116	0.00250	1	05/20/2021 20:17	WG1674146
Xylenes, Total	U		0.000880	0.00650	1	05/20/2021 20:17	WG1674146
(S) Toluene-d8	110			75.0-131		05/20/2021 20:17	WG1674146
(S) 4-Bromofluorobenzene	103			67.0-138		05/20/2021 20:17	WG1674146
(S) 1,2-Dichloroethane-d4	112			70.0-130		05/20/2021 20:17	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/19/2021 07:01	WG1672814
Acenaphthene	U		0.00209	0.00600	1	05/19/2021 07:01	WG1672814
Acenaphthylene	U		0.00216	0.00600	1	05/19/2021 07:01	WG1672814
Benzo(a)anthracene	U		0.00173	0.00600	1	05/19/2021 07:01	WG1672814
Benzo(a)pyrene	U		0.00179	0.00600	1	05/19/2021 07:01	WG1672814
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/19/2021 07:01	WG1672814
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/19/2021 07:01	WG1672814
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/19/2021 07:01	WG1672814
Chrysene	U		0.00232	0.00600	1	05/19/2021 07:01	WG1672814
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/19/2021 07:01	WG1672814
Fluoranthene	U		0.00227	0.00600	1	05/19/2021 07:01	WG1672814
Fluorene	U		0.00205	0.00600	1	05/19/2021 07:01	WG1672814
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/19/2021 07:01	WG1672814
Naphthalene	U		0.00408	0.0200	1	05/19/2021 07:01	WG1672814
Phenanthrene	U		0.00231	0.00600	1	05/19/2021 07:01	WG1672814
Pyrene	U		0.00200	0.00600	1	05/19/2021 07:01	WG1672814
1-Methylnaphthalene	U		0.00449	0.0200	1	05/19/2021 07:01	WG1672814
2-Methylnaphthalene	U		0.00427	0.0200	1	05/19/2021 07:01	WG1672814
2-Chloronaphthalene	U		0.00466	0.0200	1	05/19/2021 07:01	WG1672814
(S) p-Terphenyl-d14	75.8			23.0-120		05/19/2021 07:01	WG1672814
(S) Nitrobenzene-d5	73.0			14.0-149		05/19/2021 07:01	WG1672814
(S) 2-Fluorobiphenyl	51.6			34.0-125		05/19/2021 07:01	WG1672814

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:05	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.44		0.518	2.00	1	05/22/2021 19:19	WG1672643
Barium	79.1		0.0852	0.500	1	05/22/2021 19:19	WG1672643
Cadmium	0.268	J	0.0471	0.500	1	05/22/2021 19:19	WG1672643
Chromium	7.89		0.133	1.00	1	05/22/2021 19:19	WG1672643
Lead	3.87		0.208	0.500	1	05/22/2021 19:19	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:19	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:19	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/20/2021 20:38	WG1674146
Acrylonitrile	U		0.00361	0.0125	1	05/20/2021 20:38	WG1674146
Benzene	U		0.000467	0.00100	1	05/20/2021 20:38	WG1674146
Bromobenzene	U		0.000900	0.0125	1	05/20/2021 20:38	WG1674146
Bromodichloromethane	U		0.000725	0.00250	1	05/20/2021 20:38	WG1674146
Bromoform	U		0.00117	0.0250	1	05/20/2021 20:38	WG1674146
Bromomethane	U		0.00197	0.0125	1	05/20/2021 20:38	WG1674146
n-Butylbenzene	U		0.00525	0.0125	1	05/20/2021 20:38	WG1674146
sec-Butylbenzene	U		0.00288	0.0125	1	05/20/2021 20:38	WG1674146
tert-Butylbenzene	U		0.00195	0.00500	1	05/20/2021 20:38	WG1674146
Carbon tetrachloride	U		0.000898	0.00500	1	05/20/2021 20:38	WG1674146
Chlorobenzene	U		0.000210	0.00250	1	05/20/2021 20:38	WG1674146
Chlorodibromomethane	U		0.000612	0.00250	1	05/20/2021 20:38	WG1674146
Chloroethane	U		0.00170	0.00500	1	05/20/2021 20:38	WG1674146
Chloroform	U		0.00103	0.00250	1	05/20/2021 20:38	WG1674146
Chloromethane	U		0.00435	0.0125	1	05/20/2021 20:38	WG1674146
2-Chlorotoluene	U		0.000865	0.00250	1	05/20/2021 20:38	WG1674146
4-Chlorotoluene	U		0.000450	0.00500	1	05/20/2021 20:38	WG1674146
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/20/2021 20:38	WG1674146
1,2-Dibromoethane	U		0.000648	0.00250	1	05/20/2021 20:38	WG1674146
Dibromomethane	U		0.000750	0.00500	1	05/20/2021 20:38	WG1674146
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/20/2021 20:38	WG1674146
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/20/2021 20:38	WG1674146
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/20/2021 20:38	WG1674146
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/20/2021 20:38	WG1674146
1,1-Dichloroethane	U		0.000491	0.00250	1	05/20/2021 20:38	WG1674146
1,2-Dichloroethane	U		0.000649	0.00250	1	05/20/2021 20:38	WG1674146
1,1-Dichloroethene	U		0.000606	0.00250	1	05/20/2021 20:38	WG1674146
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/20/2021 20:38	WG1674146
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/20/2021 20:38	WG1674146
1,2-Dichloropropane	U		0.00142	0.00500	1	05/20/2021 20:38	WG1674146
1,1-Dichloropropene	U		0.000809	0.00250	1	05/20/2021 20:38	WG1674146
1,3-Dichloropropane	U		0.000501	0.00500	1	05/20/2021 20:38	WG1674146
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/20/2021 20:38	WG1674146
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/20/2021 20:38	WG1674146
2,2-Dichloropropane	U		0.00138	0.00250	1	05/20/2021 20:38	WG1674146
Di-isopropyl ether	U		0.000410	0.00100	1	05/20/2021 20:38	WG1674146
Ethylbenzene	U		0.000737	0.00250	1	05/20/2021 20:38	WG1674146
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/20/2021 20:38	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/20/2021 20:38	WG1674146
p-Isopropyltoluene	U		0.00255	0.00500	1	05/20/2021 20:38	WG1674146
2-Butanone (MEK)	0.119	B	0.0635	0.100	1	05/20/2021 20:38	WG1674146
Methylene Chloride	U		0.00664	0.0250	1	05/20/2021 20:38	WG1674146
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/20/2021 20:38	WG1674146
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/20/2021 20:38	WG1674146
Naphthalene	U		0.00488	0.0125	1	05/20/2021 20:38	WG1674146
n-Propylbenzene	U		0.000950	0.00500	1	05/20/2021 20:38	WG1674146
Styrene	U		0.000229	0.0125	1	05/20/2021 20:38	WG1674146
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/20/2021 20:38	WG1674146
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/20/2021 20:38	WG1674146
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/20/2021 20:38	WG1674146
Tetrachloroethene	U		0.000896	0.00250	1	05/20/2021 20:38	WG1674146
Toluene	U		0.00130	0.00500	1	05/20/2021 20:38	WG1674146
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/20/2021 20:38	WG1674146
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/20/2021 20:38	WG1674146
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/20/2021 20:38	WG1674146
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/20/2021 20:38	WG1674146
Trichloroethene	0.000850	U	0.000584	0.00100	1	05/20/2021 20:38	WG1674146
Trichlorofluoromethane	U		0.000827	0.00250	1	05/20/2021 20:38	WG1674146
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/20/2021 20:38	WG1674146
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 20:38	WG1674146
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 20:38	WG1674146
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/20/2021 20:38	WG1674146
Vinyl chloride	U		0.00116	0.00250	1	05/20/2021 20:38	WG1674146
Xylenes, Total	U		0.000880	0.00650	1	05/20/2021 20:38	WG1674146
(S) Toluene-d8	108			75.0-131		05/20/2021 20:38	WG1674146
(S) 4-Bromofluorobenzene	99.2			67.0-138		05/20/2021 20:38	WG1674146
(S) 1,2-Dichloroethane-d4	109			70.0-130		05/20/2021 20:38	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 11:45	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 11:45	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 11:45	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 11:45	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 11:45	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 11:45	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 11:45	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 11:45	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 11:45	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 11:45	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 11:45	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 11:45	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 11:45	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 11:45	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 11:45	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 11:45	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 11:45	WG1672818
2-Methylnaphthalene	0.00427	U	0.00427	0.0200	1	05/20/2021 11:45	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 11:45	WG1672818
(S) p-Terphenyl-d14	77.6			23.0-120		05/20/2021 11:45	WG1672818
(S) Nitrobenzene-d5	87.5			14.0-149		05/20/2021 11:45	WG1672818
(S) 2-Fluorobiphenyl	67.3			34.0-125		05/20/2021 11:45	WG1672818

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:12	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.518	2.00	1	05/22/2021 19:22	WG1672643
Barium	28.5		0.0852	0.500	1	05/22/2021 19:22	WG1672643
Cadmium	0.157	J	0.0471	0.500	1	05/22/2021 19:22	WG1672643
Chromium	9.62		0.133	1.00	1	05/22/2021 19:22	WG1672643
Lead	8.12		0.208	0.500	1	05/22/2021 19:22	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:22	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:22	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/20/2021 20:58	WG1674146
Acrylonitrile	U		0.00361	0.0125	1	05/20/2021 20:58	WG1674146
Benzene	U		0.000467	0.00100	1	05/20/2021 20:58	WG1674146
Bromobenzene	U		0.000900	0.0125	1	05/20/2021 20:58	WG1674146
Bromodichloromethane	U		0.000725	0.00250	1	05/20/2021 20:58	WG1674146
Bromoform	U		0.00117	0.0250	1	05/20/2021 20:58	WG1674146
Bromomethane	U		0.00197	0.0125	1	05/20/2021 20:58	WG1674146
n-Butylbenzene	U		0.00525	0.0125	1	05/20/2021 20:58	WG1674146
sec-Butylbenzene	U		0.00288	0.0125	1	05/20/2021 20:58	WG1674146
tert-Butylbenzene	U		0.00195	0.00500	1	05/20/2021 20:58	WG1674146
Carbon tetrachloride	U		0.000898	0.00500	1	05/20/2021 20:58	WG1674146
Chlorobenzene	U		0.000210	0.00250	1	05/20/2021 20:58	WG1674146
Chlorodibromomethane	U		0.000612	0.00250	1	05/20/2021 20:58	WG1674146
Chloroethane	U		0.00170	0.00500	1	05/20/2021 20:58	WG1674146
Chloroform	U		0.00103	0.00250	1	05/20/2021 20:58	WG1674146
Chloromethane	U		0.00435	0.0125	1	05/20/2021 20:58	WG1674146
2-Chlorotoluene	U		0.000865	0.00250	1	05/20/2021 20:58	WG1674146
4-Chlorotoluene	U		0.000450	0.00500	1	05/20/2021 20:58	WG1674146
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/20/2021 20:58	WG1674146
1,2-Dibromoethane	U		0.000648	0.00250	1	05/20/2021 20:58	WG1674146
Dibromomethane	U		0.000750	0.00500	1	05/20/2021 20:58	WG1674146
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/20/2021 20:58	WG1674146
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/20/2021 20:58	WG1674146
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/20/2021 20:58	WG1674146
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/20/2021 20:58	WG1674146
1,1-Dichloroethane	U		0.000491	0.00250	1	05/20/2021 20:58	WG1674146
1,2-Dichloroethane	U		0.000649	0.00250	1	05/20/2021 20:58	WG1674146
1,1-Dichloroethene	U		0.000606	0.00250	1	05/20/2021 20:58	WG1674146
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/20/2021 20:58	WG1674146
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/20/2021 20:58	WG1674146
1,2-Dichloropropane	U		0.00142	0.00500	1	05/20/2021 20:58	WG1674146
1,1-Dichloropropene	U		0.000809	0.00250	1	05/20/2021 20:58	WG1674146
1,3-Dichloropropane	U		0.000501	0.00500	1	05/20/2021 20:58	WG1674146
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/20/2021 20:58	WG1674146
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/20/2021 20:58	WG1674146
2,2-Dichloropropane	U		0.00138	0.00250	1	05/20/2021 20:58	WG1674146
Di-isopropyl ether	U		0.000410	0.00100	1	05/20/2021 20:58	WG1674146
Ethylbenzene	U		0.000737	0.00250	1	05/20/2021 20:58	WG1674146
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/20/2021 20:58	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/20/2021 20:58	WG1674146
p-Isopropyltoluene	U		0.00255	0.00500	1	05/20/2021 20:58	WG1674146
2-Butanone (MEK)	0.121	B	0.0635	0.100	1	05/20/2021 20:58	WG1674146
Methylene Chloride	U		0.00664	0.0250	1	05/20/2021 20:58	WG1674146
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/20/2021 20:58	WG1674146
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/20/2021 20:58	WG1674146
Naphthalene	U		0.00488	0.0125	1	05/20/2021 20:58	WG1674146
n-Propylbenzene	U		0.000950	0.00500	1	05/20/2021 20:58	WG1674146
Styrene	U		0.000229	0.0125	1	05/20/2021 20:58	WG1674146
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/20/2021 20:58	WG1674146
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/20/2021 20:58	WG1674146
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/20/2021 20:58	WG1674146
Tetrachloroethene	U		0.000896	0.00250	1	05/20/2021 20:58	WG1674146
Toluene	U		0.00130	0.00500	1	05/20/2021 20:58	WG1674146
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/20/2021 20:58	WG1674146
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/20/2021 20:58	WG1674146
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/20/2021 20:58	WG1674146
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/20/2021 20:58	WG1674146
Trichloroethene	0.00115		0.000584	0.00100	1	05/20/2021 20:58	WG1674146
Trichlorofluoromethane	U		0.000827	0.00250	1	05/20/2021 20:58	WG1674146
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/20/2021 20:58	WG1674146
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 20:58	WG1674146
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 20:58	WG1674146
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/20/2021 20:58	WG1674146
Vinyl chloride	U		0.00116	0.00250	1	05/20/2021 20:58	WG1674146
Xylenes, Total	U		0.000880	0.00650	1	05/20/2021 20:58	WG1674146
(S) Toluene-d8	108			75.0-131		05/20/2021 20:58	WG1674146
(S) 4-Bromofluorobenzene	100			67.0-138		05/20/2021 20:58	WG1674146
(S) 1,2-Dichloroethane-d4	111			70.0-130		05/20/2021 20:58	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 11:55	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 11:55	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 11:55	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 11:55	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 11:55	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 11:55	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 11:55	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 11:55	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 11:55	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 11:55	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 11:55	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 11:55	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 11:55	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 11:55	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 11:55	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 11:55	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 11:55	WG1672818
2-Methylnaphthalene	U		0.00427	0.0200	1	05/20/2021 11:55	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 11:55	WG1672818
(S) p-Terphenyl-d14	89.5			23.0-120		05/20/2021 11:55	WG1672818
(S) Nitrobenzene-d5	88.6			14.0-149		05/20/2021 11:55	WG1672818
(S) 2-Fluorobiphenyl	73.0			34.0-125		05/20/2021 11:55	WG1672818

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:14	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	0.916	J	0.518	2.00	1	05/22/2021 19:30	WG1672643
Barium	26.8		0.0852	0.500	1	05/22/2021 19:30	WG1672643
Cadmium	0.227	J	0.0471	0.500	1	05/22/2021 19:30	WG1672643
Chromium	11.3		0.133	1.00	1	05/22/2021 19:30	WG1672643
Lead	8.60		0.208	0.500	1	05/22/2021 19:30	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:30	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:30	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/20/2021 21:18	WG1674146
Acrylonitrile	U		0.00361	0.0125	1	05/20/2021 21:18	WG1674146
Benzene	U		0.000467	0.00100	1	05/20/2021 21:18	WG1674146
Bromobenzene	U		0.000900	0.0125	1	05/20/2021 21:18	WG1674146
Bromodichloromethane	U		0.000725	0.00250	1	05/20/2021 21:18	WG1674146
Bromoform	U		0.00117	0.0250	1	05/20/2021 21:18	WG1674146
Bromomethane	U		0.00197	0.0125	1	05/20/2021 21:18	WG1674146
n-Butylbenzene	U		0.00525	0.0125	1	05/20/2021 21:18	WG1674146
sec-Butylbenzene	U		0.00288	0.0125	1	05/20/2021 21:18	WG1674146
tert-Butylbenzene	U		0.00195	0.00500	1	05/20/2021 21:18	WG1674146
Carbon tetrachloride	U		0.000898	0.00500	1	05/20/2021 21:18	WG1674146
Chlorobenzene	U		0.000210	0.00250	1	05/20/2021 21:18	WG1674146
Chlorodibromomethane	U		0.000612	0.00250	1	05/20/2021 21:18	WG1674146
Chloroethane	U		0.00170	0.00500	1	05/20/2021 21:18	WG1674146
Chloroform	U		0.00103	0.00250	1	05/20/2021 21:18	WG1674146
Chloromethane	U		0.00435	0.0125	1	05/20/2021 21:18	WG1674146
2-Chlorotoluene	U		0.000865	0.00250	1	05/20/2021 21:18	WG1674146
4-Chlorotoluene	U		0.000450	0.00500	1	05/20/2021 21:18	WG1674146
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/20/2021 21:18	WG1674146
1,2-Dibromoethane	U		0.000648	0.00250	1	05/20/2021 21:18	WG1674146
Dibromomethane	U		0.000750	0.00500	1	05/20/2021 21:18	WG1674146
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/20/2021 21:18	WG1674146
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/20/2021 21:18	WG1674146
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/20/2021 21:18	WG1674146
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/20/2021 21:18	WG1674146
1,1-Dichloroethane	U		0.000491	0.00250	1	05/20/2021 21:18	WG1674146
1,2-Dichloroethane	U		0.000649	0.00250	1	05/20/2021 21:18	WG1674146
1,1-Dichloroethene	U		0.000606	0.00250	1	05/20/2021 21:18	WG1674146
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/20/2021 21:18	WG1674146
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/20/2021 21:18	WG1674146
1,2-Dichloropropane	U		0.00142	0.00500	1	05/20/2021 21:18	WG1674146
1,1-Dichloropropene	U		0.000809	0.00250	1	05/20/2021 21:18	WG1674146
1,3-Dichloropropane	U		0.000501	0.00500	1	05/20/2021 21:18	WG1674146
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/20/2021 21:18	WG1674146
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/20/2021 21:18	WG1674146
2,2-Dichloropropane	U		0.00138	0.00250	1	05/20/2021 21:18	WG1674146
Di-isopropyl ether	U		0.000410	0.00100	1	05/20/2021 21:18	WG1674146
Ethylbenzene	U		0.000737	0.00250	1	05/20/2021 21:18	WG1674146
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/20/2021 21:18	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/20/2021 21:18	WG1674146
p-Isopropyltoluene	U		0.00255	0.00500	1	05/20/2021 21:18	WG1674146
2-Butanone (MEK)	0.118	B	0.0635	0.100	1	05/20/2021 21:18	WG1674146
Methylene Chloride	U		0.00664	0.0250	1	05/20/2021 21:18	WG1674146
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/20/2021 21:18	WG1674146
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/20/2021 21:18	WG1674146
Naphthalene	U		0.00488	0.0125	1	05/20/2021 21:18	WG1674146
n-Propylbenzene	U		0.000950	0.00500	1	05/20/2021 21:18	WG1674146
Styrene	U		0.000229	0.0125	1	05/20/2021 21:18	WG1674146
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/20/2021 21:18	WG1674146
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/20/2021 21:18	WG1674146
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/20/2021 21:18	WG1674146
Tetrachloroethene	U		0.000896	0.00250	1	05/20/2021 21:18	WG1674146
Toluene	U		0.00130	0.00500	1	05/20/2021 21:18	WG1674146
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/20/2021 21:18	WG1674146
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/20/2021 21:18	WG1674146
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/20/2021 21:18	WG1674146
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/20/2021 21:18	WG1674146
Trichloroethene	U		0.000584	0.00100	1	05/20/2021 21:18	WG1674146
Trichlorofluoromethane	U		0.000827	0.00250	1	05/20/2021 21:18	WG1674146
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/20/2021 21:18	WG1674146
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 21:18	WG1674146
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 21:18	WG1674146
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/20/2021 21:18	WG1674146
Vinyl chloride	U		0.00116	0.00250	1	05/20/2021 21:18	WG1674146
Xylenes, Total	U		0.000880	0.00650	1	05/20/2021 21:18	WG1674146
(S) Toluene-d8	110			75.0-131		05/20/2021 21:18	WG1674146
(S) 4-Bromofluorobenzene	99.6			67.0-138		05/20/2021 21:18	WG1674146
(S) 1,2-Dichloroethane-d4	109			70.0-130		05/20/2021 21:18	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 12:05	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 12:05	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 12:05	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 12:05	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 12:05	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 12:05	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 12:05	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 12:05	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 12:05	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 12:05	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 12:05	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 12:05	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 12:05	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 12:05	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 12:05	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 12:05	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 12:05	WG1672818
2-Methylnaphthalene	U		0.00427	0.0200	1	05/20/2021 12:05	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 12:05	WG1672818
(S) p-Terphenyl-d14	90.3			23.0-120		05/20/2021 12:05	WG1672818
(S) Nitrobenzene-d5	89.6			14.0-149		05/20/2021 12:05	WG1672818
(S) 2-Fluorobiphenyl	72.7			34.0-125		05/20/2021 12:05	WG1672818

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:17	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.518	2.00	1	05/22/2021 19:33	WG1672643
Barium	18.5		0.0852	0.500	1	05/22/2021 19:33	WG1672643
Cadmium	0.201	J	0.0471	0.500	1	05/22/2021 19:33	WG1672643
Chromium	10.4		0.133	1.00	1	05/22/2021 19:33	WG1672643
Lead	6.42		0.208	0.500	1	05/22/2021 19:33	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:33	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:33	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/20/2021 21:39	WG1674146
Acrylonitrile	U		0.00361	0.0125	1	05/20/2021 21:39	WG1674146
Benzene	U		0.000467	0.00100	1	05/20/2021 21:39	WG1674146
Bromobenzene	U		0.000900	0.0125	1	05/20/2021 21:39	WG1674146
Bromodichloromethane	U		0.000725	0.00250	1	05/20/2021 21:39	WG1674146
Bromoform	U		0.00117	0.0250	1	05/20/2021 21:39	WG1674146
Bromomethane	U		0.00197	0.0125	1	05/20/2021 21:39	WG1674146
n-Butylbenzene	U		0.00525	0.0125	1	05/20/2021 21:39	WG1674146
sec-Butylbenzene	U		0.00288	0.0125	1	05/20/2021 21:39	WG1674146
tert-Butylbenzene	U		0.00195	0.00500	1	05/20/2021 21:39	WG1674146
Carbon tetrachloride	U		0.000898	0.00500	1	05/20/2021 21:39	WG1674146
Chlorobenzene	U		0.000210	0.00250	1	05/20/2021 21:39	WG1674146
Chlorodibromomethane	U		0.000612	0.00250	1	05/20/2021 21:39	WG1674146
Chloroethane	U		0.00170	0.00500	1	05/20/2021 21:39	WG1674146
Chloroform	U		0.00103	0.00250	1	05/20/2021 21:39	WG1674146
Chloromethane	U		0.00435	0.0125	1	05/20/2021 21:39	WG1674146
2-Chlorotoluene	U		0.000865	0.00250	1	05/20/2021 21:39	WG1674146
4-Chlorotoluene	U		0.000450	0.00500	1	05/20/2021 21:39	WG1674146
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/20/2021 21:39	WG1674146
1,2-Dibromoethane	U		0.000648	0.00250	1	05/20/2021 21:39	WG1674146
Dibromomethane	U		0.000750	0.00500	1	05/20/2021 21:39	WG1674146
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/20/2021 21:39	WG1674146
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/20/2021 21:39	WG1674146
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/20/2021 21:39	WG1674146
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/20/2021 21:39	WG1674146
1,1-Dichloroethane	U		0.000491	0.00250	1	05/20/2021 21:39	WG1674146
1,2-Dichloroethane	U		0.000649	0.00250	1	05/20/2021 21:39	WG1674146
1,1-Dichloroethene	U		0.000606	0.00250	1	05/20/2021 21:39	WG1674146
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/20/2021 21:39	WG1674146
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/20/2021 21:39	WG1674146
1,2-Dichloropropane	U		0.00142	0.00500	1	05/20/2021 21:39	WG1674146
1,1-Dichloropropene	U		0.000809	0.00250	1	05/20/2021 21:39	WG1674146
1,3-Dichloropropane	U		0.000501	0.00500	1	05/20/2021 21:39	WG1674146
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/20/2021 21:39	WG1674146
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/20/2021 21:39	WG1674146
2,2-Dichloropropane	U		0.00138	0.00250	1	05/20/2021 21:39	WG1674146
Di-isopropyl ether	U		0.000410	0.00100	1	05/20/2021 21:39	WG1674146
Ethylbenzene	U		0.000737	0.00250	1	05/20/2021 21:39	WG1674146
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/20/2021 21:39	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/20/2021 21:39	WG1674146
p-Isopropyltoluene	U		0.00255	0.00500	1	05/20/2021 21:39	WG1674146
2-Butanone (MEK)	0.0753	<u>B</u> <u>J</u>	0.0635	0.100	1	05/20/2021 21:39	WG1674146
Methylene Chloride	U		0.00664	0.0250	1	05/20/2021 21:39	WG1674146
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/20/2021 21:39	WG1674146
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/20/2021 21:39	WG1674146
Naphthalene	U		0.00488	0.0125	1	05/20/2021 21:39	WG1674146
n-Propylbenzene	U		0.000950	0.00500	1	05/20/2021 21:39	WG1674146
Styrene	U		0.000229	0.0125	1	05/20/2021 21:39	WG1674146
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/20/2021 21:39	WG1674146
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/20/2021 21:39	WG1674146
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/20/2021 21:39	WG1674146
Tetrachloroethene	U		0.000896	0.00250	1	05/20/2021 21:39	WG1674146
Toluene	U		0.00130	0.00500	1	05/20/2021 21:39	WG1674146
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/20/2021 21:39	WG1674146
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/20/2021 21:39	WG1674146
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/20/2021 21:39	WG1674146
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/20/2021 21:39	WG1674146
Trichloroethene	U		0.000584	0.00100	1	05/20/2021 21:39	WG1674146
Trichlorofluoromethane	U		0.000827	0.00250	1	05/20/2021 21:39	WG1674146
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/20/2021 21:39	WG1674146
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 21:39	WG1674146
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/20/2021 21:39	WG1674146
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/20/2021 21:39	WG1674146
Vinyl chloride	U		0.00116	0.00250	1	05/20/2021 21:39	WG1674146
Xylenes, Total	U		0.000880	0.00650	1	05/20/2021 21:39	WG1674146
(S) Toluene-d8	108			75.0-131		05/20/2021 21:39	WG1674146
(S) 4-Bromofluorobenzene	100			67.0-138		05/20/2021 21:39	WG1674146
(S) 1,2-Dichloroethane-d4	108			70.0-130		05/20/2021 21:39	WG1674146

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 12:34	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 12:34	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 12:34	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 12:34	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 12:34	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 12:34	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 12:34	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 12:34	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 12:34	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 12:34	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 12:34	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 12:34	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 12:34	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 12:34	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 12:34	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 12:34	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 12:34	WG1672818
2-Methylnaphthalene	U		0.00427	0.0200	1	05/20/2021 12:34	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 12:34	WG1672818
(S) p-Terphenyl-d14	83.2			23.0-120		05/20/2021 12:34	WG1672818
(S) Nitrobenzene-d5	82.0			14.0-149		05/20/2021 12:34	WG1672818
(S) 2-Fluorobiphenyl	66.8			34.0-125		05/20/2021 12:34	WG1672818

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:19	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.97	J	0.518	2.00	1	05/22/2021 19:36	WG1672643
Barium	9.85		0.0852	0.500	1	05/22/2021 19:36	WG1672643
Cadmium	0.0479	J	0.0471	0.500	1	05/22/2021 19:36	WG1672643
Chromium	3.73		0.133	1.00	1	05/22/2021 19:36	WG1672643
Lead	3.56		0.208	0.500	1	05/22/2021 19:36	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:36	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:36	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0365	0.0500	1	05/21/2021 19:56	WG1675056
Acrylonitrile	U		0.00361	0.0125	1	05/21/2021 19:56	WG1675056
Benzene	U		0.000467	0.00100	1	05/21/2021 19:56	WG1675056
Bromobenzene	U		0.000900	0.0125	1	05/21/2021 19:56	WG1675056
Bromodichloromethane	U		0.000725	0.00250	1	05/21/2021 19:56	WG1675056
Bromoform	U		0.00117	0.0250	1	05/21/2021 19:56	WG1675056
Bromomethane	U		0.00197	0.0125	1	05/21/2021 19:56	WG1675056
n-Butylbenzene	U		0.00525	0.0125	1	05/21/2021 19:56	WG1675056
sec-Butylbenzene	U		0.00288	0.0125	1	05/21/2021 19:56	WG1675056
tert-Butylbenzene	U		0.00195	0.00500	1	05/21/2021 19:56	WG1675056
Carbon tetrachloride	U		0.000898	0.00500	1	05/21/2021 19:56	WG1675056
Chlorobenzene	U		0.000210	0.00250	1	05/21/2021 19:56	WG1675056
Chlorodibromomethane	U		0.000612	0.00250	1	05/21/2021 19:56	WG1675056
Chloroethane	U		0.00170	0.00500	1	05/21/2021 19:56	WG1675056
Chloroform	U		0.00103	0.00250	1	05/21/2021 19:56	WG1675056
Chloromethane	U		0.00435	0.0125	1	05/21/2021 19:56	WG1675056
2-Chlorotoluene	U		0.000865	0.00250	1	05/21/2021 19:56	WG1675056
4-Chlorotoluene	U		0.000450	0.00500	1	05/21/2021 19:56	WG1675056
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/21/2021 19:56	WG1675056
1,2-Dibromoethane	U		0.000648	0.00250	1	05/21/2021 19:56	WG1675056
Dibromomethane	U		0.000750	0.00500	1	05/21/2021 19:56	WG1675056
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/21/2021 19:56	WG1675056
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/21/2021 19:56	WG1675056
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/21/2021 19:56	WG1675056
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/21/2021 19:56	WG1675056
1,1-Dichloroethane	U		0.000491	0.00250	1	05/21/2021 19:56	WG1675056
1,2-Dichloroethane	U		0.000649	0.00250	1	05/21/2021 19:56	WG1675056
1,1-Dichloroethene	U		0.000606	0.00250	1	05/21/2021 19:56	WG1675056
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/21/2021 19:56	WG1675056
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/21/2021 19:56	WG1675056
1,2-Dichloropropane	U		0.00142	0.00500	1	05/21/2021 19:56	WG1675056
1,1-Dichloropropene	U		0.000809	0.00250	1	05/21/2021 19:56	WG1675056
1,3-Dichloropropane	U		0.000501	0.00500	1	05/21/2021 19:56	WG1675056
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/21/2021 19:56	WG1675056
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/21/2021 19:56	WG1675056
2,2-Dichloropropane	U		0.00138	0.00250	1	05/21/2021 19:56	WG1675056
Di-isopropyl ether	U		0.000410	0.00100	1	05/21/2021 19:56	WG1675056
Ethylbenzene	U		0.000737	0.00250	1	05/21/2021 19:56	WG1675056
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/21/2021 19:56	WG1675056

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/21/2021 19:56	WG1675056
p-Isopropyltoluene	U		0.00255	0.00500	1	05/21/2021 19:56	WG1675056
2-Butanone (MEK)	U		0.0635	0.100	1	05/21/2021 19:56	WG1675056
Methylene Chloride	U		0.00664	0.0250	1	05/21/2021 19:56	WG1675056
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/21/2021 19:56	WG1675056
Methyl tert-butyl ether	0.000725	U	0.000350	0.00100	1	05/21/2021 19:56	WG1675056
Naphthalene	U		0.00488	0.0125	1	05/21/2021 19:56	WG1675056
n-Propylbenzene	U		0.000950	0.00500	1	05/21/2021 19:56	WG1675056
Styrene	U		0.000229	0.0125	1	05/21/2021 19:56	WG1675056
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/21/2021 19:56	WG1675056
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/21/2021 19:56	WG1675056
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/21/2021 19:56	WG1675056
Tetrachloroethene	U		0.000896	0.00250	1	05/21/2021 19:56	WG1675056
Toluene	U		0.00130	0.00500	1	05/21/2021 19:56	WG1675056
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/21/2021 19:56	WG1675056
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/21/2021 19:56	WG1675056
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/21/2021 19:56	WG1675056
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/21/2021 19:56	WG1675056
Trichloroethene	U		0.000584	0.00100	1	05/21/2021 19:56	WG1675056
Trichlorofluoromethane	U		0.000827	0.00250	1	05/21/2021 19:56	WG1675056
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/21/2021 19:56	WG1675056
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/21/2021 19:56	WG1675056
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/21/2021 19:56	WG1675056
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/21/2021 19:56	WG1675056
Vinyl chloride	U		0.00116	0.00250	1	05/21/2021 19:56	WG1675056
Xylenes, Total	U		0.000880	0.00650	1	05/21/2021 19:56	WG1675056
(S) Toluene-d8	103			75.0-131		05/21/2021 19:56	WG1675056
(S) 4-Bromofluorobenzene	101			67.0-138		05/21/2021 19:56	WG1675056
(S) 1,2-Dichloroethane-d4	76.4			70.0-130		05/21/2021 19:56	WG1675056

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 12:44	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 12:44	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 12:44	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 12:44	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 12:44	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 12:44	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 12:44	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 12:44	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 12:44	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 12:44	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 12:44	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 12:44	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 12:44	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 12:44	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 12:44	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 12:44	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 12:44	WG1672818
2-Methylnaphthalene	U		0.00427	0.0200	1	05/20/2021 12:44	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 12:44	WG1672818
(S) p-Terphenyl-d14	89.9			23.0-120		05/20/2021 12:44	WG1672818
(S) Nitrobenzene-d5	92.5			14.0-149		05/20/2021 12:44	WG1672818
(S) 2-Fluorobiphenyl	75.8			34.0-125		05/20/2021 12:44	WG1672818

Mercury by Method 7471A

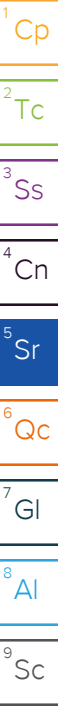
Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:22	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	5.48		0.518	2.00	1	05/22/2021 19:39	WG1672643
Barium	19.4		0.0852	0.500	1	05/22/2021 19:39	WG1672643
Cadmium	0.0964	J	0.0471	0.500	1	05/22/2021 19:39	WG1672643
Chromium	6.26		0.133	1.00	1	05/22/2021 19:39	WG1672643
Lead	3.55		0.208	0.500	1	05/22/2021 19:39	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:39	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:39	WG1672643

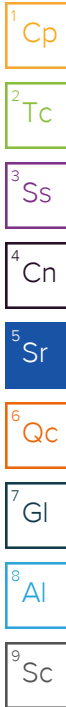
Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/21/2021 23:19	WG1675438
Acrylonitrile	U		0.00361	0.0125	1	05/21/2021 23:19	WG1675438
Benzene	U		0.000467	0.00100	1	05/21/2021 23:19	WG1675438
Bromobenzene	U		0.000900	0.0125	1	05/21/2021 23:19	WG1675438
Bromodichloromethane	U		0.000725	0.00250	1	05/21/2021 23:19	WG1675438
Bromoform	U		0.00117	0.0250	1	05/21/2021 23:19	WG1675438
Bromomethane	U		0.00197	0.0125	1	05/21/2021 23:19	WG1675438
n-Butylbenzene	U		0.00525	0.0125	1	05/21/2021 23:19	WG1675438
sec-Butylbenzene	U		0.00288	0.0125	1	05/21/2021 23:19	WG1675438
tert-Butylbenzene	U		0.00195	0.00500	1	05/21/2021 23:19	WG1675438
Carbon tetrachloride	U		0.000898	0.00500	1	05/21/2021 23:19	WG1675438
Chlorobenzene	U		0.000210	0.00250	1	05/21/2021 23:19	WG1675438
Chlorodibromomethane	U		0.000612	0.00250	1	05/21/2021 23:19	WG1675438
Chloroethane	U		0.00170	0.00500	1	05/21/2021 23:19	WG1675438
Chloroform	U		0.00103	0.00250	1	05/21/2021 23:19	WG1675438
Chloromethane	U		0.00435	0.0125	1	05/21/2021 23:19	WG1675438
2-Chlorotoluene	U		0.000865	0.00250	1	05/21/2021 23:19	WG1675438
4-Chlorotoluene	U		0.000450	0.00500	1	05/21/2021 23:19	WG1675438
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/21/2021 23:19	WG1675438
1,2-Dibromoethane	U		0.000648	0.00250	1	05/21/2021 23:19	WG1675438
Dibromomethane	U		0.000750	0.00500	1	05/21/2021 23:19	WG1675438
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/21/2021 23:19	WG1675438
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/21/2021 23:19	WG1675438
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/21/2021 23:19	WG1675438
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/21/2021 23:19	WG1675438
1,1-Dichloroethane	U		0.000491	0.00250	1	05/21/2021 23:19	WG1675438
1,2-Dichloroethane	U		0.000649	0.00250	1	05/21/2021 23:19	WG1675438
1,1-Dichloroethene	U		0.000606	0.00250	1	05/21/2021 23:19	WG1675438
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/21/2021 23:19	WG1675438
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/21/2021 23:19	WG1675438
1,2-Dichloropropane	U		0.00142	0.00500	1	05/21/2021 23:19	WG1675438
1,1-Dichloropropene	U		0.000809	0.00250	1	05/21/2021 23:19	WG1675438
1,3-Dichloropropane	U		0.000501	0.00500	1	05/21/2021 23:19	WG1675438
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/21/2021 23:19	WG1675438
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/21/2021 23:19	WG1675438
2,2-Dichloropropane	U		0.00138	0.00250	1	05/21/2021 23:19	WG1675438
Di-isopropyl ether	U		0.000410	0.00100	1	05/21/2021 23:19	WG1675438
Ethylbenzene	U		0.000737	0.00250	1	05/21/2021 23:19	WG1675438
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/21/2021 23:19	WG1675438



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/21/2021 23:19	WG1675438
p-Isopropyltoluene	U		0.00255	0.00500	1	05/21/2021 23:19	WG1675438
2-Butanone (MEK)	0.104	B	0.0635	0.100	1	05/21/2021 23:19	WG1675438
Methylene Chloride	U		0.00664	0.0250	1	05/21/2021 23:19	WG1675438
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/21/2021 23:19	WG1675438
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/21/2021 23:19	WG1675438
Naphthalene	U		0.00488	0.0125	1	05/21/2021 23:19	WG1675438
n-Propylbenzene	U		0.000950	0.00500	1	05/21/2021 23:19	WG1675438
Styrene	U		0.000229	0.0125	1	05/21/2021 23:19	WG1675438
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/21/2021 23:19	WG1675438
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/21/2021 23:19	WG1675438
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/21/2021 23:19	WG1675438
Tetrachloroethene	U		0.000896	0.00250	1	05/21/2021 23:19	WG1675438
Toluene	U		0.00130	0.00500	1	05/21/2021 23:19	WG1675438
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/21/2021 23:19	WG1675438
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/21/2021 23:19	WG1675438
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/21/2021 23:19	WG1675438
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/21/2021 23:19	WG1675438
Trichloroethene	U		0.000584	0.00100	1	05/21/2021 23:19	WG1675438
Trichlorofluoromethane	U		0.000827	0.00250	1	05/21/2021 23:19	WG1675438
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/21/2021 23:19	WG1675438
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/21/2021 23:19	WG1675438
1,2,3-Trimethylbenzene	U	Q	0.00158	0.00500	1	05/24/2021 18:35	WG1676340
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/21/2021 23:19	WG1675438
Vinyl chloride	U		0.00116	0.00250	1	05/21/2021 23:19	WG1675438
Xylenes, Total	0.00107	J	0.000880	0.00650	1	05/21/2021 23:19	WG1675438
(S) Toluene-d8	103			75.0-131		05/21/2021 23:19	WG1675438
(S) Toluene-d8	108			75.0-131		05/24/2021 18:35	WG1676340
(S) 4-Bromofluorobenzene	104			67.0-138		05/21/2021 23:19	WG1675438
(S) 4-Bromofluorobenzene	102			67.0-138		05/24/2021 18:35	WG1676340
(S) 1,2-Dichloroethane-d4	104			70.0-130		05/21/2021 23:19	WG1675438
(S) 1,2-Dichloroethane-d4	93.8			70.0-130		05/24/2021 18:35	WG1676340



Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/20/2021 12:54	WG1672818
Acenaphthene	U		0.00209	0.00600	1	05/20/2021 12:54	WG1672818
Acenaphthylene	U		0.00216	0.00600	1	05/20/2021 12:54	WG1672818
Benzo(a)anthracene	U		0.00173	0.00600	1	05/20/2021 12:54	WG1672818
Benzo(a)pyrene	U		0.00179	0.00600	1	05/20/2021 12:54	WG1672818
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/20/2021 12:54	WG1672818
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/20/2021 12:54	WG1672818
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/20/2021 12:54	WG1672818
Chrysene	U		0.00232	0.00600	1	05/20/2021 12:54	WG1672818
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/20/2021 12:54	WG1672818
Fluoranthene	U		0.00227	0.00600	1	05/20/2021 12:54	WG1672818
Fluorene	U		0.00205	0.00600	1	05/20/2021 12:54	WG1672818
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/20/2021 12:54	WG1672818
Naphthalene	U		0.00408	0.0200	1	05/20/2021 12:54	WG1672818
Phenanthrene	U		0.00231	0.00600	1	05/20/2021 12:54	WG1672818
Pyrene	U		0.00200	0.00600	1	05/20/2021 12:54	WG1672818
1-Methylnaphthalene	U		0.00449	0.0200	1	05/20/2021 12:54	WG1672818
2-Methylnaphthalene	U		0.00427	0.0200	1	05/20/2021 12:54	WG1672818
2-Chloronaphthalene	U		0.00466	0.0200	1	05/20/2021 12:54	WG1672818
(S) p-Terphenyl-d14	97.4			23.0-120		05/20/2021 12:54	WG1672818

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) Nitrobenzene-d5	97.5			14.0-149		05/20/2021 12:54	WG1672818
(S) 2-Fluorobiphenyl	76.9			34.0-125		05/20/2021 12:54	WG1672818

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0298	J	0.0180	0.0400	1	05/21/2021 11:24	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.518	2.00	1	05/22/2021 19:42	WG1672643
Barium	303		0.0852	0.500	1	05/22/2021 19:42	WG1672643
Cadmium	0.364	J	0.0471	0.500	1	05/22/2021 19:42	WG1672643
Chromium	8.75		0.133	1.00	1	05/22/2021 19:42	WG1672643
Lead	7.82		0.208	0.500	1	05/22/2021 19:42	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:42	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:42	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 09:51	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 09:51	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 09:51	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 09:51	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 09:51	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 09:51	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 09:51	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 09:51	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 09:51	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 09:51	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 09:51	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 09:51	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 09:51	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 09:51	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 09:51	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 09:51	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 09:51	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 09:51	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 09:51	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 09:51	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 09:51	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 09:51	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 09:51	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 09:51	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 09:51	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 09:51	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 09:51	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 09:51	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 09:51	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 09:51	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 09:51	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 09:51	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 09:51	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 09:51	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 09:51	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 09:51	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 09:51	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 09:51	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 09:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 09:51	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 09:51	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 09:51	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 09:51	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 09:51	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 09:51	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 09:51	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 09:51	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 09:51	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 09:51	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 09:51	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 09:51	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 09:51	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 09:51	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 09:51	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 09:51	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 09:51	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 09:51	WG1676133
Trichloroethene	0.000594	U	0.000584	0.00100	1	05/24/2021 09:51	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 09:51	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 09:51	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 09:51	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 09:51	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 09:51	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 09:51	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 09:51	WG1676133
(S) Toluene-d8	108			75.0-131		05/24/2021 09:51	WG1676133
(S) 4-Bromofluorobenzene	93.4			67.0-138		05/24/2021 09:51	WG1676133
(S) 1,2-Dichloroethane-d4	103			70.0-130		05/24/2021 09:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/21/2021 10:08	WG1674401
Acenaphthene	U		0.00209	0.00600	1	05/21/2021 10:08	WG1674401
Acenaphthylene	U		0.00216	0.00600	1	05/21/2021 10:08	WG1674401
Benzo(a)anthracene	U		0.00173	0.00600	1	05/21/2021 10:08	WG1674401
Benzo(a)pyrene	U		0.00179	0.00600	1	05/21/2021 10:08	WG1674401
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/21/2021 10:08	WG1674401
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/21/2021 10:08	WG1674401
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/21/2021 10:08	WG1674401
Chrysene	U		0.00232	0.00600	1	05/21/2021 10:08	WG1674401
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/21/2021 10:08	WG1674401
Fluoranthene	U		0.00227	0.00600	1	05/21/2021 10:08	WG1674401
Fluorene	U		0.00205	0.00600	1	05/21/2021 10:08	WG1674401
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/21/2021 10:08	WG1674401
Naphthalene	U		0.00408	0.0200	1	05/21/2021 10:08	WG1674401
Phenanthrene	U		0.00231	0.00600	1	05/21/2021 10:08	WG1674401
Pyrene	U		0.00200	0.00600	1	05/21/2021 10:08	WG1674401
1-Methylnaphthalene	U		0.00449	0.0200	1	05/21/2021 10:08	WG1674401
2-Methylnaphthalene	U		0.00427	0.0200	1	05/21/2021 10:08	WG1674401
2-Chloronaphthalene	U		0.00466	0.0200	1	05/21/2021 10:08	WG1674401
(S) p-Terphenyl-d14	99.0			23.0-120		05/21/2021 10:08	WG1674401
(S) Nitrobenzene-d5	85.1			14.0-149		05/21/2021 10:08	WG1674401
(S) 2-Fluorobiphenyl	78.8			34.0-125		05/21/2021 10:08	WG1674401

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0541		0.0180	0.0400	1	05/21/2021 11:26	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	7.54		0.518	2.00	1	05/22/2021 19:45	WG1672643
Barium	29.4		0.0852	0.500	1	05/22/2021 19:45	WG1672643
Cadmium	0.334	J	0.0471	0.500	1	05/22/2021 19:45	WG1672643
Chromium	9.42		0.133	1.00	1	05/22/2021 19:45	WG1672643
Lead	11.4		0.208	0.500	1	05/22/2021 19:45	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:45	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:45	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 10:11	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 10:11	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 10:11	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 10:11	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 10:11	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 10:11	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 10:11	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 10:11	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 10:11	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 10:11	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 10:11	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 10:11	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 10:11	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 10:11	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 10:11	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 10:11	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 10:11	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 10:11	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 10:11	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 10:11	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 10:11	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 10:11	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 10:11	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 10:11	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 10:11	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 10:11	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 10:11	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 10:11	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 10:11	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 10:11	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 10:11	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 10:11	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 10:11	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 10:11	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 10:11	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 10:11	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 10:11	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 10:11	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 10:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 10:11	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 10:11	WG1676133
2-Butanone (MEK)	0.0675	U	0.0635	0.100	1	05/24/2021 10:11	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 10:11	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 10:11	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 10:11	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 10:11	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 10:11	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 10:11	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 10:11	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 10:11	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 10:11	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 10:11	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 10:11	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 10:11	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 10:11	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 10:11	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 10:11	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 10:11	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 10:11	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 10:11	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:11	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:11	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 10:11	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 10:11	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 10:11	WG1676133
(S) Toluene-d8	110			75.0-131		05/24/2021 10:11	WG1676133
(S) 4-Bromofluorobenzene	96.8			67.0-138		05/24/2021 10:11	WG1676133
(S) 1,2-Dichloroethane-d4	107			70.0-130		05/24/2021 10:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/21/2021 10:26	WG1674401
Acenaphthene	U		0.00209	0.00600	1	05/21/2021 10:26	WG1674401
Acenaphthylene	U		0.00216	0.00600	1	05/21/2021 10:26	WG1674401
Benzo(a)anthracene	U		0.00173	0.00600	1	05/21/2021 10:26	WG1674401
Benzo(a)pyrene	U		0.00179	0.00600	1	05/21/2021 10:26	WG1674401
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/21/2021 10:26	WG1674401
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/21/2021 10:26	WG1674401
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/21/2021 10:26	WG1674401
Chrysene	U		0.00232	0.00600	1	05/21/2021 10:26	WG1674401
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/21/2021 10:26	WG1674401
Fluoranthene	U		0.00227	0.00600	1	05/21/2021 10:26	WG1674401
Fluorene	U		0.00205	0.00600	1	05/21/2021 10:26	WG1674401
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/21/2021 10:26	WG1674401
Naphthalene	U		0.00408	0.0200	1	05/21/2021 10:26	WG1674401
Phenanthrene	U		0.00231	0.00600	1	05/21/2021 10:26	WG1674401
Pyrene	U		0.00200	0.00600	1	05/21/2021 10:26	WG1674401
1-Methylnaphthalene	U		0.00449	0.0200	1	05/21/2021 10:26	WG1674401
2-Methylnaphthalene	U		0.00427	0.0200	1	05/21/2021 10:26	WG1674401
2-Chloronaphthalene	U		0.00466	0.0200	1	05/21/2021 10:26	WG1674401
(S) p-Terphenyl-d14	88.1			23.0-120		05/21/2021 10:26	WG1674401
(S) Nitrobenzene-d5	74.8			14.0-149		05/21/2021 10:26	WG1674401
(S) 2-Fluorobiphenyl	70.5			34.0-125		05/21/2021 10:26	WG1674401

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/21/2021 11:29	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.57		0.518	2.00	1	05/22/2021 19:48	WG1672643
Barium	155		0.0852	0.500	1	05/22/2021 19:48	WG1672643
Cadmium	0.290	J	0.0471	0.500	1	05/22/2021 19:48	WG1672643
Chromium	15.1		0.133	1.00	1	05/22/2021 19:48	WG1672643
Lead	10.3		0.208	0.500	1	05/22/2021 19:48	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:48	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:48	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 10:31	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 10:31	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 10:31	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 10:31	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 10:31	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 10:31	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 10:31	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 10:31	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 10:31	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 10:31	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 10:31	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 10:31	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 10:31	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 10:31	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 10:31	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 10:31	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 10:31	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 10:31	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 10:31	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 10:31	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 10:31	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 10:31	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 10:31	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 10:31	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 10:31	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 10:31	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 10:31	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 10:31	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 10:31	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 10:31	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 10:31	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 10:31	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 10:31	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 10:31	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 10:31	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 10:31	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 10:31	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 10:31	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 10:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 10:31	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 10:31	WG1676133
2-Butanone (MEK)	0.0839	U	0.0635	0.100	1	05/24/2021 10:31	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 10:31	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 10:31	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 10:31	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 10:31	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 10:31	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 10:31	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 10:31	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 10:31	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 10:31	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 10:31	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 10:31	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 10:31	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 10:31	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 10:31	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 10:31	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 10:31	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 10:31	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 10:31	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:31	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:31	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 10:31	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 10:31	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 10:31	WG1676133
(S) Toluene-d8	111			75.0-131		05/24/2021 10:31	WG1676133
(S) 4-Bromofluorobenzene	99.6			67.0-138		05/24/2021 10:31	WG1676133
(S) 1,2-Dichloroethane-d4	112			70.0-130		05/24/2021 10:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/21/2021 10:44	WG1674401
Acenaphthene	U		0.00209	0.00600	1	05/21/2021 10:44	WG1674401
Acenaphthylene	U		0.00216	0.00600	1	05/21/2021 10:44	WG1674401
Benzo(a)anthracene	U		0.00173	0.00600	1	05/21/2021 10:44	WG1674401
Benzo(a)pyrene	U		0.00179	0.00600	1	05/21/2021 10:44	WG1674401
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/21/2021 10:44	WG1674401
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/21/2021 10:44	WG1674401
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/21/2021 10:44	WG1674401
Chrysene	U		0.00232	0.00600	1	05/21/2021 10:44	WG1674401
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/21/2021 10:44	WG1674401
Fluoranthene	U		0.00227	0.00600	1	05/21/2021 10:44	WG1674401
Fluorene	U		0.00205	0.00600	1	05/21/2021 10:44	WG1674401
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/21/2021 10:44	WG1674401
Naphthalene	U		0.00408	0.0200	1	05/21/2021 10:44	WG1674401
Phenanthrene	U		0.00231	0.00600	1	05/21/2021 10:44	WG1674401
Pyrene	U		0.00200	0.00600	1	05/21/2021 10:44	WG1674401
1-Methylnaphthalene	U		0.00449	0.0200	1	05/21/2021 10:44	WG1674401
2-Methylnaphthalene	U		0.00427	0.0200	1	05/21/2021 10:44	WG1674401
2-Chloronaphthalene	U		0.00466	0.0200	1	05/21/2021 10:44	WG1674401
(S) p-Terphenyl-d14	87.6			23.0-120		05/21/2021 10:44	WG1674401
(S) Nitrobenzene-d5	78.0			14.0-149		05/21/2021 10:44	WG1674401
(S) 2-Fluorobiphenyl	67.8			34.0-125		05/21/2021 10:44	WG1674401

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0384	J	0.0180	0.0400	1	05/21/2021 11:31	WG1671676

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.518	2.00	1	05/22/2021 19:51	WG1672643
Barium	28.4		0.0852	0.500	1	05/22/2021 19:51	WG1672643
Cadmium	0.178	J	0.0471	0.500	1	05/22/2021 19:51	WG1672643
Chromium	9.99		0.133	1.00	1	05/22/2021 19:51	WG1672643
Lead	10.2		0.208	0.500	1	05/22/2021 19:51	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:51	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:51	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 10:51	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 10:51	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 10:51	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 10:51	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 10:51	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 10:51	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 10:51	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 10:51	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 10:51	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 10:51	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 10:51	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 10:51	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 10:51	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 10:51	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 10:51	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 10:51	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 10:51	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 10:51	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 10:51	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 10:51	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 10:51	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 10:51	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 10:51	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 10:51	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 10:51	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 10:51	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 10:51	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 10:51	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 10:51	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 10:51	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 10:51	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 10:51	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 10:51	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 10:51	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 10:51	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 10:51	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 10:51	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 10:51	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 10:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 10:51	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 10:51	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 10:51	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 10:51	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 10:51	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 10:51	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 10:51	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 10:51	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 10:51	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 10:51	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 10:51	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 10:51	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 10:51	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 10:51	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 10:51	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 10:51	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 10:51	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 10:51	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 10:51	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 10:51	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 10:51	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:51	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 10:51	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 10:51	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 10:51	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 10:51	WG1676133
(S) Toluene-d8	107			75.0-131		05/24/2021 10:51	WG1676133
(S) 4-Bromofluorobenzene	95.1			67.0-138		05/24/2021 10:51	WG1676133
(S) 1,2-Dichloroethane-d4	104			70.0-130		05/24/2021 10:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/21/2021 11:02	WG1674401
Acenaphthene	U		0.00209	0.00600	1	05/21/2021 11:02	WG1674401
Acenaphthylene	U		0.00216	0.00600	1	05/21/2021 11:02	WG1674401
Benzo(a)anthracene	U		0.00173	0.00600	1	05/21/2021 11:02	WG1674401
Benzo(a)pyrene	U		0.00179	0.00600	1	05/21/2021 11:02	WG1674401
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/21/2021 11:02	WG1674401
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/21/2021 11:02	WG1674401
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/21/2021 11:02	WG1674401
Chrysene	U		0.00232	0.00600	1	05/21/2021 11:02	WG1674401
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/21/2021 11:02	WG1674401
Fluoranthene	U		0.00227	0.00600	1	05/21/2021 11:02	WG1674401
Fluorene	U		0.00205	0.00600	1	05/21/2021 11:02	WG1674401
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/21/2021 11:02	WG1674401
Naphthalene	U		0.00408	0.0200	1	05/21/2021 11:02	WG1674401
Phenanthrene	U		0.00231	0.00600	1	05/21/2021 11:02	WG1674401
Pyrene	U		0.00200	0.00600	1	05/21/2021 11:02	WG1674401
1-Methylnaphthalene	U		0.00449	0.0200	1	05/21/2021 11:02	WG1674401
2-Methylnaphthalene	U		0.00427	0.0200	1	05/21/2021 11:02	WG1674401
2-Chloronaphthalene	U		0.00466	0.0200	1	05/21/2021 11:02	WG1674401
(S) p-Terphenyl-d14	96.9			23.0-120		05/21/2021 11:02	WG1674401
(S) Nitrobenzene-d5	78.9			14.0-149		05/21/2021 11:02	WG1674401
(S) 2-Fluorobiphenyl	74.0			34.0-125		05/21/2021 11:02	WG1674401

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0966		0.0180	0.0400	1	05/20/2021 11:03	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	11.6		0.518	2.00	1	05/22/2021 19:53	WG1672643
Barium	62.4		0.0852	0.500	1	05/22/2021 19:53	WG1672643
Cadmium	0.304	J	0.0471	0.500	1	05/22/2021 19:53	WG1672643
Chromium	7.03		0.133	1.00	1	05/22/2021 19:53	WG1672643
Lead	11.5		0.208	0.500	1	05/22/2021 19:53	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:53	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:53	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 11:11	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 11:11	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 11:11	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 11:11	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 11:11	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 11:11	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 11:11	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 11:11	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 11:11	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 11:11	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 11:11	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 11:11	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 11:11	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 11:11	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 11:11	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 11:11	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 11:11	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 11:11	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 11:11	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 11:11	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 11:11	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 11:11	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 11:11	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 11:11	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 11:11	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 11:11	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 11:11	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 11:11	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 11:11	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 11:11	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 11:11	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 11:11	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 11:11	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 11:11	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 11:11	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 11:11	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 11:11	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 11:11	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 11:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 11:11	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 11:11	WG1676133
2-Butanone (MEK)	0.102		0.0635	0.100	1	05/24/2021 11:11	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 11:11	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 11:11	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 11:11	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 11:11	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 11:11	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 11:11	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 11:11	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 11:11	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 11:11	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 11:11	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 11:11	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 11:11	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 11:11	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 11:11	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 11:11	WG1676133
Trichloroethene	0.000850	U	0.000584	0.00100	1	05/24/2021 11:11	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 11:11	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 11:11	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:11	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:11	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 11:11	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 11:11	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 11:11	WG1676133
(S) Toluene-d8	109			75.0-131		05/24/2021 11:11	WG1676133
(S) 4-Bromofluorobenzene	99.0			67.0-138		05/24/2021 11:11	WG1676133
(S) 1,2-Dichloroethane-d4	111			70.0-130		05/24/2021 11:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 01:38	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 01:38	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 01:38	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 01:38	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 01:38	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 01:38	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 01:38	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 01:38	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 01:38	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 01:38	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 01:38	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 01:38	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 01:38	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 01:38	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 01:38	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 01:38	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 01:38	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 01:38	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 01:38	WG1675861
(S) p-Terphenyl-d14	61.4			23.0-120		05/24/2021 01:38	WG1675861
(S) Nitrobenzene-d5	50.4			14.0-149		05/24/2021 01:38	WG1675861
(S) 2-Fluorobiphenyl	48.2			34.0-125		05/24/2021 01:38	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0533		0.0180	0.0400	1	05/20/2021 11:10	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	0.825	J	0.518	2.00	1	05/22/2021 19:56	WG1672643
Barium	200		0.0852	0.500	1	05/22/2021 19:56	WG1672643
Cadmium	0.335	J	0.0471	0.500	1	05/22/2021 19:56	WG1672643
Chromium	14.9		0.133	1.00	1	05/22/2021 19:56	WG1672643
Lead	9.04		0.208	0.500	1	05/22/2021 19:56	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:56	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:56	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 11:32	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 11:32	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 11:32	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 11:32	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 11:32	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 11:32	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 11:32	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 11:32	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 11:32	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 11:32	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 11:32	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 11:32	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 11:32	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 11:32	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 11:32	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 11:32	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 11:32	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 11:32	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 11:32	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 11:32	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 11:32	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 11:32	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 11:32	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 11:32	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 11:32	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 11:32	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 11:32	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 11:32	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 11:32	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 11:32	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 11:32	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 11:32	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 11:32	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 11:32	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 11:32	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 11:32	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 11:32	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 11:32	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 11:32	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 11:32	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 11:32	WG1676133
2-Butanone (MEK)	0.101		0.0635	0.100	1	05/24/2021 11:32	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 11:32	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 11:32	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 11:32	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 11:32	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 11:32	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 11:32	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 11:32	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 11:32	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 11:32	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 11:32	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 11:32	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 11:32	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 11:32	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 11:32	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 11:32	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 11:32	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 11:32	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 11:32	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:32	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:32	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 11:32	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 11:32	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 11:32	WG1676133
(S) Toluene-d8	109			75.0-131		05/24/2021 11:32	WG1676133
(S) 4-Bromofluorobenzene	95.6			67.0-138		05/24/2021 11:32	WG1676133
(S) 1,2-Dichloroethane-d4	111			70.0-130		05/24/2021 11:32	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 01:55	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 01:55	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 01:55	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 01:55	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 01:55	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 01:55	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 01:55	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 01:55	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 01:55	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 01:55	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 01:55	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 01:55	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 01:55	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 01:55	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 01:55	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 01:55	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 01:55	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 01:55	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 01:55	WG1675861
(S) p-Terphenyl-d14	69.3			23.0-120		05/24/2021 01:55	WG1675861
(S) Nitrobenzene-d5	64.1			14.0-149		05/24/2021 01:55	WG1675861
(S) 2-Fluorobiphenyl	48.1			34.0-125		05/24/2021 01:55	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/20/2021 11:13	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.39	J	0.518	2.00	1	05/22/2021 20:05	WG1672643
Barium	14.3		0.0852	0.500	1	05/22/2021 20:05	WG1672643
Cadmium	U		0.0471	0.500	1	05/22/2021 20:05	WG1672643
Chromium	4.09		0.133	1.00	1	05/22/2021 20:05	WG1672643
Lead	4.79		0.208	0.500	1	05/22/2021 20:05	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:05	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:05	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 11:52	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 11:52	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 11:52	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 11:52	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 11:52	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 11:52	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 11:52	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 11:52	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 11:52	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 11:52	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 11:52	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 11:52	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 11:52	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 11:52	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 11:52	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 11:52	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 11:52	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 11:52	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 11:52	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 11:52	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 11:52	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 11:52	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 11:52	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 11:52	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 11:52	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 11:52	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 11:52	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 11:52	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 11:52	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 11:52	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 11:52	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 11:52	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 11:52	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 11:52	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 11:52	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 11:52	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 11:52	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 11:52	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 11:52	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 11:52	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 11:52	WG1676133
2-Butanone (MEK)	0.0675	J	0.0635	0.100	1	05/24/2021 11:52	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 11:52	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 11:52	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 11:52	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 11:52	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 11:52	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 11:52	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 11:52	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 11:52	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 11:52	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 11:52	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 11:52	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 11:52	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 11:52	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 11:52	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 11:52	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 11:52	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 11:52	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 11:52	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:52	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 11:52	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 11:52	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 11:52	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 11:52	WG1676133
(S) Toluene-d8	106			75.0-131		05/24/2021 11:52	WG1676133
(S) 4-Bromofluorobenzene	96.5			67.0-138		05/24/2021 11:52	WG1676133
(S) 1,2-Dichloroethane-d4	108			70.0-130		05/24/2021 11:52	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 02:12	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 02:12	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 02:12	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 02:12	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 02:12	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 02:12	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 02:12	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 02:12	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 02:12	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 02:12	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 02:12	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 02:12	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 02:12	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 02:12	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 02:12	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 02:12	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 02:12	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 02:12	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 02:12	WG1675861
(S) p-Terphenyl-d14	89.8			23.0-120		05/24/2021 02:12	WG1675861
(S) Nitrobenzene-d5	72.2			14.0-149		05/24/2021 02:12	WG1675861
(S) 2-Fluorobiphenyl	70.6			34.0-125		05/24/2021 02:12	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0371	J	0.0180	0.0400	1	05/20/2021 11:15	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.58	J	0.518	2.00	1	05/22/2021 20:08	WG1672643
Barium	26.7		0.0852	0.500	1	05/22/2021 20:08	WG1672643
Cadmium	0.368	J	0.0471	0.500	1	05/22/2021 20:08	WG1672643
Chromium	17.3		0.133	1.00	1	05/22/2021 20:08	WG1672643
Lead	14.8		0.208	0.500	1	05/22/2021 20:08	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:08	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:08	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 12:12	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 12:12	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 12:12	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 12:12	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 12:12	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 12:12	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 12:12	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 12:12	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 12:12	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 12:12	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 12:12	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 12:12	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 12:12	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 12:12	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 12:12	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 12:12	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 12:12	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 12:12	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 12:12	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 12:12	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 12:12	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 12:12	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 12:12	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 12:12	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 12:12	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 12:12	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 12:12	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 12:12	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 12:12	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 12:12	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 12:12	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 12:12	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 12:12	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 12:12	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 12:12	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 12:12	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 12:12	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 12:12	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 12:12	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 12:12	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 12:12	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 12:12	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 12:12	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 12:12	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 12:12	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 12:12	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 12:12	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 12:12	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 12:12	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 12:12	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 12:12	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 12:12	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 12:12	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 12:12	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 12:12	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 12:12	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 12:12	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 12:12	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 12:12	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 12:12	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:12	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:12	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 12:12	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 12:12	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 12:12	WG1676133
(S) Toluene-d8	107			75.0-131		05/24/2021 12:12	WG1676133
(S) 4-Bromofluorobenzene	95.6			67.0-138		05/24/2021 12:12	WG1676133
(S) 1,2-Dichloroethane-d4	106			70.0-130		05/24/2021 12:12	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 02:30	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 02:30	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 02:30	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 02:30	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 02:30	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 02:30	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 02:30	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 02:30	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 02:30	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 02:30	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 02:30	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 02:30	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 02:30	WG1675861
Naphthalene	0.00468	U	0.00408	0.0200	1	05/24/2021 02:30	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 02:30	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 02:30	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 02:30	WG1675861
2-Methylnaphthalene	0.00748	U	0.00427	0.0200	1	05/24/2021 02:30	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 02:30	WG1675861
(S) p-Terphenyl-d14	80.4			23.0-120		05/24/2021 02:30	WG1675861
(S) Nitrobenzene-d5	63.7			14.0-149		05/24/2021 02:30	WG1675861
(S) 2-Fluorobiphenyl	61.4			34.0-125		05/24/2021 02:30	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0209	J	0.0180	0.0400	1	05/20/2021 11:17	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	0.973	J	0.518	2.00	1	05/22/2021 19:02	WG1672643
Barium	34.7		0.0852	0.500	1	05/22/2021 19:02	WG1672643
Cadmium	0.149	J	0.0471	0.500	1	05/22/2021 19:02	WG1672643
Chromium	8.28		0.133	1.00	1	05/22/2021 19:02	WG1672643
Lead	11.7		0.208	0.500	1	05/22/2021 19:02	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 19:02	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 19:02	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 12:31	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 12:31	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 12:31	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 12:31	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 12:31	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 12:31	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 12:31	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 12:31	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 12:31	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 12:31	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 12:31	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 12:31	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 12:31	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 12:31	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 12:31	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 12:31	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 12:31	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 12:31	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 12:31	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 12:31	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 12:31	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 12:31	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 12:31	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 12:31	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 12:31	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 12:31	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 12:31	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 12:31	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 12:31	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 12:31	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 12:31	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 12:31	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 12:31	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 12:31	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 12:31	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 12:31	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 12:31	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 12:31	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 12:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 12:31	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 12:31	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 12:31	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 12:31	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 12:31	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 12:31	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 12:31	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 12:31	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 12:31	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 12:31	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 12:31	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 12:31	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 12:31	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 12:31	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 12:31	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 12:31	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 12:31	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 12:31	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 12:31	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 12:31	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 12:31	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:31	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:31	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 12:31	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 12:31	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 12:31	WG1676133
(S) Toluene-d8	109			75.0-131		05/24/2021 12:31	WG1676133
(S) 4-Bromofluorobenzene	97.1			67.0-138		05/24/2021 12:31	WG1676133
(S) 1,2-Dichloroethane-d4	107			70.0-130		05/24/2021 12:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 02:47	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 02:47	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 02:47	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 02:47	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 02:47	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 02:47	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 02:47	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 02:47	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 02:47	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 02:47	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 02:47	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 02:47	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 02:47	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 02:47	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 02:47	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 02:47	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 02:47	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 02:47	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 02:47	WG1675861
(S) p-Terphenyl-d14	60.4			23.0-120		05/24/2021 02:47	WG1675861
(S) Nitrobenzene-d5	63.7			14.0-149		05/24/2021 02:47	WG1675861
(S) 2-Fluorobiphenyl	50.6			34.0-125		05/24/2021 02:47	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0269	J	0.0180	0.0400	1	05/20/2021 11:20	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.58	J	0.518	2.00	1	05/22/2021 20:11	WG1672643
Barium	32.5		0.0852	0.500	1	05/22/2021 20:11	WG1672643
Cadmium	0.292	J	0.0471	0.500	1	05/22/2021 20:11	WG1672643
Chromium	10.2		0.133	1.00	1	05/22/2021 20:11	WG1672643
Lead	6.72		0.208	0.500	1	05/22/2021 20:11	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:11	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:11	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 12:51	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 12:51	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 12:51	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 12:51	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 12:51	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 12:51	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 12:51	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 12:51	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 12:51	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 12:51	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 12:51	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 12:51	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 12:51	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 12:51	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 12:51	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 12:51	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 12:51	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 12:51	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 12:51	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 12:51	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 12:51	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 12:51	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 12:51	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 12:51	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 12:51	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 12:51	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 12:51	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 12:51	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 12:51	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 12:51	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 12:51	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 12:51	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 12:51	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 12:51	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 12:51	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 12:51	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 12:51	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 12:51	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 12:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 12:51	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 12:51	WG1676133
2-Butanone (MEK)	0.0659	U	0.0635	0.100	1	05/24/2021 12:51	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 12:51	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 12:51	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 12:51	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 12:51	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 12:51	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 12:51	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 12:51	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 12:51	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 12:51	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 12:51	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 12:51	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 12:51	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 12:51	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 12:51	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 12:51	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 12:51	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 12:51	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 12:51	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:51	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 12:51	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 12:51	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 12:51	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 12:51	WG1676133
(S) Toluene-d8	112			75.0-131		05/24/2021 12:51	WG1676133
(S) 4-Bromofluorobenzene	94.1			67.0-138		05/24/2021 12:51	WG1676133
(S) 1,2-Dichloroethane-d4	106			70.0-130		05/24/2021 12:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 03:05	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 03:05	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 03:05	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 03:05	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 03:05	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 03:05	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 03:05	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 03:05	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 03:05	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 03:05	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 03:05	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 03:05	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 03:05	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 03:05	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 03:05	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 03:05	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 03:05	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 03:05	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 03:05	WG1675861
(S) p-Terphenyl-d14	73.5			23.0-120		05/24/2021 03:05	WG1675861
(S) Nitrobenzene-d5	50.7			14.0-149		05/24/2021 03:05	WG1675861
(S) 2-Fluorobiphenyl	49.2			34.0-125		05/24/2021 03:05	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0327	J	0.0180	0.0400	1	05/20/2021 11:22	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	0.716	J	0.518	2.00	1	05/22/2021 20:14	WG1672643
Barium	28.5		0.0852	0.500	1	05/22/2021 20:14	WG1672643
Cadmium	0.159	J	0.0471	0.500	1	05/22/2021 20:14	WG1672643
Chromium	8.67		0.133	1.00	1	05/22/2021 20:14	WG1672643
Lead	9.85		0.208	0.500	1	05/22/2021 20:14	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:14	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:14	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 13:11	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 13:11	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 13:11	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 13:11	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 13:11	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 13:11	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 13:11	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 13:11	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 13:11	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 13:11	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 13:11	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 13:11	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 13:11	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 13:11	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 13:11	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 13:11	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 13:11	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 13:11	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 13:11	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 13:11	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 13:11	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 13:11	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 13:11	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 13:11	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 13:11	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 13:11	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 13:11	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 13:11	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 13:11	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 13:11	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 13:11	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 13:11	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 13:11	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 13:11	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 13:11	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 13:11	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 13:11	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 13:11	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 13:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 13:11	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 13:11	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 13:11	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 13:11	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 13:11	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 13:11	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 13:11	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 13:11	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 13:11	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 13:11	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 13:11	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 13:11	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 13:11	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 13:11	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 13:11	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 13:11	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 13:11	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 13:11	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 13:11	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 13:11	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 13:11	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:11	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:11	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 13:11	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 13:11	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 13:11	WG1676133
(S) Toluene-d8	110			75.0-131		05/24/2021 13:11	WG1676133
(S) 4-Bromofluorobenzene	96.4			67.0-138		05/24/2021 13:11	WG1676133
(S) 1,2-Dichloroethane-d4	104			70.0-130		05/24/2021 13:11	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 03:22	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 03:22	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 03:22	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 03:22	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 03:22	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 03:22	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 03:22	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 03:22	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 03:22	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 03:22	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 03:22	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 03:22	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 03:22	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 03:22	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 03:22	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 03:22	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 03:22	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 03:22	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 03:22	WG1675861
(S) p-Terphenyl-d14	72.6			23.0-120		05/24/2021 03:22	WG1675861
(S) Nitrobenzene-d5	67.2			14.0-149		05/24/2021 03:22	WG1675861
(S) 2-Fluorobiphenyl	59.5			34.0-125		05/24/2021 03:22	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0412		0.0180	0.0400	1	05/20/2021 11:25	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	5.11		0.518	2.00	1	05/22/2021 20:16	WG1672643
Barium	33.9		0.0852	0.500	1	05/22/2021 20:16	WG1672643
Cadmium	0.290	J	0.0471	0.500	1	05/22/2021 20:16	WG1672643
Chromium	21.7		0.133	1.00	1	05/22/2021 20:16	WG1672643
Lead	17.0		0.208	0.500	1	05/22/2021 20:16	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:16	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:16	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 13:31	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 13:31	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 13:31	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 13:31	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 13:31	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 13:31	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 13:31	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 13:31	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 13:31	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 13:31	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 13:31	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 13:31	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 13:31	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 13:31	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 13:31	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 13:31	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 13:31	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 13:31	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 13:31	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 13:31	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 13:31	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 13:31	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 13:31	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 13:31	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 13:31	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 13:31	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 13:31	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 13:31	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 13:31	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 13:31	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 13:31	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 13:31	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 13:31	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 13:31	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 13:31	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 13:31	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 13:31	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 13:31	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 13:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 13:31	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 13:31	WG1676133
2-Butanone (MEK)	0.102		0.0635	0.100	1	05/24/2021 13:31	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 13:31	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 13:31	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 13:31	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 13:31	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 13:31	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 13:31	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 13:31	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 13:31	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 13:31	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 13:31	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 13:31	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 13:31	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 13:31	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 13:31	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 13:31	WG1676133
Trichloroethene	U		0.000584	0.00100	1	05/24/2021 13:31	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 13:31	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 13:31	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:31	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:31	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 13:31	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 13:31	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 13:31	WG1676133
(S) Toluene-d8	107			75.0-131		05/24/2021 13:31	WG1676133
(S) 4-Bromofluorobenzene	94.5			67.0-138		05/24/2021 13:31	WG1676133
(S) 1,2-Dichloroethane-d4	110			70.0-130		05/24/2021 13:31	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 03:40	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 03:40	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 03:40	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 03:40	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 03:40	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 03:40	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 03:40	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 03:40	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 03:40	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 03:40	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 03:40	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 03:40	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 03:40	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 03:40	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 03:40	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 03:40	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 03:40	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 03:40	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 03:40	WG1675861
(S) p-Terphenyl-d14	75.5			23.0-120		05/24/2021 03:40	WG1675861
(S) Nitrobenzene-d5	62.7			14.0-149		05/24/2021 03:40	WG1675861
(S) 2-Fluorobiphenyl	60.4			34.0-125		05/24/2021 03:40	WG1675861

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0180	0.0400	1	05/20/2021 11:27	WG1673288

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.28		0.518	2.00	1	05/22/2021 20:19	WG1672643
Barium	76.4		0.0852	0.500	1	05/22/2021 20:19	WG1672643
Cadmium	0.191	J	0.0471	0.500	1	05/22/2021 20:19	WG1672643
Chromium	15.5		0.133	1.00	1	05/22/2021 20:19	WG1672643
Lead	7.91		0.208	0.500	1	05/22/2021 20:19	WG1672643
Selenium	U		0.764	2.00	1	05/22/2021 20:19	WG1672643
Silver	U		0.127	1.00	1	05/22/2021 20:19	WG1672643

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 13:51	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 13:51	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 13:51	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 13:51	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 13:51	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 13:51	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 13:51	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 13:51	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 13:51	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 13:51	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 13:51	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 13:51	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 13:51	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 13:51	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 13:51	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 13:51	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 13:51	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 13:51	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 13:51	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 13:51	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 13:51	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 13:51	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 13:51	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 13:51	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 13:51	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 13:51	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 13:51	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 13:51	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 13:51	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 13:51	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 13:51	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 13:51	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 13:51	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 13:51	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 13:51	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 13:51	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 13:51	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 13:51	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 13:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 13:51	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 13:51	WG1676133
2-Butanone (MEK)	U		0.0635	0.100	1	05/24/2021 13:51	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 13:51	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 13:51	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 13:51	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 13:51	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 13:51	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 13:51	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 13:51	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 13:51	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 13:51	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 13:51	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 13:51	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 13:51	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 13:51	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 13:51	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 13:51	WG1676133
Trichloroethene	0.000775	U	0.000584	0.00100	1	05/24/2021 13:51	WG1676133
Trichlorofluoromethane	U		0.000827	0.00250	1	05/24/2021 13:51	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 13:51	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:51	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 13:51	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 13:51	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 13:51	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 13:51	WG1676133
(S) Toluene-d8	110			75.0-131		05/24/2021 13:51	WG1676133
(S) 4-Bromofluorobenzene	98.6			67.0-138		05/24/2021 13:51	WG1676133
(S) 1,2-Dichloroethane-d4	106			70.0-130		05/24/2021 13:51	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 03:57	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 03:57	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 03:57	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 03:57	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 03:57	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 03:57	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 03:57	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 03:57	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 03:57	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 03:57	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 03:57	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 03:57	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 03:57	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 03:57	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 03:57	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 03:57	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 03:57	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 03:57	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 03:57	WG1675861
(S) p-Terphenyl-d14	76.3			23.0-120		05/24/2021 03:57	WG1675861
(S) Nitrobenzene-d5	61.1			14.0-149		05/24/2021 03:57	WG1675861
(S) 2-Fluorobiphenyl	55.4			34.0-125		05/24/2021 03:57	WG1675861

Mercury by Method 7471A

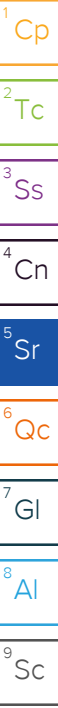
Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0438		0.0180	0.0400	1	05/18/2021 18:46	WG1672803

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	5.29		0.518	2.00	1	05/20/2021 23:24	WG1672571
Barium	17.2		0.0852	0.500	1	05/20/2021 23:24	WG1672571
Cadmium	0.0940	J	0.0471	0.500	1	05/20/2021 23:24	WG1672571
Chromium	11.0		0.133	1.00	1	05/20/2021 23:24	WG1672571
Lead	11.1		0.208	0.500	1	05/20/2021 23:24	WG1672571
Selenium	1.36	J	0.764	2.00	1	05/20/2021 23:24	WG1672571
Silver	U		0.127	1.00	1	05/20/2021 23:24	WG1672571

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U	J4	0.0365	0.0500	1	05/24/2021 14:12	WG1676133
Acrylonitrile	U	J4	0.00361	0.0125	1	05/24/2021 14:12	WG1676133
Benzene	U		0.000467	0.00100	1	05/24/2021 14:12	WG1676133
Bromobenzene	U		0.000900	0.0125	1	05/24/2021 14:12	WG1676133
Bromodichloromethane	U		0.000725	0.00250	1	05/24/2021 14:12	WG1676133
Bromoform	U		0.00117	0.0250	1	05/24/2021 14:12	WG1676133
Bromomethane	U		0.00197	0.0125	1	05/24/2021 14:12	WG1676133
n-Butylbenzene	U		0.00525	0.0125	1	05/24/2021 14:12	WG1676133
sec-Butylbenzene	U		0.00288	0.0125	1	05/24/2021 14:12	WG1676133
tert-Butylbenzene	U		0.00195	0.00500	1	05/24/2021 14:12	WG1676133
Carbon tetrachloride	U		0.000898	0.00500	1	05/24/2021 14:12	WG1676133
Chlorobenzene	U		0.000210	0.00250	1	05/24/2021 14:12	WG1676133
Chlorodibromomethane	U		0.000612	0.00250	1	05/24/2021 14:12	WG1676133
Chloroethane	U		0.00170	0.00500	1	05/24/2021 14:12	WG1676133
Chloroform	U		0.00103	0.00250	1	05/24/2021 14:12	WG1676133
Chloromethane	U		0.00435	0.0125	1	05/24/2021 14:12	WG1676133
2-Chlorotoluene	U		0.000865	0.00250	1	05/24/2021 14:12	WG1676133
4-Chlorotoluene	U		0.000450	0.00500	1	05/24/2021 14:12	WG1676133
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	05/24/2021 14:12	WG1676133
1,2-Dibromoethane	U		0.000648	0.00250	1	05/24/2021 14:12	WG1676133
Dibromomethane	U		0.000750	0.00500	1	05/24/2021 14:12	WG1676133
1,2-Dichlorobenzene	U		0.000425	0.00500	1	05/24/2021 14:12	WG1676133
1,3-Dichlorobenzene	U		0.000600	0.00500	1	05/24/2021 14:12	WG1676133
1,4-Dichlorobenzene	U		0.000700	0.00500	1	05/24/2021 14:12	WG1676133
Dichlorodifluoromethane	U		0.00161	0.00250	1	05/24/2021 14:12	WG1676133
1,1-Dichloroethane	U		0.000491	0.00250	1	05/24/2021 14:12	WG1676133
1,2-Dichloroethane	U		0.000649	0.00250	1	05/24/2021 14:12	WG1676133
1,1-Dichloroethene	U		0.000606	0.00250	1	05/24/2021 14:12	WG1676133
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	05/24/2021 14:12	WG1676133
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	05/24/2021 14:12	WG1676133
1,2-Dichloropropane	U		0.00142	0.00500	1	05/24/2021 14:12	WG1676133
1,1-Dichloropropene	U		0.000809	0.00250	1	05/24/2021 14:12	WG1676133
1,3-Dichloropropane	U		0.000501	0.00500	1	05/24/2021 14:12	WG1676133
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	05/24/2021 14:12	WG1676133
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	05/24/2021 14:12	WG1676133
2,2-Dichloropropane	U		0.00138	0.00250	1	05/24/2021 14:12	WG1676133
Di-isopropyl ether	U		0.000410	0.00100	1	05/24/2021 14:12	WG1676133
Ethylbenzene	U		0.000737	0.00250	1	05/24/2021 14:12	WG1676133
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	05/24/2021 14:12	WG1676133



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Isopropylbenzene	U		0.000425	0.00250	1	05/24/2021 14:12	WG1676133
p-Isopropyltoluene	U		0.00255	0.00500	1	05/24/2021 14:12	WG1676133
2-Butanone (MEK)	U	J5	0.0635	0.100	1	05/24/2021 14:12	WG1676133
Methylene Chloride	U		0.00664	0.0250	1	05/24/2021 14:12	WG1676133
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	05/24/2021 14:12	WG1676133
Methyl tert-butyl ether	U		0.000350	0.00100	1	05/24/2021 14:12	WG1676133
Naphthalene	U		0.00488	0.0125	1	05/24/2021 14:12	WG1676133
n-Propylbenzene	U		0.000950	0.00500	1	05/24/2021 14:12	WG1676133
Styrene	U		0.000229	0.0125	1	05/24/2021 14:12	WG1676133
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	05/24/2021 14:12	WG1676133
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	05/24/2021 14:12	WG1676133
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	05/24/2021 14:12	WG1676133
Tetrachloroethene	U		0.000896	0.00250	1	05/24/2021 14:12	WG1676133
Toluene	U		0.00130	0.00500	1	05/24/2021 14:12	WG1676133
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	05/24/2021 14:12	WG1676133
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	05/24/2021 14:12	WG1676133
1,1,1-Trichloroethane	U		0.000923	0.00250	1	05/24/2021 14:12	WG1676133
1,1,2-Trichloroethane	U		0.000597	0.00250	1	05/24/2021 14:12	WG1676133
Trichloroethene	0.000718	J	0.000584	0.00100	1	05/24/2021 14:12	WG1676133
Trichlorofluoromethane	U	J3	0.000827	0.00250	1	05/24/2021 14:12	WG1676133
1,2,3-Trichloropropane	U		0.00162	0.0125	1	05/24/2021 14:12	WG1676133
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 14:12	WG1676133
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	05/24/2021 14:12	WG1676133
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/24/2021 14:12	WG1676133
Vinyl chloride	U		0.00116	0.00250	1	05/24/2021 14:12	WG1676133
Xylenes, Total	U		0.000880	0.00650	1	05/24/2021 14:12	WG1676133
(S) Toluene-d8	110			75.0-131		05/24/2021 14:12	WG1676133
(S) 4-Bromofluorobenzene	96.2			67.0-138		05/24/2021 14:12	WG1676133
(S) 1,2-Dichloroethane-d4	103			70.0-130		05/24/2021 14:12	WG1676133

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	05/24/2021 04:14	WG1675861
Acenaphthene	U		0.00209	0.00600	1	05/24/2021 04:14	WG1675861
Acenaphthylene	U		0.00216	0.00600	1	05/24/2021 04:14	WG1675861
Benzo(a)anthracene	U		0.00173	0.00600	1	05/24/2021 04:14	WG1675861
Benzo(a)pyrene	U		0.00179	0.00600	1	05/24/2021 04:14	WG1675861
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/24/2021 04:14	WG1675861
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	05/24/2021 04:14	WG1675861
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/24/2021 04:14	WG1675861
Chrysene	U		0.00232	0.00600	1	05/24/2021 04:14	WG1675861
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/24/2021 04:14	WG1675861
Fluoranthene	U		0.00227	0.00600	1	05/24/2021 04:14	WG1675861
Fluorene	U		0.00205	0.00600	1	05/24/2021 04:14	WG1675861
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/24/2021 04:14	WG1675861
Naphthalene	U		0.00408	0.0200	1	05/24/2021 04:14	WG1675861
Phenanthrene	U		0.00231	0.00600	1	05/24/2021 04:14	WG1675861
Pyrene	U		0.00200	0.00600	1	05/24/2021 04:14	WG1675861
1-Methylnaphthalene	U		0.00449	0.0200	1	05/24/2021 04:14	WG1675861
2-Methylnaphthalene	U		0.00427	0.0200	1	05/24/2021 04:14	WG1675861
2-Chloronaphthalene	U		0.00466	0.0200	1	05/24/2021 04:14	WG1675861
(S) p-Terphenyl-d14	74.5			23.0-120		05/24/2021 04:14	WG1675861
(S) Nitrobenzene-d5	55.8			14.0-149		05/24/2021 04:14	WG1675861
(S) 2-Fluorobiphenyl	59.0			34.0-125		05/24/2021 04:14	WG1675861

Method Blank (MB)

(MB) R3657587-1 05/21/21 10:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3657587-2 05/21/21 10:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.500	100	80.0-120	

L1353758-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353758-04 05/21/21 10:44 • (MS) R3657587-3 05/21/21 10:46 • (MSD) R3657587-4 05/21/21 10:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	U	0.497	0.527	99.3	105	1	75.0-125			6.01	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3656098-1 05/18/21 18:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3656098-2 05/18/21 18:17

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Mercury	0.500	0.499	99.9	80.0-120	

L1353848-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353848-01 05/18/21 18:19 • (MS) R3656098-3 05/18/21 18:21 • (MSD) R3656098-4 05/18/21 18:23

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	0.500	0.0288	0.472	0.464	88.6	87.0	1	75.0-125			1.70	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3656947-1 05/20/21 10:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3656947-2 05/20/21 10:12

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Mercury	0.500	0.492	98.3	80.0-120	

L1353662-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353662-02 05/20/21 10:14 • (MS) R3656947-3 05/20/21 10:16 • (MSD) R3656947-4 05/20/21 10:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	0.500	0.0523	0.523	0.515	94.1	92.6	1	75.0-125			1.46	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3657528-1 05/20/21 22:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
Lead	U		0.208	0.500
Selenium	U		0.764	2.00
Silver	U		0.127	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3657528-2 05/20/21 22:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.3	96.3	80.0-120	
Barium	100	104	104	80.0-120	
Cadmium	100	98.9	98.9	80.0-120	
Chromium	100	99.8	99.8	80.0-120	
Lead	100	98.5	98.5	80.0-120	
Selenium	100	99.2	99.2	80.0-120	
Silver	20.0	18.0	90.2	80.0-120	

L1353468-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353468-03 05/20/21 22:20 • (MS) R3657528-5 05/20/21 22:28 • (MSD) R3657528-6 05/20/21 22:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	5.69	94.2	95.2	88.5	89.5	1	75.0-125			0.981	20
Barium	100	75.0	166	165	90.8	90.0	1	75.0-125			0.474	20
Cadmium	100	0.0966	90.8	91.1	90.7	91.0	1	75.0-125			0.297	20
Chromium	100	12.5	102	103	89.6	90.7	1	75.0-125			1.09	20
Lead	100	11.7	104	105	92.4	92.8	1	75.0-125			0.452	20
Selenium	100	2.43	94.4	95.5	92.0	93.0	1	75.0-125			1.14	20
Silver	20.0	U	16.7	16.8	83.5	84.1	1	75.0-125			0.716	20

Method Blank (MB)

(MB) R3657994-1 05/22/21 18:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Arsenic	U		0.518	2.00
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
Lead	U		0.208	0.500
Selenium	U		0.764	2.00
Silver	U		0.127	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3657994-2 05/22/21 18:59

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Arsenic	100	95.0	95.0	80.0-120	
Barium	100	100	100	80.0-120	
Cadmium	100	96.0	96.0	80.0-120	
Chromium	100	100	100	80.0-120	
Lead	100	97.2	97.2	80.0-120	
Selenium	100	97.6	97.6	80.0-120	
Silver	20.0	18.6	93.1	80.0-120	

L1353753-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353753-16 05/22/21 19:02 • (MS) R3657994-5 05/22/21 19:10 • (MSD) R3657994-6 05/22/21 19:12

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	100	0.973	87.0	90.2	86.0	89.3	1	75.0-125			3.65	20
Barium	100	34.7	155	146	120	111	1	75.0-125			6.21	20
Cadmium	100	0.149	90.2	92.3	90.1	92.2	1	75.0-125			2.30	20
Chromium	100	8.28	105	107	96.5	98.4	1	75.0-125			1.81	20
Lead	100	11.7	101	108	89.6	95.8	1	75.0-125			5.98	20
Selenium	100	U	89.9	91.9	89.9	91.9	1	75.0-125			2.19	20
Silver	20.0	U	17.8	18.3	89.1	91.4	1	75.0-125			2.52	20

Method Blank (MB)

(MB) R3657106-3 05/20/21 11:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Draft

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3657106-3 05/20/21 11:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.0792	J	0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	107			75.0-131
(S) 4-Bromofluorobenzene	93.4			67.0-138
(S) 1,2-Dichloroethane-d4	108			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657106-1 05/20/21 10:37 • (LCSD) R3657106-2 05/20/21 10:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	1.27	1.23	203	197	10.0-160	J4	J4	3.20	31
Acrylonitrile	0.625	0.912	0.948	146	152	45.0-153			3.87	22
Benzene	0.125	0.141	0.133	113	106	70.0-123			5.84	20
Bromobenzene	0.125	0.147	0.148	118	118	73.0-121			0.678	20
Bromodichloromethane	0.125	0.135	0.130	108	104	73.0-121			3.77	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657106-1 05/20/21 10:37 • (LCSD) R3657106-2 05/20/21 10:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.132	0.128	106	102	64.0-132			3.08	20
Bromomethane	0.125	0.120	0.118	96.0	94.4	56.0-147			1.68	20
n-Butylbenzene	0.125	0.130	0.128	104	102	68.0-135			1.55	20
sec-Butylbenzene	0.125	0.145	0.138	116	110	74.0-130			4.95	20
tert-Butylbenzene	0.125	0.142	0.132	114	106	75.0-127			7.30	20
Carbon tetrachloride	0.125	0.148	0.142	118	114	66.0-128			4.14	20
Chlorobenzene	0.125	0.139	0.134	111	107	76.0-128			3.66	20
Chlorodibromomethane	0.125	0.139	0.138	111	110	74.0-127			0.722	20
Chloroethane	0.125	0.121	0.114	96.8	91.2	61.0-134			5.96	20
Chloroform	0.125	0.132	0.126	106	101	72.0-123			4.65	20
Chloromethane	0.125	0.151	0.142	121	114	51.0-138			6.14	20
2-Chlorotoluene	0.125	0.137	0.134	110	107	75.0-124			2.21	20
4-Chlorotoluene	0.125	0.110	0.116	88.0	92.8	75.0-124			5.31	20
1,2-Dibromo-3-Chloropropane	0.125	0.118	0.120	94.4	96.0	59.0-130			1.68	20
1,2-Dibromoethane	0.125	0.138	0.132	110	106	74.0-128			4.44	20
Dibromomethane	0.125	0.146	0.141	117	113	75.0-122			3.48	20
1,2-Dichlorobenzene	0.125	0.143	0.139	114	111	76.0-124			2.84	20
1,3-Dichlorobenzene	0.125	0.137	0.132	110	106	76.0-125			3.72	20
1,4-Dichlorobenzene	0.125	0.137	0.139	110	111	77.0-121			1.45	20
Dichlorodifluoromethane	0.125	0.134	0.137	107	110	43.0-156			2.21	20
1,1-Dichloroethane	0.125	0.137	0.132	110	106	70.0-127			3.72	20
1,2-Dichloroethane	0.125	0.136	0.133	109	106	65.0-131			2.23	20
1,1-Dichloroethene	0.125	0.135	0.128	108	102	65.0-131			5.32	20
cis-1,2-Dichloroethene	0.125	0.134	0.133	107	106	73.0-125			0.749	20
trans-1,2-Dichloroethene	0.125	0.115	0.109	92.0	87.2	71.0-125			5.36	20
1,2-Dichloropropane	0.125	0.137	0.139	110	111	74.0-125			1.45	20
1,1-Dichloropropene	0.125	0.129	0.123	103	98.4	73.0-125			4.76	20
1,3-Dichloropropane	0.125	0.142	0.140	114	112	80.0-125			1.42	20
cis-1,3-Dichloropropene	0.125	0.133	0.126	106	101	76.0-127			5.41	20
trans-1,3-Dichloropropene	0.125	0.143	0.137	114	110	73.0-127			4.29	20
2,2-Dichloropropane	0.125	0.126	0.121	101	96.8	59.0-135			4.05	20
Di-isopropyl ether	0.125	0.135	0.134	108	107	60.0-136			0.743	20
Ethylbenzene	0.125	0.127	0.117	102	93.6	74.0-126			8.20	20
Hexachloro-1,3-butadiene	0.125	0.114	0.122	91.2	97.6	57.0-150			6.78	20
Isopropylbenzene	0.125	0.135	0.128	108	102	72.0-127			5.32	20
p-Isopropyltoluene	0.125	0.136	0.128	109	102	72.0-133			6.06	20
2-Butanone (MEK)	0.625	0.853	0.854	136	137	30.0-160			0.117	24
Methylene Chloride	0.125	0.102	0.0918	81.6	73.4	68.0-123			10.5	20
4-Methyl-2-pentanone (MIBK)	0.625	0.824	0.806	132	129	56.0-143			2.21	20
Methyl tert-butyl ether	0.125	0.146	0.140	117	112	66.0-132			4.20	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657106-1 05/20/21 10:37 • (LCSD) R3657106-2 05/20/21 10:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.115	0.121	92.0	96.8	59.0-130			5.08	20
n-Propylbenzene	0.125	0.148	0.143	118	114	74.0-126			3.44	20
Styrene	0.125	0.138	0.130	110	104	72.0-127			5.97	20
1,1,1,2-Tetrachloroethane	0.125	0.138	0.140	110	112	74.0-129			1.44	20
1,1,2,2-Tetrachloroethane	0.125	0.141	0.139	113	111	68.0-128			1.43	20
Tetrachloroethene	0.125	0.137	0.134	110	107	70.0-136			2.21	20
Toluene	0.125	0.139	0.131	111	105	75.0-121			5.93	20
1,1,2-Trichlorotrifluoroethane	0.125	0.123	0.120	98.4	96.0	61.0-139			2.47	20
1,2,3-Trichlorobenzene	0.125	0.100	0.112	80.0	89.6	59.0-139			11.3	20
1,2,4-Trichlorobenzene	0.125	0.132	0.133	106	106	62.0-137			0.755	20
1,1,1-Trichloroethane	0.125	0.133	0.140	106	112	69.0-126			5.13	20
1,1,2-Trichloroethane	0.125	0.139	0.126	111	101	78.0-123			9.81	20
Trichloroethene	0.125	0.136	0.132	109	106	76.0-126			2.99	20
Trichlorofluoromethane	0.125	0.123	0.120	98.4	96.0	61.0-142			2.47	20
1,2,3-Trichloropropane	0.125	0.143	0.154	114	123	67.0-129			7.41	20
1,2,3-Trimethylbenzene	0.125	0.109	0.102	87.2	81.6	74.0-124			6.64	20
1,2,4-Trimethylbenzene	0.125	0.137	0.132	110	106	70.0-126			3.72	20
1,3,5-Trimethylbenzene	0.125	0.145	0.138	116	110	73.0-127			4.95	20
Vinyl chloride	0.125	0.146	0.142	117	114	63.0-134			2.78	20
Xylenes, Total	0.375	0.397	0.374	106	99.7	72.0-127			5.97	20
(S) Toluene-d8				109	108	75.0-131				
(S) 4-Bromofluorobenzene				99.5	98.4	67.0-138				
(S) 1,2-Dichloroethane-d4				114	111	70.0-130				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

L1354129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1354129-01 05/20/21 19:57 • (MS) R3657106-4 05/20/21 21:59 • (MSD) R3657106-5 05/20/21 22:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	124	U	262	239	211	193	200	10.0-160	J5	J5	9.18	40
Acrylonitrile	124	U	180	178	145	144	200	10.0-160			1.12	40
Benzene	24.8	U	14.3	16.8	57.7	67.7	200	10.0-149			16.1	37
Bromobenzene	24.8	U	19.4	22.5	78.2	90.7	200	10.0-156			14.8	38
Bromodichloromethane	24.8	U	19.0	21.5	76.6	86.7	200	10.0-143			12.3	37
Bromoform	24.8	U	21.8	24.0	87.9	96.8	200	10.0-146			9.61	36
Bromomethane	24.8	U	12.5	14.0	50.4	56.5	200	10.0-149			11.3	38
n-Butylbenzene	24.8	U	34.6	37.4	140	151	200	10.0-160			7.78	40
sec-Butylbenzene	24.8	9.39	24.3	27.7	98.0	112	200	10.0-159			13.1	39
tert-Butylbenzene	24.8	U	17.3	20.1	69.8	81.0	200	10.0-156			15.0	39

L1354129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1354129-01 05/20/21 19:57 • (MS) R3657106-4 05/20/21 21:59 • (MSD) R3657106-5 05/20/21 22:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	24.8	U	13.3	15.9	53.6	64.1	200	10.0-145			17.8	37
Chlorobenzene	24.8	U	16.3	19.0	65.7	76.6	200	10.0-152			15.3	39
Chlorodibromomethane	24.8	U	21.2	23.3	85.5	94.0	200	10.0-146			9.44	37
Chloroethane	24.8	U	12.6	13.6	50.8	54.8	200	10.0-146			7.63	40
Chloroform	24.8	U	15.3	17.9	61.7	72.2	200	10.0-146			15.7	37
Chloromethane	24.8	U	10.6	13.9	42.7	56.0	200	10.0-159			26.9	37
2-Chlorotoluene	24.8	U	17.2	20.3	69.4	81.9	200	10.0-159			16.5	38
4-Chlorotoluene	24.8	U	15.5	19.5	62.5	78.6	200	10.0-155			22.9	39
1,2-Dibromo-3-Chloropropane	24.8	U	28.9	26.9	117	108	200	10.0-151			7.17	39
1,2-Dibromoethane	24.8	U	21.1	23.2	85.1	93.5	200	10.0-148			9.48	34
Dibromomethane	24.8	U	21.0	23.8	84.7	96.0	200	10.0-147			12.5	35
1,2-Dichlorobenzene	24.8	U	21.3	23.9	85.9	96.4	200	10.0-155			11.5	37
1,3-Dichlorobenzene	24.8	U	18.2	20.7	73.4	83.5	200	10.0-153			12.9	38
1,4-Dichlorobenzene	24.8	0.153	19.2	20.7	77.4	83.5	200	10.0-151			7.52	38
Dichlorodifluoromethane	24.8	U	11.1	13.9	44.8	56.0	200	10.0-160			22.4	35
1,1-Dichloroethane	24.8	U	14.4	17.8	58.1	71.8	200	10.0-147			21.1	37
1,2-Dichloroethane	24.8	U	19.7	22.6	79.4	91.1	200	10.0-148			13.7	35
1,1-Dichloroethene	24.8	U	11.3	13.4	45.6	54.0	200	10.0-155			17.0	37
cis-1,2-Dichloroethene	24.8	U	15.0	18.3	60.5	73.8	200	10.0-149			19.8	37
trans-1,2-Dichloroethene	24.8	U	10.5	12.6	42.3	50.8	200	10.0-150			18.2	37
1,2-Dichloropropane	24.8	U	17.8	20.9	71.8	84.3	200	10.0-148			16.0	37
1,1-Dichloropropene	24.8	U	11.3	12.9	45.6	52.0	200	10.0-153			13.2	35
1,3-Dichloropropane	24.8	U	22.1	24.3	89.1	98.0	200	10.0-154			9.48	35
cis-1,3-Dichloropropene	24.8	U	18.2	20.2	73.4	81.5	200	10.0-151			10.4	37
trans-1,3-Dichloropropene	24.8	U	20.5	24.4	82.7	98.4	200	10.0-148			17.4	37
2,2-Dichloropropane	24.8	U	12.1	14.7	48.8	59.3	200	10.0-138			19.4	36
Di-isopropyl ether	24.8	U	18.8	21.5	75.8	86.7	200	10.0-147			13.4	36
Ethylbenzene	24.8	3.76	15.1	18.8	60.9	75.8	200	10.0-160			21.8	38
Hexachloro-1,3-butadiene	24.8	U	20.6	20.8	83.1	83.9	200	10.0-160			0.966	40
Isopropylbenzene	24.8	2.53	17.4	19.9	70.2	80.2	200	10.0-155			13.4	38
p-Isopropyltoluene	24.8	15.9	27.3	31.2	110	126	200	10.0-160			13.3	40
2-Butanone (MEK)	124	U	172	169	139	136	200	10.0-160			1.76	40
Methylene Chloride	24.8	U	8.02	10.3	32.3	41.5	200	10.0-141			24.9	37
4-Methyl-2-pentanone (MIBK)	124	U	157	164	127	132	200	10.0-160			4.36	35
Methyl tert-butyl ether	24.8	U	24.1	25.5	97.2	103	200	11.0-147			5.65	35
Naphthalene	24.8	8.78	31.1	31.5	125	127	200	10.0-160			1.28	36
n-Propylbenzene	24.8	10.1	22.3	27.1	89.9	109	200	10.0-158			19.4	38
Styrene	24.8	U	17.6	19.6	71.0	79.0	200	10.0-160			10.8	40
1,1,1,2-Tetrachloroethane	24.8	U	18.9	22.0	76.2	88.7	200	10.0-149			15.2	39
1,1,2,2-Tetrachloroethane	24.8	U	29.4	28.6	119	115	200	10.0-160			2.76	35

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1354129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1354129-01 05/20/21 19:57 • (MS) R3657106-4 05/20/21 21:59 • (MSD) R3657106-5 05/20/21 22:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Tetrachloroethene	24.8	U	13.2	16.3	53.2	65.7	200	10.0-156			21.0	39
Toluene	24.8	1.39	15.2	17.7	61.3	71.4	200	10.0-156			15.2	38
1,1,2-Trichlorotrifluoroethane	24.8	U	10.6	13.4	42.7	54.0	200	10.0-160			23.3	36
1,2,3-Trichlorobenzene	24.8	U	24.6	22.4	99.2	90.3	200	10.0-160			9.36	40
1,2,4-Trichlorobenzene	24.8	U	26.2	23.0	106	92.7	200	10.0-160			13.0	40
1,1,1-Trichloroethane	24.8	U	14.3	17.0	57.7	68.5	200	10.0-144			17.3	35
1,1,2-Trichloroethane	24.8	U	20.3	23.8	81.9	96.0	200	10.0-160			15.9	35
Trichloroethene	24.8	U	14.9	17.3	60.1	69.8	200	10.0-156			14.9	38
Trichlorofluoromethane	24.8	U	12.1	12.9	48.8	52.0	200	10.0-160			6.40	40
1,2,3-Trichloropropane	24.8	U	28.8	27.9	116	113	200	10.0-156			3.17	35
1,2,3-Trimethylbenzene	24.8	31.6	31.6	32.3	0.000	2.82	200	10.0-160	J6	J6	2.19	36
1,2,4-Trimethylbenzene	24.8	87.5	67.0	76.1	0.000	0.000	200	10.0-160	J6	J6	12.7	36
1,3,5-Trimethylbenzene	24.8	22.6	30.4	33.2	123	134	200	10.0-160			8.81	38
Vinyl chloride	24.8	U	10.7	13.9	43.1	56.0	200	10.0-160			26.0	37
Xylenes, Total	74.3	U	56.5	64.6	76.0	86.9	200	10.0-160			13.4	38
(S) Toluene-d8					104	110		75.0-131				
(S) 4-Bromofluorobenzene					103	108		67.0-138				
(S) 1,2-Dichloroethane-d4					113	111		70.0-130				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Sample Narrative:

OS: Lowest possible dilution due to sample matrix.

Method Blank (MB)

(MB) R3657908-3 05/21/21 09:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Draft

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3657908-3 05/21/21 09:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.0681	U	0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	111			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	77.6			70.0-130

Draft

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657908-1 05/21/21 08:29 • (LCSD) R3657908-2 05/21/21 08:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.616	0.589	98.6	94.2	10.0-160			4.48	31
Acrylonitrile	0.625	0.624	0.519	99.8	83.0	45.0-153			18.4	22
Benzene	0.125	0.123	0.112	98.4	89.6	70.0-123			9.36	20
Bromobenzene	0.125	0.119	0.118	95.2	94.4	73.0-121			0.844	20
Bromodichloromethane	0.125	0.118	0.111	94.4	88.8	73.0-121			6.11	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657908-1 05/21/21 08:29 • (LCSD) R3657908-2 05/21/21 08:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.119	0.117	95.2	93.6	64.0-132			1.69	20
Bromomethane	0.125	0.112	0.105	89.6	84.0	56.0-147			6.45	20
n-Butylbenzene	0.125	0.128	0.124	102	99.2	68.0-135			3.17	20
sec-Butylbenzene	0.125	0.125	0.122	100	97.6	74.0-130			2.43	20
tert-Butylbenzene	0.125	0.131	0.126	105	101	75.0-127			3.89	20
Carbon tetrachloride	0.125	0.132	0.128	106	102	66.0-128			3.08	20
Chlorobenzene	0.125	0.119	0.113	95.2	90.4	76.0-128			5.17	20
Chlorodibromomethane	0.125	0.115	0.113	92.0	90.4	74.0-127			1.75	20
Chloroethane	0.125	0.116	0.107	92.8	85.6	61.0-134			8.07	20
Chloroform	0.125	0.119	0.117	95.2	93.6	72.0-123			1.69	20
Chloromethane	0.125	0.109	0.102	87.2	81.6	51.0-138			6.64	20
2-Chlorotoluene	0.125	0.127	0.119	102	95.2	75.0-124			6.50	20
4-Chlorotoluene	0.125	0.122	0.121	97.6	96.8	75.0-124			0.823	20
1,2-Dibromo-3-Chloropropane	0.125	0.131	0.124	105	99.2	59.0-130			5.49	20
1,2-Dibromoethane	0.125	0.117	0.111	93.6	88.8	74.0-128			5.26	20
Dibromomethane	0.125	0.121	0.115	96.8	92.0	75.0-122			5.08	20
1,2-Dichlorobenzene	0.125	0.115	0.114	92.0	91.2	76.0-124			0.873	20
1,3-Dichlorobenzene	0.125	0.114	0.112	91.2	89.6	76.0-125			1.77	20
1,4-Dichlorobenzene	0.125	0.115	0.116	92.0	92.8	77.0-121			0.866	20
Dichlorodifluoromethane	0.125	0.113	0.112	90.4	89.6	43.0-156			0.889	20
1,1-Dichloroethane	0.125	0.124	0.117	99.2	93.6	70.0-127			5.81	20
1,2-Dichloroethane	0.125	0.115	0.117	92.0	93.6	65.0-131			1.72	20
1,1-Dichloroethene	0.125	0.124	0.125	99.2	100	65.0-131			0.803	20
cis-1,2-Dichloroethene	0.125	0.122	0.119	97.6	95.2	73.0-125			2.49	20
trans-1,2-Dichloroethene	0.125	0.127	0.120	102	96.0	71.0-125			5.67	20
1,2-Dichloropropane	0.125	0.125	0.119	100	95.2	74.0-125			4.92	20
1,1-Dichloropropene	0.125	0.134	0.127	107	102	73.0-125			5.36	20
1,3-Dichloropropane	0.125	0.121	0.118	96.8	94.4	80.0-125			2.51	20
cis-1,3-Dichloropropene	0.125	0.127	0.120	102	96.0	76.0-127			5.67	20
trans-1,3-Dichloropropene	0.125	0.121	0.114	96.8	91.2	73.0-127			5.96	20
2,2-Dichloropropane	0.125	0.148	0.140	118	112	59.0-135			5.56	20
Di-isopropyl ether	0.125	0.121	0.118	96.8	94.4	60.0-136			2.51	20
Ethylbenzene	0.125	0.126	0.116	101	92.8	74.0-126			8.26	20
Hexachloro-1,3-butadiene	0.125	0.150	0.155	120	124	57.0-150			3.28	20
Isopropylbenzene	0.125	0.130	0.120	104	96.0	72.0-127			8.00	20
p-Isopropyltoluene	0.125	0.120	0.118	96.0	94.4	72.0-133			1.68	20
2-Butanone (MEK)	0.625	0.600	0.577	96.0	92.3	30.0-160			3.91	24
Methylene Chloride	0.125	0.134	0.131	107	105	68.0-123			2.26	20
4-Methyl-2-pentanone (MIBK)	0.625	0.612	0.578	97.9	92.5	56.0-143			5.71	20
Methyl tert-butyl ether	0.125	0.115	0.115	92.0	92.0	66.0-132			0.000	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3657908-1 05/21/21 08:29 • (LCSD) R3657908-2 05/21/21 08:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.144	0.138	115	110	59.0-130			4.26	20
n-Propylbenzene	0.125	0.125	0.118	100	94.4	74.0-126			5.76	20
Styrene	0.125	0.119	0.114	95.2	91.2	72.0-127			4.29	20
1,1,1,2-Tetrachloroethane	0.125	0.122	0.116	97.6	92.8	74.0-129			5.04	20
1,1,2,2-Tetrachloroethane	0.125	0.127	0.125	102	100	68.0-128			1.59	20
Tetrachloroethene	0.125	0.128	0.117	102	93.6	70.0-136			8.98	20
Toluene	0.125	0.124	0.114	99.2	91.2	75.0-121			8.40	20
1,1,2-Trichlorotrifluoroethane	0.125	0.114	0.109	91.2	87.2	61.0-139			4.48	20
1,2,3-Trichlorobenzene	0.125	0.138	0.137	110	110	59.0-139			0.727	20
1,2,4-Trichlorobenzene	0.125	0.144	0.143	115	114	62.0-137			0.697	20
1,1,1-Trichloroethane	0.125	0.138	0.134	110	107	69.0-126			2.94	20
1,1,2-Trichloroethane	0.125	0.120	0.116	96.0	92.8	78.0-123			3.39	20
Trichloroethene	0.125	0.130	0.118	104	94.4	76.0-126			9.68	20
Trichlorofluoromethane	0.125	0.103	0.102	82.4	81.6	61.0-142			0.976	20
1,2,3-Trichloropropane	0.125	0.118	0.116	94.4	92.8	67.0-129			1.71	20
1,2,3-Trimethylbenzene	0.125	0.112	0.111	89.6	88.8	74.0-124			0.897	20
1,2,4-Trimethylbenzene	0.125	0.118	0.116	94.4	92.8	70.0-126			1.71	20
1,3,5-Trimethylbenzene	0.125	0.121	0.117	96.8	93.6	73.0-127			3.36	20
Vinyl chloride	0.125	0.117	0.112	93.6	89.6	63.0-134			4.37	20
Xylenes, Total	0.375	0.370	0.344	98.7	91.7	72.0-127			7.28	20
(S) Toluene-d8				101	99.4	75.0-131				
(S) 4-Bromofluorobenzene				103	103	67.0-138				
(S) 1,2-Dichloroethane-d4				92.0	88.6	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3658333-2 05/21/21 16:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Draft

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3658333-2 05/21/21 16:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	0.0967	J	0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	104			67.0-138
(S) 1,2-Dichloroethane-d4	108			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3658333-1 05/21/21 15:25 • (LCSD) R3658333-3 05/21/21 23:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.911	1.04	146	166	10.0-160		J4	13.2	31
Acrylonitrile	0.625	0.769	0.914	123	146	45.0-153			17.2	22
Benzene	0.125	0.128	0.125	102	100	70.0-123			2.37	20
Bromobenzene	0.125	0.121	0.121	96.8	96.8	73.0-121			0.000	20
Bromodichloromethane	0.125	0.119	0.113	95.2	90.4	73.0-121			5.17	20
Bromoform	0.125	0.137	0.128	110	102	64.0-132			6.79	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3658333-1 05/21/21 15:25 • (LCSD) R3658333-3 05/21/21 23:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromomethane	0.125	0.118	0.116	94.4	92.8	56.0-147			1.71	20
n-Butylbenzene	0.125	0.0991	0.0952	79.3	76.2	68.0-135			4.01	20
sec-Butylbenzene	0.125	0.107	0.103	85.6	82.4	74.0-130			3.81	20
tert-Butylbenzene	0.125	0.106	0.104	84.8	83.2	75.0-127			1.90	20
Carbon tetrachloride	0.125	0.137	0.129	110	103	66.0-128			6.02	20
Chlorobenzene	0.125	0.124	0.117	99.2	93.6	76.0-128			5.81	20
Chlorodibromomethane	0.125	0.132	0.127	106	102	74.0-127			3.86	20
Chloroethane	0.125	0.105	0.102	84.0	81.6	61.0-134			2.90	20
Chloroform	0.125	0.124	0.119	99.2	95.2	72.0-123			4.12	20
Chloromethane	0.125	0.124	0.117	99.2	93.6	51.0-138			5.81	20
2-Chlorotoluene	0.125	0.122	0.113	97.6	90.4	75.0-124			7.66	20
4-Chlorotoluene	0.125	0.103	0.102	82.4	81.6	75.0-124			0.976	20
1,2-Dibromo-3-Chloropropane	0.125	0.126	0.131	101	105	59.0-130			3.89	20
1,2-Dibromoethane	0.125	0.128	0.124	102	99.2	74.0-128			3.17	20
Dibromomethane	0.125	0.138	0.137	110	110	75.0-122			0.727	20
1,2-Dichlorobenzene	0.125	0.122	0.120	97.6	96.0	76.0-124			1.65	20
1,3-Dichlorobenzene	0.125	0.116	0.113	92.8	90.4	76.0-125			2.62	20
1,4-Dichlorobenzene	0.125	0.115	0.110	92.0	88.0	77.0-121			4.44	20
Dichlorodifluoromethane	0.125	0.133	0.123	106	98.4	43.0-156			7.81	20
1,1-Dichloroethane	0.125	0.131	0.128	105	102	70.0-127			2.32	20
1,2-Dichloroethane	0.125	0.128	0.132	102	106	65.0-131			3.08	20
1,1-Dichloroethene	0.125	0.109	0.108	87.2	86.4	65.0-131			0.922	20
cis-1,2-Dichloroethene	0.125	0.131	0.132	105	106	73.0-125			0.760	20
trans-1,2-Dichloroethene	0.125	0.118	0.109	94.4	87.2	71.0-125			7.93	20
1,2-Dichloropropane	0.125	0.124	0.123	99.2	98.4	74.0-125			0.810	20
1,1-Dichloropropene	0.125	0.118	0.113	94.4	90.4	73.0-125			4.33	20
1,3-Dichloropropane	0.125	0.125	0.122	100	97.6	80.0-125			2.43	20
cis-1,3-Dichloropropene	0.125	0.117	0.115	93.6	92.0	76.0-127			1.72	20
trans-1,3-Dichloropropene	0.125	0.123	0.114	98.4	91.2	73.0-127			7.59	20
2,2-Dichloropropane	0.125	0.132	0.127	106	102	59.0-135			3.86	20
Di-isopropyl ether	0.125	0.141	0.139	113	111	60.0-136			1.43	20
Ethylbenzene	0.125	0.130	0.119	104	95.2	74.0-126			8.84	20
Hexachloro-1,3-butadiene	0.125	0.114	0.117	91.2	93.6	57.0-150			2.60	20
Isopropylbenzene	0.125	0.122	0.115	97.6	92.0	72.0-127			5.91	20
p-Isopropyltoluene	0.125	0.108	0.105	86.4	84.0	72.0-133			2.82	20
2-Butanone (MEK)	0.625	0.708	0.800	113	128	30.0-160			12.2	24
Methylene Chloride	0.125	0.135	0.134	108	107	68.0-123			0.743	20
4-Methyl-2-pentanone (MIBK)	0.625	0.727	0.726	116	116	56.0-143			0.138	20
Methyl tert-butyl ether	0.125	0.147	0.151	118	121	66.0-132			2.68	20
Naphthalene	0.125	0.106	0.114	84.8	91.2	59.0-130			7.27	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3658333-1 05/21/21 15:25 • (LCSD) R3658333-3 05/21/21 23:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
n-Propylbenzene	0.125	0.105	0.0985	84.0	78.8	74.0-126			6.39	20
Styrene	0.125	0.117	0.111	93.6	88.8	72.0-127			5.26	20
1,1,1,2-Tetrachloroethane	0.125	0.142	0.141	114	113	74.0-129			0.707	20
1,1,2,2-Tetrachloroethane	0.125	0.107	0.110	85.6	88.0	68.0-128			2.76	20
Tetrachloroethene	0.125	0.131	0.123	105	98.4	70.0-136			6.30	20
Toluene	0.125	0.122	0.114	97.6	91.2	75.0-121			6.78	20
1,1,2-Trichlorotrifluoroethane	0.125	0.126	0.118	101	94.4	61.0-139			6.56	20
1,2,3-Trichlorobenzene	0.125	0.107	0.112	85.6	89.6	59.0-139			4.57	20
1,2,4-Trichlorobenzene	0.125	0.114	0.117	91.2	93.6	62.0-137			2.60	20
1,1,1-Trichloroethane	0.125	0.125	0.121	100	96.8	69.0-126			3.25	20
1,1,2-Trichloroethane	0.125	0.123	0.118	98.4	94.4	78.0-123			4.15	20
Trichloroethene	0.125	0.133	0.123	106	98.4	76.0-126			7.81	20
Trichlorofluoromethane	0.125	0.124	0.126	99.2	101	61.0-142			1.60	20
1,2,3-Trichloropropane	0.125	0.128	0.131	102	105	67.0-129			2.32	20
1,2,4-Trimethylbenzene	0.125	0.105	0.102	84.0	81.6	70.0-126			2.90	20
1,3,5-Trimethylbenzene	0.125	0.107	0.103	85.6	82.4	73.0-127			3.81	20
Vinyl chloride	0.125	0.106	0.106	84.8	84.8	63.0-134			0.000	20
Xylenes, Total	0.375	0.369	0.349	98.4	93.1	72.0-127			5.57	20
(S) Toluene-d8				101	99.1	75.0-131				
(S) 4-Bromofluorobenzene				104	103	67.0-138				
(S) 1,2-Dichloroethane-d4				107	111	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3658506-2 05/24/21 06:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Draft

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3658506-2 05/24/21 06:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	110			75.0-131
(S) 4-Bromofluorobenzene	97.2			67.0-138
(S) 1,2-Dichloroethane-d4	106			70.0-130

Draft

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3658506-1 05/24/21 05:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	1.30	208	10.0-160	J4
Acrylonitrile	0.625	0.986	158	45.0-153	J4
Benzene	0.125	0.144	115	70.0-123	
Bromobenzene	0.125	0.150	120	73.0-121	
Bromodichloromethane	0.125	0.140	112	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3658506-1 05/24/21 05:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromoform	0.125	0.132	106	64.0-132	
Bromomethane	0.125	0.144	115	56.0-147	
n-Butylbenzene	0.125	0.131	105	68.0-135	
sec-Butylbenzene	0.125	0.147	118	74.0-130	
tert-Butylbenzene	0.125	0.138	110	75.0-127	
Carbon tetrachloride	0.125	0.151	121	66.0-128	
Chlorobenzene	0.125	0.136	109	76.0-128	
Chlorodibromomethane	0.125	0.146	117	74.0-127	
Chloroethane	0.125	0.148	118	61.0-134	
Chloroform	0.125	0.138	110	72.0-123	
Chloromethane	0.125	0.153	122	51.0-138	
2-Chlorotoluene	0.125	0.136	109	75.0-124	
4-Chlorotoluene	0.125	0.126	101	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.142	114	59.0-130	
1,2-Dibromoethane	0.125	0.137	110	74.0-128	
Dibromomethane	0.125	0.144	115	75.0-122	
1,2-Dichlorobenzene	0.125	0.144	115	76.0-124	
1,3-Dichlorobenzene	0.125	0.146	117	76.0-125	
1,4-Dichlorobenzene	0.125	0.140	112	77.0-121	
Dichlorodifluoromethane	0.125	0.136	109	43.0-156	
1,1-Dichloroethane	0.125	0.146	117	70.0-127	
1,2-Dichloroethane	0.125	0.143	114	65.0-131	
1,1-Dichloroethene	0.125	0.144	115	65.0-131	
cis-1,2-Dichloroethene	0.125	0.137	110	73.0-125	
trans-1,2-Dichloroethene	0.125	0.118	94.4	71.0-125	
1,2-Dichloropropane	0.125	0.148	118	74.0-125	
1,1-Dichloropropene	0.125	0.131	105	73.0-125	
1,3-Dichloropropane	0.125	0.147	118	80.0-125	
cis-1,3-Dichloropropene	0.125	0.127	102	76.0-127	
trans-1,3-Dichloropropene	0.125	0.134	107	73.0-127	
2,2-Dichloropropane	0.125	0.110	88.0	59.0-135	
Di-isopropyl ether	0.125	0.144	115	60.0-136	
Ethylbenzene	0.125	0.131	105	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.127	102	57.0-150	
Isopropylbenzene	0.125	0.136	109	72.0-127	
p-Isopropyltoluene	0.125	0.135	108	72.0-133	
2-Butanone (MEK)	0.625	0.995	159	30.0-160	
Methylene Chloride	0.125	0.0960	76.8	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.834	133	56.0-143	
Methyl tert-butyl ether	0.125	0.149	119	66.0-132	

Draft

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3658506-1 05/24/21 05:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.148	118	59.0-130	
n-Propylbenzene	0.125	0.154	123	74.0-126	
Styrene	0.125	0.135	108	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.139	111	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.145	116	68.0-128	
Tetrachloroethene	0.125	0.148	118	70.0-136	
Toluene	0.125	0.140	112	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.117	93.6	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.126	101	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.144	115	62.0-137	
1,1,1-Trichloroethane	0.125	0.155	124	69.0-126	
1,1,2-Trichloroethane	0.125	0.135	108	78.0-123	
Trichloroethene	0.125	0.147	118	76.0-126	
Trichlorofluoromethane	0.125	0.127	102	61.0-142	
1,2,3-Trichloropropane	0.125	0.152	122	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.111	88.8	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.141	113	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.148	118	73.0-127	
Vinyl chloride	0.125	0.159	127	63.0-134	
Xylenes, Total	0.375	0.389	104	72.0-127	
(S) Toluene-d8			107	75.0-131	
(S) 4-Bromofluorobenzene			98.5	67.0-138	
(S) 1,2-Dichloroethane-d4			115	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1353753-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353753-21 05/24/21 14:12 • (MS) R3658506-3 05/24/21 14:32 • (MSD) R3658506-4 05/24/21 14:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.620	U	0.727	0.711	117	115	1	10.0-160			2.23	40
Acrylonitrile	0.620	U	0.738	0.939	119	151	1	10.0-160			24.0	40
Benzene	0.124	U	0.105	0.135	84.7	109	1	10.0-149			25.0	37
Bromobenzene	0.124	U	0.122	0.156	98.4	126	1	10.0-156			24.5	38
Bromodichloromethane	0.124	U	0.112	0.137	90.3	110	1	10.0-143			20.1	37
Bromoform	0.124	U	0.115	0.135	92.7	109	1	10.0-146			16.0	36
Bromomethane	0.124	U	0.0758	0.0802	61.1	64.7	1	10.0-149			5.64	38
n-Butylbenzene	0.124	U	0.107	0.138	86.3	111	1	10.0-160			25.3	40
sec-Butylbenzene	0.124	U	0.111	0.146	89.5	118	1	10.0-159			27.2	39
tert-Butylbenzene	0.124	U	0.107	0.139	86.3	112	1	10.0-156			26.0	39

L1353753-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353753-21 05/24/21 14:12 • (MS) R3658506-3 05/24/21 14:32 • (MSD) R3658506-4 05/24/21 14:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	0.124	U	0.0954	0.127	76.9	102	1	10.0-145			28.4	37
Chlorobenzene	0.124	U	0.111	0.130	89.5	105	1	10.0-152			15.8	39
Chlorodibromomethane	0.124	U	0.122	0.150	98.4	121	1	10.0-146			20.6	37
Chloroethane	0.124	U	0.0618	0.0733	49.8	59.1	1	10.0-146			17.0	40
Chloroform	0.124	U	0.101	0.128	81.5	103	1	10.0-146			23.6	37
Chloromethane	0.124	U	0.0911	0.116	73.5	93.5	1	10.0-159			24.0	37
2-Chlorotoluene	0.124	U	0.112	0.129	90.3	104	1	10.0-159			14.1	38
4-Chlorotoluene	0.124	U	0.111	0.142	89.5	115	1	10.0-155			24.5	39
1,2-Dibromo-3-Chloropropane	0.124	U	0.132	0.156	106	126	1	10.0-151			16.7	39
1,2-Dibromoethane	0.124	U	0.117	0.141	94.4	114	1	10.0-148			18.6	34
Dibromomethane	0.124	U	0.126	0.150	102	121	1	10.0-147			17.4	35
1,2-Dichlorobenzene	0.124	U	0.131	0.156	106	126	1	10.0-155			17.4	37
1,3-Dichlorobenzene	0.124	U	0.122	0.143	98.4	115	1	10.0-153			15.8	38
1,4-Dichlorobenzene	0.124	U	0.124	0.146	100	118	1	10.0-151			16.3	38
Dichlorodifluoromethane	0.124	U	0.0777	0.101	62.7	81.5	1	10.0-160			26.1	35
1,1-Dichloroethane	0.124	U	0.107	0.134	86.3	108	1	10.0-147			22.4	37
1,2-Dichloroethane	0.124	U	0.122	0.142	98.4	115	1	10.0-148			15.2	35
1,1-Dichloroethene	0.124	U	0.0971	0.123	78.3	99.2	1	10.0-155			23.5	37
cis-1,2-Dichloroethene	0.124	U	0.103	0.129	83.1	104	1	10.0-149			22.4	37
trans-1,2-Dichloroethene	0.124	U	0.0778	0.0978	62.7	78.9	1	10.0-150			22.8	37
1,2-Dichloropropane	0.124	U	0.123	0.140	99.2	113	1	10.0-148			12.9	37
1,1-Dichloropropene	0.124	U	0.0835	0.110	67.3	88.7	1	10.0-153			27.4	35
1,3-Dichloropropane	0.124	U	0.136	0.154	110	124	1	10.0-154			12.4	35
cis-1,3-Dichloropropene	0.124	U	0.111	0.137	89.5	110	1	10.0-151			21.0	37
trans-1,3-Dichloropropene	0.124	U	0.132	0.145	106	117	1	10.0-148			9.39	37
2,2-Dichloropropane	0.124	U	0.0693	0.0933	55.9	75.2	1	10.0-138			29.5	36
Di-isopropyl ether	0.124	U	0.129	0.154	104	124	1	10.0-147			17.7	36
Ethylbenzene	0.124	U	0.0940	0.117	75.8	94.4	1	10.0-160			21.8	38
Hexachloro-1,3-butadiene	0.124	U	0.106	0.130	85.5	105	1	10.0-160			20.3	40
Isopropylbenzene	0.124	U	0.0995	0.128	80.2	103	1	10.0-155			25.1	38
p-Isopropyltoluene	0.124	U	0.107	0.135	86.3	109	1	10.0-160			23.1	40
2-Butanone (MEK)	0.620	U	0.788	1.12	127	181	1	10.0-160		J5	34.8	40
Methylene Chloride	0.124	U	0.0771	0.103	62.2	83.1	1	10.0-141			28.8	37
4-Methyl-2-pentanone (MIBK)	0.620	U	0.794	0.901	128	145	1	10.0-160			12.6	35
Methyl tert-butyl ether	0.124	U	0.124	0.146	100	118	1	11.0-147			16.3	35
Naphthalene	0.124	U	0.153	0.181	123	146	1	10.0-160			16.8	36
n-Propylbenzene	0.124	U	0.113	0.146	91.1	118	1	10.0-158			25.5	38
Styrene	0.124	U	0.112	0.137	90.3	110	1	10.0-160			20.1	40
1,1,1,2-Tetrachloroethane	0.124	U	0.116	0.133	93.5	107	1	10.0-149			13.7	39
1,1,2,2-Tetrachloroethane	0.124	U	0.148	0.171	119	138	1	10.0-160			14.4	35

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1353753-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353753-21 05/24/21 14:12 • (MS) R3658506-3 05/24/21 14:32 • (MSD) R3658506-4 05/24/21 14:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Tetrachloroethene	0.124	U	0.0911	0.119	73.5	96.0	1	10.0-156			26.6	39
Toluene	0.124	U	0.104	0.129	83.9	104	1	10.0-156			21.5	38
1,1,2-Trichlorotrifluoroethane	0.124	U	0.0708	0.0997	57.1	80.4	1	10.0-160			33.9	36
1,2,3-Trichlorobenzene	0.124	U	0.138	0.177	111	143	1	10.0-160			24.8	40
1,2,4-Trichlorobenzene	0.124	U	0.145	0.181	117	146	1	10.0-160			22.1	40
1,1,1-Trichloroethane	0.124	U	0.102	0.133	82.3	107	1	10.0-144			26.4	35
1,1,2-Trichloroethane	0.124	U	0.116	0.145	93.5	117	1	10.0-160			22.2	35
Trichloroethene	0.124	0.000718	0.0991	0.122	79.3	97.8	1	10.0-156			20.7	38
Trichlorofluoromethane	0.124	U	0.0551	0.0893	44.4	72.0	1	10.0-160		J3	47.4	40
1,2,3-Trichloropropane	0.124	U	0.145	0.170	117	137	1	10.0-156			15.9	35
1,2,3-Trimethylbenzene	0.124	U	0.0943	0.115	76.0	92.7	1	10.0-160			19.8	36
1,2,4-Trimethylbenzene	0.124	U	0.112	0.141	90.3	114	1	10.0-160			22.9	36
1,3,5-Trimethylbenzene	0.124	U	0.114	0.140	91.9	113	1	10.0-160			20.5	38
Vinyl chloride	0.124	U	0.0735	0.0985	59.3	79.4	1	10.0-160			29.1	37
Xylenes, Total	0.372	U	0.300	0.368	80.6	98.9	1	10.0-160			20.4	38
(S) Toluene-d8					107	105		75.0-131				
(S) 4-Bromofluorobenzene					96.1	96.7		67.0-138				
(S) 1,2-Dichloroethane-d4					107	113		70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3659428-2 05/24/21 11:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,3-Trimethylbenzene	U		0.00158	0.00500
(S) Toluene-d8	105			75.0-131
(S) 4-Bromofluorobenzene	98.3			67.0-138
(S) 1,2-Dichloroethane-d4	96.0			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3659428-1 05/24/21 10:20 • (LCSD) R3659428-3 05/24/21 13:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2,3-Trimethylbenzene	0.125	0.124	0.114	99.2	91.2	74.0-124			8.40	20
(S) Toluene-d8				96.6	95.5	75.0-131				
(S) 4-Bromofluorobenzene				104	112	67.0-138				
(S) 1,2-Dichloroethane-d4				104	105	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3656535-2 05/19/21 00:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	65.9			14.0-149
(S) 2-Fluorobiphenyl	66.7			34.0-125
(S) p-Terphenyl-d14	78.3			23.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3656535-1 05/19/21 00:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0489	61.1	50.0-126	
Acenaphthene	0.0800	0.0541	67.6	50.0-120	
Acenaphthylene	0.0800	0.0528	66.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0481	60.1	45.0-120	
Benzo(a)pyrene	0.0800	0.0447	55.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0553	69.1	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0517	64.6	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0541	67.6	49.0-125	
Chrysene	0.0800	0.0522	65.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0491	61.4	47.0-125	
Fluoranthene	0.0800	0.0528	66.0	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3656535-1 05/19/21 00:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0551	68.9	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0478	59.8	46.0-125	
Naphthalene	0.0800	0.0531	66.4	50.0-120	
Phenanthrene	0.0800	0.0553	69.1	47.0-120	
Pyrene	0.0800	0.0555	69.4	43.0-123	
1-Methylnaphthalene	0.0800	0.0539	67.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0518	64.8	50.0-120	
2-Chloronaphthalene	0.0800	0.0560	70.0	50.0-120	
(S) Nitrobenzene-d5			68.6	14.0-149	
(S) 2-Fluorobiphenyl			64.3	34.0-125	
(S) p-Terphenyl-d14			74.6	23.0-120	

L1352338-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352338-01 05/19/21 01:13 • (MS) R3656535-3 05/19/21 01:30 • (MSD) R3656535-4 05/19/21 01:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0772	U	0.0504	0.0521	65.3	67.5	1	10.0-145			3.32	30
Acenaphthene	0.0772	U	0.0561	0.0569	72.7	73.7	1	14.0-127			1.42	27
Acenaphthylene	0.0772	U	0.0544	0.0551	70.5	71.4	1	21.0-124			1.28	25
Benzo(a)anthracene	0.0772	U	0.0483	0.0502	62.6	65.0	1	10.0-139			3.86	30
Benzo(a)pyrene	0.0772	U	0.0503	0.0516	65.2	66.8	1	10.0-141			2.55	31
Benzo(b)fluoranthene	0.0772	U	0.0579	0.0585	75.0	75.8	1	10.0-140			1.03	36
Benzo(g,h,i)perylene	0.0772	U	0.0559	0.0567	72.4	73.4	1	10.0-140			1.42	33
Benzo(k)fluoranthene	0.0772	U	0.0556	0.0575	72.0	74.5	1	10.0-137			3.36	31
Chrysene	0.0772	U	0.0539	0.0559	69.8	72.4	1	10.0-145			3.64	30
Dibenz(a,h)anthracene	0.0772	U	0.0504	0.0517	65.3	67.0	1	10.0-132			2.55	31
Fluoranthene	0.0772	U	0.0536	0.0552	69.4	71.5	1	10.0-153			2.94	33
Fluorene	0.0772	U	0.0563	0.0581	72.9	75.3	1	11.0-130			3.15	29
Indeno(1,2,3-cd)pyrene	0.0772	U	0.0486	0.0501	63.0	64.9	1	10.0-137			3.04	32
Naphthalene	0.0772	U	0.0551	0.0563	71.4	72.9	1	10.0-135			2.15	27
Phenanthrene	0.0772	U	0.0574	0.0586	74.4	75.9	1	10.0-144			2.07	31
Pyrene	0.0772	U	0.0566	0.0581	73.3	75.3	1	10.0-148			2.62	35
1-Methylnaphthalene	0.0772	U	0.0555	0.0566	71.9	73.3	1	10.0-142			1.96	28
2-Methylnaphthalene	0.0772	U	0.0536	0.0545	69.4	70.6	1	10.0-137			1.67	28
2-Chloronaphthalene	0.0772	U	0.0584	0.0591	75.6	76.6	1	29.0-120			1.19	24
(S) Nitrobenzene-d5					71.6	77.8		14.0-149				
(S) 2-Fluorobiphenyl					70.6	74.0		34.0-125				
(S) p-Terphenyl-d14					80.4	86.1		23.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3657251-2 05/20/21 09:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	72.9			14.0-149
(S) 2-Fluorobiphenyl	67.1			34.0-125
(S) p-Terphenyl-d14	83.0			23.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3657251-1 05/20/21 09:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0802	100	50.0-126	
Acenaphthene	0.0800	0.0776	97.0	50.0-120	
Acenaphthylene	0.0800	0.0815	102	50.0-120	
Benzo(a)anthracene	0.0800	0.0767	95.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0659	82.4	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0717	89.6	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0691	86.4	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0685	85.6	49.0-125	
Chrysene	0.0800	0.0736	92.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0726	90.8	47.0-125	
Fluoranthene	0.0800	0.0695	86.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3657251-1 05/20/21 09:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0877	110	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0714	89.3	46.0-125	
Naphthalene	0.0800	0.0750	93.8	50.0-120	
Phenanthrene	0.0800	0.0757	94.6	47.0-120	
Pyrene	0.0800	0.0785	98.1	43.0-123	
1-Methylnaphthalene	0.0800	0.0699	87.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0704	88.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0722	90.3	50.0-120	
(S) Nitrobenzene-d5			96.9	14.0-149	
(S) 2-Fluorobiphenyl			81.9	34.0-125	
(S) p-Terphenyl-d14			100	23.0-120	

L1353753-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353753-04 05/20/21 12:05 • (MS) R3657251-3 05/20/21 12:15 • (MSD) R3657251-4 05/20/21 12:25

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0796	U	0.0707	0.0644	88.8	81.3	1	10.0-145			9.33	30
Acenaphthene	0.0796	U	0.0688	0.0631	86.4	79.7	1	14.0-127			8.64	27
Acenaphthylene	0.0796	U	0.0722	0.0650	90.7	82.1	1	21.0-124			10.5	25
Benzo(a)anthracene	0.0796	U	0.0678	0.0619	85.2	78.2	1	10.0-139			9.10	30
Benzo(a)pyrene	0.0796	U	0.0687	0.0632	86.3	79.8	1	10.0-141			8.34	31
Benzo(b)fluoranthene	0.0796	U	0.0698	0.0628	87.7	79.3	1	10.0-140			10.6	36
Benzo(g,h,i)perylene	0.0796	U	0.0600	0.0544	75.4	68.7	1	10.0-140			9.79	33
Benzo(k)fluoranthene	0.0796	U	0.0694	0.0651	87.2	82.2	1	10.0-137			6.39	31
Chrysene	0.0796	U	0.0716	0.0663	89.9	83.7	1	10.0-145			7.69	30
Dibenz(a,h)anthracene	0.0796	U	0.0628	0.0573	78.9	72.3	1	10.0-132			9.16	31
Fluoranthene	0.0796	U	0.0648	0.0586	81.4	74.0	1	10.0-153			10.0	33
Fluorene	0.0796	U	0.0808	0.0727	102	91.8	1	11.0-130			10.6	29
Indeno(1,2,3-cd)pyrene	0.0796	U	0.0618	0.0554	77.6	69.9	1	10.0-137			10.9	32
Naphthalene	0.0796	U	0.0697	0.0619	87.6	78.2	1	10.0-135			11.9	27
Phenanthrene	0.0796	U	0.0689	0.0630	86.6	79.5	1	10.0-144			8.95	31
Pyrene	0.0796	U	0.0727	0.0665	91.3	84.0	1	10.0-148			8.91	35
1-Methylnaphthalene	0.0796	U	0.0655	0.0563	82.3	71.1	1	10.0-142			15.1	28
2-Methylnaphthalene	0.0796	U	0.0652	0.0577	81.9	72.9	1	10.0-137			12.2	28
2-Chloronaphthalene	0.0796	U	0.0677	0.0596	85.1	75.3	1	29.0-120			12.7	24
(S) Nitrobenzene-d5					98.1	88.3		14.0-149				
(S) 2-Fluorobiphenyl					80.5	72.8		34.0-125				
(S) p-Terphenyl-d14					96.0	84.6		23.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3657867-2 05/21/21 08:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	75.9			14.0-149
(S) 2-Fluorobiphenyl	68.8			34.0-125
(S) p-Terphenyl-d14	87.9			23.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3657867-1 05/21/21 07:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0554	69.3	50.0-126	
Acenaphthene	0.0800	0.0657	82.1	50.0-120	
Acenaphthylene	0.0800	0.0642	80.3	50.0-120	
Benzo(a)anthracene	0.0800	0.0588	73.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0551	68.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0583	72.9	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0636	79.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0594	74.3	49.0-125	
Chrysene	0.0800	0.0668	83.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0557	69.6	47.0-125	
Fluoranthene	0.0800	0.0676	84.5	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3657867-1 05/21/21 07:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0648	81.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0555	69.4	46.0-125	
Naphthalene	0.0800	0.0665	83.1	50.0-120	
Phenanthrene	0.0800	0.0597	74.6	47.0-120	
Pyrene	0.0800	0.0697	87.1	43.0-123	
1-Methylnaphthalene	0.0800	0.0715	89.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0663	82.9	50.0-120	
2-Chloronaphthalene	0.0800	0.0577	72.1	50.0-120	
(S) Nitrobenzene-d5			77.9	14.0-149	
(S) 2-Fluorobiphenyl			72.3	34.0-125	
(S) p-Terphenyl-d14			87.9	23.0-120	

L1352455-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352455-01 05/21/21 13:43 • (MS) R3657867-3 05/21/21 14:01 • (MSD) R3657867-4 05/21/21 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	U	U	U	0.000	0.000	1	10.0-145	J6	J6	0.000	30
Acenaphthene	0.0800	U	U	U	0.000	0.000	1	14.0-127	J6	J6	0.000	27
Acenaphthylene	0.0800	U	U	U	0.000	0.000	1	21.0-124	J6	J6	0.000	25
Benzo(a)anthracene	0.0800	0.00525	0.0741	0.0774	92.6	96.8	1	10.0-139			4.36	30
Benzo(a)pyrene	0.0800	0.0108	0.0706	0.0752	74.8	80.5	1	10.0-141			6.31	31
Benzo(b)fluoranthene	0.0800	0.00463	0.0675	0.0691	84.4	86.4	1	10.0-140			2.34	36
Benzo(g,h,i)perylene	0.0800	0.00562	0.0652	0.0660	81.5	82.5	1	10.0-140			1.22	33
Benzo(k)fluoranthene	0.0800	0.00393	0.0630	0.0646	78.8	80.7	1	10.0-137			2.51	31
Chrysene	0.0800	0.0143	0.0740	0.0759	74.6	77.0	1	10.0-145			2.54	30
Dibenz(a,h)anthracene	0.0800	U	0.0607	0.0617	75.9	77.1	1	10.0-132			1.63	31
Fluoranthene	0.0800	U	U	U	0.000	0.000	1	10.0-153	J6	J6	0.000	33
Fluorene	0.0800	U	U	U	0.000	0.000	1	11.0-130	J6	J6	0.000	29
Indeno(1,2,3-cd)pyrene	0.0800	0.00512	0.0619	0.0658	77.4	82.3	1	10.0-137			6.11	32
Naphthalene	0.0800	U	U	U	0.000	0.000	1	10.0-135	J6	J6	0.000	27
Phenanthrene	0.0800	U	U	U	0.000	0.000	1	10.0-144	J6	J6	0.000	31
Pyrene	0.0800	0.230	0.200	0.238	0.000	10.0	1	10.0-148	J6	J6	17.4	35
1-Methylnaphthalene	0.0800	U	U	U	0.000	0.000	1	10.0-142	J6	J6	0.000	28
2-Methylnaphthalene	0.0800	U	U	U	0.000	0.000	1	10.0-137	J6	J6	0.000	28
2-Chloronaphthalene	0.0800	U	U	U	0.000	0.000	1	29.0-120	J6	J6	0.000	24
(S) Nitrobenzene-d5					0.000	0.000		14.0-149	J2	J2		
(S) 2-Fluorobiphenyl					0.000	0.000		34.0-125	J2	J2		
(S) p-Terphenyl-d14					93.8	94.4		23.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1352455-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1352455-01 05/21/21 13:43 • (MS) R3657867-3 05/21/21 14:01 • (MSD) R3657867-4 05/21/21 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
---------	-----------------------	--------------------------	--------------------	---------------------	--------------	---------------	----------	------------------	---------------------	----------------------	----------	-----------------

Sample Narrative:

OS: Surrogate failure due to matrix interference

Draft

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3658577-2 05/24/21 00:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	49.2			14.0-149
(S) 2-Fluorobiphenyl	57.2			34.0-125
(S) p-Terphenyl-d14	83.0			23.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3658577-1 05/24/21 00:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0550	68.8	50.0-126	
Acenaphthene	0.0800	0.0559	69.9	50.0-120	
Acenaphthylene	0.0800	0.0544	68.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0551	68.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0476	59.5	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0649	81.1	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0602	75.3	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0631	78.9	49.0-125	
Chrysene	0.0800	0.0614	76.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0561	70.1	47.0-125	
Fluoranthene	0.0800	0.0594	74.3	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3658577-1 05/24/21 00:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0592	74.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0542	67.8	46.0-125	
Naphthalene	0.0800	0.0527	65.9	50.0-120	
Phenanthrene	0.0800	0.0626	78.3	47.0-120	
Pyrene	0.0800	0.0677	84.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0537	67.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0516	64.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0572	71.5	50.0-120	
(S) Nitrobenzene-d5			61.2	14.0-149	
(S) 2-Fluorobiphenyl			60.7	34.0-125	
(S) p-Terphenyl-d14			93.4	23.0-120	

L1353758-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1353758-01 05/24/21 05:59 • (MS) R3658577-3 05/24/21 06:17 • (MSD) R3658577-4 05/24/21 06:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0796	U	0.0513	0.0491	64.4	61.7	1	10.0-145			4.38	30
Acenaphthene	0.0796	U	0.0539	0.0459	67.7	57.7	1	14.0-127			16.0	27
Acenaphthylene	0.0796	U	0.0521	0.0443	65.5	55.7	1	21.0-124			16.2	25
Benzo(a)anthracene	0.0796	0.00589	0.0643	0.0629	73.4	71.6	1	10.0-139			2.20	30
Benzo(a)pyrene	0.0796	0.00754	0.0667	0.0680	74.3	76.0	1	10.0-141			1.93	31
Benzo(b)fluoranthene	0.0796	0.0104	0.0751	0.0738	81.3	79.6	1	10.0-140			1.75	36
Benzo(g,h,i)perylene	0.0796	0.00925	0.0663	0.0731	71.7	80.2	1	10.0-140			9.76	33
Benzo(k)fluoranthene	0.0796	0.00346	0.0604	0.0594	71.5	70.3	1	10.0-137			1.67	31
Chrysene	0.0796	0.00633	0.0727	0.0735	83.4	84.4	1	10.0-145			1.09	30
Dibenz(a,h)anthracene	0.0796	U	0.0471	0.0486	59.2	61.1	1	10.0-132			3.13	31
Fluoranthene	0.0796	0.00972	0.0834	0.0812	92.6	89.8	1	10.0-153			2.67	33
Fluorene	0.0796	U	0.0546	0.0495	68.6	62.2	1	11.0-130			9.80	29
Indeno(1,2,3-cd)pyrene	0.0796	0.00687	0.0586	0.0619	65.0	69.1	1	10.0-137			5.48	32
Naphthalene	0.0796	U	0.0516	0.0418	64.8	52.5	1	10.0-135			21.0	27
Phenanthrene	0.0796	0.00514	0.0706	0.0710	82.2	82.7	1	10.0-144			0.565	31
Pyrene	0.0796	0.0110	0.0886	0.0847	97.5	92.6	1	10.0-148			4.50	35
1-Methylnaphthalene	0.0796	U	0.0519	0.0418	65.2	52.5	1	10.0-142			21.6	28
2-Methylnaphthalene	0.0796	U	0.0501	0.0413	62.9	51.9	1	10.0-137			19.3	28
2-Chloronaphthalene	0.0796	U	0.0533	0.0441	67.0	55.4	1	29.0-120			18.9	24
(S) Nitrobenzene-d5					60.7	73.4		14.0-149				
(S) 2-Fluorobiphenyl					62.5	67.0		34.0-125				
(S) p-Terphenyl-d14					80.4	78.6		23.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

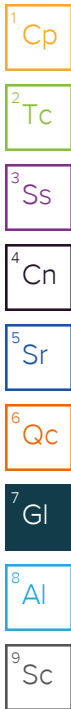
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ERO Resources Corp.
 1842 Clarkson St.
 Denver, CO 80218

Billing Information:
 Email To: **abacksmeier@eroreources.com**

Analysis / Container / Preservative
 Pres Chk



Report to: **Adam Backsmeier**

Project Description: **TWP**

City/State Collected: **Thornton, CO**

Phone: **303-830-1188**
 Fax:

Client Project #: **5241**
 Lab Project #:

Collected by (print): **A Backsmeier**

Site/Facility ID #
 P.O. #

Collected by (signature): *[Signature]*
 Immediately Packed on Ice

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day
 Quote #
 Date Results Needed
Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

AOC17 BH01	Grab	SS	26	5/7/21	0930	1
AOC08 BH01	Grab	SS	22	5/7/21	1100	1
AOC07 BH01	Grab	SS	12	5/7/21	1220	1
AOC07 BH02	Grab	SS	12	5/7/21	1245	1
AOC07 BH03	Grab	SS	12	5/7/21	1320	1
AOC13 BH01	Grab	SS	17	5/7/21	1545	1
AOC13 BH02	Grab	SS	17	5/7/21	1500	1
AOC06 BH01	Grab	SS	15	5/10/21	0950	1
AOC06 BH02	Grab	SS	15	5/10/21	1020	1
AOC06 BH03	Grab	SS	15	5/10/21	1050	1

Analysis / Container / Preservative	Chain of Custody
BTEX/GRO/DRO - 8oz Soil Jar	
BTEX/GRO (2) 40ml Amber w/HCl	
TPH-DRO (2) 40ml Amber w/HCl-BT	
VOC8260, RCRA 8 Metals, PAHs	

L # **L1353753**
D015

Acctnum: **ERORES DCO**
 Template:
 Prelogin:
 TSR:
 PB:
 Shipped Via:

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: **Please run VOC, RCRA 8 + PAHs first and then BTEX/GRO/DRO if leftover volume**
 Tracking # **988300893125**
 Samples returned via: UPS FedEx Courier

Sample Receipt Checklist
 COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature) *[Signature]*
 Date: **5/13/21** Time: **1300**

Received by: (Signature) *[Signature]*
 Trip Blank Received: Yes/No
 HCL/MeOH TBR

Temp: **12.07** °C
 Bottles Received: **21**

If preservation required by Login: Date/Time
 Date: **5/14/21** Time: **1730**
 Received for lab by: (Signature) *[Signature]*
 Date: **5/15/21** Time: **9:30**
 Hold:
 Condition: **NCF / DN**

ERO Resources Corp.

1842 Clarkson St.
Denver, CO 80218

Report to:
Adam Backsmeier

Project Description: TWP

Phone: 303-830-1188
Fax:

Collected by (print):
A. Backsmeier

Collected by (signature):
[Signature]

Immediately Packed on Ice N Y

Billing Information:

Email To: abacksmeier@eroreources.com

City/State Collected:

Lab Project #

Site/Facility ID #

Quote #

Date Results Needed

Standard

Analysis / Container / Preservative

Pres Chk

BTEX/GRO/DRO - 8oz Soil Jar

BTEX/GRO (2) 40ml Amber w/HCl

TPH-DRO (2) 40ml Amber w/HCl-BT

VOCs, ACRA 8 Metals, PAHs

Chain of Custody Page 2 of 3



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L # W353793

Table #

Acctnum: ERORESDCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX/GRO/DRO - 8oz Soil Jar	BTEX/GRO (2) 40ml Amber w/HCl	TPH-DRO (2) 40ml Amber w/HCl-BT	VOCs, ACRA 8 Metals, PAHs	Remarks	Sample # (lab only)
AOC06 BH04	Grab	SS	15	5/10/21	1050	1	X			X		-11
AOC12 BH01	Grab	SS	17	5/12/21	0920	1	X					-12
AOC12 BH02	Grab	SS	17	5/12/21	0945	1	X					-13
AOC13 BH03	Grab	SS	17	5/12/21	1115	1	X					-14
AOC03 BH01	Grab	SS	15	5/12/21	1230	1	X					-15
AOC03 BH02	Grab	SS	15	5/12/21	1305	1	X					-16
AOC03 BH03	Grab	SS	11	5/12/21	1355	1	X					-17
AOC03 BH04	Grab	SS	15	5/12/21	1340	1	X					-18
AOC02 BH01	Grab	SS	15	5/12/21	1500	1	X					-19
AOC02 BH02	Grab	SS	15	5/12/21	1530	1	X					-20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: Please run VOC, ACRA8, PAH first then if leftover volume run BTEX/GRO/DRO
PH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

If Applicable

VOA Zero Headspace: Y N

Preservation Correct/Checked: Y N

Relinquished by: (Signature) *[Signature]* Date: 5/13/21 Time: 1300

Relinquished by: (Signature) *[Signature]* Date: 5/14/21 Time: 1730

Relinquished by: (Signature) *[Signature]* Date: _____ Time: _____

Received by: (Signature) *[Signature]* Trip Blank Received: Yes No
HCL/MeOH TBR

Received by: (Signature) *[Signature]* Temp: 120°C Bottles Received: 21
94-2-1-1

Received for lab by: (Signature) *[Signature]* Date: 5/15/21 Time: 9:30

If preservation required by Login: Date/Time

Hold: _____ Condition: NCF /

ERO Resources Corp.

1842 Clarkson St.
Denver, CO 80218

Billing Information:

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

Pres
Chk



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to: Adam Backsmeier

Email To: abacksmeier@eroresources.com

Project Description: TWP

City/State Collected: Thornton, CO

Phone: 303-830-1188
Fax:

Client Project # 5241

Lab Project #

Collected by (print): A. Backsmeier

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
Next Day 5 Day (Rad Only)
Two Day 10 Day (Rad Only)
Three Day

Date Results Needed

Standard

No. of
Cnts

Immediately Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
-----------	-----------	----------	-------	------	------	-------------

AOC#2BN#3	Grab	SS	15	5/12/20	1550	X
-----------	------	----	----	---------	------	---

BTEX/GRO/DRO
+ VOCs 26, RCRA 8 Metals, PAHs

L# L1353753

Table #

Acctnum: ERORESDCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks Sample # (lab only)

-21

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Please run VOC, RCRA 8, PAH first then if leftover
volumes run BTEX/GRO/DRO

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:

UPS FedEx Courier

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Trip-Blank Received: Yes/No

HCL/MeOH

TBR

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Temp: 20°C

Bottles Received: 21

If preservation required by Login: Date/Time

Relinquished by (Signature)

Date:

Time:

Received for lab by (Signature)

Date:

Time:

Hold:

Condition:

NCF / OK

June 15, 2021

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

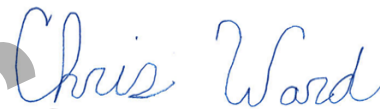
9 Sc

ERO Resources

Sample Delivery Group: L1361393
Samples Received: 06/03/2021
Project Number: 5241
Description: TWP

Report To: Adam Backsmeier
1842 Clarkson Street
Denver, CO 80218

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	7
Sr: Sample Results	8
AOC09BH03-8 L1361393-01	8
AOC09BH03-15 L1361393-02	9
AOC09BH04-9 L1361393-03	10
AOC09BH04-15 L1361393-04	11
AOC09BH05-15 L1361393-05	12
AOC09BH01-11 L1361393-06	13
AOC09BH01-26 L1361393-07	14
AOC09BH02-1 L1361393-08	15
AOC09BH02-15 L1361393-09	16
AOC04BH01-20 L1361393-10	17
AOC04BH02-12.5 L1361393-11	18
AOC04BH02-20 L1361393-12	19
AOC04BH04-13 L1361393-13	20
AOC04BH04-20 L1361393-14	21
AOC04BH03-20 L1361393-15	22
AOC04BH06-16 L1361393-16	23
AOC04BH06-20 L1361393-17	24
AOC04BH05-11 L1361393-18	25
AOC04BH05-20 L1361393-19	26
AOC04BH07-15 L1361393-20	27
AOC04BH07-20 L1361393-21	28
AOC04BH08-20 L1361393-22	29
Qc: Quality Control Summary	30
Volatile Organic Compounds (GC) by Method 8015/8021	30
Semi-Volatile Organic Compounds (GC) by Method 8015	35
Gl: Glossary of Terms	38
Al: Accreditations & Locations	39
Sc: Sample Chain of Custody	40

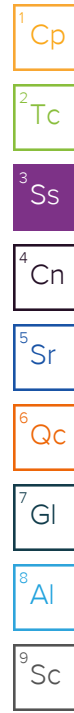
¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

AOC09BH03-8 L1361393-01 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 10:40 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/06/21 23:17	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 02:26	CAG	Mt. Juliet, TN



AOC09BH03-15 L1361393-02 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 10:45 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/06/21 23:40	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/06/21 23:49	CAG	Mt. Juliet, TN

AOC09BH04-9 L1361393-03 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 11:05 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 00:04	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 01:21	CAG	Mt. Juliet, TN

AOC09BH04-15 L1361393-04 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 11:10 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 00:28	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 01:34	CAG	Mt. Juliet, TN

AOC09BH05-15 L1361393-05 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 11:30 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 00:52	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 00:29	CAG	Mt. Juliet, TN

AOC09BH01-11 L1361393-06 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 12:15 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 01:16	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 01:47	CAG	Mt. Juliet, TN

AOC09BH01-26 L1361393-07 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 12:20 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 01:39	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 00:02	CAG	Mt. Juliet, TN

SAMPLE SUMMARY

AOC09BH02-1 L1361393-08 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 13:25 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	100	06/04/21 16:29	06/07/21 04:02	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	50	06/05/21 17:32	06/07/21 03:05	CAG	Mt. Juliet, TN

AOC09BH02-15 L1361393-09 Solid

Collected by A. Backsmeier Collected date/time 05/27/21 13:30 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 02:03	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683521	1	06/05/21 17:32	06/07/21 00:16	CAG	Mt. Juliet, TN

AOC04BH01-20 L1361393-10 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 08:45 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	100	06/04/21 16:29	06/07/21 04:25	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683799	1	06/07/21 09:11	06/08/21 17:15	CAG	Mt. Juliet, TN

AOC04BH02-12.5 L1361393-11 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 09:25 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 02:27	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683799	1	06/07/21 09:11	06/08/21 16:34	CAG	Mt. Juliet, TN

AOC04BH02-20 L1361393-12 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 09:50 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 02:50	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683799	10	06/07/21 09:11	06/08/21 18:09	CAG	Mt. Juliet, TN

AOC04BH04-13 L1361393-13 Solid

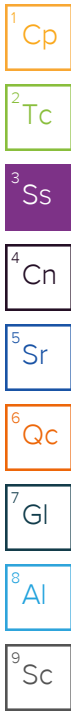
Collected by A. Backsmeier Collected date/time 05/28/21 10:25 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 03:14	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683799	1	06/07/21 09:11	06/08/21 16:47	CAG	Mt. Juliet, TN

AOC04BH04-20 L1361393-14 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 11:00 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683370	1	06/04/21 16:29	06/07/21 03:38	AV	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1683799	1	06/07/21 09:11	06/08/21 17:01	CAG	Mt. Juliet, TN



SAMPLE SUMMARY

AOC04BH03-20 L1361393-15 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 11:55 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 16:08	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 22:16	CAG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

AOC04BH06-16 L1361393-16 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 12:50 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 16:30	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 21:11	CAG	Mt. Juliet, TN

AOC04BH06-20 L1361393-17 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 12:55 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 16:52	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 21:24	CAG	Mt. Juliet, TN

AOC04BH05-11 L1361393-18 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 13:45 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 17:13	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 22:29	CAG	Mt. Juliet, TN

AOC04BH05-20 L1361393-19 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 13:50 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 17:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 21:37	CAG	Mt. Juliet, TN

AOC04BH07-15 L1361393-20 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 15:05 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1683372	100	06/04/21 16:29	06/06/21 00:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	10	06/07/21 14:53	06/09/21 13:56	CAG	Mt. Juliet, TN

AOC04BH07-20 L1361393-21 Solid

Collected by A. Backsmeier Collected date/time 05/28/21 15:10 Received date/time 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 17:56	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 21:50	CAG	Mt. Juliet, TN

SAMPLE SUMMARY

AOC04BH08-20 L1361393-22 Solid

Collected by: A. Backsmeier
 Collected date/time: 05/28/21 16:05
 Received date/time: 06/03/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1687492	1	06/12/21 11:35	06/13/21 18:18	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1684225	1	06/07/21 14:53	06/08/21 22:03	CAG	Mt. Juliet, TN

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

Draft

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Draft

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000226	<u>J</u>	0.000120	0.000500	1	06/06/2021 23:17	WG1683370
Toluene	0.000157	<u>B J</u>	0.000150	0.00500	1	06/06/2021 23:17	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/06/2021 23:17	WG1683370
Total Xylene	0.000772	<u>B J</u>	0.000460	0.00150	1	06/06/2021 23:17	WG1683370
TPH (GC/FID) Low Fraction	0.0468	<u>B J</u>	0.0217	0.100	1	06/06/2021 23:17	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.1			77.0-120		06/06/2021 23:17	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	103			72.0-128		06/06/2021 23:17	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.62	<u>J</u>	0.769	4.00	1	06/07/2021 02:26	WG1683521
(S) <i>o</i> -Terphenyl	61.6			18.0-148		06/07/2021 02:26	WG1683521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000274	<u>J</u>	0.000120	0.000500	1	06/06/2021 23:40	WG1683370
Toluene	0.000209	<u>B J</u>	0.000150	0.00500	1	06/06/2021 23:40	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/06/2021 23:40	WG1683370
Total Xylene	0.00122	<u>B J</u>	0.000460	0.00150	1	06/06/2021 23:40	WG1683370
TPH (GC/FID) Low Fraction	0.0556	<u>B J</u>	0.0217	0.100	1	06/06/2021 23:40	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.0			77.0-120		06/06/2021 23:40	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	104			72.0-128		06/06/2021 23:40	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.792	<u>J</u>	0.769	4.00	1	06/06/2021 23:49	WG1683521
(S) <i>o</i> -Terphenyl	58.5			18.0-148		06/06/2021 23:49	WG1683521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000169	<u>J</u>	0.000120	0.000500	1	06/07/2021 00:04	WG1683370
Toluene	0.000157	<u>B J</u>	0.000150	0.00500	1	06/07/2021 00:04	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 00:04	WG1683370
Total Xylene	0.000934	<u>B J</u>	0.000460	0.00150	1	06/07/2021 00:04	WG1683370
TPH (GC/FID) Low Fraction	0.0472	<u>B J</u>	0.0217	0.100	1	06/07/2021 00:04	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	97.9			77.0-120		06/07/2021 00:04	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	104			72.0-128		06/07/2021 00:04	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.775	<u>J</u>	0.769	4.00	1	06/07/2021 01:21	WG1683521
(S) <i>o</i> -Terphenyl	71.7			18.0-148		06/07/2021 01:21	WG1683521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000148	J	0.000120	0.000500	1	06/07/2021 00:28	WG1683370
Toluene	0.000185	BJ	0.000150	0.00500	1	06/07/2021 00:28	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 00:28	WG1683370
Total Xylene	0.000951	BJ	0.000460	0.00150	1	06/07/2021 00:28	WG1683370
TPH (GC/FID) Low Fraction	0.0412	BJ	0.0217	0.100	1	06/07/2021 00:28	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	98.2			77.0-120		06/07/2021 00:28	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	104			72.0-128		06/07/2021 00:28	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	06/07/2021 01:34	WG1683521
(S) o-Terphenyl	54.5			18.0-148		06/07/2021 01:34	WG1683521

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000183	<u>J</u>	0.000120	0.000500	1	06/07/2021 00:52	WG1683370
Toluene	U		0.000150	0.00500	1	06/07/2021 00:52	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 00:52	WG1683370
Total Xylene	0.00155	<u>B</u>	0.000460	0.00150	1	06/07/2021 00:52	WG1683370
TPH (GC/FID) Low Fraction	0.292	<u>B</u>	0.0217	0.100	1	06/07/2021 00:52	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	97.6			77.0-120		06/07/2021 00:52	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		06/07/2021 00:52	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.75	<u>J</u>	0.769	4.00	1	06/07/2021 00:29	WG1683521
(S) o-Terphenyl	77.4			18.0-148		06/07/2021 00:29	WG1683521

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	0.0362		0.000120	0.000500	1	06/07/2021 01:16	WG1683370
Toluene	U		0.000150	0.00500	1	06/07/2021 01:16	WG1683370
Ethylbenzene	0.0109		0.000110	0.000500	1	06/07/2021 01:16	WG1683370
Total Xylene	0.0405		0.000460	0.00150	1	06/07/2021 01:16	WG1683370
TPH (GC/FID) Low Fraction	8.30		0.0217	0.100	1	06/07/2021 01:16	WG1683370
(S)							
<i>a,a,a</i> -Trifluorotoluene(FID)	81.7			77.0-120		06/07/2021 01:16	WG1683370
(S)							
<i>a,a,a</i> -Trifluorotoluene(PID)	94.3			72.0-128		06/07/2021 01:16	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) High Fraction	17.9		0.769	4.00	1	06/07/2021 01:47	WG1683521
(S) <i>o</i> -Terphenyl	73.7			18.0-148		06/07/2021 01:47	WG1683521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000232	<u>J</u>	0.000120	0.000500	1	06/07/2021 01:39	WG1683370
Toluene	0.000468	<u>B J</u>	0.000150	0.00500	1	06/07/2021 01:39	WG1683370
Ethylbenzene	0.000678		0.000110	0.000500	1	06/07/2021 01:39	WG1683370
Total Xylene	0.00245	<u>B</u>	0.000460	0.00150	1	06/07/2021 01:39	WG1683370
TPH (GC/FID) Low Fraction	0.0733	<u>B J</u>	0.0217	0.100	1	06/07/2021 01:39	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	97.9			77.0-120		06/07/2021 01:39	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	105			72.0-128		06/07/2021 01:39	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.18	<u>J</u>	0.769	4.00	1	06/07/2021 00:02	WG1683521
(S) o-Terphenyl	53.6			18.0-148		06/07/2021 00:02	WG1683521

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	4.11		0.0120	0.0500	100	06/07/2021 04:02	WG1683370
Toluene	U		0.0150	0.500	100	06/07/2021 04:02	WG1683370
Ethylbenzene	6.86		0.0110	0.0500	100	06/07/2021 04:02	WG1683370
Total Xylene	36.1		0.0460	0.150	100	06/07/2021 04:02	WG1683370
TPH (GC/FID) Low Fraction	820		2.17	10.0	100	06/07/2021 04:02	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	88.1			77.0-120		06/07/2021 04:02	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	101			72.0-128		06/07/2021 04:02	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6900		38.5	200	50	06/07/2021 03:05	WG1683521
(S) <i>o</i> -Terphenyl	0.000	J7		18.0-148		06/07/2021 03:05	WG1683521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000151	<u>J</u>	0.000120	0.000500	1	06/07/2021 02:03	WG1683370
Toluene	U		0.000150	0.00500	1	06/07/2021 02:03	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 02:03	WG1683370
Total Xylene	0.00112	<u>B J</u>	0.000460	0.00150	1	06/07/2021 02:03	WG1683370
TPH (GC/FID) Low Fraction	0.0946	<u>B J</u>	0.0217	0.100	1	06/07/2021 02:03	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.0			77.0-120		06/07/2021 02:03	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	105			72.0-128		06/07/2021 02:03	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2.10	<u>J</u>	0.769	4.00	1	06/07/2021 00:16	WG1683521
(S) <i>o</i> -Terphenyl	58.6			18.0-148		06/07/2021 00:16	WG1683521

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	0.0510		0.0120	0.0500	100	06/07/2021 04:25	WG1683370
Toluene	0.0470	<u>B</u> <u>J</u>	0.0150	0.500	100	06/07/2021 04:25	WG1683370
Ethylbenzene	0.0467	<u>J</u>	0.0110	0.0500	100	06/07/2021 04:25	WG1683370
Total Xylene	0.446	<u>B</u>	0.0460	0.150	100	06/07/2021 04:25	WG1683370
TPH (GC/FID) Low Fraction	56.6		2.17	10.0	100	06/07/2021 04:25	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.5			77.0-120		06/07/2021 04:25	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	106			72.0-128		06/07/2021 04:25	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	219		0.769	4.00	1	06/08/2021 17:15	WG1683799
(S) <i>o</i> -Terphenyl	51.5			18.0-148		06/08/2021 17:15	WG1683799

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/07/2021 02:27	WG1683370
Toluene	U		0.000150	0.00500	1	06/07/2021 02:27	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 02:27	WG1683370
Total Xylene	0.000850	<u>B</u> <u>J</u>	0.000460	0.00150	1	06/07/2021 02:27	WG1683370
TPH (GC/FID) Low Fraction	0.0489	<u>B</u> <u>J</u>	0.0217	0.100	1	06/07/2021 02:27	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	98.3			77.0-120		06/07/2021 02:27	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	104			72.0-128		06/07/2021 02:27	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.03	<u>J</u>	0.769	4.00	1	06/08/2021 16:34	WG1683799
(S) o-Terphenyl	61.6			18.0-148		06/08/2021 16:34	WG1683799

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/07/2021 02:50	WG1683370
Toluene	U		0.000150	0.00500	1	06/07/2021 02:50	WG1683370
Ethylbenzene	U		0.000110	0.000500	1	06/07/2021 02:50	WG1683370
Total Xylene	0.0484		0.000460	0.00150	1	06/07/2021 02:50	WG1683370
TPH (GC/FID) Low Fraction	10.4		0.0217	0.100	1	06/07/2021 02:50	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	91.9			77.0-120		06/07/2021 02:50	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	99.2			72.0-128		06/07/2021 02:50	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2120		7.69	40.0	10	06/08/2021 18:09	WG1683799
(S) o-Terphenyl	109			18.0-148		06/08/2021 18:09	WG1683799

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000603		0.000120	0.000500	1	06/07/2021 03:14	WG1683370
Toluene	0.00142	<u>B</u> <u>J</u>	0.000150	0.00500	1	06/07/2021 03:14	WG1683370
Ethylbenzene	0.00111		0.000110	0.000500	1	06/07/2021 03:14	WG1683370
Total Xylene	0.00629	<u>B</u>	0.000460	0.00150	1	06/07/2021 03:14	WG1683370
TPH (GC/FID) Low Fraction	0.113	<u>B</u>	0.0217	0.100	1	06/07/2021 03:14	WG1683370
(S) a,a,a-Trifluorotoluene(FID)	99.2			77.0-120		06/07/2021 03:14	WG1683370
(S) a,a,a-Trifluorotoluene(PID)	109			72.0-128		06/07/2021 03:14	WG1683370

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.818	<u>J</u>	0.769	4.00	1	06/08/2021 16:47	WG1683799
(S) o-Terphenyl	49.8			18.0-148		06/08/2021 16:47	WG1683799

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000128	<u>J</u>	0.000120	0.000500	1	06/07/2021 03:38	WG1683370
Toluene	0.000192	<u>B J</u>	0.000150	0.00500	1	06/07/2021 03:38	WG1683370
Ethylbenzene	0.000112	<u>J</u>	0.000110	0.000500	1	06/07/2021 03:38	WG1683370
Total Xylene	0.00147	<u>B J</u>	0.000460	0.00150	1	06/07/2021 03:38	WG1683370
TPH (GC/FID) Low Fraction	0.0697	<u>B J</u>	0.0217	0.100	1	06/07/2021 03:38	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.0			77.0-120		06/07/2021 03:38	WG1683370
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	105			72.0-128		06/07/2021 03:38	WG1683370

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.52	<u>J</u>	0.769	4.00	1	06/08/2021 17:01	WG1683799
(S) <i>o</i> -Terphenyl	65.0			18.0-148		06/08/2021 17:01	WG1683799

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	0.000511		0.000120	0.000500	1	06/13/2021 16:08	WG1687492
Toluene	0.000479	J	0.000150	0.00500	1	06/13/2021 16:08	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 16:08	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 16:08	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 16:08	WG1687492
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		06/13/2021 16:08	WG1687492
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		06/13/2021 16:08	WG1687492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	37.7		0.769	4.00	1	06/08/2021 22:16	WG1684225
(S) o-Terphenyl	61.9			18.0-148		06/08/2021 22:16	WG1684225

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/13/2021 16:30	WG1687492
Toluene	U		0.000150	0.00500	1	06/13/2021 16:30	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 16:30	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 16:30	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 16:30	WG1687492
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120		06/13/2021 16:30	WG1687492
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		06/13/2021 16:30	WG1687492

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	06/08/2021 21:11	WG1684225
(S) o-Terphenyl	64.4			18.0-148		06/08/2021 21:11	WG1684225

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	0.000692		0.000120	0.000500	1	06/13/2021 16:52	WG1687492
Toluene	U		0.000150	0.00500	1	06/13/2021 16:52	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 16:52	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 16:52	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 16:52	WG1687492
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120		06/13/2021 16:52	WG1687492
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128		06/13/2021 16:52	WG1687492

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.00	J	0.769	4.00	1	06/08/2021 21:24	WG1684225
(S) o-Terphenyl	59.4			18.0-148		06/08/2021 21:24	WG1684225

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/13/2021 17:13	WG1687492
Toluene	U		0.000150	0.00500	1	06/13/2021 17:13	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 17:13	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 17:13	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 17:13	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	105			77.0-120		06/13/2021 17:13	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	102			72.0-128		06/13/2021 17:13	WG1687492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	33.4		0.769	4.00	1	06/08/2021 22:29	WG1684225
(S) <i>o</i> -Terphenyl	64.0			18.0-148		06/08/2021 22:29	WG1684225

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/13/2021 17:35	WG1687492
Toluene	U		0.000150	0.00500	1	06/13/2021 17:35	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 17:35	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 17:35	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 17:35	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	106			77.0-120		06/13/2021 17:35	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	103			72.0-128		06/13/2021 17:35	WG1687492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.01	J	0.769	4.00	1	06/08/2021 21:37	WG1684225
(S) <i>o</i> -Terphenyl	55.9			18.0-148		06/08/2021 21:37	WG1684225

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	0.0312	<u>BJ</u>	0.0120	0.0500	100	06/06/2021 00:16	WG1683372
Toluene	U		0.0150	0.500	100	06/06/2021 00:16	WG1683372
Ethylbenzene	2.57		0.0110	0.0500	100	06/06/2021 00:16	WG1683372
Total Xylene	26.4		0.0460	0.150	100	06/06/2021 00:16	WG1683372
TPH (GC/FID) Low Fraction	371		2.17	10.0	100	06/06/2021 00:16	WG1683372
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.8			77.0-120		06/06/2021 00:16	WG1683372
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	105			72.0-128		06/06/2021 00:16	WG1683372

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	2260		7.69	40.0	10	06/09/2021 13:56	WG1684225
(S) <i>o</i> -Terphenyl	91.6			18.0-148		06/09/2021 13:56	WG1684225

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	06/13/2021 17:56	WG1687492
Toluene	U		0.000150	0.00500	1	06/13/2021 17:56	WG1687492
Ethylbenzene	U		0.000110	0.000500	1	06/13/2021 17:56	WG1687492
Total Xylene	U		0.000460	0.00150	1	06/13/2021 17:56	WG1687492
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	06/13/2021 17:56	WG1687492
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120		06/13/2021 17:56	WG1687492
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		06/13/2021 17:56	WG1687492

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.59	J	0.769	4.00	1	06/08/2021 21:50	WG1684225
(S) o-Terphenyl	60.3			18.0-148		06/08/2021 21:50	WG1684225

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00374		0.000120	0.000500	1	06/13/2021 18:18	WG1687492
Toluene	0.00305	J	0.000150	0.00500	1	06/13/2021 18:18	WG1687492
Ethylbenzene	0.000460	J	0.000110	0.000500	1	06/13/2021 18:18	WG1687492
Total Xylene	0.00295		0.000460	0.00150	1	06/13/2021 18:18	WG1687492
TPH (GC/FID) Low Fraction	0.0857	J	0.0217	0.100	1	06/13/2021 18:18	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101			77.0-120		06/13/2021 18:18	WG1687492
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	102			72.0-128		06/13/2021 18:18	WG1687492

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.11	J	0.769	4.00	1	06/08/2021 22:03	WG1684225
(S) <i>o</i> -Terphenyl	58.3			18.0-148		06/08/2021 22:03	WG1684225

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Method Blank (MB)

(MB) R3665642-3 06/06/21 19:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000195	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	0.000929	U	0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0373	U	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	109			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3665642-1 06/06/21 18:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0526	105	76.0-121	
Toluene	0.0500	0.0547	109	80.0-120	
Ethylbenzene	0.0500	0.0554	111	80.0-124	
Total Xylene	0.150	0.166	111	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			99.9	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			104	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3665642-2 06/06/21 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.04	110	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			116	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1361393-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1361393-08 06/07/21 04:02 • (MS) R3665642-4 06/07/21 04:49 • (MSD) R3665642-5 06/07/21 05:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	4.11	7.30	7.07	63.8	59.2	100	10.0-155			3.20	32
Toluene	5.00	U	3.84	3.91	76.8	78.2	100	10.0-160			1.81	34
Ethylbenzene	5.00	6.86	10.1	10.4	64.8	70.8	100	10.0-160			2.93	32
Total Xylene	15.0	36.1	43.5	44.7	49.3	57.3	100	10.0-160			2.72	32
(S) a,a,a-Trifluorotoluene(FID)					87.8	88.3		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					99.4	99.7		72.0-128				

L1361393-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1361393-10 06/07/21 04:25 • (MS) R3665642-6 06/07/21 05:36 • (MSD) R3665642-7 06/07/21 06:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	545	56.6	466	450	75.1	72.2	100	10.0-151			3.49	28
(S) a,a,a-Trifluorotoluene(FID)					104	105		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					111	112		72.0-128				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3665990-3 06/05/21 15:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000124	U	0.000120	0.000500
Toluene	0.000209	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0297	U	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.7			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	108			72.0-128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3665990-1 06/05/21 14:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0461	92.2	76.0-121	
Toluene	0.0500	0.0477	95.4	80.0-120	
Ethylbenzene	0.0500	0.0478	95.6	80.0-124	
Total Xylene	0.150	0.145	96.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			99.4	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			103	72.0-128	

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3665990-2 06/05/21 14:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.12	93.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			107	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			114	72.0-128	

L1361393-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1361393-20 06/06/21 00:16 • (MS) R3665990-4 06/06/21 00:40 • (MSD) R3665990-5 06/06/21 01:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	4.95	0.0312	3.73	3.48	74.7	69.7	100	10.0-155			6.93	32
Toluene	4.95	U	3.94	3.76	79.6	76.0	100	10.0-160			4.68	34
Ethylbenzene	4.95	2.57	6.55	6.24	80.4	74.1	100	10.0-160			4.85	32
Total Xylene	14.8	26.4	35.5	34.1	61.5	52.0	100	10.0-160			4.02	32
(S) a,a,a-Trifluorotoluene(FID)					99.7	99.3		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					103	103		72.0-128				

L1361393-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1361393-20 06/06/21 00:16 • (MS) R3665990-6 06/06/21 01:28 • (MSD) R3665990-7 06/06/21 01:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	545	371	743	790	68.3	76.9	100	10.0-151			6.13	28
(S) a,a,a-Trifluorotoluene(FID)					104	106		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					111	111		72.0-128				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3666747-3 06/13/21 15:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	108			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3666747-1 06/13/21 14:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
TPH (GC/FID) Low Fraction	5.50	5.91	107	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			114	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3666747-2 06/13/21 14:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.0500	0.0484	96.8	76.0-121	
Toluene	0.0500	0.0459	91.8	80.0-120	
Ethylbenzene	0.0500	0.0437	87.4	80.0-124	
Total Xylene	0.150	0.143	95.3	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			107	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3663818-1 06/06/21 23:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	66.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3663818-2 06/06/21 23:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	33.5	67.0	50.0-150	
(S) o-Terphenyl			76.7	18.0-148	

Draft

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3664858-1 06/08/21 15:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
<i>(S) o-Terphenyl</i>	65.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3664858-2 06/08/21 15:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	41.4	82.8	50.0-150	
<i>(S) o-Terphenyl</i>			88.7	18.0-148	

Draft

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3664877-1 06/08/21 20:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	67.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3664877-2 06/08/21 20:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	39.0	78.0	50.0-150	
(S) o-Terphenyl			88.9	18.0-148	

L1362248-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1362248-01 06/08/21 23:08 • (MS) R3664877-3 06/08/21 23:21 • (MSD) R3664877-4 06/08/21 23:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	49.4	19.3	59.5	74.2	81.4	110	1	50.0-150		J3	22.0	20
(S) o-Terphenyl					72.2	79.4		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

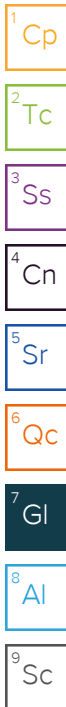
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



ERO Resources Corp.

1842 Clarkson St.
Denver, CO 80218

Billing Information:

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:
Adam Backsmeier

Email To:
abacksmeier@eroresources.com

Project Description: **TWP**

City/State Collected: **Thornton, CO**

Phone: **303-830-1188**
Fax:

Client Project #
5241

Lab Project #

Collected by (print):
A. Backsmeier

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

STANDARD

Immediately Packed on Ice N Y

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative							Remarks	Sample # (lab only)		
AOC09 BH03 - 8	Grab	SS	8	5/27/21	1040	1	BTEX/GRO/DRO - 8oz Soil Jar										-01
AOC09 BH03 - 15			15		1045	1	BTEX/GRO (2) 40ml Amber w/HCl										-02
AOC09 BH04 - 9			9		1105	1	TPH-DRO (2) 40ml Amber w/HCl-BT										-03
AOC09 BH04 - 15			15		1110	1											-04
AOC09 BH05 - 15			15		1130	1											-05
AOC09 BH01 - 11			11		1215	1											-06
AOC09 BH01 - 26			26		1220	1											-07
AOC09 BH02 - 1			1		1325	1											-08
AOC09 BH02 - 15			15	5/27/21	1330	1											-09
AOC04 BH01 - 20	Grab	SS	20	5/28/21	0845	1											-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # **5117 4430 1585**

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Date: **6/1/21**
Time: **1122**

Received by: (Signature)

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Relinquished by: (Signature)

Date: **6/1/21**
Time: **1730**

Received by: (Signature) **FedEx**

Temp: **19.01** °C
Bottles Received: **14.1-1.3 24**

Relinquished by: (Signature)

Date: **6/3/21**
Time: **915**

Received for lab by: (Signature) **T. Robertson**

Date: **6/3/21**
Time: **915**

If preservation required by Login: Date/Time
Hold:
Condition: **NCF / OK**

ERO Resources Corp.

1842 Clarkson St.
Denver, CO 80218

Billing Information:

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 3



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to: A. Backsmeyer

Email To: abacksmeyer@eroresources.com

Project Description: TWP

City/State Collected: Thornton, CO

Phone: 303-830-1188
Fax:

Client Project #
5241

Lab Project #

Collected by (print): A. Backsmeyer

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
Next Day 5 Day (Rad Only)
Two Day 10 Day (Rad Only)
Three Day

Date Results Needed

STANDARD

Immediately Packed on Ice N Y

BTEX / GRO / DRO

L# U1361393

Table #

Acctnum: ERORESDCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
AOC04BH02-12.5	Grab	SS	12.5	5/28/21	0925	1
AOC04BH02-20			20		0950	1
AOC04BH04-13			13		1025	1
AOC04BH04-20			20		1100	1
AOC04BH03-20			20		1155	1
AOC04BH06-16			16		1250	1
AOC04BH06-20			20		1255	1
AOC04BH05-11			11		1345	1
AOC04BH05-20			20		1350	1
AOC04BH07-15	Grab	SS	15	5/28/21	1505	1

Remarks Sample # (lab only)

-11
-12
-13
-14
-15
-16
-17
-18
-19
-20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # 5117 4430 1585

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Date: 6/1/21

Time: 1122

Received by: (Signature)

Trip-Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature)

Date: 6/1/21

Time: 1730

Received by: (Signature)

Temp: 13.07 °C
Bottles Received: 24

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 6/3/21
Time: 915

Hold:

Condition:
NCF / OK

ERO Resources

Sample Delivery Group: L1376679
Samples Received: 07/10/2021
Project Number: 5241
Description: TWP

Report To: Adam Backsmeier
1842 Clarkson Street
Denver, CO 80218

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	6
Sr: Sample Results	7
AOC04 BH09 15 L1376679-01	7
AOC04 BH10 15 L1376679-02	8
AOC04 BH11 25 L1376679-03	9
AOC04 BH12 14 L1376679-04	10
AOC04 BH13 14 L1376679-05	11
AOC04 BH14 13 L1376679-06	12
AOC04 BH15 13 L1376679-07	13
AOC04 BH16 13 L1376679-08	14
AOC04 BH17 15 L1376679-09	15
AOC04 BH18 15 L1376679-10	16
AOC04 BH19 17 L1376679-11	17
AOC04 BH20 11 L1376679-12	18
AOC04 BH20 19 L1376679-13	19
AOC04 BH21 11 L1376679-14	20
AOC04 BH21 19 L1376679-15	21
AOC05 BH01 9 L1376679-16	22
AOC05 BH01 19 L1376679-17	23
AOC05 BH02 12 L1376679-18	24
AOC05 BH02 18 L1376679-19	25
AOC05 BH03 18 L1376679-20	26
Qc: Quality Control Summary	27
Volatile Organic Compounds (GC) by Method 8015/8021	27
Semi-Volatile Organic Compounds (GC) by Method 8015	29
Gl: Glossary of Terms	31
Al: Accreditations & Locations	32
Sc: Sample Chain of Custody	33

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

SAMPLE SUMMARY

AOC04 BH09 15 L1376679-01 Solid

Collected by A. Backsmeier
 Collected date/time 07/05/21 10:55
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 16:05	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 06:43	CAG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

AOC04 BH10 15 L1376679-02 Solid

Collected by A. Backsmeier
 Collected date/time 07/06/21 11:35
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 16:29	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 06:56	CAG	Mt. Juliet, TN

AOC04 BH11 25 L1376679-03 Solid

Collected by A. Backsmeier
 Collected date/time 07/06/21 13:05
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 16:52	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 07:09	CAG	Mt. Juliet, TN

AOC04 BH12 14 L1376679-04 Solid

Collected by A. Backsmeier
 Collected date/time 07/06/21 13:40
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 17:16	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 07:22	CAG	Mt. Juliet, TN

AOC04 BH13 14 L1376679-05 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 09:50
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 17:40	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 07:36	CAG	Mt. Juliet, TN

AOC04 BH14 13 L1376679-06 Solid

Collected by A. Backsmeier
 Collected date/time 07/06/21 15:45
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 18:03	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 07:49	CAG	Mt. Juliet, TN

AOC04 BH15 13 L1376679-07 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 14:15
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 18:27	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 08:02	CAG	Mt. Juliet, TN

SAMPLE SUMMARY

AOC04 BH16 13 L1376679-08 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 15:00
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 18:51	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 08:15	CAG	Mt. Juliet, TN



AOC04 BH17 15 L1376679-09 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 15:30
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 19:14	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 08:28	CAG	Mt. Juliet, TN

AOC04 BH18 15 L1376679-10 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 11:35
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 19:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 08:41	CAG	Mt. Juliet, TN

AOC04 BH19 17 L1376679-11 Solid

Collected by A. Backsmeier
 Collected date/time 07/07/21 13:25
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 20:02	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 08:55	CAG	Mt. Juliet, TN

AOC04 BH20 11 L1376679-12 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 10:10
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 20:25	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 09:08	CAG	Mt. Juliet, TN

AOC04 BH20 19 L1376679-13 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 10:20
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1707141	1	07/11/21 14:06	07/17/21 20:49	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 09:21	CAG	Mt. Juliet, TN

AOC04 BH21 11 L1376679-14 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 09:25
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 14:38	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 09:34	CAG	Mt. Juliet, TN

SAMPLE SUMMARY

AOC04 BH21 19 L1376679-15 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 09:35
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 14:59	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 09:47	CAG	Mt. Juliet, TN

AOC05 BH01 9 L1376679-16 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 12:50
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 15:21	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706665	1	07/16/21 17:07	07/19/21 10:01	CAG	Mt. Juliet, TN

AOC05 BH01 19 L1376679-17 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 13:10
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 15:42	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706900	1	07/17/21 00:46	07/18/21 01:09	CAG	Mt. Juliet, TN

AOC05 BH02 12 L1376679-18 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 11:30
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 16:04	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706900	1	07/17/21 00:46	07/18/21 01:23	CAG	Mt. Juliet, TN

AOC05 BH02 18 L1376679-19 Solid

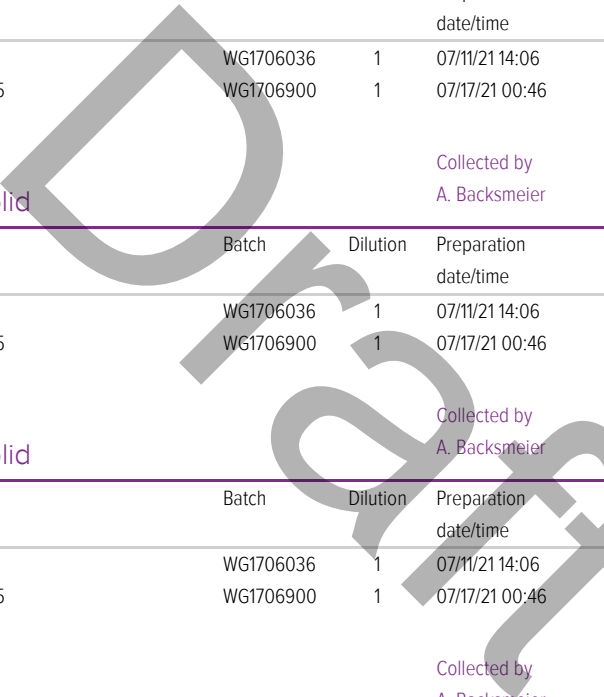
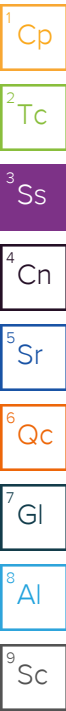
Collected by A. Backsmeier
 Collected date/time 07/08/21 11:45
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 16:25	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706900	1	07/17/21 00:46	07/18/21 01:36	CAG	Mt. Juliet, TN

AOC05 BH03 18 L1376679-20 Solid

Collected by A. Backsmeier
 Collected date/time 07/08/21 12:20
 Received date/time 07/10/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1706036	1	07/11/21 14:06	07/16/21 16:47	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1706900	1	07/17/21 00:46	07/18/21 01:50	CAG	Mt. Juliet, TN



CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward
Project Manager

Draft

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 16:05	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 16:05	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 16:05	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 16:05	WG1707141
TPH (GC/FID) Low Fraction	0.0279	<u>B J</u>	0.0217	0.100	1	07/17/2021 16:05	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	102			77.0-120		07/17/2021 16:05	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128		07/17/2021 16:05	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.909	<u>J</u>	0.769	4.00	1	07/19/2021 06:43	WG1706665
(S) o-Terphenyl	45.4			18.0-148		07/19/2021 06:43	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 16:29	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 16:29	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 16:29	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 16:29	WG1707141
TPH (GC/FID) Low Fraction	0.0304	<u>BJ</u>	0.0217	0.100	1	07/17/2021 16:29	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101			77.0-120		07/17/2021 16:29	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	101			72.0-128		07/17/2021 16:29	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 06:56	WG1706665
(S) <i>o</i> -Terphenyl	36.7			18.0-148		07/19/2021 06:56	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000321	J	0.000120	0.000500	1	07/17/2021 16:52	WG1707141
Toluene	0.000296	J	0.000150	0.00500	1	07/17/2021 16:52	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 16:52	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 16:52	WG1707141
TPH (GC/FID) Low Fraction	0.0383	B J	0.0217	0.100	1	07/17/2021 16:52	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	102			77.0-120		07/17/2021 16:52	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 16:52	WG1707141

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 07:09	WG1706665
(S) o-Terphenyl	27.5			18.0-148		07/19/2021 07:09	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 17:16	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 17:16	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 17:16	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 17:16	WG1707141
TPH (GC/FID) Low Fraction	0.0339	<u>BJ</u>	0.0217	0.100	1	07/17/2021 17:16	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	102			77.0-120		07/17/2021 17:16	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 17:16	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 07:22	WG1706665
(S) o-Terphenyl	44.0			18.0-148		07/19/2021 07:22	WG1706665

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 17:40	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 17:40	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 17:40	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 17:40	WG1707141
TPH (GC/FID) Low Fraction	0.0393	<u>BJ</u>	0.0217	0.100	1	07/17/2021 17:40	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	102			77.0-120		07/17/2021 17:40	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 17:40	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 07:36	WG1706665
(S) o-Terphenyl	38.1			18.0-148		07/19/2021 07:36	WG1706665

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000150	J	0.000120	0.000500	1	07/17/2021 18:03	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 18:03	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 18:03	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 18:03	WG1707141
TPH (GC/FID) Low Fraction	0.0436	B J	0.0217	0.100	1	07/17/2021 18:03	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 18:03	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 18:03	WG1707141

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 07:49	WG1706665
(S) o-Terphenyl	38.5			18.0-148		07/19/2021 07:49	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000232	J	0.000120	0.000500	1	07/17/2021 18:27	WG1707141
Toluene	0.000189	J	0.000150	0.00500	1	07/17/2021 18:27	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 18:27	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 18:27	WG1707141
TPH (GC/FID) Low Fraction	0.0373	B J	0.0217	0.100	1	07/17/2021 18:27	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 18:27	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	100			72.0-128		07/17/2021 18:27	WG1707141

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 08:02	WG1706665
(S) o-Terphenyl	35.8			18.0-148		07/19/2021 08:02	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 18:51	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 18:51	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 18:51	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 18:51	WG1707141
TPH (GC/FID) Low Fraction	0.0388	<u>B J</u>	0.0217	0.100	1	07/17/2021 18:51	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101			77.0-120		07/17/2021 18:51	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	100			72.0-128		07/17/2021 18:51	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 08:15	WG1706665
(S) <i>o</i> -Terphenyl	43.7			18.0-148		07/19/2021 08:15	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 19:14	WG1707141
Toluene	0.000177	J	0.000150	0.00500	1	07/17/2021 19:14	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 19:14	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 19:14	WG1707141
TPH (GC/FID) Low Fraction	0.0406	B J	0.0217	0.100	1	07/17/2021 19:14	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 19:14	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 19:14	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 08:28	WG1706665
(S) o-Terphenyl	41.4			18.0-148		07/19/2021 08:28	WG1706665

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000291	J	0.000120	0.000500	1	07/17/2021 19:38	WG1707141
Toluene	0.000202	J	0.000150	0.00500	1	07/17/2021 19:38	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 19:38	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 19:38	WG1707141
TPH (GC/FID) Low Fraction	0.0419	B J	0.0217	0.100	1	07/17/2021 19:38	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 19:38	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	100			72.0-128		07/17/2021 19:38	WG1707141

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.21	J	0.769	4.00	1	07/19/2021 08:41	WG1706665
(S) o-Terphenyl	41.0			18.0-148		07/19/2021 08:41	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 20:02	WG1707141
Toluene	U		0.000150	0.00500	1	07/17/2021 20:02	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 20:02	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 20:02	WG1707141
TPH (GC/FID) Low Fraction	0.0378	<u>BJ</u>	0.0217	0.100	1	07/17/2021 20:02	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 20:02	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 20:02	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 08:55	WG1706665
(S) o-Terphenyl	41.3			18.0-148		07/19/2021 08:55	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000818		0.000120	0.000500	1	07/17/2021 20:25	WG1707141
Toluene	0.00130	J	0.000150	0.00500	1	07/17/2021 20:25	WG1707141
Ethylbenzene	0.000356	J	0.000110	0.000500	1	07/17/2021 20:25	WG1707141
Total Xylene	0.00114	J	0.000460	0.00150	1	07/17/2021 20:25	WG1707141
TPH (GC/FID) Low Fraction	0.0779	B J	0.0217	0.100	1	07/17/2021 20:25	WG1707141
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120		07/17/2021 20:25	WG1707141
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128		07/17/2021 20:25	WG1707141

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.06	J	0.769	4.00	1	07/19/2021 09:08	WG1706665
(S) o-Terphenyl	42.8			18.0-148		07/19/2021 09:08	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/17/2021 20:49	WG1707141
Toluene	0.000220	J	0.000150	0.00500	1	07/17/2021 20:49	WG1707141
Ethylbenzene	U		0.000110	0.000500	1	07/17/2021 20:49	WG1707141
Total Xylene	U		0.000460	0.00150	1	07/17/2021 20:49	WG1707141
TPH (GC/FID) Low Fraction	0.0436	B J	0.0217	0.100	1	07/17/2021 20:49	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	102			77.0-120		07/17/2021 20:49	WG1707141
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	101			72.0-128		07/17/2021 20:49	WG1707141

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.31	J	0.769	4.00	1	07/19/2021 09:21	WG1706665
(S) <i>o</i> -Terphenyl	45.4			18.0-148		07/19/2021 09:21	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/16/2021 14:38	WG1706036
Toluene	U		0.000150	0.00500	1	07/16/2021 14:38	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 14:38	WG1706036
Total Xylene	U		0.000460	0.00150	1	07/16/2021 14:38	WG1706036
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	07/16/2021 14:38	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	109			77.0-120		07/16/2021 14:38	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	106			72.0-128		07/16/2021 14:38	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/19/2021 09:34	WG1706665
(S) <i>o</i> -Terphenyl	39.2			18.0-148		07/19/2021 09:34	WG1706665

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/16/2021 14:59	WG1706036
Toluene	U		0.000150	0.00500	1	07/16/2021 14:59	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 14:59	WG1706036
Total Xylene	U		0.000460	0.00150	1	07/16/2021 14:59	WG1706036
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	07/16/2021 14:59	WG1706036
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		07/16/2021 14:59	WG1706036
(S) a,a,a-Trifluorotoluene(PID)	106			72.0-128		07/16/2021 14:59	WG1706036

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.866	J	0.769	4.00	1	07/19/2021 09:47	WG1706665
(S) o-Terphenyl	42.7			18.0-148		07/19/2021 09:47	WG1706665

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000530		0.000120	0.000500	1	07/16/2021 15:21	WG1706036
Toluene	0.000719	J	0.000150	0.00500	1	07/16/2021 15:21	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 15:21	WG1706036
Total Xylene	0.000470	J	0.000460	0.00150	1	07/16/2021 15:21	WG1706036
TPH (GC/FID) Low Fraction	0.0248	J	0.0217	0.100	1	07/16/2021 15:21	WG1706036
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		07/16/2021 15:21	WG1706036
(S) a,a,a-Trifluorotoluene(PID)	106			72.0-128		07/16/2021 15:21	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.27	J	0.769	4.00	1	07/19/2021 10:01	WG1706665
(S) o-Terphenyl	36.4			18.0-148		07/19/2021 10:01	WG1706665

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/16/2021 15:42	WG1706036
Toluene	U		0.000150	0.00500	1	07/16/2021 15:42	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 15:42	WG1706036
Total Xylene	U		0.000460	0.00150	1	07/16/2021 15:42	WG1706036
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	07/16/2021 15:42	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	109			77.0-120		07/16/2021 15:42	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	105			72.0-128		07/16/2021 15:42	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/18/2021 01:09	WG1706900
(S) <i>o</i> -Terphenyl	44.8			18.0-148		07/18/2021 01:09	WG1706900

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000636		0.000120	0.000500	1	07/16/2021 16:04	WG1706036
Toluene	0.000894	J	0.000150	0.00500	1	07/16/2021 16:04	WG1706036
Ethylbenzene	0.000142	J	0.000110	0.000500	1	07/16/2021 16:04	WG1706036
Total Xylene	0.000657	J	0.000460	0.00150	1	07/16/2021 16:04	WG1706036
TPH (GC/FID) Low Fraction	0.0259	J	0.0217	0.100	1	07/16/2021 16:04	WG1706036
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120		07/16/2021 16:04	WG1706036
(S) a,a,a-Trifluorotoluene(PID)	105			72.0-128		07/16/2021 16:04	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/18/2021 01:23	WG1706900
(S) o-Terphenyl	61.2			18.0-148		07/18/2021 01:23	WG1706900

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/16/2021 16:25	WG1706036
Toluene	U		0.000150	0.00500	1	07/16/2021 16:25	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 16:25	WG1706036
Total Xylene	U		0.000460	0.00150	1	07/16/2021 16:25	WG1706036
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	07/16/2021 16:25	WG1706036
(S) a,a,a-Trifluorotoluene(FID)	109			77.0-120		07/16/2021 16:25	WG1706036
(S) a,a,a-Trifluorotoluene(PID)	105			72.0-128		07/16/2021 16:25	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.769	4.00	1	07/18/2021 01:36	WG1706900
(S) o-Terphenyl	45.7			18.0-148		07/18/2021 01:36	WG1706900

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Draft

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000120	0.000500	1	07/16/2021 16:47	WG1706036
Toluene	U		0.000150	0.00500	1	07/16/2021 16:47	WG1706036
Ethylbenzene	U		0.000110	0.000500	1	07/16/2021 16:47	WG1706036
Total Xylene	U		0.000460	0.00150	1	07/16/2021 16:47	WG1706036
TPH (GC/FID) Low Fraction	0.0246	J	0.0217	0.100	1	07/16/2021 16:47	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	109			77.0-120		07/16/2021 16:47	WG1706036
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	106			72.0-128		07/16/2021 16:47	WG1706036

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1.05	J	0.769	4.00	1	07/18/2021 01:50	WG1706900
(S) <i>o</i> -Terphenyl	48.6			18.0-148		07/18/2021 01:50	WG1706900

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Method Blank (MB)

(MB) R3680473-3 07/16/21 12:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	112			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	109			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3680473-1 07/16/21 11:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0512	102	76.0-121	
Toluene	0.0500	0.0462	92.4	80.0-120	
Ethylbenzene	0.0500	0.0441	88.2	80.0-124	
Total Xylene	0.150	0.150	100	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			111	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			108	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3680473-2 07/16/21 11:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.09	92.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			100	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			113	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Draft

Method Blank (MB)

(MB) R3681078-3 07/17/21 14:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0260	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	103			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	104			72.0-128

Laboratory Control Sample (LCS)

(LCS) R3681078-1 07/17/21 13:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
TPH (GC/FID) Low Fraction	5.50	5.16	93.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			110	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			109	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3681078-2 07/17/21 14:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.0500	0.0533	107	76.0-121	
Toluene	0.0500	0.0529	106	80.0-120	
Ethylbenzene	0.0500	0.0546	109	80.0-124	
Total Xylene	0.150	0.165	110	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			98.6	72.0-128	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3680793-1 07/17/21 13:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	46.8			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3680793-2 07/17/21 13:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	31.7	63.4	50.0-150	
(S) o-Terphenyl			66.5	18.0-148	

Draft

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3680820-1 07/17/21 15:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	66.2			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3680820-2 07/17/21 15:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	36.8	73.6	50.0-150	
(S) o-Terphenyl			65.6	18.0-148	

L1376668-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1376668-06 07/17/21 23:33 • (MS) R3680820-3 07/17/21 23:47 • (MSD) R3680820-4 07/18/21 00:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	47.7	U	38.8	28.6	81.3	59.2	1	50.0-150		J3	30.3	20
(S) o-Terphenyl					75.5	55.4		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

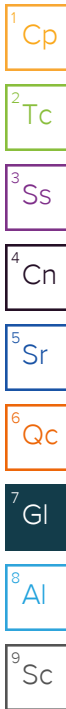
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Appendix M – Outside Referral Agencies

Note:

1. Thornton will provide all federal and state correspondence prior to construction.
2. Thornton will update Appendix M after the referral period to include the names of all referral agencies.
3. An updated Appendix M (with the names of all referral agencies) will be included in the Submittal Report that will be subject to consideration by the Adams County Board of County Commissioners.

